

UNITED STATES DISTRICT COURT  
FOR THE EASTERN DISTRICT OF MICHIGAN

JEREMY RAYMO, FORREST  
POULSON, GARY GASTER,  
BRENDON GOLDSTEIN, MANUEL  
PENA, JOHN REYES, DENNIS  
KOGLER, JEREMY BATEY,  
CLARENCE JOHNSON, STEPHEN  
ZIMMERER, JUSTIN SYLVA, IAN  
HACKER, JASON GINDELE, JAMES  
BLOUNT, LUKE WYATT, CHRIS  
WENDEL, DARIN GINTHER, and  
MATT BAFFUNNO, on behalf of  
themselves and all others similarly  
situated,

Plaintiffs,

v.

FCA US LLC, a Delaware corporation,  
and CUMMINS INC., an Indiana  
corporation,

Defendants.

Case No. 2:17-cv-12168-TGB-SDD

JURY TRIAL DEMANDED

**FIRST AMENDED CLASS ACTION COMPLAINT**

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Plaintiffs Jeremy Raymo, Forrest Poulson, Gary Gaster, Brendon Goldstein, Manuel Pena, John Reyes, Dennis Kogler, Jeremy Batey, Clarence Johnson, Stephen Zimmerer, Justin Sylva, Ian Hacker, Jason Gindele, James Blount, Luke Wyatt, Chris Wendel, Darin Ginther, and Matt Baffunno, individually and on behalf of all others similarly situated (the “Class”), allege the following based upon the investigation of counsel, the review of scientific papers, and other litigation pending in this District.

## I. INTRODUCTION

1. The diesel truck market experienced a dramatic shift following the issuance in 2004 of strict EPA regulations, which required diesel trucks to meet heightened emissions requirements before they were allowed on the road. The EPA’s decision pushed truck and engine manufacturers to find innovative ways to clean up an inherently dirty source of power.

2. Defendants FCA<sup>1</sup> and Cummins, foreseeing a new and highly profitable market, worked together to develop EPA-compliant vehicles that—at least on paper—met these emissions standards. But the trucks they created to comply with EPA regulations were compliant *only* on paper; in the real world, the trucks they created fall dramatically short of the emissions standards. The

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<sup>1</sup> “FCA” is Fiat Chrysler Automobiles.

emissions technology they developed initially passed emissions tests, but over time failed in real-world driving conditions.

3. The emissions system of the trucks was defective in another important respect: it required excessive fuel to burn off the soot that accumulates in the emissions filter. This excessive fuel not only caused truck owners to pay more in fuel costs, it caused the emissions systems components to become overheated and stop functioning. Many truck owners had to pay out-of-pocket costs to replace these components.

4. The emissions-related defects at issue in this case involve model years 2013-2017 Dodge Ram Trucks (2500 and 3500s) with a Cummins 6.7 liter diesel engine that have a Selective Catalytic Reduction (“SCR”) emissions system (“Trucks” or “Defective Trucks”). The two main defects are the Washcoat Defect and the Flash Defect, as described below.

**A. The Washcoat Defect**

5. The interior lining of the catalysts in the Trucks are coated with a “washcoat,” or sealant, that facilitates the conversion of dangerous NOx emissions produced by diesel engines into a relatively harmless blend of nitrogen gas, water, and carbon dioxide. But the Trucks were manufactured with a defective washcoat, which meant that the Trucks were almost immediately exceeding emissions standards (the “Washcoat Defect”). Defendants soon learned about the Washcoat

Defect, but did nothing to remedy it for years—all the while promoting the Trucks as EPA-compliant and equipped with “the lowest emitting diesel engine ever produced.”<sup>2</sup>

6. Defendants’ knowledge of the defect, and failure to timely remedy the problem, is laid out in remarkably revealing filings each submitted as part of their litigation battle in *FCA US LLC v. Cummins Inc.*, No. 2:16-cv-12883-AC-SDD (E.D. Mich.) (“FCA Litigation”). In the FCA litigation, Cummins alleges that FCA knew of failures in the SCR system as early as September 2014.

7. In the FCA litigation filings, we learn that, according to Cummins, a recall to fix the defect was “in the public interest to ensure that Trucks which are not emissions[-]compliant are appropriately recalled and remedied to avoid future harm to the environment.”<sup>3</sup> The potential recall affected over 135,000 trucks and truck owners, and—again according to Cummins—the environmental impact “could be significant.”<sup>4</sup> Despite this imminent harm, Cummins contends that “FCA refuses [to effect a recall] for one reason—money. FCA is holding both Cummins

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<sup>2</sup> Exhibit 1, Ram Owner’s Manual (Ram Truck Diesel Supplement) (2013) at 120, available at [https://www.ramtrucks.com/download/pdf/manuals/2013-RAM-Diesel-SU-3rd.pdf?myyear\\_supplemen](https://www.ramtrucks.com/download/pdf/manuals/2013-RAM-Diesel-SU-3rd.pdf?myyear_supplemen) (emphasis added).

<sup>3</sup> FCA Litigation, Cummins’ Motion for TRO and Preliminary Injunction (ECF No. 5) at 4.

<sup>4</sup> FCA Litigation, Cummins’ Brief in Support of Its Motion for TRO and Preliminary Injunction (ECF No. 5) (“TRO Br.”) at 24.

and its own customers hostage to FCA’s commercial demands.”<sup>5</sup> And FCA knew about the problem for *years*. As Cummins stated, it “discovered that FCA had been receiving an increasing number of warranty claims relating to the SCR and emissions issues in the Trucks for *several years prior* to Cummins discovering the emissions issues in the Trucks.”<sup>6</sup>

8. The pressing need for the recall came to light in the following exchange in the FCA Litigation between the Court and Cummins’ counsel during a hearing for a temporary restraining order:<sup>7</sup>

The Court: And so Chrysler, because it doesn’t want to incur the expense, is allowing cars that it sold to go out on the road and emit pollutants that are a potential danger?

[Cummins’ attorney]: Yes.

9. As Cummins argued, “leaving thousands of consumers with inoperable vehicles—and no communications to those consumers that their vehicle is inoperable due to a matter that is the subject of an approved recall—unequivocally harms the public.”<sup>8</sup>

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<sup>5</sup> *Id.* at 1.

<sup>6</sup> FCA Litigation, Cummins’ Verified Answer, Affirmative Defenses, Counterclaim and Jury Demand (ECF No. 9) at 13 (emphasis added).

<sup>7</sup> FCA Litigation, TRO Hearing Transcript (ECF No. 18) at 15.

<sup>8</sup> *FCA US LLC v. Cummins Inc.*, No. 16-2335 (6th Cir.), Cummins’ Response in Opposition to FCA’s Motion to Vacate or Stay TRO Order (ECF No. 12) at 24.

10. These claims—backed by sworn declarations—are entitled to substantial weight because FCA and Cummins have worked together for decades. They have described their relationship as “the most formidable partnership in the working world.”<sup>9</sup> FCA and Cummins are intimately familiar with each other’s business, and they know each other’s strengths and weaknesses, their challenges in selling trucks that meet EPA requirements, and the technological problems that they have had to overcome.

11. The emissions at issue are oxides of nitrogen (NO<sub>x</sub>), which are several compounds comprised of nitrogen and oxygen atoms. These compounds are formed in the cylinder of the engine during the high temperature combustion process. NO<sub>x</sub> pollution contributes to nitrogen dioxide, particulate matter in the air, and reacts with sunlight in the atmosphere to form ozone.

12. NO<sub>x</sub> is particularly dangerous to the public. According to the U.S. Department of Justice:<sup>10</sup>

NO<sub>x</sub> pollution contributes to the formation of harmful smog and soot, exposure to which is linked to a number of respiratory- and cardiovascular-related health effects as well as premature death. Children, older adults, people who are active outdoors (including outdoor workers), and people with heart or lung disease are

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<sup>9</sup> Exhibit 2, Ram brochure (2012) at 4, available at [http://www.auto-brochures.com/makes/ram/Ram\\_US%20HD\\_2012.pdf](http://www.auto-brochures.com/makes/ram/Ram_US%20HD_2012.pdf) (last accessed June 29, 2017).

<sup>10</sup> See Exhibit 3, DOJ Press Release, *United States Files Complaint Against Fiat Chrysler Automobiles for Alleged Clean Air Act Violations* (May 23, 2017), <https://www.justice.gov/opa/pr/united-states-files-complaint-against-fiat-chrysler-automobiles-alleged-clean-air-act>.

particularly at risk for health effects related to smog or soot exposure. Nitrogen dioxide formed by NO<sub>x</sub> emissions can aggravate respiratory diseases, particularly asthma, and may also contribute to asthma development in children.

13. In order to produce a diesel engine that has desirable torque and power characteristics, good fuel economy, and emissions levels low enough to meet stringent European and United States emission standards, FCA and Cummins developed the 6.7-liter diesel engine with an SCR (the “Engine”). The primary emission control after-treatment technologies include a Diesel Particulate Filter (“DPF”) and the SCR. The DPF traps and removes particulate (soot) emissions, while the SCR facilitates the capture and reduction of NO<sub>x</sub> into less harmful substances, such as nitrogen and oxygen.

14. But the Emissions system, as Defendants acknowledged for certain trucks in the FCA Litigation, is defective, and emits pollutants that exceed EPA and California limits. According to Cummins’ own testing, the emissions exceed applicable limits by **50%**.<sup>11</sup> The Washcoat Defect, if left untreated, can cause the emissions system to shut down. When the emissions system shuts down, the Trucks receive a warning that they are about to go into “limp mode,” which requires them to reach a dealership within a specified mileage range, regardless of

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<sup>11</sup> FCA Litigation, Exhibit 2 to FCA’s Response in Opposition to Cummins’ Motion for TRO and Preliminary Injunction (ECF No. 16-3).

where they are in the country. If they are not serviced in time, the Trucks will reach a maximum speed of five miles per hour.

15. The risk that the Trucks will suddenly limp along on the highway can have significant and dangerous consequences for Truck owners. For example, Plaintiff Gary Gaster was pulling his camper to take his family camping and was driving from Pennsylvania to Kentucky. More than 175 miles outside of his hometown, on a weekend, he received the “limp mode” warning. He pulled into an FCA dealership, but they did not have the parts to fix the truck. Rather than risk the truck going into limp mode as he searched for another dealership, or as he attempted to drive home (all with his family in tow), he was forced to trade in his truck on the spot in Bedford, Pennsylvania, for a Ford. This trade-in cost him approximately \$5,000 in accessories that he installed on his truck that were lost, plus at least \$2,100 in taxes and additional fees in purchasing the Ford.

16. The FCA litigation revealed that FCA and Cummings knew about the defect at issue in that case as early as September 2014 (and likely even earlier than that). Even with knowledge that the Trucks failed to meet EPA requirements, both FCA and Cummins continued to advertise and represent that the trucks were EPA-compliant. For the 2013 trucks—the very same trucks that they have admitted violate EPA standards<sup>12</sup>—FCA *to this day* continues to market them as follows:

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<sup>12</sup> TRO Br. at 5-6.

“For 2013, Cummins improves the classic Turbo Diesel in Ram Heavy Duty models with a Next-Generation Diesel Exhaust Fluid (DEF)/Select Catalytic Reduction (SCR) system that’s *fully compliant with recent federal mandates.*”<sup>13</sup> In its 2013 owner’s manual, FCA continues to state that “[t]he Cummins® diesel engine meets all EPA Heavy Duty Diesel Engine Emissions Standards, *resulting in the lowest emitting diesel engine ever produced.*”<sup>14</sup> Subsequent manuals for the 2014–2017 trucks continue to say—even today—that “[t]he Cummins® diesel engine meets all EPA Heavy Duty Diesel Engine Emissions Standards, resulting in one of the lowest emitting diesel engines ever produced.”<sup>15</sup> This claim is repeated multiple times throughout each manual.<sup>16</sup>

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<sup>13</sup> Exhibit 4, Ram brochure (2013) at 6, available at [https://www.ramtrucks.com/en/pdf/141550\\_DRP12US\\_HD\\_eBrochure.pdf](https://www.ramtrucks.com/en/pdf/141550_DRP12US_HD_eBrochure.pdf) (emphasis added) (last visited Sept. 28, 2018).

<sup>14</sup> Exhibit 1, Ram Owner’s Manual (Ram Truck Diesel Supplement) (2013) at 120, available at <https://www.mopar.com/ramtrucks/en-us/care/owners-manual.html?openGarage=true> (emphasis added) (last visited Sept. 28, 2018).

<sup>15</sup> Exhibit 5, Ram Owner’s Manual (Ram Truck Diesel Supplement) (2014) at 172, 184, 301, available at <https://www.mopar.com/ramtrucks/en-us/care/owners-manual.html?openGarage=true> (last visited Sept. 28, 2018); Exhibit 6, Ram Owner’s Manual (Ram Truck Diesel Supplement) (2015) at 61, 187, 199, 302, available at <https://www.mopar.com/ramtrucks/en-us/care/owners-manual.html?openGarage=true> (last visited Sept. 28, 2018); Exhibit 7, Ram Owner’s Manual (Ram Truck Diesel Supplement) (2016) at 233, 246, 352, available at <https://www.mopar.com/ramtrucks/en-us/care/owners-manual.html?openGarage=true> (last visited Sept. 28, 2018); Exhibit 8, Ram Owner’s Manual (Ram Truck Diesel Supplement) (2017) at 118, 197, available at <https://www.mopar.com/ramtrucks/en-us/care/owners-manual.html?openGarage=true> (last visited Sept. 28, 2018).

<sup>16</sup> See *supra* n.15.

17. Cummins also has consistently advertised the trucks and their engines as fully EPA-compliant. When Plaintiffs initially filed this Complaint in July 2017, Cummins still advertised the Engines in the 2015 Trucks as follows:<sup>17</sup>

Working closely to integrate with Ram, a more aggressive calibration for the Cummins 6.7L Turbo Diesel produces an additional 15 lb.-ft. of torque. This improvement places the coveted engine ahead of the competition with 865 lb.-ft. of torque, while maintaining performance *and EPA compliance*.

However, after the initial Complaint was filed, Cummins pulled down the entire website page; attempts to access it now leads to the following message: “You are not authorized to access this page.”<sup>18</sup> Cummins’ decision to pull this webpage after it was publicized in the Complaint is a clear acknowledgment that Cummins knew the representation was false.

18. As a result, Class Plaintiffs were injured at the point of purchase by buying the Trucks with the Washcoat Defect, without Defendants disclosing the existence of the defect, or the fact that the Washcoat Defect will result in their vehicles emitting illegally high emissions. The failure to disclose the Washcoat Defect caused Class Plaintiffs to overpay for their vehicles at the point of sale, which were worth less than a defect-free vehicle. Class Plaintiffs continued to be

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<sup>17</sup> Exhibit 9, *2015 Cummins Powered Ram Trucks Deliver Best-in-Class 865-lb-ft of Torque*, Cummins, <http://social.cummins.com/model-year-2015-cummins-powered-ram-trucks-deliver-best-in-class-865lb-ft-torque/> (emphasis added).

<sup>18</sup> Exhibit 10, available at <http://social.cummins.com/model-year-2015-cummins-powered-ram-trucks-deliver-best-in-class-865lb-ft-torque/> (captured Oct. 3, 2018).

harmful by the long delay and Defendants' refusal to effectuate the recall, which not only polluted the environment, but caused the Trucks to frequently enter into "limp mode." As detailed below, the "limp mode" condition creates safety risks and has caused out-of-pocket expenses for some of the named plaintiffs.

## **B. The Flash Defect**

19. The Washcoat Defect was only one of two defects that Truck owners had to face. There was another defect with the emissions system the Defendants eventually attempted to fix that that substantially degraded the Trucks' performance. Based on the configuration of the two emissions catalyst,<sup>19</sup> the Trucks' diesel particulate filter (DPF) becomes routinely clogged with soot. When the DPF is clogged, the truck is programmed to go into active regeneration mode, thereby burning more fuel to clear the filter. During active regeneration, the Trucks are forced into "limp" mode, which requires owners to bring their Trucks into a dealership for service within a certain number of miles, or the trucks become virtually inoperable. And when Truck owners brought their Trucks in for service, the dealerships were instructed to "flash," or reprogram, the Truck's Electronic Control Modules (ECMs). The purpose of the flash is to divert more fuel into burning out the soot in the DPF, but it also substantially reduces fuel mileage

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<sup>19</sup> The DPF, in the 2007-2012 models, was next to the muffler, and the emissions first passed through two catalysts before it reached the filter. Starting in 2013, the DPF was placed between the diesel oxidation catalyst and the SCR catalyst.

because the fuel is not being used to power the Trucks. Truck owners are often not told that they are having their system flashed, either before or after the dealership services their truck.

20. The effect of the “flashing” is that the system runs hotter than before, thereby damaging the DPF and all exhaust and engine components. After the flashing, truck owners experience a precipitous decline in the Trucks’ fuel economy, as measured in miles per gallon (MPG). On average, the drop experienced by Plaintiffs in MPG was 20–25%, costing them several hundred dollars a year in out-of-pocket expenses. Upon information and belief, Truck owners were deliberately left in the dark about what the dealership was doing with their Trucks because of this drop in performance. Even as Plaintiffs saw their MPG drop based on the readout on the dashboard, many Plaintiffs discovered—based on their manual mileage calculations—that their mileage was *even lower* than displayed on the truck’s screen. Flashing the ECM may have also been intended to increase the mileage readout, even as the true mileage fell.

21. Plaintiff Forrest Poulson has had his truck “flashed” three times. On one occasion, he asked his dealership’s mechanic why they were doing it. The mechanic replied, “I will deny this later, but I can tell you that the ECM updates are diverting fuel into the exhaust system to make it burn hotter so that it reduces the amount of emissions leaving the tailpipe.” The mechanic also told him that

upwards of 25% of the fuel is being diverted through the exhaust system to heat up the emissions.

22. Class Plaintiffs were accordingly injured by the Flash Defect because Defendants manufactured and sold Trucks with an emissions system that was designed to initially pass emissions testing, but would eventually need to be fixed by reprogramming the Truck's computer to burn more fuel to clean out the soot in the DPF. The failure to disclose the Flash Defect caused Class Plaintiffs to overpay for their vehicles at the point of sale, which were worth less than a defect-free vehicle. Class Plaintiffs were also forced to shoulder the expense of this emissions system by paying more for fuel costs as their fuel mileage dropped precipitously. As alleged herein, Defendants must have known about this defect from the very beginning based on the requirement to test the Trucks to confirm that they retain their performance during the vehicles' "useful life."

**C. Defendants sold the Trucks based on false representations and omissions.**

23. The Defendants have perpetrated a gross deception on Plaintiffs and members of the proposed Class, who the Defendants told were buying low-emission, efficient, high-performing, dependable vehicles that would maintain high fuel economy.

24. The Defendants never disclosed to consumers that the Trucks would over a short period of time fail to meet EPA standards and would not operate to

reduce emissions or improved fuel economy. The Defendants never disclosed that they prioritize engine power and profits over the environment and people's time and money. The Defendants never disclosed that the Trucks' emissions would materially exceed the emissions from gasoline-powered vehicles, and that the emissions would exceed what a reasonable consumer would expect from a purportedly EPA-complaint vehicle. The Defendants never disclosed that their defective Emissions system would ultimately cost the consumer at least several hundred dollars a year because of increased fuel costs and replacement parts, and that they would instruct the dealerships to "flash" the computer (without informing the truck owner), but fail to inform the customers that flashing reduces power and fuel economy.

25. Plaintiffs bring this action individually and on behalf of all other current and former owners or lessees of the Trucks. Plaintiffs seek damages and equitable relief for the Defendants' misconduct related to the design, manufacture, marketing, sale, and lease of Trucks with unlawfully high emissions, as alleged in this Complaint.

26. The violations of law alleged herein are in two distinct categories. Plaintiffs' RICO allegations are based in part on a pattern of conduct and scheme that include obtaining Certificates of Conformity based on false representations regarding emissions testing and compliance. Plaintiffs' state law counts rely on

Defendants' deceptive conduct in failing to disclose the Washcoat Defect and the Flash Defect. Plaintiffs' state law claims are not based on a violation of emission standards.

## **II. JURISDICTION**

27. This Court has original jurisdiction over the subject matter of this action pursuant to 28 U.S.C. §§ 1331 & 1332. There is also complete diversity of citizenship in this case because each Defendant is a citizen of a different state than the Plaintiffs and the amount in controversy exceeds the sum of \$75,000. 28 U.S.C. § 1332. This Court also has supplemental jurisdiction over the state law claims because those claims are integrally related to the federal claims and form part of the same case and controversy under 28 U.S.C. § 1367.

28. This Court has personal jurisdiction over FCA by virtue of its transacting and doing business in this District and because FCA is registered to do business in Michigan. FCA has transacted and done business in the State of Michigan and in this District and has engaged in statutory violations and common law tortious conduct in Michigan and in this District.

29. This Court has personal jurisdiction over Cummins by virtue of its transacting and doing business in this District and because Cummins is registered to do business in Michigan. Cummins has transacted and done business in the State

of Michigan and in this District and has engaged in statutory violations and common law tortious conduct in Michigan and in this District.

### **III. VENUE**

30. Venue is proper pursuant to 28 U.S.C. § 1391(a) & (b) because a substantial part of the events or omissions giving rise to the claims occurred in this District. Venue is proper pursuant to 18 U.S.C. § 1965(a) & (b) because Defendants transact affairs in this District, and the ends of justice require it. Venue is also proper in this District under 28 U.S.C. § 1391(b)(1) because Defendants reside in this judicial district for venue purposes.

### **IV. PARTIES**

#### **A. Plaintiffs**

31. Each and every Plaintiff and Class member has suffered an ascertainable loss as a result of the Defendants' omissions and/or misrepresentations associated with the Trucks, including but not limited to out-of-pocket loss, additional fuel costs, and decreased performance of the Truck, and diminished value of the Truck.

32. None of the Defendants, nor any of their agents, dealers, or other representatives informed Plaintiffs or Class members of the Trucks' Washcoat Defect, or the Flash Defect, prior to purchase.

33. Each of the Plaintiffs purchased their Trucks at an FCA-authorized dealership, and each received information about the characteristics, benefits, and quality of the Trucks at the dealership, as intended by FCA.

**1. Jeremy Raymo**

34. Plaintiff Jeremy Raymo (for the purpose of this section, “Plaintiff”) is a resident of Michigan domiciled in Columbus, Michigan. On or about November 30, 2014, Plaintiff purchased a 2015 Dodge Ram 2500 (for the purpose of this section, the “Truck”) in St. Clair, Michigan. Plaintiff purchased and still owns the Truck.

35. Unknown to Plaintiff at the time the Truck was purchased, it was equipped with an emissions system that was defective and did not function as advertised, and it emitted pollutants such as NOx at many multiples of emissions more than gasoline-powered vehicles—far in excess of what a reasonable consumer would expect from a truck billed as the “lowest emitting diesel engine ever produced” and far in excess of the levels allowed by federal law. The Defendants’ unfair, unlawful, and deceptive conduct in designing, manufacturing, marketing, selling, and leasing the Truck with the Washcoat Defect and the Flash Defect has caused Plaintiff out-of-pocket loss, future attempted repairs, and diminished value of the Truck.

36. Since he purchased the truck, and as a result of the Flash Defect, the Truck's MPG has dropped approximately 20–25%, resulting in additional out-of-pocket losses that he did not reasonably anticipate, and that a customer would not reasonably anticipate. In particular, Plaintiff drives the Truck approximately 15,000 miles a year, and the Truck's MPG has dropped by approximately three MPG after his Truck was "flushed." With a diesel fuel price of about \$3.25, the defective emission system costs Plaintiff approximately \$2,013 a year. He also has lost about \$250 in wages from time spent taking the Truck to the dealership for repairs to the emissions system.

37. Plaintiff also paid a premium for his Truck. Based on his research and knowledge of trucks, Plaintiff knew that diesel trucks were more expensive than a comparable truck that ran on gas, but he purchased the Truck based on his belief that it would have better fuel economy compared to a gas engine, and superior torque and towing capabilities. At the time he purchased his Truck, he believed that he paid a premium of approximately \$8,000 for the Truck compared to its gas equivalent. Plaintiff accordingly overpaid for his truck by at least the value of this premium.

38. FCA and Cummins never told Plaintiff about the Washcoat Defect or the Flash Defect, so Plaintiff purchased his Truck on the reasonable, but mistaken, belief that his Truck offered superior fuel economy, complied with United States

emissions standards, could be legally operated within the United States, and would retain all of its operating characteristics throughout its useful life, including high fuel economy and dependability. Plaintiff recalls that the advertisements and representations claimed that the Trucks were EPA-complaint and offered superior fuel economy. None of the advertisements reviewed or representations received by Plaintiff contained any disclosure that the Truck had high emissions compared to gasoline vehicles or the fact that the emissions system would break down and not perform as advertised over time, or that the breakdown and “fix” would impair his fuel economy. Had Defendants disclosed this design, and the fact that the Truck actually emitted pollutants at a much higher level than gasoline vehicles do (and at a much higher level than a reasonable consumer would expect), emitted unlawfully high levels of pollutants, and would require Plaintiff to pay out-of-pocket costs, including repair costs and additional fuel costs, Plaintiff would have received these disclosures, and he would not have purchased the Truck or would have paid less for it. In addition, had Plaintiff known that his Truck had the Washcoat Defect and/or the Flash Defect, he would not have purchased the Truck, or would have paid less for it.

## **2. Forrest Poulson**

39. Plaintiff Forrest Poulson (for the purpose of this section, “Plaintiff”) is a resident of Alabama domiciled in Clarksville, Georgia. On or about March 1,

2015, Plaintiff purchased a 2015 Dodge Ram 3500 (for the purpose of this section, the “Truck”), in Bremen, Georgia. When he purchased his truck, he lived in Fairhope, Alabama. On or about July 5, 2018, Plaintiff traded in his Truck for a Toyota Tundra.

40. Unknown to Plaintiff at the time the Truck was purchased, it was equipped with an emissions system that was defective, and would fail, and emitted pollutants such as NOx at many multiples of emissions more than gasoline-powered vehicles—far in excess of what a reasonable consumer would expect from a truck billed as the “lowest emitting diesel engine ever produced” and far in excess of the levels allowed by federal law. The Defendants’ unfair, unlawful, and deceptive conduct in designing, manufacturing, marketing, selling, and leasing the Truck with the Washcoat Defect and the Flash Defect has caused Plaintiff out-of-pocket loss.

41. Since he purchased the truck, and as a result of the Flash Defect, the Truck’s MPG has dropped approximately 20–25%, resulting in additional out-of-pocket losses that he did not reasonably anticipate, and that a customer would not reasonably anticipate. In particular, Plaintiff drives the Truck approximately 25,000 miles a year, and the Truck’s MPG has dropped by approximately five MPG after his Truck was “flashed.” With a diesel fuel price of about \$2.50, the defective emission system costs Plaintiff approximately \$750 a year. In addition,

after being stranded two hundred miles from home with his trailer after his truck went into limp mode, he incurred an additional \$400–\$500 in out-of-pocket expenses to pull his trailer home and to switch his loaner vehicle when that vehicle broke down.

42. Plaintiff also paid a premium for his Truck and was injured as a result. Based on his research and knowledge of trucks, Plaintiff knew that diesel trucks were more expensive than a comparable truck that ran on gas, but he purchased the Truck based on his belief that it would have better fuel economy compared to a gas engine, a more powerful engine, and greater towing capabilities. At the time he purchased his Truck, he believed that he paid a premium of approximately \$8,195 for the Truck compared to its gas equivalent. Plaintiff accordingly overpaid for his truck by at least the value of this premium. Plaintiff traded in his Truck because of the Washcoat Defect, the Flash Defect, and the resulting costs, expenses, and inconvenience caused by the defects.

43. FCA and Cummins never told Plaintiff about the Washcoat Defect or the Flash Defect, so Plaintiff purchased his Truck on the reasonable, but mistaken, belief that his Truck offered superior fuel economy, complied with United States emissions standards, could be legally operated within the United States, and would retain all of its operating characteristics throughout its useful life, including high fuel economy and dependability. Plaintiff recalls that the advertisements and

representations claimed that the Trucks were EPA-complaint and offered superior fuel economy. None of the advertisements reviewed or representations received by Plaintiff contained any disclosure that the Truck had high emissions compared to gasoline vehicles or the fact that the emissions system would break down and not perform as advertised. Had Defendants disclosed this design, and the fact that the Truck actually emitted pollutants at a much higher level than gasoline vehicles do (and at a much higher level than a reasonable consumer would expect), emitted unlawfully high levels of pollutants, and would require Plaintiff to pay out-of-pocket costs, including repair costs and additional fuel costs, Plaintiff would have received these disclosures, and he would not have purchased the Truck or would have paid less for it. In addition, had Plaintiff known that his Truck had the Washcoat Defect and/or the Flash Defect, he would not have purchased the Truck, or would have paid less for it.

### **3. Gary Gaster**

44. Plaintiff Gary Gaster (for the purpose of this section, “Plaintiff”) is a resident of Pennsylvania domiciled in Glen Mills, Pennsylvania. Plaintiff has purchased three new Dodge Ram Trucks on behalf of his business that he currently owns, as follows: (1) a 2014 Dodge Ram 3500, purchased on April 17, 2014, in Wrightsville, Pennsylvania; (2) a 2015 Dodge Ram 3500, purchased on August 20, 2015, in Wrightsville, Pennsylvania; and (3) a 2016 Dodge Ram 3500, purchased

on September 12, 2016, in Wrightsville, Pennsylvania. Plaintiff also purchased on behalf of his business a 2014 Dodge Ram 3500 on April 17, 2014, in Wrightsville, Pennsylvania (for the purpose of this section, the four vehicles are collectively referred to as “Trucks”).

45. Unknown to Plaintiff at the time the Trucks were purchased, they were equipped with an emissions system that was defective and would not function as advertised, and would emit pollutants such as NOx at many multiples of emissions more than gasoline-powered vehicles—far in excess of what a reasonable consumer would expect from a truck billed as the “lowest emitting diesel engine ever produced” and far in excess of the levels allowed by federal law. The Defendants’ unfair, unlawful, and deceptive conduct in designing, manufacturing, marketing, selling, and leasing the Trucks with the Washcoat Defect and the Flash Defect has caused Plaintiff out-of-pocket loss, future attempted repairs, and diminished value of the Trucks. As detailed above, the trade-in he was forced to conduct cost him approximately \$5,000 in accessories he installed on the Truck that he lost, plus at least \$2,100 in taxes and additional fees in purchasing the Ford.

46. Plaintiff also paid a premium for his Truck. Based on his research and knowledge of trucks, Plaintiff knew that diesel trucks were more expensive than a comparable truck that ran on gas, but he purchased the Truck based on his belief

that it would have greater towing capabilities and a longer service life. At the time he purchased his Truck, he believed that he paid a premium of approximately \$8,000 to \$9,000 for the Truck compared to its gas equivalent. Plaintiff accordingly overpaid for his truck by at least the value of this premium.

47. FCA and Cummins never told Plaintiff about the Washcoat Defect or the Flash Defect, so Plaintiff purchased his Trucks on the reasonable, but mistaken, belief that his Trucks offered superior fuel economy, complied with United States emissions standards, could be legally operated within the United States, and would retain all of their operating characteristics throughout their useful life, including high fuel economy and dependability. Plaintiff recalls that the advertisements and representations claimed that the Trucks were EPA-complaint and offered superior fuel economy. None of the advertisements reviewed or representations received by Plaintiff contained any disclosure that the Trucks had high emissions compared to gasoline vehicles or the fact that the emissions system would break down and not perform as advertised. Had Defendants disclosed this design, and the fact that the Trucks actually emitted pollutants at a much higher level than gasoline vehicles do (and at a much higher level than a reasonable consumer would expect), emitted unlawfully high levels of pollutants, and would require Plaintiff to pay out-of-pocket costs to fix them and in fuel costs and other out-of-pocket costs, Plaintiff would have received these disclosures, and he would not have purchased the

Trucks or would have paid less for them. In addition, had Plaintiff known that his Trucks had the Washcoat Defect and/or the Flash Defect, he would not have purchased the Trucks, or would have paid less for them.

**4. Brendon Goldstein**

48. Plaintiff Brendon Goldstein (for the purpose of this section, “Plaintiff”) is a resident of Florida domiciled in Palm Harbor, Florida. On or about February 15, 2015, Plaintiff purchased a 2015 Dodge Ram 3500 (for the purpose of this section, the “Truck”), in Clearwater, Florida.

49. Unknown to Plaintiff at the time the Truck was purchased, it was equipped with an emissions system that was defective and did not function as advertised, and it emitted pollutants such as NO<sub>x</sub> at many multiples of emissions more than gasoline-powered vehicles—far in excess of what a reasonable consumer would expect from a truck billed as the “lowest emitting diesel engine ever produced” and far in excess of the levels allowed by federal law. The Defendants’ unfair, unlawful, and deceptive conduct in designing, manufacturing, marketing, selling, and leasing the Truck with the Washcoat Defect and the Flash Defect has caused Plaintiff out-of-pocket loss, future attempted repairs, and diminished value of the Truck.

50. Since he purchased the truck, and a result of the Flash Defect, the Truck’s MPG has dropped approximately 20–25%, resulting in additional out-of-

pocket losses that he did not reasonably anticipate, and that a customer would not reasonably anticipate. In particular, Plaintiff drives the Truck approximately 22,000 miles a year, and the Truck's MPG has dropped by approximately six MPG after his Truck was "flushed." With a diesel fuel price of about \$2.50, the defective emission system costs Plaintiff approximately \$763 a year.

51. Plaintiff also paid a premium for his Truck. Based on his research and knowledge of trucks, Plaintiff knew that diesel trucks were more expensive than a comparable truck that ran on gas, but he purchased the Truck based on his belief that it would have better fuel economy compared to a gas engine, superior torque and towing capabilities, and longer useful life of the diesel engine. At the time he purchased his Truck, he believed that he paid a premium of at least \$9,000 for the Truck compared to its gas equivalent. Plaintiff accordingly overpaid for his truck by at least the value of this premium.

52. FCA and Cummins never told Plaintiff about the Washcoat Defect or the Flash Defect, so Plaintiff purchased his Truck on the reasonable, but mistaken, belief that his Truck offered superior fuel economy, complied with United States emissions standards, could be legally operated within the United States, and would retain all of its operating characteristics throughout its useful life, including high fuel economy and dependability. Plaintiff recalls that the advertisements and representations claimed that the Trucks were EPA-complaint and offered superior

fuel economy. None of the advertisements reviewed or representations received by Plaintiff contained any disclosure that the Truck had high emissions compared to gasoline vehicles or the fact that the emissions system would break down and not perform as advertised. Had Defendants disclosed this design, and the fact that the Truck actually emitted pollutants at a much higher level than gasoline vehicles do (and at a much higher level than a reasonable consumer would expect), emitted unlawfully high levels of pollutants, and would require Plaintiff to pay out-of-pocket costs, including repair costs and additional fuel costs, Plaintiff would have received these disclosures, and he would not have purchased the Truck or would have paid less for it. In addition, had Plaintiff known that his had the Washcoat Defect and/or the Flash Defect, he would not have purchased the Truck, or would have paid less for it.

**5. Manuel Pena**

53. Plaintiff Manuel Pena (for the purpose of this section, “Plaintiff”) is a resident of Florida domiciled in Eustis, Florida. On or about December 26, 2013, Plaintiff purchased a 2013 Dodge Ram 2500 (for the purpose of this section, the “Truck”), in Davie, Florida.

54. Unknown to Plaintiff at the time the Truck was purchased, it was equipped with an emissions system that was defective and did not function as advertised, and it emitted pollutants such as NOx at many multiples of emissions

more than gasoline-powered vehicles—far in excess of what a reasonable consumer would expect from a truck billed as the “lowest emitting diesel engine ever produced” and far in excess of the levels allowed by federal law. The Defendants’ unfair, unlawful, and deceptive conduct in designing, manufacturing, marketing, selling, and leasing the Truck with the Washcoat Defect and the Flash Defect has caused Plaintiff out-of-pocket loss, future attempted repairs, and diminished value of the Truck.

55. Since he purchased the truck, and a result of the Flash Defect, the Truck’s MPG has dropped approximately 20–25%, resulting in additional out-of-pocket losses that he did not reasonably anticipate, and that a customer would not reasonably anticipate. In particular, Plaintiff drives the Truck approximately 20,000 miles a year, and the Truck’s MPG has dropped by approximately five MPG after his truck was “flashed.” With a diesel fuel price of about \$2.45, the defective emission system costs Plaintiff approximately \$538 a year. In addition, Plaintiff incurred approximately \$50 in unreimbursed fuel costs when his truck broke down 250 miles from home while taking his family to Disneyland.

56. Plaintiff also paid a premium for his Truck. Based on his research and knowledge of trucks, Plaintiff knew that diesel trucks were more expensive than a comparable truck that ran on gas, but he purchased the Truck based on his belief that it would have better fuel economy compared to a gas engine, superior torque

and towing capabilities, and better longevity. At the time he purchased his Truck, he believed that he paid a premium of approximately \$7,795 for the Truck compared to its gas equivalent. Plaintiff accordingly overpaid for his truck by at least the value of this premium.

57. Plaintiff also observed that the stated miles per gallon on his dashboard was substantially higher than he actually experienced. Based on his manual calculations, the Truck continues to obtain less miles per gallon than indicated on the dashboard.

58. FCA and Cummins never told Plaintiff about the Washcoat Defect or the Flash Defect, so Plaintiff purchased his Truck on the reasonable, but mistaken, belief that his Truck offered superior fuel economy, complied with United States emissions standards, could be legally operated within the United States, and would retain all of its operating characteristics throughout its useful life, including high fuel economy and dependability. Plaintiff recalls that the advertisements and representations claimed that the Trucks were EPA-complaint and offered superior fuel economy. None of the advertisements reviewed or representations received by Plaintiff contained any disclosure that the Truck had high emissions compared to gasoline vehicles and the fact that the emissions system would break down and not perform as advertised. Had Defendants disclosed this design, and the fact that the Truck actually emitted pollutants at a much higher level than gasoline vehicles do

(and at a much higher level than a reasonable consumer would expect), emitted unlawfully high levels of pollutants, and would require Plaintiff to pay out-of-pocket costs, including repair costs and additional fuel costs, Plaintiff would have received these disclosures, and he would not have purchased the Truck or would have paid less for it. In addition, had Plaintiff known that his Truck had the Washcoat Defect and/or the Flash Defect, he would not have purchased the Truck, or would have paid less for it.

**6. John Reyes**

59. Plaintiff John Reyes (for the purpose of this section, “Plaintiff”) is a resident of Texas domiciled in Lubbock, Texas. On or about April 12, 2017, Plaintiff purchased a 2013 Dodge Ram 2500 (for the purpose of this section, the “Truck”), in Lubbock, Texas.

60. Unknown to Plaintiff at the time the Truck was purchased, it was equipped with an emissions system that was defective and did not function as advertised, and it emitted pollutants such as NOx at many multiples of emissions more than gasoline-powered vehicles—far in excess of what a reasonable consumer would expect from a truck billed as the “lowest emitting diesel engine ever produced” and far in excess of the levels allowed by federal law. The Defendants’ unfair, unlawful, and deceptive conduct in designing, manufacturing, marketing, selling, and leasing the Truck with the Washcoat Defect and the Flash

Defect has caused Plaintiff out-of-pocket loss, future attempted repairs, and diminished value of the Truck.

61. Since he purchased the truck, and a result of the Flash Defect, the Truck's MPG has dropped approximately 50%, resulting in additional out-of-pocket losses that he did not reasonably anticipate, and that a customer would not reasonably anticipate. In particular, Plaintiff drives the Truck approximately 20,000 miles a year, and the Truck's MPG has dropped by approximately nine MPG after his Truck was "flushed." With a diesel fuel price of about \$2.50, the defective emission system costs Plaintiff approximately \$2,560 a year.

62. Plaintiff also paid a premium for his Truck. Based on his research and knowledge of trucks, Plaintiff knew that diesel trucks were more expensive than a comparable truck that ran on gas, but he purchased the Truck based on his belief that it would have superior torque and towing capabilities, and it would be more reliable and offer better longevity. At the time he purchased his Truck, he believed that he paid a premium of approximately \$9,000 for the Truck compared to its gas equivalent. Plaintiff accordingly overpaid for his truck by at least the value of this premium.

63. FCA and Cummins never told Plaintiff about the Washcoat Defect or the Flash Defect, so Plaintiff purchased his Truck on the reasonable, but mistaken, belief that his Truck offered superior fuel economy, complied with United States

emissions standards, could be legally operated within the United States, and would retain all of its operating characteristics throughout its useful life, including high fuel economy and dependability. Plaintiff recalls that the advertisements and representations claimed that the Trucks were EPA-complaint and offered superior fuel economy. None of the advertisements reviewed or representations received by Plaintiff contained any disclosure that the Truck had high emissions compared to gasoline vehicles and the fact that the emissions system would break down and not perform as advertised. Had Defendants disclosed this design, and the fact that the Truck actually emitted pollutants at a much higher level than gasoline vehicles do (and at a much higher level than a reasonable consumer would expect), emitted unlawfully high levels of pollutants, and would require Plaintiff to pay out-of-pocket costs, including repair costs and additional fuel costs, Plaintiff would have received these disclosures, and he would not have purchased the Truck or would have paid less for it. In addition, had Plaintiff known that his Truck had the Washcoat Defect and/or the Flash Defect, he would not have purchased the Truck, or would have paid less for it.

## **7. Dennis Kogler**

64. Plaintiff Dennis Kogler (for the purpose of this section, “Plaintiff”) is a resident of California domiciled in Coarsegold, California. On or about June 13, 2016, Plaintiff purchased a 2016 Dodge Ram 3500 (for the purpose of this section,

the “Truck”), in Pocatello, Idaho. In June 2015, he also purchased a 2015 Dodge Ram 3500 in Morgan, Utah.

65. Unknown to Plaintiff at the time the Truck was purchased, it was equipped with an emissions system that was defective and did not function as advertised, and it emitted pollutants such as NOx at many multiples of emissions more than gasoline-powered vehicles—far in excess of what a reasonable consumer would expect from a truck billed as the “lowest emitting diesel engine ever produced” and far in excess of the levels allowed by federal law. The Defendants’ unfair, unlawful, and deceptive conduct in designing, manufacturing, marketing, selling, and leasing the Truck with the Washcoat Defect and the Flash Defect has caused Plaintiff out-of-pocket loss, future attempted repairs, and diminished value of the Truck.

66. Since he purchased the truck, and as a result of the Flash Defect, the Truck’s MPG has dropped approximately 35%, resulting in additional out-of-pocket losses that he did not reasonably anticipate, and that a customer would not reasonably anticipate. In particular, Plaintiff drives the Truck approximately 76,000 miles a year, and the Truck’s MPG has dropped by approximately six MPG after his Truck was “flushed.” With a diesel fuel price of about \$3.15, the defective emission system costs Plaintiff approximately \$7,681 a year.

67. Plaintiff also paid a premium for his Truck. Based on his research and knowledge of trucks, Plaintiff knew that diesel trucks were more expensive than a comparable truck that ran on gas, but he purchased the Truck based on his belief that it would have better fuel economy compared to a gas engine, superior torque and towing capabilities, and longer maintenance intervals. At the time he purchased his Truck, he believed that he paid a premium of approximately \$10,000 for the Truck compared to its gas equivalent. Plaintiff accordingly overpaid for his truck by at least the value of this premium.

68. FCA and Cummins never told Plaintiff about the Washcoat Defect or the Flash Defect, so Plaintiff purchased his Truck on the reasonable, but mistaken, belief that his Truck offered superior fuel economy, complied with United States emissions standards, could be legally operated within the United States, and would retain all of its operating characteristics throughout its useful life, including high fuel economy and dependability. Plaintiff recalls that the advertisements and representations claimed that the Trucks were EPA-complaint and offered superior fuel economy. None of the advertisements reviewed or representations received by Plaintiff contained any disclosure that the Truck had high emissions compared to gasoline vehicles and the fact that the emissions system would break down and not perform as advertised. Had Defendants disclosed this design, and the fact that the Truck actually emitted pollutants at a much higher level than gasoline vehicles do

(and at a much higher level than a reasonable consumer would expect), emitted unlawfully high levels of pollutants, and would require Plaintiff to pay out-of-pocket costs, including repair costs and additional fuel costs, Plaintiff would have received these disclosures, and he would not have purchased the Truck or would have paid less for it. In addition, had Plaintiff known that his Truck had the Washcoat Defect and/or the Flash Defect, he would not have purchased the Truck, or would have paid less for it.

**8. Jeremy Batey**

69. Plaintiff Jeremy Batey (for the purpose of this section, “Plaintiff”) is a resident of Oklahoma domiciled in Tahlequah, Oklahoma. On or about January 29, 2015, Plaintiff purchased a 2015 Dodge Ram 2500 (for the purpose of this section, the “Truck”), in Tulsa, Oklahoma.

70. Unknown to Plaintiff at the time the Truck was purchased, it was equipped with an emissions system that was defective and did not function as advertised, and it emitted pollutants such as NOx at many multiples of emissions more than gasoline-powered vehicles—far in excess of what a reasonable consumer would expect from a truck billed as the “lowest emitting diesel engine ever produced” and far in excess of the levels allowed by federal law. The Defendants’ unfair, unlawful, and deceptive conduct in designing, manufacturing, marketing, selling, and leasing the Truck with the Washcoat Defect and the Flash

Defect has caused Plaintiff out-of-pocket loss, future attempted repairs, and diminished value of the Truck.

71. Since he purchased the truck, and a result of the Flash Defect, the Truck's MPG has dropped approximately 10%, resulting in additional out-of-pocket losses that he did not reasonably anticipate, and that a customer would not reasonably anticipate. In particular, Plaintiff drives the Truck approximately 27,000 miles a year, and the Truck's MPG has dropped by approximately two MPG after his Truck was "flushed." With a diesel fuel price of about \$2.25, the defective emission system costs Plaintiff approximately \$337 a year.

72. Plaintiff also paid a premium for his Truck. Based on his research and knowledge of trucks, Plaintiff knew that diesel trucks were more expensive than a comparable truck that ran on gas, but he purchased the Truck based on his belief that it would have better fuel economy compared to a gas engine, superior torque and towing capabilities, and greater longevity, with the ability to drive the Truck up to 500,000 miles without any significant maintenance). At the time he purchased his Truck, he believed that he paid a premium of approximately \$6,000 to \$9,000 for the Truck compared to its gas equivalent. Plaintiff accordingly overpaid for his truck by at least the value of this premium.

73. FCA and Cummins never told Plaintiff about the Washcoat Defect or the Flash Defect, so Plaintiff purchased his Truck on the reasonable, but mistaken,

belief that his Truck offered superior fuel economy, complied with United States emissions standards, could be legally operated within the United States, and would retain all of its operating characteristics throughout its useful life, including high fuel economy and dependability. Plaintiff recalls that the advertisements and representations claimed that the Trucks were EPA-complaint and offered superior fuel economy. None of the advertisements reviewed or representations received by Plaintiff contained any disclosure that the Truck had high emissions compared to gasoline vehicles and the fact that the emissions system would break down and not perform as advertised. Had Defendants disclosed this design, and the fact that the Truck actually emitted pollutants at a much higher level than gasoline vehicles do (and at a much higher level than a reasonable consumer would expect), emitted unlawfully high levels of pollutants, and would require Plaintiff to pay out-of-pocket costs, including repair costs and additional fuel costs, Plaintiff would have received these disclosures, and he would not have purchased the Truck or would have paid less for it. In addition, had Plaintiff known that his Truck had the Washcoat Defect and/or the Flash Defect, he would not have purchased the Truck, or would have paid less for it.

**9. Clarence “Todd” Johnson**

74. Plaintiff Clarence “Todd” Johnson (for the purpose of this section, “Plaintiff”) is a resident of Mississippi domiciled in Madison, Mississippi. On or

about October 14, 2013, Plaintiff purchased a 2013 Dodge Ram 2500 (for the purpose of this section, the “Truck”), in Jackson, Mississippi.

75. Unknown to Plaintiff at the time the Truck was purchased, it was equipped with an emissions system that was defective and did not function as advertised, and it emitted pollutants such as NOx at many multiples of emissions more than gasoline-powered vehicles—far in excess of what a reasonable consumer would expect from a truck billed as the “lowest emitting diesel engine ever produced” and far in excess of the levels allowed by federal law. The Defendants’ unfair, unlawful, and deceptive conduct in designing, manufacturing, marketing, selling, and leasing the Truck with the Washcoat Defect and the Flash Defect has caused Plaintiff out-of-pocket loss, future attempted repairs, and diminished value of the Truck.

76. Since he purchased the truck, and a result of the Flash Defect, the Truck’s MPG has dropped approximately 22%, resulting in additional out-of-pocket losses that he did not reasonably anticipate, and that a customer would not reasonably anticipate. In particular, Plaintiff drives the Truck approximately 8,000 miles a year, and the Truck’s MPG has dropped by approximately five MPG after his Truck was “flashed.” With a diesel fuel price of about \$2.90, the defective emission system costs Plaintiff approximately \$269 a year.

77. Plaintiff also paid a premium for his Truck. Based on his research and knowledge of trucks, Plaintiff knew that diesel trucks were more expensive than a comparable truck that ran on gas, but he purchased the Truck based on his belief that it would have better fuel economy when towing compared to a gas engine, and superior torque and towing capabilities, and offer greater durability and longevity of the engine, requiring less maintenance. At the time he purchased his Truck, he believed that he paid a premium of approximately \$7,795 for the Truck compared to its gas equivalent. Plaintiff accordingly overpaid for his truck by at least the value of this premium.

78. Plaintiff also observed that the stated miles per gallon on his dashboard was substantially higher than he actually experienced. Based on his manual calculations, the Truck continues to obtain less miles per gallon than indicated on the dashboard.

79. FCA and Cummins never told Plaintiff about the Washcoat Defect or the Flash Defect, so Plaintiff purchased his Truck on the reasonable, but mistaken, belief that his Truck offered superior fuel economy, complied with United States emissions standards, could be legally operated within the United States, and would retain all of its operating characteristics throughout its useful life, including high fuel economy and dependability. Plaintiff recalls that the advertisements and representations claimed that the Trucks were EPA-complaint and offered superior

fuel economy. None of the advertisements reviewed or representations received by Plaintiff contained any disclosure that the Truck had high emissions compared to gasoline vehicles and the fact that the emissions system would break down and not perform as advertised. Had Defendants disclosed this design, and the fact that the Truck actually emitted pollutants at a much higher level than gasoline vehicles do (and at a much higher level than a reasonable consumer would expect), emitted unlawfully high levels of pollutants, and would require Plaintiff to pay out-of-pocket costs, including repair costs and additional fuel costs, Plaintiff would have received these disclosures, and he would not have purchased the Truck or would have paid less for it. In addition, had Plaintiff known that his Truck had the Washcoat Defect and/or the Flash Defect, he would not have purchased the Truck, or would have paid less for it.

**10. Stephen Zimmerer**

80. Plaintiff Stephen Zimmerer (for the purpose of this section, “Plaintiff”) is a resident of Virginia domiciled in Spout Spring, Virginia. On or about November 3, 2013, Plaintiff purchased a 2013 Dodge Ram 3500 (for the purpose of this section, the “Truck”), in Winston Salem, North Carolina.

81. Unknown to Plaintiff at the time the Truck was purchased, it was equipped with an emissions system that was defective and did not function as advertised, and it emitted pollutants such as NOx at many multiples of emissions

more than gasoline-powered vehicles—far in excess of what a reasonable consumer would expect from a truck billed as the “lowest emitting diesel engine ever produced” and far in excess of the levels allowed by federal law. The Defendants’ unfair, unlawful, and deceptive conduct in designing, manufacturing, marketing, selling, and leasing the Truck with the Washcoat Defect and the Flash Defect has caused Plaintiff out-of-pocket loss, future attempted repairs, and diminished value of the Truck.

82. Since he purchased the truck, and a result of the Flash Defect, the Truck’s MPG has dropped approximately 10-15%, resulting in additional out-of-pocket losses that he did not reasonably anticipate, and that a customer would not reasonably anticipate. In particular, Plaintiff drives the Truck approximately 16,000 miles a year, and the Truck’s MPG has dropped by approximately two MPG after his Truck was “flashed.” With a diesel fuel price of about \$2.80, the defective emission system costs Plaintiff approximately \$459 a year. In addition, Plaintiff had to pay approximately \$770 for a new NOX sensor because of excess soot caused by the defect.

83. Plaintiff also paid a premium for his Truck. Based on his research and knowledge of trucks, Plaintiff knew that diesel trucks were more expensive than a comparable truck that ran on gas, but he purchased the Truck based on his belief that it would have a longer service life, better fuel economy compared to a gas

engine, and superior torque and towing capabilities. At the time he purchased his Truck, he believed that he paid a premium of approximately \$7,795 for the Truck compared to its gas equivalent. Plaintiff accordingly overpaid for his truck by at least the value of this premium.

84. FCA and Cummins never told Plaintiff about the Washcoat Defect or the Flash Defect, so Plaintiff purchased his Truck on the reasonable, but mistaken, belief that his Truck offered superior fuel economy, complied with United States emissions standards, could be legally operated within the United States, and would retain all of its operating characteristics throughout its useful life, including high fuel economy and dependability. Plaintiff recalls that the advertisements and representations claimed that the Trucks were EPA-complaint and offered superior fuel economy. None of the advertisements reviewed or representations received by Plaintiff contained any disclosure that the Truck had high emissions compared to gasoline vehicles and the fact that the emissions system would break down and not perform as advertised. Had Defendants disclosed this design, and the fact that the Truck actually emitted pollutants at a much higher level than gasoline vehicles do (and at a much higher level than a reasonable consumer would expect), emitted unlawfully high levels of pollutants, and would require Plaintiff to pay out-of-pocket costs, including repair costs and additional fuel costs, Plaintiff would have received these disclosures, and he would not have purchased the Truck or would

have paid less for it. In addition, had Plaintiff known that his Truck had the Washcoat Defect and/or the Flash Defect, he would not have purchased the Truck, or would have paid less for it.

**11. Justin Sylva**

85. Plaintiff Justin Sylva (for the purpose of this section, “Plaintiff”) is a resident of Colorado domiciled in Castle Rock, Colorado. On or about July 19, 2016, Plaintiff purchased a 2013 Dodge Ram 3500 (for the purpose of this section, the “Truck”), in Castle Rock, Colorado.

86. Unknown to Plaintiff at the time the Truck was purchased, it was equipped with an emissions system that was defective and did not function as advertised, and it emitted pollutants such as NO<sub>x</sub> at many multiples of emissions more than gasoline-powered vehicles—far in excess of what a reasonable consumer would expect from a truck billed as the “lowest emitting diesel engine ever produced” and far in excess of the levels allowed by federal law. The Defendants’ unfair, unlawful, and deceptive conduct in designing, manufacturing, marketing, selling, and leasing the Truck with the Washcoat Defect and the Flash Defect has caused Plaintiff out-of-pocket loss, future attempted repairs, and diminished value of the Truck.

87. Since he purchased the truck, and a result of the Flash Defect, the Truck’s MPG has dropped approximately 26%, resulting in additional out-of-

pocket losses that he did not reasonably anticipate, and that a customer would not reasonably anticipate. In particular, Plaintiff drives the Truck approximately 6,000 miles a year, and the Truck's MPG has dropped by approximately 3.5 MPG after his Truck was "flushed." With a diesel fuel price of about \$2.80, the defective emission system costs Plaintiff approximately \$256 a year.

88. Plaintiff also paid a premium for his Truck. Based on his research and knowledge of trucks, Plaintiff knew that diesel trucks were more expensive than a comparable truck that ran on gas, but he purchased the Truck based on his belief that it would have better fuel economy compared to a gas engine, and superior torque and towing capabilities. At the time he purchased his Truck, he believed that he paid a premium of approximately \$10,000-\$12,000 for the Truck compared to its gas equivalent. Plaintiff accordingly overpaid for his truck by at least the value of this premium.

89. Plaintiff also observed that the stated miles per gallon on his dashboard was substantially higher than he actually experienced. Based on his manual calculations, the Truck continues to obtain less miles per gallon than indicated on the dashboard.

90. FCA and Cummins never told Plaintiff about the Washcoat Defect or the Flash Defect, so Plaintiff purchased his Truck on the reasonable, but mistaken, belief that his Truck offered superior fuel economy, complied with United States

emissions standards, could be legally operated within the United States, and would retain all of its operating characteristics throughout its useful life, including high fuel economy and dependability. Plaintiff recalls that the advertisements and representations claimed that the Trucks were EPA-complaint and offered superior fuel economy. None of the advertisements reviewed or representations received by Plaintiff contained any disclosure that the Truck had high emissions compared to gasoline vehicles and the fact that the emissions system would break down and not perform as advertised. Had Defendants disclosed this design, and the fact that the Truck actually emitted pollutants at a much higher level than gasoline vehicles do (and at a much higher level than a reasonable consumer would expect), emitted unlawfully high levels of pollutants, and would require Plaintiff to pay out-of-pocket costs, including repair costs and additional fuel costs, Plaintiff would have received these disclosures, and he would not have purchased the Truck or would have paid less for it. In addition, had Plaintiff known that his Truck had the Washcoat Defect and/or the Flash Defect, he would not have purchased the Truck, or would have paid less for it.

## **12. Ian Hacker**

91. Plaintiff Ian Hacker (for the purpose of this section, “Plaintiff”) is a resident of California domiciled in Rialto, California. On or about September 1,

2016, Plaintiff purchased a 2014 Dodge Ram 2500 (for the purpose of this section, the “Truck”), in Rialto, California.

92. Unknown to Plaintiff at the time the Truck was purchased, it was equipped with an emissions system that was defective and did not function as advertised, and it emitted pollutants such as NOx at many multiples of emissions more than gasoline-powered vehicles—far in excess of what a reasonable consumer would expect from a truck billed as the “lowest emitting diesel engine ever produced” and far in excess of the levels allowed by federal law. The Defendants’ unfair, unlawful, and deceptive conduct in designing, manufacturing, marketing, selling, and leasing the Truck with the Washcoat Defect and the Flash Defect has caused Plaintiff out-of-pocket loss, future attempted repairs, and diminished value of the Truck.

93. Since he purchased the truck, and as a result of the Flash Defect, the Truck’s MPG has dropped approximately 17%, resulting in additional out-of-pocket losses that he did not reasonably anticipate, and that a customer would not reasonably anticipate. In particular, Plaintiff drives the Truck approximately 40,000 miles a year, and the Truck’s MPG has dropped by approximately three MPG after his Truck was “flushed.” With a diesel fuel price of about \$3.49, the defective emission system costs Plaintiff approximately \$1,551 a year. In addition,

the dosing pump and EGR valve of the Truck's emissions system needed repair and replacement as a result of the defects, which will cost him nearly \$3,800.

94. Plaintiff also paid a premium for his Truck. Based on his research and knowledge of trucks, Plaintiff knew that diesel trucks were more expensive than a comparable truck that ran on gas, but he purchased the Truck based on his belief that it would have better fuel economy compared to a gas engine, and superior torque and towing capabilities. At the time he purchased his Truck, he believed that he paid a premium of approximately \$9,000 for the Truck compared to its gas equivalent. Plaintiff accordingly overpaid for his truck by at least the value of this premium.

95. Plaintiff also observed that the stated miles per gallon on his dashboard was substantially higher than he actually experienced. Based on his manual calculations, the Truck continues to obtain less miles per gallon than indicated on the dashboard.

96. FCA and Cummins never told Plaintiff about the Washcoat Defect or the Flash Defect, so Plaintiff purchased his Truck on the reasonable, but mistaken, belief that his Truck offered superior fuel economy, complied with United States emissions standards, could be legally operated within the United States, and would retain all of its operating characteristics throughout its useful life, including high fuel economy and dependability. Plaintiff recalls that the advertisements and

representations claimed that the Trucks were EPA-complaint and offered superior fuel economy. None of the advertisements reviewed or representations received by Plaintiff contained any disclosure that the Truck had high emissions compared to gasoline vehicles and the fact that the emissions system would break down and not perform as advertised. Had Defendants disclosed this design, and the fact that the Truck actually emitted pollutants at a much higher level than gasoline vehicles do (and at a much higher level than a reasonable consumer would expect), emitted unlawfully high levels of pollutants, and would require Plaintiff to pay out-of-pocket costs, including repair costs and additional fuel costs, Plaintiff would have received these disclosures, and he would not have purchased the Truck or would have paid less for it. In addition, had Plaintiff known that his Truck had the Washcoat Defect and/or the Flash Defect, he would not have purchased the Truck, or would have paid less for it.

### **13. Jason Gindele**

97. Plaintiff Jason Gindele (for the purpose of this section, “Plaintiff”) is a resident of Kentucky domiciled in Florence, Kentucky. On or about September 25, 2013, Plaintiff purchased a 2013 Dodge Ram 2500 (for the purpose of this section, the “Truck”), in Batavia, Ohio.

98. Unknown to Plaintiff at the time the Truck was purchased, it was equipped with an emissions system that was defective and did not function as

advertised, and it emitted pollutants such as NO<sub>x</sub> at many multiples of emissions more than gasoline-powered vehicles—far in excess of what a reasonable consumer would expect from a truck billed as the “lowest emitting diesel engine ever produced” and far in excess of the levels allowed by federal law. The Defendants’ unfair, unlawful, and deceptive conduct in designing, manufacturing, marketing, selling, and leasing the Truck with the Washcoat Defect and the Flash Defect has caused Plaintiff out-of-pocket loss, future attempted repairs, and diminished value of the Truck.

99. Since he purchased the truck, and a result of the Flash Defect, the Truck’s MPG has dropped approximately 20%, resulting in additional out-of-pocket losses that he did not reasonably anticipate, and that a customer would not reasonably anticipate. In particular, Plaintiff drives the Truck approximately 17,500 miles a year, and the Truck’s MPG has dropped by approximately three MPG after his Truck was “flashed.” With a diesel fuel price of about \$2.75, the defective emission system costs Plaintiff approximately \$802 a year. In addition, on March 18, 2018, Plaintiff was required to pay \$649.33 to replace his NO<sub>x</sub> sensor—which is a direct result of the defect alleged herein.

100. Plaintiff also paid a premium for his Truck. Based on his research and knowledge of trucks, Plaintiff knew that diesel trucks were more expensive than a comparable truck that ran on gas, but he purchased the Truck based on his belief

that it would have superior torque and towing capabilities, and increased longevity. At the time he purchased his Truck, he believed that he paid a premium of approximately \$9,000 for the Truck compared to its gas equivalent. Plaintiff accordingly overpaid for his truck by at least the value of this premium.

101. FCA and Cummins never told Plaintiff about the Washcoat Defect or the Flash Defect, so Plaintiff purchased his Truck on the reasonable, but mistaken, belief that his Truck offered superior fuel economy, complied with United States emissions standards, could be legally operated within the United States, and would retain all of its operating characteristics throughout its useful life, including high fuel economy and dependability. Plaintiff recalls that the advertisements and representations claimed that the Trucks were EPA-complaint and offered superior fuel economy. None of the advertisements reviewed or representations received by Plaintiff contained any disclosure that the Truck had high emissions compared to gasoline vehicles and the fact that the emissions system would break down and not perform as advertised. Had Defendants disclosed this design, and the fact that the Truck actually emitted pollutants at a much higher level than gasoline vehicles do (and at a much higher level than a reasonable consumer would expect), emitted unlawfully high levels of pollutants, and would require Plaintiff to pay out-of-pocket costs, including repair costs and additional fuel costs, Plaintiff would have received these disclosures, and he would not have purchased the Truck or would

have paid less for it. In addition, had Plaintiff known that his Truck had the Washcoat Defect and/or the Flash Defect, he would not have purchased the Truck, or would have paid less for it.

**14. James Blount**

102. Plaintiff James Blount (for the purpose of this section, “Plaintiff”) is a resident of Washington domiciled in Kennewick, Washington. On or about December 7, 2013, Plaintiff purchased a 2013 Dodge Ram 3500 (for the purpose of this section, the “Truck”), in Spokane, Washington.

103. Unknown to Plaintiff at the time the Truck was purchased, it was equipped with an emissions system that was defective and did not function as advertised, and it emitted pollutants such as NO<sub>x</sub> at many multiples of emissions more than gasoline-powered vehicles—far in excess of what a reasonable consumer would expect from a truck billed as the “lowest emitting diesel engine ever produced” and far in excess of the levels allowed by federal law. The Defendants’ unfair, unlawful, and deceptive conduct in designing, manufacturing, marketing, selling, and leasing the Truck with the Washcoat Defect and the Flash Defect has caused Plaintiff out-of-pocket loss, future attempted repairs, and diminished value of the Truck.

104. Since he purchased the truck, and a result of the Flash Defect, the Truck’s MPG has dropped approximately 22%, resulting in additional out-of-

pocket losses that he did not reasonably anticipate, and that a customer would not reasonably anticipate. In particular, Plaintiff drives the Truck approximately 16,000 miles a year, and the Truck's MPG has dropped by approximately four MPG after his Truck was "flushed." With a diesel fuel price of about \$3.00, the defective emission system costs Plaintiff approximately \$781 a year.

105. Plaintiff also paid a premium for his Truck. Based on his research and knowledge of trucks, Plaintiff knew that diesel trucks were more expensive than a comparable truck that ran on gas, but he purchased the Truck based on his belief that it would have superior torque and towing capabilities, and increased longevity. At the time he purchased his Truck, he believed that he paid a premium of approximately \$9,000-\$10,000 for the Truck compared to its gas equivalent. Plaintiff accordingly overpaid for his truck by at least the value of this premium.

106. FCA and Cummins never told Plaintiff about the Washcoat Defect or the Flash Defect, so Plaintiff purchased his Truck on the reasonable, but mistaken, belief that his Truck offered superior fuel economy, complied with United States emissions standards, could be legally operated within the United States, and would retain all of its operating characteristics throughout its useful life, including high fuel economy and dependability. Plaintiff recalls that the advertisements and representations claimed that the Trucks were EPA-complaint and offered superior fuel economy. None of the advertisements reviewed or representations received by

Plaintiff contained any disclosure that the Truck had high emissions compared to gasoline vehicles and the fact that the emissions system would break down and not perform as advertised. Had Defendants disclosed this design, and the fact that the Truck actually emitted pollutants at a much higher level than gasoline vehicles do (and at a much higher level than a reasonable consumer would expect), emitted unlawfully high levels of pollutants, and would require Plaintiff to pay out-of-pocket costs, including repair costs and additional fuel costs, Plaintiff would have received these disclosures, and he would not have purchased the Truck or would have paid less for it. In addition, had Plaintiff known that his Truck had the Washcoat Defect and/or the Flash Defect, he would not have purchased the Truck, or would have paid less for it.

**15. Luke Wyatt**

107. Plaintiff Luke Wyatt (for the purpose of this section, “Plaintiff”) is a resident of Utah domiciled in West Valley City, Utah. On or about October 30, 2016, Plaintiff purchased a 2016 Dodge Ram 3500 (for the purpose of this section, the “Truck”), in West Valley City, Utah.

108. Unknown to Plaintiff at the time the Truck was purchased, it was equipped with an emissions system that was defective and did not function as advertised, and it emitted pollutants such as NO<sub>x</sub> at many multiples of emissions more than gasoline-powered vehicles—far in excess of what a reasonable

consumer would expect from a truck billed as the “lowest emitting diesel engine ever produced” and far in excess of the levels allowed by federal law. The Defendants’ unfair, unlawful, and deceptive conduct in designing, manufacturing, marketing, selling, and leasing the Truck with the Washcoat Defect and the Flash Defect has caused Plaintiff out-of-pocket loss, future attempted repairs, and diminished value of the Truck.

109. Since he purchased the truck, and a result of the Flash Defect, the Truck’s MPG has dropped approximately 25%, resulting in additional out-of-pocket losses that he did not reasonably anticipate, and that a customer would not reasonably anticipate. In particular, Plaintiff drives the Truck approximately 13,000 miles a year, and the Truck’s MPG has dropped by approximately four MPG after his Truck was “flashed.” With a diesel fuel price of about \$2.99, the defective emission system costs Plaintiff approximately \$810 a year.

110. Plaintiff also paid a premium for his Truck. Based on his research and knowledge of trucks, Plaintiff knew that diesel trucks were more expensive than a comparable truck that ran on gas, but he purchased the Truck based on his belief that it would have better fuel economy compared to a gas engine, and superior torque and towing capabilities. At the time he purchased his Truck, he believed that he paid a premium of approximately \$8,700 for the Truck compared to its gas

equivalent. Plaintiff accordingly overpaid for his truck by at least the value of this premium.

111. Plaintiff also observed that the stated miles per gallon on his dashboard was substantially higher than he actually experienced. Based on his manual calculations, the Truck continues to obtain less miles per gallon than indicated on the dashboard.

112. FCA and Cummins never told Plaintiff about the Washcoat Defect or the Flash Defect, so Plaintiff purchased his Truck on the reasonable, but mistaken, belief that his Truck offered superior fuel economy, complied with United States emissions standards, could be legally operated within the United States, and would retain all of its operating characteristics throughout its useful life, including high fuel economy and dependability. Plaintiff recalls that the advertisements and representations claimed that the Trucks were EPA-complaint and offered superior fuel economy. None of the advertisements reviewed or representations received by Plaintiff contained any disclosure that the Truck had high emissions compared to gasoline vehicles and the fact that the emissions system would break down and not perform as advertised. Had Defendants disclosed this design, and the fact that the Truck actually emitted pollutants at a much higher level than gasoline vehicles do (and at a much higher level than a reasonable consumer would expect), emitted unlawfully high levels of pollutants, and would require Plaintiff to pay out-of-

pocket costs, including repair costs and additional fuel costs, Plaintiff would have received these disclosures, and he would not have purchased the Truck or would have paid less for it. In addition, had Plaintiff known that his Truck had the Washcoat Defect and/or the Flash Defect, he would not have purchased the Truck, or would have paid less for it.

**16. Chris Wendel**

113. Plaintiff Chris Wendel (for the purpose of this section, “Plaintiff”) is a resident of New Jersey domiciled in Keansburg, New Jersey. On or about May 2, 2013, Plaintiff purchased a 2013 Dodge Ram 2500 (for the purpose of this section, the “Truck”), in Toms River, New Jersey.

114. Unknown to Plaintiff at the time the Truck was purchased, it was equipped with an emissions system that was defective and did not function as advertised, and it emitted pollutants such as NOx at many multiples of emissions more than gasoline-powered vehicles—far in excess of what a reasonable consumer would expect from a truck billed as the “lowest emitting diesel engine ever produced” and far in excess of the levels allowed by federal law. The Defendants’ unfair, unlawful, and deceptive conduct in designing, manufacturing, marketing, selling, and leasing the Truck with the Washcoat Defect and the Flash Defect has caused Plaintiff out-of-pocket loss, future attempted repairs, and diminished value of the Truck.

115. Since he purchased the truck, and as a result of the Flash Defect, the Truck's MPG has dropped approximately 10%, resulting in additional out-of-pocket losses that he did not reasonably anticipate, and that a customer would not reasonably anticipate. In particular, Plaintiff drives the Truck approximately 7,000 miles a year, and the Truck's MPG has dropped by approximately two MPG after his Truck was "flashed." With a diesel fuel price of about \$2.70, the defective emission system costs Plaintiff approximately \$95 a year.

116. Plaintiff also paid a premium for his Truck. Based on his research and knowledge of trucks, Plaintiff knew that diesel trucks were more expensive than a comparable truck that ran on gas, but he purchased the Truck based on his belief that it would have better fuel economy compared to a gas engine, and superior torque and towing capabilities. At the time he purchased his Truck, he believed that he paid a premium of approximately \$7,795 for the Truck compared to its gas equivalent. Plaintiff accordingly overpaid for his truck by at least the value of this premium.

117. FCA and Cummins never told Plaintiff about the Washcoat Defect or the Flash Defect, so Plaintiff purchased his Truck on the reasonable, but mistaken, belief that his Truck offered superior fuel economy, complied with United States emissions standards, could be legally operated within the United States, and would retain all of its operating characteristics throughout its useful life, including high

fuel economy and dependability. Plaintiff recalls that the advertisements and representations claimed that the Trucks were EPA-complaint and offered superior fuel economy. None of the advertisements reviewed or representations received by Plaintiff contained any disclosure that the Truck had high emissions compared to gasoline vehicles and the fact that the emissions system would break down and not perform as advertised. Had Defendants disclosed this design, and the fact that the Truck actually emitted pollutants at a much higher level than gasoline vehicles do (and at a much higher level than a reasonable consumer would expect), emitted unlawfully high levels of pollutants, and would require Plaintiff to pay out-of-pocket costs, including repair costs and additional fuel costs, Plaintiff would have received these disclosures, and he would not have purchased the Truck or would have paid less for it. In addition, had Plaintiff known that his Truck had the Washcoat Defect and/or the Flash Defect, he would not have purchased the Truck, or would have paid less for it.

**17. Darin Ginther**

118. Plaintiff Darin Ginther (for the purpose of this section, “Plaintiff”) is a resident of Texas domiciled in Austin, Texas. On or about May 20, 2015, Plaintiff purchased a 2015 Dodge Ram 3500 (for the purpose of this section, the “Truck”), in Austin, Texas.

119. Unknown to Plaintiff at the time the Truck was purchased, it was equipped with an emissions system that was defective and did not function as advertised, and it emitted pollutants such as NO<sub>x</sub> at many multiples of emissions more than gasoline-powered vehicles—far in excess of what a reasonable consumer would expect from a truck billed as the “lowest emitting diesel engine ever produced” and far in excess of the levels allowed by federal law. The Defendants’ unfair, unlawful, and deceptive conduct in designing, manufacturing, marketing, selling, and leasing the Truck with the Washcoat Defect and the Flash Defect has caused Plaintiff out-of-pocket loss, future attempted repairs, and diminished value of the Truck.

120. Since he purchased the truck, and a result of the Flash Defect, the Truck’s MPG has dropped approximately 12%, resulting in additional out-of-pocket losses that he did not reasonably anticipate, and that a customer would not reasonably anticipate. In particular, Plaintiff drives the Truck approximately 8,000 miles a year, and the Truck’s MPG has dropped by approximately two MPG after his Truck was “flashed.” With a diesel fuel price of about \$2.90, the defective emission system costs Plaintiff approximately \$182 a year.

121. Plaintiff also paid a premium for his Truck. Based on his research and knowledge of trucks, Plaintiff knew that diesel trucks were more expensive than a comparable truck that ran on gas, but he purchased the Truck based on his belief

that it would have better fuel economy compared to a gas engine, and superior torque and towing capabilities. It also had an exhaust brake, which assists with stopping large loads without wearing on the brake components. At the time he purchased his Truck, he believed that he paid a premium of approximately \$8,500 for the Truck compared to its gas equivalent. Plaintiff accordingly overpaid for his truck by at least the value of this premium.

122. FCA and Cummins never told Plaintiff about the Washcoat Defect or the Flash Defect, so Plaintiff purchased his Truck on the reasonable, but mistaken, belief that his Truck offered superior fuel economy, complied with United States emissions standards, could be legally operated within the United States, and would retain all of its operating characteristics throughout its useful life, including high fuel economy and dependability. Plaintiff recalls that the advertisements and representations claimed that the Trucks were EPA-complaint and offered superior fuel economy. None of the advertisements reviewed or representations received by Plaintiff contained any disclosure that the Truck had high emissions compared to gasoline vehicles and the fact that the emissions system would break down and not perform as advertised. Had Defendants disclosed this design, and the fact that the Truck actually emitted pollutants at a much higher level than gasoline vehicles do (and at a much higher level than a reasonable consumer would expect), emitted unlawfully high levels of pollutants, and would require Plaintiff to pay out-of-

pocket costs, including repair costs and additional fuel costs, Plaintiff would have received these disclosures, and he would not have purchased the Truck or would have paid less for it. In addition, had Plaintiff known that his Truck had the Washcoat Defect and/or the Flash Defect, he would not have purchased the Truck, or would have paid less for it.

**18. Matt Baffunno**

123. Plaintiff Matt Baffunno (for the purpose of this section, “Plaintiff”) is a resident of California domiciled in Los Banos, California. On or about May 24, 2014, Plaintiff purchased a 2014 Dodge Ram 2500 (for the purpose of this section, the “Truck”), in Woodland, California.

124. Unknown to Plaintiff at the time the Truck was purchased, it was equipped with an emissions system that was defective and did not function as advertised, and it emitted pollutants such as NOx at many multiples of emissions more than gasoline-powered vehicles—far in excess of what a reasonable consumer would expect from a truck billed as the “lowest emitting diesel engine ever produced” and far in excess of the levels allowed by federal law. The Defendants’ unfair, unlawful, and deceptive conduct in designing, manufacturing, marketing, selling, and leasing the Truck with the Washcoat Defect and the Flash Defect has caused Plaintiff out-of-pocket loss, future attempted repairs, and diminished value of the Truck.

125. Since he purchased the truck, and as a result of the Flash Defect, the Truck's MPG has dropped approximately 15-20%, resulting in additional out-of-pocket losses that he did not reasonably anticipate, and that a customer would not reasonably anticipate. In particular, Plaintiff drives the Truck approximately 16,000 miles a year, and the Truck's MPG has dropped by approximately three MPG after his Truck was "flushed." With a diesel fuel price of about \$3.00, the defective emission system costs Plaintiff approximately \$459 a year.

126. Plaintiff also paid a premium for his Truck. Based on his research and knowledge of trucks, Plaintiff knew that diesel trucks were more expensive than a comparable truck that ran on gas, but he purchased the Truck based on his belief that it would have better fuel economy compared to a gas engine, superior torque and towing capabilities, and because of Cummins' positive reputation. At the time he purchased his Truck, he believed that he paid a premium of approximately \$11,000 for the Truck compared to its gas equivalent. Plaintiff accordingly overpaid for his truck by at least the value of this premium.

127. FCA and Cummins never told Plaintiff about the Washcoat Defect or the Flash Defect, so Plaintiff purchased his Truck on the reasonable, but mistaken, belief that his Truck offered superior fuel economy, complied with United States emissions standards, could be legally operated within the United States, and would retain all of its operating characteristics throughout its useful life, including high

fuel economy and dependability. Plaintiff recalls that the advertisements and representations claimed that the Trucks were EPA-complaint and offered superior fuel economy. None of the advertisements reviewed or representations received by Plaintiff contained any disclosure that the Truck had high emissions compared to gasoline vehicles and the fact that the emissions system would break down and not perform as advertised. Had Defendants disclosed this design, and the fact that the Truck actually emitted pollutants at a much higher level than gasoline vehicles do (and at a much higher level than a reasonable consumer would expect), emitted unlawfully high levels of pollutants, and would require Plaintiff to pay out-of-pocket costs, including repair costs and additional fuel costs, Plaintiff would have received these disclosures, and he would not have purchased the Truck or would have paid less for it. In addition, had Plaintiff known that his Truck had the Washcoat Defect and/or the Flash Defect, he would not have purchased the Truck, or would have paid less for it.

**B. Defendants**

128. Defendant FCA US LLC (FCA) is a limited liability company organized and existing under the laws of the State of Delaware, and is wholly owned by holding company Fiat Chrysler Automobiles N.V., a Dutch corporation headquartered in London, United Kingdom. FCA's principal place of business and headquarters is in Auburn Hills, Michigan, in the Eastern District of Michigan.

129. FCA (sometimes referred to as Chrysler) is a motor vehicle “manufacturer” and a licensed “distributor” of new, previously untitled Chrysler, Dodge, Jeep, and Ram brand motor vehicles. FCA’s Chrysler brand is one of the “Big Three” American automobile brands. FCA engages in commerce by distributing and selling new and unused passenger cars and motor vehicles under its Chrysler, Dodge, Jeep, and Ram brands. Other major divisions of FCA include Mopar, its automotive parts and accessories division, and SRT, its performance automobile division. As of 2015, FCA is the seventh largest automaker in the world by unit production.

130. FCA’s business operations in the United States include the manufacture, distribution, and sale of motor vehicles and parts through its network of independent, franchised motor vehicle dealers. FCA is engaged in interstate commerce in that it sells vehicles through this network located in every state of the United States.

131. FCA sells its trucks through FCA franchise dealerships. FCA distributes information about its Ram trucks to its dealers for the purpose of passing that information to consumers. FCA also understands that its dealers pass on information from FCA about the characteristics, benefits, and quality of its Ram products to consumers. The dealers act as FCA’s agents in selling the Trucks and disseminating information about the Trucks to customers and potential customers.

The extent of this agency relationship is exhibited by the insistence by Cummins that FCA participate in the recall, because it was the dealers who would take directions from FCA and complete the work on FCA's behalf. FCA acknowledges this in the litigation in its willingness to participate in the recall because of its control over the dealerships.

132. Cummins Inc. is a Fortune 500 company that designs, manufactures, and distributes engines, filtration, and power generation products. It earned approximately \$19.1 billion in revenue in the year 2015. Cummins is doing business in the Eastern District of Michigan and elsewhere. It conducts business in interstate and foreign commerce through its network of 600 company-owned and independent distributor facilities, supplying its customers with its products, and more than 7,200 dealer locations in over 190 countries and territories. Cummins is headquartered in Columbus, Indiana.

## **V. FACTUAL ALLEGATIONS**

### **A. Diesel engines pose a unique danger to the environment.**

133. The United States government, through the EPA, has passed and enforced laws designed to protect U.S. citizens from pollution and, in particular, certain chemicals and agents known to cause diseases in humans. Automobile manufacturers must abide by these U.S. laws and must adhere to EPA rules and regulations.

134. The U.S. Clean Air Act has strict emissions standards for vehicles, and it requires vehicle manufacturers to certify to the EPA that the vehicles sold in the United States meet applicable federal emissions standards to control air pollution. Every vehicle sold in the United States must be covered by an EPA-issued Certificate of Conformity (COC).

135. There is a very good reason that these laws and regulations exist, particularly in regards to vehicles with diesel engines: in 2012, the World Health Organization declared diesel vehicle emissions to be carcinogenic and about as dangerous as asbestos.

136. Diesel engines pose a particularly difficult challenge to the environment because they have an inherent trade-off between power, fuel efficiency, and emissions: the greater the power and fuel efficiency, the dirtier and more harmful the emissions.

137. Instead of using a spark plug to combust highly refined fuel with short hydrocarbon chains, as gasoline engines do, diesel engines compress a mist of liquid fuel and air to very high temperatures and pressures, which causes the diesel to spontaneously combust. This allows for a greater compression ratio and longer piston stroke, which produces greater efficiency and engine torque (that is, less fuel consumption and more power).

138. The diesel engine is able to do this both because it operates at a higher compression ratio than a gasoline engine and because diesel fuel contains more energy than gasoline.

139. But greater energy and fuel efficiency come at a cost: diesel produces dirtier and more dangerous emissions. One by-product of diesel combustion is oxides of nitrogen (NO<sub>x</sub>), which include a variety of nitrogen and oxygen chemical compounds that only form at high temperatures.

140. NO<sub>x</sub> is a generic term for the mono-nitrogen oxides NO and NO<sub>2</sub> (nitric oxide and nitrogen dioxide), which are predominantly produced from the reaction of nitrogen and oxygen gases in the combustion cylinder during combustion. NO<sub>x</sub> is produced by the burning of all fossil fuels, but is particularly difficult to control from the burning of diesel fuel in lean-burn conditions (which is the case for nearly all modern on-road diesel engines). NO<sub>x</sub> is a toxic pollutant that produces smog and causes a litany of environmental and health problems. NO<sub>x</sub> pollution contributes to nitrogen dioxide, particulate matter in the air, and reacts with sunlight in the atmosphere to form ozone. Exposure to these pollutants has been linked to serious health dangers, including asthma attacks and other respiratory illnesses serious enough to send people to the hospital. Ozone and particulate matter exposure have been associated with premature death due to respiratory-related or cardiovascular-related effects. Children, the elderly, and

people with pre-existing respiratory illness are at an increased risk of health effects from these pollutants. NO<sub>x</sub> can cause breathing problems, headaches, chronically reduced lung function, eye irritation, and corroded teeth. It can indirectly affect humans by damaging the ecosystems they rely on.

141. The diesel cycle is inherently more efficient than the comparable spark-ignited Otto (gasoline) cycle. In fact, diesel engines can convert over 45% of diesel's chemical energy into useful mechanical energy, whereas gasoline engines convert only 30% of gasoline's chemical energy into mechanical energy. Though more efficient, diesel engines come with their own set of challenges, as emissions from diesel engines can include higher levels of NO<sub>x</sub> and particulate matter (PM) or soot than emissions from gasoline engines due to the different ways the different fuels combust and the different ways the resulting emissions are treated following combustion. Another way NO<sub>x</sub> emissions can be reduced is through exhaust gas recirculation or "EGR," whereby exhaust gases are routed back into the intake of the engine and mixed with fresh incoming air. Exhaust gas recirculation lowers NO<sub>x</sub> by reducing the available oxygen, increasing the heat capacity of the exhaust gas mixture and by reducing maximum combustion temperatures; however, EGR can also lead to an increase in PM as well. Another way NO<sub>x</sub> and PM emissions can be reduced is through expensive exhaust gas after-treatment devices—primarily catalytic converters, which use a series of chemical reactions to

transform the chemical composition of a vehicle's NOx emissions into less harmful, relatively inert, nitrogen gas (N<sub>2</sub>), water (H<sub>2</sub>O), and carbon dioxide (CO<sub>2</sub>).

142. Diesel engines thus operate according to this trade-off between price, NOx, and PM, and for the EPA to designate a diesel car as a “clean” vehicle, it must produce both low PM and low NOx. In 2000, the EPA announced stricter emission standards requiring all diesel models starting in 2007 to produce drastically less NOx and PM than years prior. Before introducing a Truck into the U.S. stream of commerce (or causing the same), FCA or Cummins was required to first apply for, and obtain, an EPA-administered COC certifying that the vehicle comported with the emission standards for pollutants enumerated in 40 C.F.R. §§ 86.1811-04, 86.1811-09, and 86.1811-10. The Clean Air Act expressly prohibits automakers or engine manufacturers, like FCA and Cummins, from introducing a new vehicle into the stream of commerce without a valid EPA COC.<sup>20</sup> Moreover, vehicles must be accurately described in the COC application “in all material respects” to be deemed covered by a valid COC.<sup>21</sup> California's emission standards are even more stringent than those of the EPA. California's regulator, CARB, requires a similar application from automakers to obtain an

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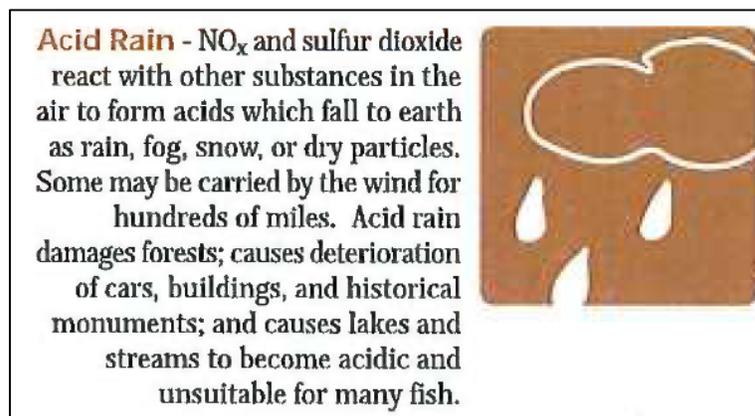
<sup>20</sup> See 42 U.S.C. § 7522(a)(1).

<sup>21</sup> See 40 C.F.R. § 86.1848-10(c)(6).

Executive Order, confirming compliance with California's emission regulations, before allowing the vehicle onto California's roads.

143. NO<sub>x</sub> contributes to ground-level ozone and fine particulate matter. According to the EPA, "Exposure to these pollutants has been linked with a range of serious health effects, including increased asthma attacks and other respiratory illnesses that can be serious enough to send people to the hospital. Exposure to ozone and particulate matter have also been associated with premature death due to respiratory-related or cardiovascular-related effects. Children, the elderly, and people with pre-existing respiratory disease are particularly at risk for health effects of these pollutants."

144. The EPA describes the danger of NO<sub>x</sub> as follows:



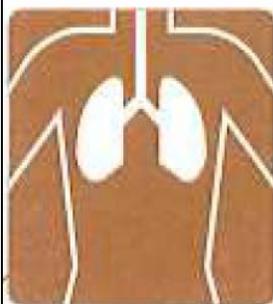
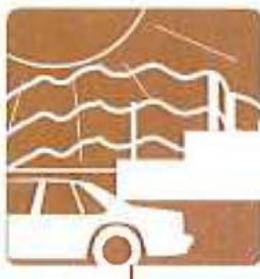
**Water Quality Deterioration**

- Increased nitrogen loading in water bodies, particularly coastal estuaries, upsets the chemical balance of nutrients used by aquatic plants and animals. Additional nitrogen accelerates "eutrophication," which leads to oxygen depletion and reduces fish and shellfish populations.  $\text{NO}_x$  emissions in the air are one of the largest sources of nitrogen pollution to the Chesapeake Bay.

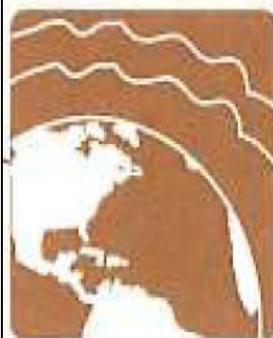


**Toxic Chemicals** - In the air,  $\text{NO}_x$  reacts readily with common organic chemicals, and even ozone, to form a wide variety of toxic products, some of which may cause biological mutations. Examples of these chemicals include the nitrate radical, nitroarenes, and nitrosamines.

**Ground-level Ozone (Smog)** - is formed when  $\text{NO}_x$  and volatile organic compounds (VOCs) react in the presence of heat and sunlight. Children, the elderly, people with lung diseases such as asthma, and people who work or exercise outside are susceptible to adverse effects such as damage to lung tissue and reduction in lung function. Ozone can be transported by wind currents and cause health impacts far from the original sources. Millions of Americans live in areas that do not meet the health standards for ozone. Other impacts from ozone include damaged vegetation and reduced crop yields.



**Particles** -  $\text{NO}_x$  react with ammonia, moisture, and other compounds to form nitric acid vapor and related particles. Human health concerns include effects on breathing and the respiratory system, damage to lung tissue, and premature death. Small particles penetrate deeply into sensitive parts of the lungs and can cause or worsen respiratory disease, such as emphysema and bronchitis, and aggravate existing heart disease.



**Global Warming** - One member of the  $\text{NO}_x$  family, nitrous oxide, is a greenhouse gas. It accumulates in the atmosphere with other greenhouse gases causing a gradual rise in the earth's temperature. This will lead to increased risks to human health, a rise in the sea level, and other adverse changes to plant and animal habitat.

145. On September 19, 2015, scientists at Northwest University Feinberg School of Medicine and Columbia University's Mailman School of Public Health released a study indicating that the elevated emissions from the non-compliant Volkswagen vehicles could lead to as many as 50 premature deaths, 3,000 lost workdays, and \$423 million in economic costs.

**B. The Defendants develop a partnership to sell diesel trucks.**

**1. Cummins enters the clean diesel market.**

146. Cummins, founded by Clessie Lyle Cummins, has been developing diesel engines since 1919.<sup>22</sup>

147. Cummins has a long history with Dodge, having supplied diesel engines for the manufacturer since 1988.<sup>23</sup>

148. In 1990, the EPA amended its air pollution standards under the Clean Air Act, which addressed diesel emissions.<sup>24</sup>

149. In 1998, the Department of Justice, on behalf of the EPA, sued every diesel manufacturer in the United States, including Cummins, for installing

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<sup>22</sup> Exhibit 11, *Cummins History*, <https://cumminsengines.com/history> (last accessed June 30, 2017).

<sup>23</sup> Exhibit 12, Cummins News Release, *Cummins Reveals Best-In-Class 2007 Turbo Diesel Engine* (Jan. 23, 2007), available at [http://investor.cummins.com/phoenix.zhtml?c=112916&p=irol-newsArticle\\_pf&ID=953050](http://investor.cummins.com/phoenix.zhtml?c=112916&p=irol-newsArticle_pf&ID=953050).

<sup>24</sup> Exhibit 13, *Regulatory Authorities*, DieselNet, <https://www.dieselnets.com/standards/us/> (last accessed June 30, 2017).

“defeat” devices on their engines.<sup>25</sup> The companies were forced to spend a combined one billion dollars, including an \$83.4 million civil penalty, to bring their engines into conformity with national standards.<sup>26</sup>

150. But Cummins continued to ship out engines without pollution control equipment through 2006, for which it would pay an additional \$2.1 million settlement with the Department of Justice in 2010.<sup>27</sup>

151. As the EPA began to roll out increasingly tougher standards to take effect in 2004, 2007, and 2010, Cummins began developing its own clean diesel technology.

152. Between 2002 and 2007, Cummins increased its Research & Development budget by 60 percent, to \$321 million, with almost a quarter dedicated to meeting the new emission standards.<sup>28</sup> More specifically, it expanded its component segment budget, which included emissions-related technologies,

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<sup>25</sup> Exhibit 14, *Company Charged With Illegal Emissions From Diesel Engines*, U.S. Dep’t of Justice (June 16, 1998), available at <https://www.justice.gov/archive/opa/pr/1998/June/281.html>.

<sup>26</sup> See Exhibit 15, Raphael Orlove, *How The EPA Won \$1 Billion From Diesel Cheaters Long Before VW*, Jalopnik (Sept. 21, 2015), <http://jalopnik.com/how-the-epa-won-1-billion-from-diesel-cheaters-long-be-1732109485>.

<sup>27</sup> See Exhibit 16, *Cummins Inc. Agrees to Pay \$2.1 Million Penalty for Diesel Engine Clean Air Act Violations*, U.S. Dep’t of Justice (Feb. 22, 2010), available at <https://www.justice.gov/opa/pr/cummins-inc-agrees-pay-21-million-penalty-diesel-engine-clean-air-act-violations>.

<sup>28</sup> See Exhibit 17, *Cummins: An Engine Maker Bets on Clean Air—and Wins* (June 8, 2015), Fortune, <http://fortune.com/2015/06/08/cummins-diesel-engine/>.

from \$39 million in 2004 to \$57 million in 2006. The emphasis was on developing its own system based on its own proprietary parts.

153. In September 2006, Cummins unveiled its 6.7-liter Turbo Diesel engine.<sup>29</sup>

154. By 2015, in addition to its engines, Cummins controlled 41 percent of the U.S. market on aftermarket diesel cleaning technologies.<sup>30</sup> It is the leading diesel engine manufacturer in the United States and one of the biggest in the world.<sup>31</sup> Riding the wave of the “clean” diesel engine campaign, its sales jumped from \$10.8 billion in 2009 to \$19.2 billion in 2014.

## **2. Dodge and Cummins jointly develop and promote the vehicles.**

155. FCA and Cummins moved aggressively to promote the Trucks and to emphasize the strength of the relationship between the two companies.

156. Below is a selection of public statements made by both FCA and Cummins as part of an orchestrated campaign by each defendant to advertise the Trucks as a cleaner, greener, and more economical alternative for customers looking to purchase heavy-duty trucks, and to promote their reliability and

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<sup>29</sup> Exhibit 18, *Dodge Introduces Cleaner, Quieter and More Powerful 6.7-liter Cummins Turbo-Diesel Engine at State Fair of Texas*, PR Newswire (Sept. 28, 2006), <http://www.prnewswire.com/news-releases/dodge-introduces-cleaner-quieter-and-more-powerful-67-liter-cummins-turbo-diesel-engine-at-state-fair-of-texas-57203457.html>.

<sup>30</sup> Exhibit 17 at 9.

<sup>31</sup> *See id.*

durability. Through these statements, Defendants are acknowledging that low emissions, high performance, and cost savings are material to a reasonable consumer of a diesel car.

157. Statements by Cummins include the following:

- An advertising brochure published in 2015 regarding Cummins' engines, entitled "Top 10 Ways Cummins Is Redefining Value":<sup>32</sup>

Superior Fuel Economy[.] Cummins offers leading fuel economy for a lower cost of operation. . . .

SmartAdvantage Powertrain[.] The smart way to get 3–6% better fuel economy. Cummins and Eaton have joined together to deliver a fully integrated powertrain with unprecedented performance and fuel economy. . . .

- Cummins' website:<sup>33</sup>

Working closely to integrate with Ram, a more aggressive calibration for the Cummins 6.7L Turbo Diesel produces an additional 15 lb.-ft. of torque. This improvement places the coveted engine ahead of the competition with 865 lb.-ft. of torque, while maintaining performance and EPA compliance.

- Cummins' YouTube channel, in a video referring to its Jamestown, New York plant:<sup>34</sup>

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<sup>32</sup> Exhibit 19, *Top 10 Ways Cummins Is Redefining Value*, Cummins (2015), available at <https://cumminsengines.com/brochure-download.aspx?download=true&brochureid=512>.

<sup>33</sup> Exhibit 9 (emphasis added).

<sup>34</sup> Cummins Engines, *Inside Cummins: This is Jamestown* (2016), YouTube (Mar. 17, 2016), <https://www.youtube.com/watch?v=zS4STkQDWM4>.

[The] plant not only creates environmentally clean engines, but is also designed with a low carbon footprint . . . .

All in all the Jamestown plant is a truly remarkable place, building truly remarkable engines—engines that deliver better performance, better fuel economy, and better reliability while being better for the environment.

- Cummins’ YouTube video entitled “Inside Cummins: This is Cummins”:<sup>35</sup>

Demanding that everything we do leads to a cleaner, healthier, safer environment. . . .

Emissions control was and will be a key component of the product profile of every product we produce. Now, fortunately for Cummins we have seen emissions compliance really as a means to creative and new technologies. Our engineers every day are challenged to create solutions for the customer and for the environment. Now whenever it appears that both of these masters cannot be served with the current technology, we are really well-prepared with skill and tools to pioneer new systems. Our company demands that everything we do leads to a cleaner, healthier, safer environment.

- Cummins’ YouTube video entitled “Cummins: Understanding What We Do”:<sup>36</sup>

Today the engine remains critical to what we do and serves as a platform for the development of cutting-edge technology. We use this technology to maximize fuel

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<sup>35</sup> Cummins Engines, *Inside Cummins: This is Cummins*, YouTube (Sept. 10, 2012), <https://www.youtube.com/watch?v=L5Mogpt-Hsg>.

<sup>36</sup> Cummins Careers, *Cummins: Understanding What We Do*, YouTube (Sept. 3, 2014), [https://www.youtube.com/watch?v=SIIsFBIX\\_BFA](https://www.youtube.com/watch?v=SIIsFBIX_BFA).

economy and minimize emissions while still maintaining the power and dependability our customers expect. . . .

Our expanding emissions solutions business has been essential in Cummins' transition into a technology development company. For example, take a look at the amazing chemistry and reactions that happen inside our ultra low emissions systems containing a diesel oxidation catalyst coupled with a diesel particulate filter and selective catalytic reduction system. . . .

To be successful, we must anticipate our customers' needs before our competition. For the past several years, emissions regulations played a prominent role in our product development. Now, with emissions near zero, our focus is changing. . . .

The technology we develop and deliver allows us to provide more power and increase fuel economy while minimizing the impact on the environment.

- Cummins' YouTube video entitled "The Cummins Aftertreatment System - Driver Training for On-Highway Heavy-Duty Truck Engines".<sup>37</sup>

Cummins engines use clean diesel technology which leads to *near zero emissions*. . . .

The Cummins after-treatment system allows your truck to comply with federal laws covering exhaust emissions. . . .

158. Statements by FCA include the following:

- Ram's website.<sup>38</sup>

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<sup>37</sup> Cummins Engines, *The Cummins Aftertreatment System - Driver Training for On-Highway Heavy-Duty Truck Engines*, YouTube (July 11, 2016), <https://www.youtube.com/watch?v=FIG3GSxORew&index=13&list=PLqbUCAKgU5jC40a7Lwq-aC-JZsksenpkZ>.

Ram Heavy Duty trucks are built to last for years to come, having endured upwards of 40,000 hours of intense vehicle system testing in the harshest scenarios on and off the road. Proven power and rugged capability combine to keep your truck going for as long as you do.

- 2013 Ram sales brochure:<sup>39</sup>

For 2013, Cummins improve the classic Turbo Diesel in Ram Heavy Duty models with a Next-Generation Diesel Exhaust Fluid (DEF)/Select Catalytic Reduction (SCR) system that's fully compliant with recent federal mandates.

- 2014 Ram sales brochure:<sup>40</sup>

Generous – and infrequent – oil-change intervals are part of the low-cost of ownership equation; a best-in-class 15,000 miles under normal operation.

Green by design: biodiesel compatibility includes full B20 operational compliance – an advantage to every Cummins engine.

159. FCA and Cummins also jointly promoted their partnership together .

After completing two million trucks together, FCA's Fred Diaz (President and

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<sup>38</sup> Exhibit 20, *Ram 2500*, Ramtrucks, <https://www.ramtrucks.com/ram-2500.html/> (last accessed June 30, 2017).

<sup>39</sup> Exhibit 4 (emphasis added).

<sup>40</sup> Exhibit 21, Ram brochure (2014) at 30, available at [https://www.ramtrucks.com/assets/pdf/brochures/2014\\_ram\\_pickups.pdf](https://www.ramtrucks.com/assets/pdf/brochures/2014_ram_pickups.pdf) (last accessed June 30, 2017) (emphasis added).

CEO, Ram Truck Brand and Chrysler de Mexico) stated in a news release the following:<sup>41</sup>

The Ram Truck-Cummins diesel partnership is one of the industry's most enduring and certainly fitting of such a tribute . . . . Both companies have benefited greatly, but Ram diesel customers are the real beneficiaries. Every day they experience the toughness and capability a Cummins-powered Ram can deliver.

160. A 2016 Ram 2500/3500 brochure stated as follows:<sup>42</sup>

Cummins + Ram Heavy Duty. It's a working combination that's now in excess of two million applications—the ever-growing figure that sums up the enduring quality of this working partnership.

161. A 2017 Ram brochure stated as follows:<sup>43</sup>

The Cummins Turbo Diesel and Ram Heavy Duty. Over nearly three decades, this working combination has figured into more than two million applications—and it's an ever-growing figure that sums up the enduring quality of this unbeatable partnership.

162. Evidence of this partnership is reflected on the truck itself, which carries the Cummins logo on the truck as a reflection of their joint development and sale of the vehicles:

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<sup>41</sup> Exhibit 22, *Two-Millionth Cummins Pickup Engine Rolls off Line for Chrysler, Cummins*, <http://social.cummins.com/two-millionth-cummins-pickup-engine-rolls-line-chrysler/> (last accessed June 30, 2017).

<sup>42</sup> Exhibit 23, Ram 2500/3500 brochure (2016) at 9, available at [http://www.fcaworkvehiclesus.com/assets/downloads/brochures/ramtrucks/2016/16MY\\_US\\_Ram\\_HD\\_eBrochure.pdf](http://www.fcaworkvehiclesus.com/assets/downloads/brochures/ramtrucks/2016/16MY_US_Ram_HD_eBrochure.pdf).

<sup>43</sup> Exhibit 24, Ram brochure (2017) at 10, available at [https://www.ramtrucks.com/assets/pdf/brochures/US%20-%2017MY%20Ram%20HD%20Catalog\\_TX\\_eBrochure.pdf](https://www.ramtrucks.com/assets/pdf/brochures/US%20-%2017MY%20Ram%20HD%20Catalog_TX_eBrochure.pdf) (last accessed June 30, 2017).



163. What is remarkable about these advertisements and self-serving statements is that they continued to make them even after their falsity was proven. The following are statements that Defendants made (including the date when they were available online) as captured on the Internet Archive website ([www.archive.org](http://www.archive.org))—a website that captures historical webpages:

- Ram statement about Cummins (captured August 10, 2015):<sup>44</sup>  
With B20 biofuel capability and reduced greenhouse gas emissions, our engineers were proud to build a lineup around an engine that's as responsible as it is powerful.
- From the Cummins website (captured on March 7, 2016):<sup>45</sup>

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<sup>44</sup> Exhibit 25.

Cummins designs, develops and supports every critical component from air handling to exhaust aftertreatment as a totally integrated system. This allows us to optimize every function better than any other engine manufacturer.

The ISL9 and ISB6.7 meet 2014 Environmental Protection Agency (EPA) and United States Department of Transportation (DOT) regulations for fuel economy and greenhouse gas reduction a year ahead of schedule without major hardware changes.

164. Even after they knew in detail about the Trucks' defects, FCA and Cummins not only failed to inform customers or timely effectuate a recall, but they also continued to sell the trucks at a substantial premium. As recounted by Plaintiffs, each of them knowingly paid a premium to get a diesel truck, which is much more expensive than a gas engine. Indeed, FCA's website allows customers to custom build their own truck, and the price of diesel is made explicit. The diesel premium is summarized below:

<b>Model</b>	<b>MSRP</b>	<b>Diesel premium</b>
2017 2500 Laramie Crew Cab 4x4 6'4" box	\$50,845	\$8,700 <sup>46</sup>
2017 SLT 4x2 8' box	\$36,345	\$9,200 <sup>47</sup>

<sup>45</sup> Exhibit 26, *Cummins Engines for Medium-Duty Truck*, Cummins, available at <https://web.archive.org/web/20160307105606/http://cumminsengines.com:80/medium-duty-truck> (captured Mar. 7, 2016).

<sup>46</sup> Exhibit 27, *Build & Price*, RAM Trucks, <https://www.ramtrucks.com/build#/powertrain/zipcode/98101/vehicle/CUT201714/ccode/CUT201714DJ7P91A/llp/2TH/options/EZC,DFP,WBL,VL,TCN,RA3,Z7C,DME,X9,PWQ,26H,APA> (last accessed Apr. 10, 2018).

<sup>47</sup> Exhibit 28, *Build & Price*, RAM Trucks, <https://www.ramtrucks.com/build#/powertrain/zipcode/98101/vehicle/CUT201714/ccode/CUT201714DJ2H62A/llp/2TG/options/EZC,DFP,TCN,WBH,V9,Z2C,RA2,DME,X8,PCL,26G,APA> (last accessed Apr. 10, 2018).

Model	MSRP	Diesel premium
2017 2500 Tradesman 4x2 8' box	\$32,145	\$9,200 <sup>48</sup>
2017 Big Horn crew cab 4x2, 6'4"	\$40,370	\$9,200 <sup>49</sup>
2017 Laramie Longhorn 4x2 6'4"	\$51,020	\$8,700 <sup>50</sup>
2017 2500 Limited 4x2 6'4"	\$54,720	\$8,700 <sup>51</sup>

165. Similarly, Plaintiffs in this case attest to the fact that they paid a premium—in amounts ranging from \$8,000 to \$10,000—for a diesel truck, and that they did not get the benefit of the bargain after paying this premium.

**3. Defendants were required to certify the Trucks' emissions system for their "useful life."**

166. On January 17, 2006, the EPA issued two final rules related to exhaust emission durability for passenger trucks and other vehicles.<sup>52</sup> Under these rules, truck and engine manufacturers can use one of two methods for testing the

<sup>48</sup> Exhibit 29, *Build & Price*, RAM Trucks, <https://www.ramtrucks.com/build#/powertrain/zipcode/98101/vehicle/CUT201714/ccode/CUT201714DJ2L62A/llp/2TA/options/EZC,DFP,TWD,WDA,TX,RA1,Z2C,DME,X8,PW7,26A,APA> (last accessed Apr. 10, 2018).

<sup>49</sup> Exhibit 30, *Build & Price*, RAM Trucks, <https://www.ramtrucks.com/build#/powertrain/zipcode/98101/vehicle/CUT201714/ccode/CUT201714DJ2H91D/llp/2TZ/options/EZC,APA,DFP,TCN,WBE,M9,Z2C,RA2,DME,X8,PAU,26Z> (last accessed Apr. 10, 2018).

<sup>50</sup> Exhibit 31, *Build & Price*, RAM Trucks, <https://www.ramtrucks.com/build#/powertrain/zipcode/98101/vehicle/CUT201714/ccode/CUT201714DJ2R91A/llp/2TK/options/EZC,APD,DFP,WBJ,XJ,TCN,RA4,DME,Z2C,U1,PXR-QUW,26K> (last accessed Apr. 10, 2018).

<sup>51</sup> Exhibit 32, *Build & Price*, RAM Trucks, <https://www.ramtrucks.com/build#/powertrain/zipcode/98101/vehicle/CUT201714/ccode/CUT201714DJ2R91B/llp/2TM/options/EZC,APA,DFP,WH3,UL,TEA,DME,Z2C,RA4,X9,PRV,26M> (last accessed Apr. 10, 2018).

<sup>52</sup> See Emission Durability Procedures, 71 Fed. Reg. 2810 (Jan. 17, 2006) (codified at 40 C.F.R. pt. 86).

emissions' durability—using a chassis dynamometer to test the vehicles after they have run for a given period of time, or using a “bench aging” procedure which involves using extreme heat to test certain components, including the catalytic converters.<sup>53</sup>

167. In either case, certificate holders must test and certify that the vehicles will comply with EPA emissions standards throughout their “useful life,” which is currently defined as 120,000 miles.<sup>54</sup> As the Clean Air Act Handbook describes it, “[t]he demonstration of light-duty vehicle emission durability for purposes of certification consists of two elements: (1) emission deterioration (the extent emissions will increase during the vehicle's useful life); and (2) component durability (whether emission-related components will operate properly for the useful life of the vehicle).”<sup>55</sup>

168. As a result, the Defendants knew about the Washcoat Defect from the beginning, because they would have been required to test the Trucks for their useful life, and the Washcoat Defect would have manifested itself during those tests. Defendants also knew about the Flash Defect for the same reason, but they pushed forward with the development of the Trucks knowing that they could

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<sup>53</sup> See 41 C.F.R. § 86.18023-08(c) & (e).

<sup>54</sup> 41 C.F.R. § 86.1805-04.

<sup>55</sup> See David R. Wooley and Elizabeth M. Morss, Clean Air Act Handbook, § 5:17 (2017).

reprogram the ECM to comply with emissions requirements at the expense of the customer, without revealing to the customer that (a) the Trucks were being flashed, and (b) the flashing would substantially degrade the performance of their trucks, including their fuel economy.

**4. The FCA-Cummins litigation proves Defendants knew about one of the defects' faulty emissions system.**

169. As referenced above, years after FCA and Cummins discovered there was a defect in the SCR system, Cummins began the proceedings to recall certain 2500 trucks (model years 2013–2015), but there was a dispute between the parties about who had to pay for it. The specific issue in the case was the “Diesel Engine Exhaust Aftertreatment System,” which included a coated SCR system (referred to herein as the “Washcoat Defect”).<sup>56</sup> On August 5, 2016, under the apparent belief that Cummins would force FCA to pay for the recall, FCA initially sued Cummins for \$60 million, the estimated cost for FCA of initiating the recall. As the EPA certificate holder, Cummins was required to complete the recall. According to the Complaint, Cummins designed the SCR in compliance with the contracts between Cummins and FCA. However, the SCR “did not comply with all specifications, statutes, regulations, and other contractual requirements” of the FCA-Cummins contract. As a result, the SCR is “defective.”<sup>57</sup>

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<sup>56</sup> FCA Litigation, Complaint and Jury Demand (ECF No. 1) at 6.

<sup>57</sup> *Id.* at 5.

170. In response, Cummins filed a motion for a temporary restraining order and preliminary injunction.<sup>58</sup> In so doing, Cummins acknowledged that “[c]ertain Ram 2500 Pickup trucks with Cummins 6.7 L diesel engines (the ‘Trucks’) suffer an issue that results in the Trucks *failing to meet emissions requirements*. The Trucks must be recalled and repaired.”<sup>59</sup> Although conceding that “Cummins is the emissions certificate holder for the Trucks and is responsible to the regulating agencies for the emissions requirements,” Cummins nevertheless contended that “FCA refuses to cooperate in the recall, including notifying its dealers and customers of the recall, working with its third party suppliers to obtain the replacements parts, and actually performing the repairs through repairs at its authorized dealers.”<sup>60</sup> Moreover, “[o]n September 14, 2016[, CARB] and EPA informed Cummins that they will issue the rare remedy of ordering a forced recall against Cummins within seven days[.] FCA still refuses to initiate the recall[.]”<sup>61</sup>

171. In its TRO petition, Cummins stressed that FCA and Cummins had a pattern and practice of cooperating in recalls; in fact, from 2007 to 2016, there

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<sup>58</sup> FCA Litigation, Cummins’ Motion for TRO and Preliminary Injunction (ECF No. 5).

<sup>59</sup> *Id.* at 2 (emphasis added).

<sup>60</sup> *Id.*

<sup>61</sup> *Id.* at 2-3.

have been “*eight* emissions[-]related voluntary recalls of the 2500 and 3500 Ram Pickups.”<sup>62</sup> FCA had worked with Cummins in every recall.<sup>63</sup>

172. According to the contractual relationship between FCA and Cummins, Cummins agreed to supply 6.7L diesel engines to FCA for their model year 2013–2015 Ram 2500 trucks, and the 3500 trucks, and Cummins would hold the emissions certificates.<sup>64</sup> However, the parties “neglected to execute a separate contract covering the regulatory obligations for the Trucks.”<sup>65</sup>

173. One of the key startling facts asserted in the pleadings is that FCA knew about the emissions defect for *years* before the recall process began. As Cummins stated, it “discovered that FCA had been receiving an increasing number of warranty claims relating to the SCR and emissions issues in the Trucks for *several years prior* to Cummins discovering the emissions issues in the Trucks.”<sup>66</sup> However, “FCA did not notify Cummins of the SCR warranty claims as they were occurring. Rather, FCA managed and paid for the SCR warranty claims on its own as they occurred.”<sup>67</sup> “Due to FCA’s delay in informing Cummins, Cummins was

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<sup>62</sup> *Id.* at 6.

<sup>63</sup> *Id.*

<sup>64</sup> FCA Litigation, Cummins’ Brief in Support of Its Motion for TRO and Preliminary Injunction (ECF No. 5) at 5-6.

<sup>65</sup> *Id.* at 5.

<sup>66</sup> FCA Litigation, Cummins’ Verified Answer, Affirmative Defenses, Counterclaim and Jury Demand (ECF No. 9) at 13 (emphasis added).

<sup>67</sup> *Id.*

unable to earlier investigate the SCR warranty issues and identify potential solutions to the then possible emissions issues.”<sup>68</sup>

174. In response to Cummins’ allegations, FCA acknowledged that in “September 2014, FCA US identified an increasing number of warranty claims related to the SCR system installed in the Trucks.” Notably, FCA disputed that Cummins did not know about the problem until years later: “Cummins and FCA US investigated the issue and determined that a defect in the SCR system was causing emissions to exceed the applicable emission standard for [NO<sub>x</sub>].”<sup>69</sup>

175. Hence, even by FCA’s own admission, it knew about the defect years prior to Cummins initiating a voluntary recall; the actual dates when FCA knew about the problem are unknown.

176. Despite full awareness of the defect, “[t]he FCA employee responsible for sending out the [notification] letters informed Cummins on August 17, 2016, two days after FCA was supposed to have sent out the letters, that FCA was not sending out the letters until FCA and Cummins had worked out the commercial issues—among other things, an agreement in advance about which company would pay for the recall. FCA suddenly used the recall required by the agencies as

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<sup>68</sup> *Id.*

<sup>69</sup> FCA Litigation, FCA’s Response in Opposition to Cummins’ Motion for TRO and Preliminary Injunction (ECF No. 16) (“FCA TRO Resp.”) at 3.

commercial negotiating leverage.”<sup>70</sup> According to a sworn declaration, two days after FCA was supposed to send out the recall letters, a FCA representative told Cummins that he had been ordered by its general counsel not to send out the letters until FCA and Cummins worked out the “commercial issues” between the companies.<sup>71</sup>

177. According to Cummins, “FCA will not effectuate the recall of its own vehicles unless Cummins agrees that it is 100% responsible for the cost of the recall before it occurs. FCA’s position is unprecedented in at least the past 20 years of the Cummins-FCA relationship.”<sup>72</sup> FCA’s participation in the recall was necessary, as “FCA holds the dealer relationships and customer data to identify recipients and send out the necessary notifications. FCA also has the necessary supply chain relationships, parts, service tools, and repair facilities to execute the recall and required repairs.”<sup>73</sup>

178. The environmental impact of the defective trucks on the road was substantial, as Cummins acknowledged. “It is in the public’s best interest that Trucks which are not emissions compliant are appropriately recalled and remedied

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<sup>70</sup> *Id.* at 8.

<sup>71</sup> FCA Litigation, Exhibit 4 to Cummins’ Motion for TRO and Preliminary Injunction, Declaration of Richard S. Wagner (ECF No. 5-7) at 5.

<sup>72</sup> FCA Litigation, Cummins’ Brief in Support of Its Motion for TRO and Preliminary Injunction (ECF No. 5) at 9.

<sup>73</sup> *Id.* at 10.

to avoid future harm to the environment.”<sup>74</sup> It also stated that the “environmental impact of over 135,000 vehicle owners with non-emissions compliant vehicles unable to obtain a repair of those vehicles could be significant.”<sup>75</sup> According to the report submitted to the EPA, emissions exceeded the applicable limits by 50%.<sup>76</sup>

179. Despite this imminent harm, “FCA tried to extort Cummins to accept full responsibility for the recall costs merely because FCA holds the keys to the recall.”<sup>77</sup> As a result, FCA “disregards the needs of over 135,000 vehicle owners that are subject to the recall. These vehicle owners are currently driving vehicles which may not be emissions compliant because FCA has refused to identify the owners and notify them of the recall of their vehicles.”<sup>78</sup> As Cummins stated in subsequent filings, “FCA failed to honor its promises to Cummins and its obligations to its customers in the current recall.”<sup>79</sup>

180. But Cummins’ hands were not clean either with respect to the recall.

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<sup>74</sup> *Id.* at 23.

<sup>75</sup> *Id.* at 24.

<sup>76</sup> FCA Litigation, Exhibit 2 to FCA’s Response in Opposition to Cummins’ Motion for TRO and Preliminary Injunction (ECF No. 16-3).

<sup>77</sup> FCA Litigation, Cummins’ Verified Answer, Affirmative Defenses, Counterclaim and Jury Demand (ECF No. 9) at 20.

<sup>78</sup> *Id.* at 22.

<sup>79</sup> FCA Litigation, Cummins’ Verified Answer, Affirmative Defenses, Counterclaim and Jury Demand to FCA’s First Amended Complaint (ECF No. 86), at 39.

Cummins knew about this problem for longer than it has acknowledged. According to FCA, it began investigating the issue with Cummins after FCA discovered the problem in September 2014.<sup>80</sup> Moreover, “[o]n March 5, 2015, Cummins, as the certificate holder, submitted an Emissions Defect Information Report (‘Defect Report’) to the EPA.”<sup>81</sup> Yet Cummins did not file suit for over a year, and only did so because of the possibility of a forced recall.

181. FCA also alleged that Cummins was directly responsible for the Washcoat Defect. FCA claimed that “testing showed that Cummins’ design of the SCRs was defective, and such defect impacted the SCR catalysts [sic] ability to convert nitrogen oxide (“NOx”) per regulatory emissions standards in the vehicles.”<sup>82</sup>

182. Cummins was also using the recall as commercial leverage. According to FCA, although it was “willing to assist and support the recall, and FCA US is not suggesting that it would prefer that Cummins undertake the recall alone, it remains true that FCA US could provide Cummins with the vehicle customers’ names and Cummins could conduct the recall itself.”<sup>83</sup>

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<sup>80</sup> FCA TRO Resp., at 3.

<sup>81</sup> *Id.*

<sup>82</sup> FCA Litigation, FCA’s Answer to Cummins’ Amended Counterclaim (ECF No. 91), at 12.

<sup>83</sup> FCA Litigation, FCA’s Response in Opposition to Cummins’ Motion for TRO and Preliminary Injunction (ECF No. 16) at 18 (citing article related to Cummins’

183. Ultimately, the district court entered the TRO and a preliminary injunction, and—following an unsuccessful appeal by FCA—the recall notices were issued. In February 2018, the parties resolved the dispute through a confidential settlement agreement.<sup>84</sup>

**5. The Defendants have a history of misleading consumers about emissions compliance.**

184. As referenced above, on January 12, 2017, the EPA issued a Notice of Violation against Fiat Chrysler Automobiles N.V. and FCA US LLC for failing to justify or disclose defeat devices in model year Dodge Ram 1500 EcoDiesel and 2014–2016 Jeep Grand Cherokee EcoDiesel vehicles.<sup>85</sup> The EPA has worked in coordination with the California Air Resources Board (CARB) to investigate FCA, which has also issued a notice of violation to FCA.<sup>86</sup> The U.S. Department of Justice subsequently sued FCA when attempts to negotiate a settlement failed.<sup>87</sup>

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recalls, located at <http://www.ccjdigital.com/cummins-recalling-nearly-5500-engines-due-to-faulty-ecm/>).

<sup>84</sup> FCA Litigation, ECF No. 105.

<sup>85</sup> Exhibit 33, EPA’s Notice of Violation to FCA US LLC et al. (Jan. 12, 2017), available at <https://www.epa.gov/sites/production/files/2017-01/documents/fcaca-nov-2017-01-12.pdf>.

<sup>86</sup> Exhibit 34, EPA News Release, EPA Notifies Fiat Chrysler of Clean Air Act Violations (Jan.12, 2017), available at <https://www.epa.gov/newsreleases/epanotifies-fiat-chrysler-clean-air-act-violations>.

<sup>87</sup> See *United States of Am. v. FCA US LLC, et al.*, No. 5:17-cv-11633-JCO-EAS (E.D. Mich.).

185. The Notice of Violation is based in part on emissions testing performed by the EPA at the National Truck and Fuel Emissions Laboratory. The EPA performed this testing “using driving cycles and conditions that may reasonably be expected to be encountered in normal operation and use for the purposes of investigating a potential defeat device.”<sup>88</sup>

186. The EPA identified at least eight Auxiliary Emissions Control Devices (AECDs) in the EcoDiesel vehicles:

- AECD 1 (Full Exhaust Gas Recirculation (EGR) Shut-Off at Highway Speed)
- AECD 2 (Reduced EGR with Increasing Truck Speed)
- AECD 3 (EGR Shut-off for Exhaust Valve Cleaning)
- AECD 4 (Diesel Exhaust Fluid Dosing Disablement during SCR<sup>89</sup> Adaptation)
- AECD 5 (EGR Reduction due to Modeled Engine Temperature)
- AECD 6 (SCR Catalyst Warm-Up Disablement)
- AECD 7 (Alternative SCR Dosing Modes)
- AECD 8 (Use of Load Governor to Delay Ammonia Refill of SCR Catalyst)

187. EPA testing found that “some of these AECDs appear to cause the vehicle to perform differently when the vehicle is being tested for compliance with

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<sup>88</sup> Exhibit 33.

<sup>89</sup> Selective Catalytic Reduction (SCR) is an emissions control system that injects diesel exhaust fluid through a special catalyst into the exhaust stream of a diesel engine.

the EPA emission standards using the Federal emission test procedure (e.g., FTP, US06) than in normal operation and use.”<sup>90</sup> For example:

- a. AECD 3, when combined with either AECD 7 or AECD 8, disables the EGR system without increasing the effectiveness of the SCR system. Under some normal driving conditions, this disabling reduces the effectiveness of the overall emission control system. The AECD 3 uses a timer to shut off the EGR, which does not appear to the EPA to meet any exceptions to the regulatory definition of “defeat device.”
- b. AECD 5 & 6 together reduce the effectiveness of the NOx emissions control system, using a timer to discontinue warming of the SCR after treatment system, which reduces its effectiveness.
- c. AECD 4, particularly when combined with AECD 8, increases emissions of tailpipe NOx during normal vehicle operation and use. The operation of AECD 1, AECD 2, and/or AECD 5 increases the frequency of occurrence of AECD 4.
- d. AECDs 7 & 8 work together to reduce NOx emissions during variable-grade and high-load conditions.

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<sup>90</sup> Exhibit 33.

188. The EPA further found that FCA did not disclose or justify these control devices in their Certificate of Conformity applications, as required by EPA regulations, and that FCA was in violation of the Clean Air Act each time it sold, offered for sale, introduced in commerce, or imported approximately 103,828 of these EcoDiesel vehicles.

**C. Defendants used mail and wire communications to carry out scheme.**

189. Use of the mail and wire communications in furtherance of the fraudulent scheme was a regular practice and reasonably foreseeable to Defendants, including transmittal or receipt of the following items by Cummins via mail or wire communications:<sup>91</sup>

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<sup>91</sup> The EPA COC process is almost certainly conducted via wire communications pursuant to the Cross-Media Electronic Reporting Rule (“CROMERR”). *See* 40 C.F.R. Part 3. The CROMERR was expressly designed to preclude the need for mailing in EPA applications and other paperwork. Accordingly, the application requirements—and receipt of certifications from the EPA—necessarily involve either mail or electronic communications. *See* Exhibit 35, Cross-Media Electronic Reporting, 70 Fed. Reg. 59848, 59875 (Oct. 13, 2005), available at <https://www.gpo.gov/fdsys/pkg/FR-2005-10-13/pdf/05-19601.pdf> (“The process of creating, mailing, receiving, entering, verifying, and correcting paper reports consumes both resources and time. This delays the analysis of the data by EPA and authorized programs and its availability to decision makers and the public.”); *see also* Exhibit 36, *Certification and Fuel Economy for Light-Duty Passenger Cars and Trucks*, EPA (Dec. 23, 2016), <https://www.epa.gov/vehicle-and-engine-certification/certification-and-fuel-economy-light-duty-passenger-cars-and-trucks> (describing how to submit EPA certification applications online).

- 2013 – COCs for 2500s and 3500s (certain models)<sup>92</sup> and 3500s (remaining models).<sup>93</sup>
- 2014 – COCs for 2500 and 3500s (certain models)<sup>94</sup> and 3500s (remaining models).<sup>95</sup>
- 2015 – COCs issued for 2500s and 3500s (certain models)<sup>96</sup> and 3500s (remaining models).<sup>97</sup>
- 2016 – COCs issued for 2500s and 3500s (certain models)<sup>98</sup> and 3500s (remaining models).<sup>99</sup>
- 2017 – COCs issued for 2500s and 3500s (certain models)<sup>100</sup> and 3500s (remaining models).<sup>101</sup>

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<sup>92</sup> Exhibit 37, EPA COC to Cummins (Nov. 30, 2012), available at [https://iaspub.epa.gov/otaqpub/display\\_file.jsp?docid=29343&flag=1](https://iaspub.epa.gov/otaqpub/display_file.jsp?docid=29343&flag=1).

<sup>93</sup> Exhibit 38, EPA COC to Cummins (Nov. 28, 2012), available at [https://iaspub.epa.gov/otaqpub/display\\_file.jsp?docid=29344&flag=1](https://iaspub.epa.gov/otaqpub/display_file.jsp?docid=29344&flag=1).

<sup>94</sup> Exhibit 39, EPA COC to Cummins (July 30, 2013), available at [https://iaspub.epa.gov/otaqpub/display\\_file.jsp?docid=31006&flag=1](https://iaspub.epa.gov/otaqpub/display_file.jsp?docid=31006&flag=1).

<sup>95</sup> Exhibit 40, EPA COC to Cummins (July 30, 2013), available at [https://iaspub.epa.gov/otaqpub/display\\_file.jsp?docid=31007&flag=1](https://iaspub.epa.gov/otaqpub/display_file.jsp?docid=31007&flag=1).

<sup>96</sup> Exhibit 41, EPA COC to Cummins (July 7, 2014), available at [https://iaspub.epa.gov/otaqpub/display\\_file.jsp?docid=32761&flag=1](https://iaspub.epa.gov/otaqpub/display_file.jsp?docid=32761&flag=1); Exhibit 42, Certification Summary Information Report (July 7, 2014), available at [https://iaspub.epa.gov/otaqpub/display\\_file.jsp?docid=33048&flag=1](https://iaspub.epa.gov/otaqpub/display_file.jsp?docid=33048&flag=1)

<sup>97</sup> Exhibit 43, EPA COC to Cummins (July 7, 2014), available at [https://iaspub.epa.gov/otaqpub/display\\_file.jsp?docid=32762&flag=1](https://iaspub.epa.gov/otaqpub/display_file.jsp?docid=32762&flag=1)

<sup>98</sup> Exhibit 44, EPA COC to Cummins (May 15, 2015), available at [https://iaspub.epa.gov/otaqpub/display\\_file.jsp?docid=35026&flag=1](https://iaspub.epa.gov/otaqpub/display_file.jsp?docid=35026&flag=1).

<sup>99</sup> Exhibit 45, EPA COC to Cummins (May 15, 2015), available at [https://iaspub.epa.gov/otaqpub/display\\_file.jsp?docid=35027&flag=1](https://iaspub.epa.gov/otaqpub/display_file.jsp?docid=35027&flag=1).

<sup>100</sup> Exhibit 54, EPA COC to Cummins (July 27, 2016), available at [https://iaspub.epa.gov/otaqpub/display\\_file.jsp?docid=37098&flag=1](https://iaspub.epa.gov/otaqpub/display_file.jsp?docid=37098&flag=1).

<sup>101</sup> Exhibit 55, EPA COC to Cummins (July 27, 2016), available at [https://iaspub.epa.gov/otaqpub/display\\_file.jsp?docid=37099&flag=1](https://iaspub.epa.gov/otaqpub/display_file.jsp?docid=37099&flag=1)

- 2015 – COC Applications for 2500s and 3500s (certain models)<sup>102</sup> and 3500s (remaining models).<sup>103</sup>

In addition, the following letters were sent via mailing or wire communications:

- Letter from Michael Regenfuss (CARB) to Robert Weiss (Cummins) dated June 26, 2014.
- Letter from Ravinder Singh (Cummins) to Joel Dalton (EPA) dated April 22, 2014.
- Letter from Ravinder Singh (Cummins) to Annette Hebert (CARB) dated April 22, 2014.
- “Online credit card” payment by Cummins to EPA of \$28,528, dated April 21, 2014, for “motor vehicle and engine compliance program fees.” Paid through pay.gov.
- 2016 – COC Applications for 2500s and 3500s (certain models):<sup>104</sup>
  - Letter from Bhushan Pawar (Cummins) to Joel Dalton (EPA) dated January 22, 2015.
  - Letter from Bhushan Pawar (Cummins) to Annette Hebert (CARB) dated January 22, 2015.
  - Online credit card payment by Cummins to EPA for \$26,741, paid via pay.gov, for “motor vehicle and engine compliance program fees,” dated January 12, 2015.
- Letters sent as part of 2016 Application for 3500s (remaining models):

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<sup>102</sup> Exhibit 46, Application for Certification by Cummins (2015 MY), available at [https://iaspub.epa.gov/otaqpub/display\\_file.jsp?docid=34320&flag=1](https://iaspub.epa.gov/otaqpub/display_file.jsp?docid=34320&flag=1).

<sup>103</sup> Exhibit 47, Application for Certification by Cummins (2015 MY), available at [https://iaspub.epa.gov/otaqpub/display\\_file.jsp?docid=34321&flag=1](https://iaspub.epa.gov/otaqpub/display_file.jsp?docid=34321&flag=1).

<sup>104</sup> Exhibit 48, Application for Certification by Cummins (2016 MY), available at [https://iaspub.epa.gov/otaqpub/display\\_file.jsp?docid=35672&flag=1](https://iaspub.epa.gov/otaqpub/display_file.jsp?docid=35672&flag=1).

- Letter from Ravinder Singh (Cummins) to Joel Dalton (EPA) dated November 26, 2014.
- Letter from Ravinder Singh to Annette Hebert (CARB) dated November 26, 2015.
- Online credit card payment by Cummins to EPA for “motor vehicle and engine compliance program fees,” dated April 22, 2014.
- Application for 2017 for 2500s and 3500s (select models):<sup>105</sup>
  - Letter from Bhushan Pawar (Cummins) to Annette Hebert (CARB) dated December 7, 2015.
  - Letter from Bhushan Pawar (Cummins) to Joel Dalton (EPA) dated December 7, 2015.
- Application for 2017 for 3500s (remaining models):<sup>106</sup>
  - Letter from Bhushan Pawar (EPA) to Annette Hebert (CARB) dated December 7, 2015.
  - Letter from Bhushan Pawar to Joel Dalton (EPA) dated December 7, 2015.

190. The required use of the mail and electronic communications is well-known and reasonably foreseeable to FCA as well—not only as a matter of common sense and the law, but FCA routinely uses mail and electronic

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<sup>105</sup> Exhibit 49, Application for Certification by Cummins (2017 MY), available at [https://iaspub.epa.gov/otaqpub/display\\_file.jsp?docid=38256&flag=1](https://iaspub.epa.gov/otaqpub/display_file.jsp?docid=38256&flag=1).

<sup>106</sup> Exhibit 50, Application for Certification by Cummins (2017 MY), available at [https://iaspub.epa.gov/otaqpub/display\\_file.jsp?docid=38257&flag=1](https://iaspub.epa.gov/otaqpub/display_file.jsp?docid=38257&flag=1).

communications with the EPA as part of EPA's compliance efforts, including with other vehicles.<sup>107</sup>

**D. Plaintiffs' and Class Members' economic damages are significant.**

191. As a result of FCA's and Cummins' unfair, deceptive, and/or fraudulent business practices, and their failure to disclose the Washcoat Defect and the Flash Defect, owners and/or lessees of the Trucks have suffered losses in money and/or property. Had Plaintiffs and Class members known of the higher emissions at the time they purchased or leased their Trucks, they would not have purchased or leased those Trucks, or they would have paid substantially less for the Trucks than they did. The Washcoat Defect and the Flash Defect caused Plaintiffs to pay more for their vehicles than they would have paid if the existence of the defects were disclosed to them. Plaintiffs also paid a premium for the Trucks that failed to provide the promised benefits, including improved fuel economy, increased durability, and longer service life. Plaintiffs accordingly have incurred out-of-pocket losses equal to the premium they paid. Moreover, as a result of the Flash Defect, Plaintiffs and Class members have been required to spend additional

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<sup>107</sup> See, e.g., Exhibit 51, Chrysler Group Application for 2012 Dodge Charger (including letters from Chrysler to EPA and CARB, and wire of funds to EPA), available at [https://iaspub.epa.gov/otaqpub/display\\_file.jsp?docid=25789&flag=1](https://iaspub.epa.gov/otaqpub/display_file.jsp?docid=25789&flag=1); see also Exhibit 52, available at [https://iaspub.epa.gov/otaqpub/display\\_file.jsp?docid=28266&flag=1](https://iaspub.epa.gov/otaqpub/display_file.jsp?docid=28266&flag=1) (same for 2013 DART); Exhibit 53, available at [https://iaspub.epa.gov/otaqpub/display\\_file.jsp?docid=30175&flag=1](https://iaspub.epa.gov/otaqpub/display_file.jsp?docid=30175&flag=1) (same for 2014 Jeep).

sums on fuel and will not obtain the performance characteristics of their Trucks when purchased. And the Trucks will necessarily be worth less in the marketplace because of their decrease in performance and efficiency and increased wear on their engines.

## **VI. TOLLING OF THE STATUTE OF LIMITATIONS**

### **A. Discovery Rule Tolling**

192. Class members had no way of knowing about the Defendants' deception with respect to the Washcoat Defect and the Flash Defect.

193. Within the time period of any applicable statutes of limitation, Plaintiffs and members of the proposed classes could not have discovered through the exercise of reasonable diligence that the Defendants were concealing the conduct complained of herein and misrepresenting the companies' true position with respect to the emission qualities of the Trucks.

194. Plaintiffs and the other Class members did not discover, and did not know of, facts that would have caused a reasonable person to suspect that the Defendants did not report information within their knowledge to federal and state authorities, the dealerships, or consumers; nor would a reasonable and diligent investigation have disclosed that the Defendants had concealed information about the true emissions of the Trucks, which was discovered by Plaintiffs only shortly before this action was filed. Nor, in any event, would such an investigation on the

part of Plaintiffs and other Class members have disclosed that the Defendants valued profits over truthful marketing and compliance with the law.

195. For these reasons, all applicable statutes of limitation have been tolled by operation of the discovery rule with respect to claims as to the Trucks.

**B. Fraudulent Concealment Tolling**

196. All applicable statutes of limitation have also been tolled by the Defendants' knowing and active fraudulent concealment and denial of the facts alleged herein throughout the time period relevant to this action.

197. Instead of disclosing the existence of the Washcoat Defect and the Flash Defect, the Defendants falsely represented that the Trucks fully complied with federal and state emissions standards, that the diesel engines were "clean," and that Trucks offered superior fuel mileage.

**C. Estoppel**

198. The Defendants were under a continuous duty to disclose to Plaintiffs and the other Class members the true character, quality, and nature of emissions from the Trucks and of those Trucks' emissions systems.

199. The Defendants knowingly, affirmatively, and actively concealed or recklessly disregarded the true nature, quality, and character of the emissions systems, and the emissions, of the Trucks.

200. Based on the foregoing, the Defendants are estopped from relying on any statutes of limitations in defense of this action.

## **VII. CLASS ALLEGATIONS**

201. Plaintiffs bring this action on behalf of themselves and as a class action pursuant to the provisions of Rules 23(a) and (b)(3) of the Federal Rules of Civil Procedure, on behalf of the following class and subclasses (collectively, the “Classes”):

### **The Nationwide Class**

All persons or entities in the United States who owned and or leased a “Truck” on or before October 4, 2018. Trucks include, without limitation, the 2013–2017 Dodge Ram 2500 with Cummins diesel (SCR systems, 2WD, 4WD), and the 2013–2017 Dodge Ram 3500 with Cummins Diesel (SCR systems, 2WD, 4WD).

### **The Alabama Subclass**

All persons or entities in the state of Alabama who owned and/or leased a Truck on or before October 4, 2018.

### **The California Subclass**

All persons or entities in the state of California who owned and/or leased a Truck on or before October 4, 2018.

### **The Colorado Subclass**

All persons or entities in the state of Colorado who owned and/or leased a Truck on or before October 4, 2018.

### **The Florida Subclass**

All persons or entities in the state of Florida who owned and/or leased a Truck on or before October 4, 2018.

### **The Georgia Subclass**

All persons or entities in the state of Georgia who owned and/or leased a Truck on or before October 4, 2018.

**The Idaho Subclass**

All persons or entities in the state of Idaho who owned and/or leased a Truck on or before October 4, 2018.

**The Kentucky Subclass**

All persons or entities in the state of Kentucky who owned and/or leased a Truck on or before October 4, 2018.

**The Michigan Subclass**

All persons or entities in the state of Michigan who owned and/or leased a Truck on or before October 4, 2018.

**The Mississippi Subclass**

All persons or entities in the state of Mississippi who owned and/or leased a Truck on or before October 4, 2018.

**The New Jersey Subclass**

All persons or entities in the state of New Jersey who owned and/or leased a Truck on or before October 4, 2018.

**The North Carolina Subclass**

All persons or entities in the state of North Carolina who owned and/or leased a Truck on or before October 4, 2018.

**The Ohio Subclass**

All persons or entities in the state of Ohio who owned and/or leased a Truck on or before October 4, 2018.

**The Oklahoma Subclass**

All persons or entities in the state of Oklahoma who owned and/or leased a Truck on or before October 4, 2018.

**The Pennsylvania Subclass**

All persons or entities in the state of Pennsylvania who owned and/or leased a Truck on or before October 4, 2018.

**The Texas Subclass**

All persons or entities in the state of Texas who owned and/or leased a Truck on or before October 4, 2018.

**The Utah Subclass**

All persons or entities in the state of Utah who owned and/or leased a Truck on or before October 4, 2018.

**The Virginia Subclass**

All persons or entities in the state of Virginia who owned and/or leased a Truck on or before October 4, 2018.

**The Washington Subclass**

All persons or entities in the state of Washington who owned and/or leased a Truck on or before October 4, 2018.

202. Excluded from the Class are individuals who have personal injury claims resulting from the high emissions in the Trucks. Also excluded from the Class are the Defendants and their subsidiaries and affiliates; all persons who make a timely election to be excluded from the Class; governmental entities; and the Judge to whom this case is assigned and his/her immediate family. Plaintiffs reserve the right to revise the Class definition based upon information learned through discovery.

203. Certification of Plaintiffs' claims for classwide treatment is appropriate because Plaintiffs can prove the elements of their claims on a

classwide basis using the same evidence as would be used to prove those elements in individual actions alleging the same claim.

204. This action has been brought and may be properly maintained on behalf of each of the Classes proposed herein under Federal Rule of Civil Procedure 23.

205. **Numerosity**. Federal Rule of Civil Procedure 23(a)(1): The members of the Classes are so numerous and geographically dispersed that individual joinder of all Class members is impracticable. While Plaintiffs are informed and believe that there are hundreds of thousands of members of the Class, the precise number of Class members is unknown to Plaintiffs but may be ascertained from the Defendants' books and records. Class members may be notified of the pendency of this action by recognized, Court-approved notice dissemination methods, which may include U.S. Mail, electronic mail, Internet postings, and/or published notice.

206. **Commonality and Predominance**: Federal Rule of Civil Procedure 23(a)(2) & (b)(3): This action involves common questions of law and fact which predominate over any questions affecting individual Class members, including, without limitation:

- a. Whether the Defendants engaged in the conduct alleged herein;

- b. Whether the Defendants designed, advertised, marketed, distributed, leased, sold, or otherwise placed Trucks into the stream of commerce in the United States;
- c. Whether the Trucks emit pollutants at levels that do not make them “clean” diesels and that do not comply with EPA requirements;
- d. Whether the Defendants knew about the comparatively and unlawfully high emissions and, if so, how long the Defendants have known;
- e. Whether the Defendants designed, manufactured, marketed, and distributed Trucks with defective or otherwise inadequate emission controls;
- f. Whether the Trucks have the Washcoat Defect;
- g. Whether the Trucks have the Flash Defect;
- h. When the Defendants discovered the Washcoat Defect, and what, if anything, they did in response;
- i. When the Defendants discovered the Flash Defect, and what, if anything, they did in response;
- j. Whether Defendants disclosed to Truck owners that they directed dealerships to “flash” the ECM;

- k. Whether Defendants knew that “flashing” the ECM would substantially reduce the Truck owners’ fuel mileage;
- l. Whether the Defendants’ conduct violates consumer protection statutes and constitutes breach of contract and fraudulent concealment as asserted herein;
- m. Whether Plaintiffs and the other Class members overpaid for their Trucks;
- n. Whether Plaintiffs experienced out-of-pocket losses from replacing parts as a result of the Washcoat Defect and/or the Flash Defect, and if so, how much;
- o. Whether Plaintiffs experienced out-of-pocket losses from increased payments for diesel fuel as a result of the Washcoat Defect and/or the Flash Defect, and if so, how much; and
- p. Whether Plaintiffs and the other Class members are entitled to damages and other monetary relief and, if so, in what amount.

207. **Typicality**: Federal Rule of Civil Procedure 23(a)(3): Plaintiffs’ claims are typical of the other Class members’ claims because, among other things, all Class members were comparably injured through the Defendants’ wrongful conduct as described above.

208. **Adequacy**: Federal Rule of Civil Procedure 23(a)(4): Plaintiffs are adequate Class representatives because their interests do not conflict with the interests of the other members of the Classes they seek to represent; Plaintiffs have retained counsel competent and experienced in complex class action litigation; and Plaintiffs intend to prosecute this action vigorously. The Classes' interests will be fairly and adequately protected by Plaintiffs and their counsel.

209. **Declaratory Relief**: Federal Rule of Civil Procedure 23(b)(2): the Defendants have acted or refused to act on grounds generally applicable to Plaintiffs and the other members of the Classes, thereby making appropriate declaratory relief, with respect to each Class as a whole.

210. **Superiority**: Federal Rule of Civil Procedure 23(b)(3): A class action is superior to any other available means for the fair and efficient adjudication of this controversy and no unusual difficulties are likely to be encountered in the management of this class action. The damages or other financial detriment suffered by Plaintiffs and the other Class members are relatively small compared to the burden and expense that would be required to individually litigate their claims against the Defendants, so it would be impracticable for the members of the Classes to individually seek redress for the Defendants' wrongful conduct. Even if Class members could afford individual litigation, the court system could not. Individualized litigation creates a potential for inconsistent or contradictory

judgments and increases the delay and expense to all parties and the court system. By contrast, the class action device presents far fewer management difficulties and provides the benefits of single adjudication, economy of scale, and comprehensive supervision by a single court.

**A. Claims Brought on Behalf of the Nationwide Class**

**COUNT I**

**VIOLATION OF 18 U.S.C. § 1962(C)–(D):  
THE RACKETEER INFLUENCED AND CORRUPT  
ORGANIZATIONS ACT (“RICO”)**

211. Plaintiffs incorporate by reference each preceding paragraph as though fully set forth herein.

212. Plaintiffs bring this Count on behalf of the Nationwide Class against FCA US LLC and Cummins Inc. (inclusively, for purpose of this Count, the “RICO Defendants”).

213. At all relevant times, the RICO Defendants have been “persons” under 18 U.S.C. § 1961(3) because they are capable of holding, and do hold, a “legal or beneficial interest in property.”

214. 18 U.S.C. § 1962(c) makes it “unlawful for any person employed by or associated with any enterprise engaged in, or the activities of which affect, interstate or foreign commerce, to conduct or participate, directly or indirectly, in the conduct of such enterprise’s affairs through a pattern of racketeering activity.”

215. 18 U.S.C. § 1962(d), among other provisions, makes it unlawful for “any person to conspire to violate” the RICO statute. *See* 18 U.S.C. § 1962(d).

216. By their own admission, the RICO Defendants moved aggressively to capture a large portion of the “clean” diesel truck market. In so doing, and by their own admission, they created a product that fell far short of the promises the RICO Defendants made about the product. In particular, the RICO Defendants, along with other entities and individuals, were employed by or associated with, and conducted or participated in the affairs of, at least two RICO enterprises: the Washcoat Enterprise and the Flash Enterprise. The purpose of the Washcoat Enterprise was to continue to profit from the sale of Trucks without disclosing to regulators and the driving public that the emissions system had a defective washcoat, and that the Trucks were generating emissions greatly in excess of legal limits, even as the Defendants promoted the Trucks as fully compliant with emissions standards, “clean,” and “the lowest emitting diesel engine ever produced.”

217. The purpose of the Flash Enterprise was to design a defective Truck that would initially pass emissions standards, but would break down over time, causing the Defendants to “flash” the ECM to divert more fuel to the DPF to burn off soot, all at the cost of the consumer, who now has to pay more for fuel because the fuel economy of the Trucks drops by approximately 25%. As a direct and

proximate result of their fraudulent scheme and common course of conduct, Defendants were able to extract revenues of billions of dollars from Plaintiffs and the Class. As explained in detail below, the RICO Defendants' years-long misconduct violated 18 U.S.C. § 1962(c) & (d).

**1. The Washcoat Enterprise**

218. At all relevant times, the RICO Defendants, along with other individuals and entities, including unknown third parties involved in the design, manufacture, testing, and sale of the Trucks, operated an association-in-fact enterprise engaged in interstate and foreign commerce, which was formed for the purpose of selling the Trucks containing the defective emissions systems throughout the United States, and through which they conducted a pattern of racketeering activity under 18 U.S.C. § 1961(4). Prior to the introduction of these models, Cummins and FCA had previously joined together to capture as large a percentage of the diesel market as possible through the introduction of earlier models of Ram 2500 and 3500s. When they designed and manufactured the Trucks, FCA and Cummins became aware of the existence of the Washcoat Defect based on the useful life testing mandated by the EPA. Even as FCA and Cummins knew about the Washcoat Defect, and the resulting excessive emissions that exceeded legal limits, they continued to promote and sell the Trucks as fully compliant with all applicable laws, and "clean."

219. Alternatively, each of the RICO Defendants constitutes a single legal entity “enterprise” within the meaning of 18 U.S.C. § 1961(4), through which the RICO Defendants conducted their pattern of racketeering activity in the U.S. In particular, FCA sold the Trucks and falsely promoted them as fully compliant with emissions standards and the “lowest emitting diesel engine ever produced,” without disclosing the existence of the Washcoat Defect and the resulting illegal emissions, and Cummins obtained the COCs and the EOs through material misrepresentations and omissions regarding emissions compliance in order to introduce the Trucks into the U.S. stream of commerce. Cummins participated directly and indirectly in the enterprise by developing, supplying, and promoting the Engine.

220. At all relevant times, the Washcoat Enterprise: (a) had an existence separate and distinct from each Defendant; (b) was separate and distinct from the pattern of racketeering in which the RICO Defendants engaged; and (c) was an ongoing organization consisting of legal entities, including FCA and Cummins, and other entities and individuals associated for the common purpose of designing, manufacturing, distributing, testing, and selling the Trucks through fraudulent COCs and EOs, false emissions tests, deceptive and misleading marketing and materials, and deriving profits and revenues from those activities. Each member of the Washcoat Enterprise shared in the bounty generated by the enterprise, *i.e.*, by

sharing the benefit derived from increased sales revenue generated by the scheme to defraud consumers and franchise dealers alike nationwide.

221. The Washcoat Enterprise functioned by selling Trucks and component parts to the consuming public. The RICO Defendants and their co-conspirators, through their illegal Washcoat Enterprise, engaged in a pattern of racketeering activity, which involves a fraudulent scheme to increase revenue for Defendants and the other entities and individuals associated in fact with the Enterprise's activities through the illegal scheme to sell the Trucks.

222. The Washcoat Enterprise engaged in, and its activities affected, interstate and foreign commerce, because it involved commercial activities across state boundaries, such as the marketing, promotion, advertisement, and sale or lease of the Trucks throughout the country, and the receipt of monies from the sale of the same.

223. Within the Washcoat Enterprise, there was a common communication network by which co-conspirators shared information on a regular basis. The Washcoat Enterprise used this common communication network for the purpose of manufacturing, marketing, testing, and selling the Trucks to the general public nationwide.

224. Each participant in the Washcoat Enterprise had a systematic linkage to each other through corporate ties, contractual relationships, financial ties, and

continuing coordination of activities. Through the Washcoat Enterprise, the RICO Defendants functioned as a continuing unit with the purpose of furthering the illegal scheme and their common purposes of increasing their revenues and market share, and minimizing losses.

225. The RICO Defendants participated in the operation and management of the Washcoat Enterprise by directing its affairs, as described herein. While the RICO Defendants participated in, and are members of, the enterprise, they have a separate existence from the enterprise, including distinct legal statuses, different offices and roles, bank accounts, officers, directors, employees, individual personhood, reporting requirements, and financial statements.

226. As detailed above, each RICO Defendant also relentlessly promoted the Trucks as fully compliant with emissions requirements, and generating very low emissions. The Defendants routinely proclaimed the Trucks, and the Engine—*even after they knew better*—as the “lowest emitting diesel engine ever produced, “fully compliant with recent federal mandates,” using “clean diesel technology *which leads to near zero emissions.*” All of this success is due to the tight collaboration among the RICO Defendants—what Cummins called the “most formidable partnership in the working world.”

227. The Washcoat Enterprise functioned by selling Trucks, with the Cummins engine, to the public. The RICO Defendants engaged in a pattern of

racketing activity through their scheme to increase revenue and profits for the RICO Defendants to sell the Trucks in interstate and foreign commerce. The enterprise involved commercial activities across state boundaries, such as the marketing, promotion, advertisement, and sale or lease of the Trucks throughout the country, and the receipt of monies from the sale of the same.

228. The RICO Defendants worked closely together to further the enterprise, by and among the following manner and means:

- a. Discovering the Washcoat Defect, but agreeing to not fix the defect in a timely fashion so that they could continue to profit from the sale of the Trucks;
- b. Misrepresenting and omitting (or causing such misrepresentations and omissions to be made) vehicle specifications on COC and EO applications regarding the emissions compliance of the Trucks;
- c. Introducing the Trucks into the stream of U.S. commerce without a valid COC and/or EO;
- d. Misleading the public about the defects in the Trucks and the Engine;
- e. Otherwise misrepresenting or concealing the defective nature of the Trucks from the public and regulators;

- f. Illegally selling and/or distributing the Trucks;
- g. Designing, testing, and installing the Engine into the Trucks;  
and
- h. Collecting revenues and profits from the sale of such products,  
including the Trucks and the Engines.

## **2. The Flash Enterprise**

229. At all relevant times, the RICO Defendants, along with other individuals and entities, including unknown third parties involved in the design, manufacture, testing, and sale of the Trucks, operated an association-in-fact enterprise engaged in interstate and foreign commerce, which was formed for the purpose of obtaining EPA Certificates of Conformity (COCs), as well as California Air Resources Board (CARB) Executive Orders (EOs), in order to sell the Trucks containing the defective emissions systems throughout the United States, and through which they conducted a pattern of racketeering activity under 18 U.S.C. § 1961(4). Prior to the introduction of these models, Cummins and FCA had previously joined together to capture as large a percentage of the diesel market as possible through the introduction of earlier models of Ram 2500 and 3500s. When they designed the Trucks, FCA and Cummins were aware of the existence of the Flash Defect based on the useful life tests mandated by the EPA. FCA and Cummins designed a fix for the Flash Defect that involved reprogramming the

ECM to divert more fuel to burn off excessive soot in the DPF defects in the Polluting Trucks.

230. Alternatively, each of the RICO Defendants constitutes a single legal entity “enterprise” within the meaning of 18 U.S.C. § 1961(4), through which the RICO Defendants conducted their pattern of racketeering activity in the U.S. In particular, FCA designed, manufactured, and sold the Trucks, and Cummins obtained the COCs and the EOs through material misrepresentations and omissions regarding the longevity of the emissions system in order to introduce the Trucks into the U.S. stream of commerce. Cummins participated directly and indirectly in the enterprise by developing, supplying, and promoting the Engine.

231. At all relevant times, the Flash Enterprise: (a) had an existence separate and distinct from each Defendant; (b) was separate and distinct from the pattern of racketeering in which the RICO Defendants engaged; and (c) was an ongoing organization consisting of legal entities, including FCA and Cummins, and other entities and individuals associated for the common purpose of designing, manufacturing, distributing, testing, and selling the Trucks through fraudulent COCs and EOs, false emissions tests, deceptive and misleading marketing and materials, and deriving profits and revenues from those activities. Each member of the Flash Enterprise shared in the bounty generated by the enterprise, *i.e.*, by

sharing the benefit derived from increased sales revenue generated by the scheme to defraud consumers and franchise dealers alike nationwide.

232. The Flash Enterprise functioned by selling Trucks and component parts to the consuming public. The RICO Defendants and their co-conspirators, through their illegal Flash Enterprise, engaged in a pattern of racketeering activity, which involves a fraudulent scheme to increase revenue for Defendants and the other entities and individuals associated-in-fact with the Enterprise's activities through the illegal scheme to sell the Trucks.

233. The Flash Enterprise engaged in, and its activities affected, interstate and foreign commerce, because it involved commercial activities across state boundaries, such as the marketing, promotion, advertisement, and sale or lease of the Trucks throughout the country, and the receipt of monies from the sale of the same.

234. Within the Flash Enterprise, there was a common communication network by which co-conspirators shared information on a regular basis. The Flash Enterprise used this common communication network for the purpose of manufacturing, marketing, testing, and selling the Trucks to the general public nationwide.

235. Each participant in the Flash Enterprise had a systematic linkage to each other through corporate ties, contractual relationships, financial ties, and

continuing coordination of activities. Through the Flash Enterprise, the RICO Defendants functioned as a continuing unit with the purpose of furthering the illegal scheme and their common purposes of increasing their revenues and market share, and minimizing losses.

236. The RICO Defendants participated in the operation and management of the Flash Enterprise by directing its affairs, as described herein. While the RICO Defendants participated in, and are members of, the enterprise, they have a separate existence from the enterprise, including distinct legal statuses, different offices and roles, bank accounts, officers, directors, employees, individual personhood, reporting requirements, and financial statements.

237. As detailed above, each RICO Defendant also relentlessly promoted the Trucks as reliable, durable, and cost-efficient. The Defendants routinely proclaimed the Trucks, and the Engine—even *after they knew better*—as “the epitome of reliability,” “virtually indestructible in design,” offering “outstanding performance” and “superior fuel economy.” All of this success is due to the tight collaboration among the RICO Defendants—what Cummins called the “most formidable partnership in the working world.”

238. The Flash Enterprise functioned by selling Trucks, with the Cummins engine, to the public. The RICO Defendants engaged in a pattern of racketeering activity through their scheme to increase revenue and profits for the RICO

Defendants to sell the Trucks in interstate and foreign commerce. The enterprise involved commercial activities across state boundaries, such as the marketing, promotion, advertisement, and sale or lease of the Trucks throughout the country, and the receipt of monies from the sale of the same.

239. The RICO Defendants worked closely together to further the enterprise, by and among the following manner and means:

- i. Designing the Trucks with the Engines that they knew would require a reprogramming of the ECM that would divert fuel to burn off soot in the DPF, thereby significantly decreasing the fuel economy of the Trucks and increasing the risk that the component parts overheat and need to be replaced;
- j. Misrepresenting and omitting (or causing such misrepresentations and omissions to be made) vehicle specifications on COC and EO applications regarding the longevity of the emissions system;
- k. Introducing the Trucks into the stream of U.S. commerce without a valid COC and/or EO;
- l. Misleading the public about the defects in the Trucks and the Engine;

- m. Otherwise misrepresenting or concealing the defective nature of the Trucks from the public and regulators;
- n. Illegally selling and/or distributing the Trucks;
- o. Designing, testing, and installing the Engine into the Trucks;  
and
- p. Collecting revenues and profits from the sale of such products, including the Trucks and the Engines.

### **3. Mail and Wire Fraud**

240. To carry out, and attempt to carry out, both schemes to defraud, the RICO Defendants, each of whom is a person associated in fact with the enterprise, did knowingly conduct and participate, directly and indirectly, in the conduct of the affairs of the enterprise through a pattern of racketeering activity within the meaning of 18 U.S.C. §§ 1961(1), 1961(5), & 1962(c), and which employed the use of mail and wire facilities in violation of 18 U.S.C. §§ 1341 (mail fraud) & 1343 (wire fraud).

241. Specifically, the RICO Defendants have committed, conspired to commit, and/or aided and abetted in the commission of, at least two predicate acts of racketeering activity (*i.e.*, violations of 18 U.S.C. §§ 1341 & 1343), within the past ten years. The multiple acts of racketeering activity that the RICO Defendants committed, or aided or abetted in the commission of, were related to each other,

posed a threat of continued racketeering activity, and therefore constitute a “pattern of racketeering activity.” The racketeering activity was made possible by the RICO Defendants’ regular use of the facilities, services, distribution channels, and employees of the enterprise. The RICO Defendants participated in the scheme to defraud by using mail, telephone, and the Internet to transmit mailings and wires in interstate or foreign commerce.

242. In devising and executing the illegal scheme, the RICO Defendants devised and knowingly carried out a material scheme and/or artifice to defraud Plaintiffs and the Nationwide Class or to obtain money from Plaintiffs and the Nationwide Class by means of materially false or fraudulent pretenses, representations, promises, or omissions of material facts. For the purpose of executing the illegal scheme, the RICO Defendants committed these racketeering acts intentionally and knowingly with the specific intent to advance the illegal scheme.

243. The RICO Defendants’ predicate acts of racketeering, 18 U.S.C. § 1961(1), include but are not limited to:

a. **Mail Fraud**: The RICO Defendants violated 18 U.S.C. § 1341 by sending and receiving, and by causing to be sent and/or received, materials via U.S. Mail or commercial interstate carriers for the purpose of executing the

unlawful schemes to design, manufacture, market, and sell the Trucks by means of false pretenses, misrepresentations, promises, and omissions.

b. **Wire Fraud**: The RICO Defendants violated 18 U.S.C. § 1343 by transmitting and/or receiving, and by causing to be transmitted and/or received, materials by wire for the purpose of executing the unlawful scheme to defraud and obtain money on false pretenses, misrepresentations, promises, and omissions.

244. The RICO Defendants' use of the mails and wires includes, but is not limited to, the transmission, delivery and shipment of the following by the RICO Defendants or third parties that were foreseeably caused to be sent or received as a result of Defendants' illegal scheme:

- 2013 – COCs for 2500s and 3500s (certain models)<sup>108</sup> and 3500s (remaining models).<sup>109</sup>
- 2014 – COCs for 2500 and 3500s (certain models)<sup>110</sup> and 3500s (remaining models).<sup>111</sup>
- 2015 – COCs issued for 2500s and 3500s (certain models)<sup>112</sup> and 3500s (remaining models).<sup>113</sup>
- 2016 – COCs issued for 2500s and 3500s (certain models)<sup>114</sup> and 3500s (remaining models).<sup>115</sup>

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<sup>108</sup> Exhibit 37.

<sup>109</sup> Exhibit 38.

<sup>110</sup> Exhibit 39.

<sup>111</sup> Exhibit 40.

<sup>112</sup> Exhibits 41-42.

<sup>113</sup> Exhibit 43.

<sup>114</sup> Exhibit 44.

- 2017 – COCs issued for 2500s and 3500s (certain models)<sup>116</sup> and 3500s (remaining models).<sup>117</sup>
- 2015 – COC Applications for 2500s and 3500s (certain models)<sup>118</sup> and 3500s (remaining models).<sup>119</sup> In addition, the following letters were sent via mailing or wire communications:
  - Letter from Michael Regenfuss (CARB) to Robert Weiss (Cummins) dated June 26, 2014.
  - Letter from Ravinder Singh (Cummins) to Joel Dalton (EPA) dated April 22, 2014.
  - Letter from Ravinder Singh (Cummins) to Annette Hebert (CARB) dated April 22, 2014.
  - “Online credit card” payment by Cummins to EPA of \$28,528, dated April 21, 2014, for “motor vehicle and engine compliance program fees.” Paid through pay.gov.
- Application for 2016 for 2500s and 3500s (certain models):<sup>120</sup> The following letters were sent via mail or electronic communications:
  - Letter from Bhushan Pawar (Cummins) to Joel Dalton (EPA) dated January 22, 2015.
  - Letter from Bhushan Pawar (Cummins) to Annette Hebert (CARB) dated January 22, 2015.
  - Online credit card payment by Cummins to EPA for \$26,741, paid via pay.gov, for “motor vehicle and engine compliance program fees,” dated January 12, 2015.

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<sup>115</sup> Exhibit 45.

<sup>116</sup> Exhibit 54.

<sup>117</sup> Exhibit 55.

<sup>118</sup> Exhibit 46.

<sup>119</sup> Exhibit 47.

<sup>120</sup> Exhibit 48.

- Letters sent as part of 2016 Application for 3500s (remaining models):
  - Letter from Ravinder Singh (Cummins) to Joel Dalton (EPA) dated November 26, 2014.
  - Letter from Ravinder Singh to Annette Hebert (CARB) dated November 26, 2015.
  - Online credit card payment by Cummins to EPA for “motor vehicle and engine compliance program fees,” dated April 22, 2014.
- Application for 2017 for 2500s and 3500s (select models):<sup>121</sup>
  - Letter from Bhushan Pawar (Cummins) to Annette Hebert (CARB) dated December 7, 2015.
  - Letter from Bhushan Pawar (Cummins) to Joel Dalton (EPA) dated December 7, 2015.
- Application for 2017 for 3500s (remaining models):<sup>122</sup>
  - Letter from Bhushan Pawar (EPA) to Annette Hebert (CARB) dated December 7, 2015.
  - Letter from Bhushan Pawar to Joel Dalton (EPA) dated December 7, 2015.
- False and misleading emissions tests submitted to federal and state authorities.
- Truck registrations and plates as a result of the fraudulently obtained EPA COCs and EOs.
- False or misleading communications to the public and to regulators as set forth above.
- Sales and marketing materials, including advertising, websites, product packaging, brochures, and labeling, which

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<sup>121</sup> Exhibit 49.

<sup>122</sup> Exhibit 50.

misrepresented, falsely promoted, and concealed the true nature of the Trucks.

- Documents intended to facilitate the manufacture and sale of the Trucks, including bills of lading, invoices, shipping records, reports and correspondence.
- Documents to process and receive payment for the Trucks by unsuspecting Class members, including invoices and receipts.
- Payments to Cummins.
- Deposits of proceeds.

245. The required use of the mail and electronic communications to obtain COCs is well-known to FCA, because FCA was intimately familiar with the EPA and CARB compliance process, and it was reasonably foreseeable to FCA that mail and electronic communications would be used.<sup>123</sup>

246. The RICO Defendants also used the Internet and other electronic facilities to carry out the scheme and conceal the ongoing fraudulent activities. Specifically, the RICO Defendants made misrepresentations about the Trucks on their websites, YouTube, and through ads online, all of which were intended to mislead regulators and the public about the fuel efficiency, emissions standards, and other performance metrics.

247. The RICO Defendants also communicated by U.S. Mail, by interstate facsimile, and by interstate electronic mail with various other affiliates, regional

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<sup>123</sup> See Exhibits 51-53.

offices, divisions, dealerships and other third-party entities in furtherance of the scheme.

248. The mail and wire transmissions described herein were made in furtherance of Defendants' scheme and common course of conduct to deceive regulators and consumers and lure consumers into purchasing the Trucks, without disclosing the existence of the Washcoat Defect or the Flash Defect.

249. Many of the precise dates of the fraudulent uses of the U.S. Mail and interstate wire facilities are hidden to the Plaintiffs and cannot be alleged without access to Defendants' books and records. However, Plaintiffs have described the types of predicate acts of mail and/or wire fraud that occurred.

250. The RICO Defendants have not undertaken the practices described herein in isolation, but as part of a common scheme and conspiracy. In violation of 18 U.S.C. § 1962(d), the RICO Defendants conspired to violate 18 U.S.C. § 1962(c), as described herein. Various other persons, firms and corporations, including third-party entities and individuals not named as defendants in this Complaint, have participated as co-conspirators with the RICO Defendants in these offenses and have performed acts in furtherance of the conspiracy to increase or maintain revenues, increase market share, and/or minimize losses for the Defendants and their unnamed co-conspirators throughout the illegal scheme and common course of conduct.

251. The RICO Defendants aided and abetted others in the violations of the above laws, thereby rendering them indictable as principals in the 18 U.S.C. §§ 1341 & 1343 offenses.

252. To achieve their common goals, the RICO Defendants hid from the general public the existence of the Washcoat Defect and the Flash Defect

253. The RICO Defendants and each member of the conspiracy, with knowledge and intent, have agreed to the overall objectives of the conspiracy and participated in the common course of conduct to commit acts of fraud and indecency in designing, manufacturing, distributing, marketing, testing, and/or selling the Trucks.

254. Indeed, for the conspiracy to succeed, each of the RICO Defendants and their co-conspirators had to agree to implement and use the similar devices and fraudulent tactics, including falsely promoting the Trucks' compliance with emissions standards and levels of emissions (in furtherance of the Washcoat Enterprise) and the Trucks' longevity and fuel economy (in furtherance of the Flash Enterprise) .

255. The RICO Defendants knew and intended that government regulators, as well as Plaintiffs and Class members, would rely on the material misrepresentations and omissions made by them about the Trucks. The RICO Defendants knew and intended that consumers would incur costs as a result.

256. As fully alleged herein, Plaintiffs, along with hundreds of thousands of other consumers, relied upon Defendants' representations and omissions that were made or caused by them. Plaintiffs' reliance is made obvious by the fact that they purchased illegal Trucks that never should have been introduced into the U.S. stream of commerce and whose worth has now plummeted since the scheme was revealed. In addition, the EPA, CARB, and other regulators relied on the misrepresentations and material omissions made or caused to be made by the RICO Defendants; otherwise, the Defendants could not have obtained valid COCs and EOs to sell the Trucks.

257. As described herein, the RICO Defendants engaged in a pattern of related and continuous predicate acts for years. The predicate acts constituted a variety of unlawful activities, each conducted with the common purpose of obtaining significant monies and revenues from Plaintiffs and Class members based on their misrepresentations and omissions, while providing Trucks that were worth significantly less than the purchase price paid. The predicate acts also had the same or similar results, participants, victims, and methods of commission. The predicate acts were related and not isolated events.

258. The predicate acts all had the purpose of generating significant revenue and profits for the RICO Defendants at the expense of Plaintiffs and Class members. The predicate acts were committed or caused to be committed by the

RICO Defendants through their participation in the enterprise and in furtherance of their fraudulent scheme, and were interrelated in that they involved obtaining Plaintiffs' and Class members' funds and avoiding the expenses associated with remediating the Trucks.

259. By reason of, and as a result of the conduct of the RICO Defendants, and in particular, their pattern of racketeering activity, Plaintiffs and Class members have been injured in their business and/or property in multiple ways, including but not limited to:

a. Overpayment for the Trucks, in that Plaintiffs and the Class at the time of purchase overpaid for their vehicles. Plaintiffs would not have purchased their vehicles because they would not have done so if FCA or Cummins truthfully disclosed the vehicles were unlawfully on the road and/or did not deliver improved emissions, overall performance, and fuel mileage benefits over gasoline-powered vehicles. Alternately, Plaintiffs would not have paid a diesel premium of up to \$9,000 or more if proper disclosures had been made. Plaintiffs also overpaid thousands of dollars in extra fuel costs due to lower fuel economy because of the Flash Defect. Plaintiffs have also been injured because they have been unwittingly driving cars whose emissions systems from the outset are not what a reasonable consumer would expect. This form of injury can be monetized by expert testimony using a conjoint analysis. Finally, Plaintiffs have been injured by paying out-of-

pocket costs to replace parts that have degraded or stopped functioning because the Flash Defect causes their engine to overheat.

b. Plaintiffs have been wrongfully deprived of their property in that the price for their vehicles was artificially inflated by deliberate acts of false statements, omissions, and concealment and by the RICO Defendants' acts of racketeering.

260. The RICO Defendants' violations of 18 U.S.C. § 1962(c) & (d) have directly and proximately caused injuries and damages to Plaintiffs and Class members, and Plaintiffs and Class members are entitled to bring this action for three times their actual damages, as well as injunctive/equitable relief, costs, and reasonable attorneys' fees pursuant to 18 U.S.C. § 1964(c).

## **COUNT II**

### **VIOLATIONS OF 15 U.S.C. § 2301 *ET SEQ.* THE MAGNUSON-MOSS WARRANTY ACT**

261. Plaintiffs reallege and incorporate by reference all paragraphs as though fully set forth herein.

262. This claim is brought on behalf of the Nationwide Class.

263. Plaintiffs are "consumers" within the meaning of the Magnuson-Moss Warranty Act, 15 U.S.C. § 2301(3).

264. FCA is a "supplier" and "warrantor" within the meaning of the Magnuson-Moss Warranty Act, 15 U.S.C. § 2301(4)–(5).

265. The Trucks are “consumer products” within the meaning of the Magnuson-Moss Warranty Act, 15 U.S.C. § 2301(1).

266. 15 U.S.C. § 2301(d)(1) provides a cause of action for any consumer who is damaged by the failure of a warrantor to comply with a written or implied warranty.

267. FCA’s express warranties are written warranties within the meaning of the Magnuson-Moss Warranty Act, 15 U.S.C. § 2301(6). The Trucks’ implied warranties are covered under 15 U.S.C. § 2301(7).

268. FCA breached these warranties, as described in more detail above. Without limitation, the Trucks are equipped with a defective emissions system (the Washcoat Defect) that fails to function over the long term, and breaks down and releases emissions far in excess of U.S. and California regulations. The Trucks are also designed to initially pass emissions tests, but with a defect (the Flash Defect) that causes the Trucks’ ECM to be “flashed” and reprogramed, thereby diverting fuel to the DPF to burn off the soot, and substantially reducing the fuel mileage of the Trucks. The Trucks share a common design defect in that the Engine fails to operate as represented by FCA.

269. Plaintiffs and the other Class members have had sufficient direct dealings with either FCA or its agents (*e.g.*, dealerships and technical support) to establish privity of contract between FCA on one hand, and Plaintiffs and each of

the other Class members on the other hand. Nonetheless, privity is not required here because Plaintiffs and each of the other Class members are intended third-party beneficiaries of contracts between FCA and its dealers, and specifically, of FCA's implied warranties. The dealers were not intended to be the ultimate consumers of the Trucks and have no rights under the warranty agreements provided with the Trucks; the warranty agreements were designed for and intended to benefit the consumers only.

270. Affording FCA a reasonable opportunity to cure its breach of written warranties would be unnecessary and futile here.

271. At the time of sale or lease of each Truck, FCA knew, should have known, or was reckless in not knowing of its misrepresentations and omissions concerning the Trucks' inability to perform as warranted, but nonetheless failed to rectify the situation and/or disclose the defective design. Under the circumstances, the remedies available under any informal settlement procedure would be inadequate and any requirement that Plaintiffs resort to an informal dispute resolution procedure and/or afford FCA a reasonable opportunity to cure its breach of warranties is excused and thereby deemed satisfied.

272. Plaintiffs and the other Class members would suffer economic hardship if they returned their Trucks but did not receive the return of all payments made by them. Because FCA is refusing to acknowledge any revocation of

acceptance and return immediately any payments made, Plaintiffs and the other Class members have not re-accepted their Trucks by retaining them.

273. The amount in controversy of Plaintiffs' individual claims meets or exceeds the sum of \$25. The amount in controversy of this action exceeds the sum of \$50,000, exclusive of interest and costs, computed on the basis of all claims to be determined in this lawsuit.

274. Plaintiffs, individually and on behalf of the other Class members, seek all damages permitted by law, including diminution in value of the Trucks, in an amount to be proven at trial.

**B. Claims Brought on Behalf of the Michigan Subclass**

**COUNT I**

**VIOLATION OF THE MICHIGAN CONSUMER PROTECTION ACT  
(MICH. COMP. LAWS § 445.903 *ET SEQ.*)**

275. Plaintiff Jeremy Raymo ("Plaintiff" for purposes of all Michigan Subclass claims) incorporates by reference all paragraphs as though fully set forth herein.

276. This claim is brought on behalf of the Michigan Subclass.

277. Plaintiff and the Michigan Class Members were "person[s]" within the meaning of the Mich. Comp. Laws § 445.902(1)(d).

278. The Michigan Consumer Protection Act ("Michigan CPA") prohibits "[u]nfair, unconscionable, or deceptive methods, acts, or practices in the conduct

of trade or commerce,” including “(c) Representing that goods or services have . . . characteristics . . . that they do not have”; “(e) Representing that goods or services are of a particular standard . . . if they are of another”; “(i) Making false or misleading statements of fact concerning the reasons for, existence of, or amounts of price reductions”; “(s) Failing to reveal a material fact, the omission of which tends to mislead or deceive the consumer, and which fact could not reasonably be known by the consumer”; “(bb) Making a representation of fact or statement of fact material to the transaction such that a person reasonably believes the represented or suggested state of affairs to be other than it actually is”; and “(cc) Failing to reveal facts that are material to the transaction in light of representations of fact made in a positive manner.” Mich. Comp. Laws § 445.903(1).

279. In the course of the Defendants’ business, they willfully failed to disclose and actively concealed that the emissions system in the Trucks is defective, that the Trucks emitted far more pollutants than gasoline-powered vehicles, that the Trucks emit far more pollution than a reasonable consumer would expect in light of the Defendants’ advertising campaign, and that the Trucks emitted unlawfully high levels of pollutants, including NO<sub>x</sub>, as described above. Defendants further willfully failed to disclose and actively concealed that the fuel economy of the Trucks would drop precipitously following service at the

dealerships, including service that was performed secretly and without Plaintiff's knowledge. Accordingly, the Defendants engaged in unfair methods of competition, unconscionable acts or practices, and unfair or deceptive acts or practices, including representing that the Trucks have characteristics, uses, benefits, and qualities which they do not have; representing that the Trucks are of a particular standard and quality when they are not; failing to reveal a material fact, the omission of which tends to mislead or deceive the consumer, and which fact could not reasonably be known by the consumer; making a representation of fact or statement of fact material to the transaction such that a person reasonably believes the represented or suggested state of affairs to be other than it actually is; and failing to reveal facts that are material to the transaction in light of representations of fact made in a positive manner.

280. In purchasing or leasing the Trucks, Plaintiff and the other Subclass members were deceived by the Defendants' failure to disclose that the emissions system in the Trucks is defective, that the Trucks emitted far more pollutants than gasoline-powered vehicles, that the Trucks emit far more pollution than a reasonable consumer would expect in light of the Defendants' advertising campaign, that the Trucks emitted unlawfully high levels of pollutants, including NO<sub>x</sub>, as described above, that the durability and longevity of the Trucks would suffer as a result of the Flash Defect, and that the fuel economy of the Trucks

would drop precipitously following service at the dealerships, including service that was performed secretly and without Plaintiff's knowledge.

281. Plaintiff and Subclass members reasonably relied upon the Defendants' false misrepresentations. They had no way of knowing that the Defendants' representations were false and gravely misleading. As alleged herein, the Defendants engaged in extremely sophisticated methods of deception. Plaintiff and Subclass members did not, and could not, unravel Defendants' deception on their own.

282. The Defendants' actions as set forth above occurred in the conduct of trade or commerce.

283. The Defendants' unfair or deceptive acts or practices were likely to and did in fact deceive reasonable consumers.

284. The Defendants intentionally and knowingly misrepresented material facts regarding the Trucks with an intent to mislead Plaintiff and the Subclass.

285. The Defendants knew or should have known that their conduct violated the Michigan CPA.

286. The Defendants owed Plaintiff and the Subclass a duty to disclose the truth about their emissions systems manipulation because the Defendants:

a. Possessed exclusive knowledge regarding the Washcoat Defect, and intentionally concealed the foregoing from Plaintiff and the Subclass;

- b. Possessed exclusive knowledge regarding the Flash Defect, and intentionally concealed the foregoing from Plaintiff and the Subclass;
- c. Made incomplete representations regarding compliance with emissions standards, while purposefully withholding material facts from Plaintiff and the Subclass that contradicted these representations; and
- d. Made incomplete representations regarding the improved or superior fuel economy of the Trucks, while purposefully withholding material facts from Plaintiff and the Subclass that contradicted these representations;

287. The Defendants had a duty to disclose that the emissions system in the Trucks is defective, that the Trucks emitted far more pollutants than gasoline-powered vehicles, that the Trucks emit far more pollution than a reasonable consumer would expect in light of the Defendants' advertising campaign, that the Trucks emitted unlawfully high levels of pollutants, including NOx, as described above, that the durability and longevity of the Trucks would suffer as a result of the Flash Defect, and that the fuel economy of the Trucks would drop precipitously following service at the dealerships, including service that was performed secretly and without Plaintiff's knowledge, because Plaintiff and the other Subclass members relied on the Defendants' material representations that the Trucks they were purchasing were reduced-emission vehicles, efficient, durable, and free from defects.

288. The Defendants' conduct proximately caused injuries to Plaintiff and the other Subclass members.

289. Plaintiff and the other Subclass members were injured and suffered ascertainable loss, injury-in-fact, and/or actual damage as a proximate result of the Defendants' conduct in that Plaintiff and the other Subclass members overpaid for their Trucks and did not receive the benefit of their bargain, and their Trucks have suffered a diminution in value. These injuries are the direct and natural consequence of the Defendants' misrepresentations and omissions.

290. The Defendants' violations present a continuing risk to Plaintiff as well as to the general public. The Defendants' unlawful acts and practices complained of herein affect the public interest.

291. Plaintiff seeks monetary relief measured as the greater of (a) actual damages in an amount to be determined at trial and (b) statutory damages in the amount of \$250 for Plaintiff and each Michigan Subclass member; reasonable attorneys' fees; and any other just and proper relief available under Mich. Comp. Laws § 445.911. Plaintiff also seek punitive damages against the Defendants because they carried out despicable conduct with willful and conscious disregard of the rights of others. The Defendants' unlawful conduct constitutes malice, oppression, and fraud warranting punitive damages.

## COUNT II

### FRAUDULENT CONCEALMENT (BASED ON MICHIGAN LAW)

292. Plaintiff incorporates by reference all paragraphs as though fully set forth herein.

293. This claim is brought on behalf of the Michigan Subclass.

294. The Defendants intentionally concealed that the emissions system in the Trucks is defective, that the Trucks emitted far more pollutants than gasoline-powered vehicles, that the Trucks emit far more pollution than a reasonable consumer would expect in light of the Defendants' advertising campaign, that the Trucks emitted unlawfully high levels of pollutants, including NO<sub>x</sub>, as described above, that the durability and longevity of the Trucks would suffer as a result of the Flash Defect, and that the fuel economy of the Trucks would drop precipitously following service at the dealerships, including service that was performed secretly and without Plaintiff's knowledge, or the Defendants acted with reckless disregard for the truth and denied Plaintiff and the other Subclass members information that is highly relevant to their purchasing decision.

295. The Defendants further affirmatively misrepresented to Plaintiff and Subclass members in advertising and other forms of communication, including standard and uniform material provided with each car, that the Trucks they were selling had no significant defects, were clean and low-emission vehicles, complied

with EPA regulations, were fuel-efficient, and would perform and operate properly when driven in normal usage.

296. The Defendants knew these representations were false when made.

297. The Trucks purchased or leased by Plaintiff and the other Subclass members were, in fact, defective, emitting pollutants at a much higher rate than gasoline-powered vehicles and at a much higher rate than a reasonable consumer would expect in light of the Defendants' advertising campaign, non-EPA-compliant, and unreliable, and service would lead to a precipitous drop in fuel economy.

298. The Defendants had a duty to disclose that the emissions system in the Trucks is defective, that the Trucks emitted far more pollutants than gasoline-powered vehicles, that the Trucks emit far more pollution than a reasonable consumer would expect in light of the Defendants' advertising campaign, that the Trucks emitted unlawfully high levels of pollutants, including NO<sub>x</sub>, as described above, that the durability and longevity of the Trucks would suffer as a result of the Flash Defect, and that the fuel economy of the Trucks would drop precipitously following service at the dealerships, including service that was performed secretly and without Plaintiff's knowledge, because Plaintiff and the other Subclass members relied on the Defendants' material representations that the Trucks they were purchasing were reduced-emission vehicles, efficient, and free from defects.

299. As alleged in this Complaint, at all relevant times, the Defendants have held out the Trucks to be reduced-emissions, EPA-compliant vehicles. The Defendants disclosed certain details about the diesel engine, but nonetheless, the Defendants intentionally failed to disclose important facts, including the existence of the Washcoat Defect and the Flash Defect, that the emissions system in the Trucks is defective, that the Trucks emitted far more pollutants than gasoline-powered vehicles, that the Trucks emit far more pollution than a reasonable consumer would expect in light of the Defendants' advertising campaign, that the Trucks emitted unlawfully high levels of pollutants, including NOx, as described above, that the durability and longevity of the Trucks would suffer as a result of the Flash Defect, and that the fuel economy of the Trucks would drop precipitously following service at the dealerships, including service that was performed secretly and without Plaintiff's knowledge, and were non-compliant with EPA emissions requirements, making other disclosures about the emission system deceptive.

300. The truth about the defective emissions controls, the non-compliance with EPA emissions requirements, and the precipitous drop in performance of the Trucks was known only to the Defendants; Plaintiff and the Subclass members did not know of these facts and the Defendants actively concealed these facts from Plaintiff and Subclass members.

301. Plaintiff and Subclass members reasonably relied upon the Defendants' deception. They had no way of knowing that the Defendants' representations were false and/or misleading. As consumers, the Plaintiff and Subclass members did not, and could not, unravel the Defendants' deception on their own. Rather, the Defendants intended to deceive Plaintiff and Subclass members by concealing the true facts about the Trucks' emissions and defects.

302. The Defendants also concealed and suppressed material facts concerning what is evidently the true culture of the Defendants—a culture characterized by an emphasis on profits and sales above compliance with federal and state clean air law and emissions regulations that are meant to protect the public and consumers. Defendants also emphasized profits and sales above the trust that Plaintiff and Subclass members placed in their representations. Consumers buy diesel cars from the Defendants because they feel they are clean diesel cars. They do not want to be spewing noxious gases into the environment. And yet, that is precisely what the Trucks are doing.

303. The Defendants' false representations were material to consumers, because they concerned the quality of the Trucks, compliance with applicable federal and state law and regulations regarding clean air and emissions, anticipated fuel economy and costs for fuel, and also because the representations played a significant role in the value of the Trucks. As the Defendants well knew, their

customers, including Plaintiff and Subclass members, highly valued that the Trucks they were purchasing or leasing were fuel efficient, clean diesel cars with reduced emissions and increased longevity, and they paid accordingly.

304. The Defendants had a duty to disclose the Washcoat Defect and the Flash Defect because details of the true facts were known and/or accessible only to the Defendants, because the Defendants had exclusive knowledge as to such facts, and because the Defendants knew these facts were not known to or reasonably discoverable by Plaintiff or Subclass members. The Defendants also had a duty to disclose because they made general affirmative representations about the qualities of the Trucks with respect to emissions, including references to them as the lowest-emissions diesel cars and as compliant with all laws in each country, which were misleading, deceptive, and incomplete without the disclosure of the additional facts set forth above regarding the actual emissions of the Trucks, their actual philosophy with respect to compliance with federal and state clean air law and emissions regulations, and their actual practices with respect to the Trucks at issue. Having volunteered to provide information to Plaintiff and Subclass members, the Defendants had the duty to disclose not just the partial truth, but the entire truth. These omitted and concealed facts were material because they directly impact the value of the Trucks purchased or leased by Plaintiff and Subclass members. Whether a manufacturer's products pollute, comply with federal and state clean air

law and emissions regulations, and whether that manufacturer tells the truth with respect to such compliance or non-compliance, are material concerns to a consumer, including with respect to the emissions certifications testing their Trucks must pass. The Defendants represented to Plaintiff and Subclass members that they were purchasing or leasing reduced-emission diesel vehicles when, in fact, they were purchasing or leasing defective, high-emission vehicles with unlawfully high emissions.

305. The Defendants actively concealed and/or suppressed these material facts, in whole or in part, to pad and protect their profits and to avoid the perception that their Trucks were not clean diesel vehicles and did not or could not comply with federal and state laws governing clean air and emissions, which perception would hurt the brand's image and cost the Defendants money, and they did so at the expense of Plaintiff and Subclass members.

306. The Defendants still have not made full and adequate disclosures, and they continue to defraud Plaintiff and Subclass members by concealing material information regarding the emissions qualities of the Trucks.

307. Plaintiff and Subclass members were unaware of the omitted material facts referenced herein, and they would not have acted as they did if they had known of the concealed and/or suppressed facts, in that they would not have purchased purportedly reduced-emissions diesel cars manufactured by the

Defendants, and/or would not have continued to drive their heavily polluting Trucks, or would have taken other affirmative steps in light of the information concealed from them. Plaintiff's and Subclass members' actions were justified. The Defendants were in exclusive control of the material facts, and such facts were not generally known to the public, Plaintiff, or Subclass members.

308. Because of the concealment and/or suppression of the facts, Plaintiff and Subclass members have sustained damage because they own Trucks that are diminished in value as a result of the Defendants' concealment of the true quality and quantity of those Trucks' emissions and the Defendants' failure to timely disclose the defect or defective design of the diesel engine system, the actual emissions qualities and quantities of the Defendants' Trucks, and the serious issues engendered by the Defendants' corporate policies. Had Plaintiff and Subclass members been aware of the true emissions facts with regard to the Trucks, and the Defendants' disregard for the truth and compliance with applicable federal and state law and regulations, Plaintiff and Subclass members who purchased or leased new or certified previously owned Trucks would have paid less for their Trucks or would not have purchased or leased them at all.

309. The value of Plaintiff's and Subclass members' Trucks has diminished as a result of the Defendants' fraudulent concealment of the defective emissions controls of the Trucks, the unlawfully high emissions of the Trucks, and

the non-compliance with EPA emissions requirements, all of which has greatly tarnished the Defendants' brand name attached to Plaintiff's and Subclass members' Trucks and made any reasonable consumer reluctant to purchase any of the Trucks, let alone pay what otherwise would have been fair market value for the Trucks.

310. Accordingly, the Defendants are liable to Plaintiff and Subclass members for damages in an amount to be proven at trial.

311. The Defendants' acts were done wantonly, maliciously, oppressively, deliberately, with intent to defraud, and in reckless disregard of Plaintiff's and Subclass members' rights and the representations that the Defendants made to them, in order to enrich the Defendants. The Defendants' conduct warrants an assessment of punitive damages in an amount sufficient to deter such conduct in the future, which amount is to be determined according to proof.

### **COUNT III**

#### **BREACH OF CONTRACT (BASED ON MICHIGAN LAW)**

312. Plaintiff incorporates by reference all preceding allegations as though fully set forth herein.

313. Plaintiff brings this Count on behalf of the Michigan Subclass.

314. The Defendants' misrepresentations and omissions alleged herein, including, but not limited to, the existence of the Washcoat Defect and the Flash

Defect, that the Trucks emitted far more pollutants than gasoline-powered vehicles, that the Trucks emit far more pollution than a reasonable consumer would expect in light of the Defendants' advertising campaign, that the Trucks emitted unlawfully high levels of pollutants, including NOx, as described above, that the durability and longevity of the Trucks would suffer as a result of the Flash Defect, and that the fuel economy of the Trucks would drop precipitously following service at the dealerships, including service that was performed secretly and without Plaintiff's knowledge, caused Plaintiff and the other Subclass members to make their purchases or leases of their Trucks. Absent those misrepresentations and omissions, Plaintiff and the other Subclass members would not have purchased or leased these Trucks, would not have purchased or leased these Trucks at the prices they paid, and/or would have purchased or leased less expensive alternative vehicles that did not contain the defective Engine and which were not marketed as including such a system. Accordingly, Plaintiff and the other Subclass members overpaid for their Trucks and did not receive the benefit of their bargain.

315. Each and every sale or lease of a Truck constitutes a contract between FCA and the purchaser or lessee. FCA breached these contracts by selling or leasing to Plaintiff and the other Subclass members defective Trucks and by misrepresenting or failing to disclose that the emissions system reduction system is defective, that the Trucks emitted far more pollutants than gasoline-powered

vehicles, that the Trucks emit far more pollution than a reasonable consumer would expect in light of the Defendants' advertising campaign, that the Trucks emitted unlawfully high levels of pollutants, including NOx, as described above, and that the fuel economy of the Trucks would drop precipitously following service at the dealerships, including service that was performed secretly and without Plaintiffs' knowledge.

316. As a direct and proximate result of FCA's breach of contract, Plaintiff and the Subclass have been damaged in an amount to be proven at trial, which shall include, but is not limited to, all compensatory damages, incidental and consequential damages, and other damages allowed by law.

#### **COUNT IV**

#### **UNJUST ENRICHMENT**

317. Plaintiff incorporates by reference all preceding allegations as though fully set forth herein.

318. Plaintiff brings this Count on behalf of himself and the Michigan Subclass.

319. FCA and Cummins have received and retained a benefit from Plaintiff and inequity has resulted.

320. FCA and Cummins have benefitted from selling and leasing defective cars at a profit whose value was artificially inflated by FCA and Cummins's

concealment of the Washcoat Defect and the Flash Defect, and Plaintiff and the Class have overpaid for the cars and been forced to pay other costs.

321. Thus, all Michigan Subclass members conferred a benefit on FCA and Cummins.

322. Plaintiff and the Class were not aware of the true facts about the Class Trucks, and did not benefit from FCA and Cummins's conduct.

323. FCA and Cummins knowingly accepted the benefits of their unjust conduct.

324. As a result of FCA and Cummins's conduct, the amount of their unjust enrichment should be disgorged as to each defendant, in an amount according to proof.

**C. Claims Brought on Behalf of the Alabama Subclass**

**COUNT I**

**VIOLATIONS OF THE ALABAMA DECEPTIVE  
TRADE PRACTICES ACT  
(ALA. CODE § 8-19-1 *ET SEQ.*)**

325. Plaintiff Forrest Poulson ("Plaintiff" for purposes of all Alabama subclass claims) incorporates by reference all paragraphs as though fully set forth herein.

326. Plaintiff brings this Count on behalf of the Alabama Subclass.

327. Plaintiff and the Subclass members are “consumers” within the meaning of Ala. Code § 8-19-3(2).

328. Plaintiff, the Subclass members, and the Defendants are “persons” within the meaning of Ala. Code § 8-19-3(5).

329. The Trucks are “goods” within the meaning of Ala. Code § 8-19-3(3).

330. The Defendants were and are engaged in “trade or commerce” within the meaning of Ala. Code § 8-19-3(8).

331. The Alabama Deceptive Trade Practices Act (“Alabama DTPA”) declares several specific actions to be unlawful, including: “(5) Representing that goods or services have sponsorship, approval, characteristics, ingredients, uses, benefits, or qualities that they do not have,” “(7) Representing that goods or services are of a particular standard, quality, or grade, or that goods are of a particular style or model, if they are of another,” and “(27) Engaging in any other unconscionable, false, misleading, or deceptive act or practice in the conduct of trade or commerce.” Ala. Code § 8-19-5. On June 30, 2017, Plaintiff served a statutory demand letter on Defendants in accordance with Ala. Code § 8-19-10(e).

332. In the course of the Defendants’ business, they willfully failed to disclose and actively concealed that the emissions system in the Trucks is defective, that the Trucks emitted far more pollutants than gasoline-powered vehicles, that the Trucks emit far more pollution than a reasonable consumer would

expect in light of the Defendants' advertising campaign, and that the Trucks emitted unlawfully high levels of pollutants, including NOx, as described above. Defendants further willfully failed to disclose and actively concealed that the fuel economy of the Trucks would drop precipitously following service at the dealerships, including service that was performed secretly and without Plaintiff's knowledge. Accordingly, the Defendants engaged in unfair methods of competition, unconscionable acts or practices, and unfair or deceptive acts or practices, including representing that the Trucks have characteristics, uses, benefits, and qualities which they do not have; representing that the Trucks are of a particular standard and quality when they are not; failing to reveal a material fact, the omission of which tends to mislead or deceive the consumer, and which fact could not reasonably be known by the consumer; making a representation of fact or statement of fact material to the transaction such that a person reasonably believes the represented or suggested state of affairs to be other than it actually is; and failing to reveal facts that are material to the transaction in light of representations of fact made in a positive manner.

333. In purchasing or leasing the Trucks, Plaintiff and the other Subclass members were deceived by the Defendants' failure to disclose that the emissions system in the Trucks is defective, that the Trucks emitted far more pollutants than gasoline-powered vehicles, that the Trucks emit far more pollution than a

reasonable consumer would expect in light of the Defendants' advertising campaign, that the Trucks emitted unlawfully high levels of pollutants, including NO<sub>x</sub>, as described above, that the durability and longevity of the Trucks would suffer as a result of the Flash Defect, and that the fuel economy of the Trucks would drop precipitously following service at the dealerships, including service that was performed secretly and without Plaintiff's knowledge.

334. Plaintiff and Subclass members reasonably relied upon the Defendants' false misrepresentations. They had no way of knowing that the Defendants' representations were false and gravely misleading. As alleged herein, the Defendants engaged in extremely sophisticated methods of deception. Plaintiff and Subclass members did not, and could not, unravel Defendants' deception on their own.

335. The Defendants' actions as set forth above occurred in the conduct of trade or commerce.

336. The Defendants' unfair or deceptive acts or practices were likely to and did in fact deceive reasonable consumers.

337. The Defendants intentionally and knowingly misrepresented material facts regarding the Trucks with an intent to mislead Plaintiff and the Subclass.

338. The Defendants knew or should have known that their conduct violated the Alabama DTPA.

339. The Defendants owed Plaintiff and the Subclass a duty to disclose the truth about their emissions systems manipulation because the Defendants:

a. Possessed exclusive knowledge regarding the Washcoat Defect, and intentionally concealed the foregoing from Plaintiff and the Subclass;

b. Possessed exclusive knowledge regarding the Flash Defect, and intentionally concealed the foregoing from Plaintiff and the Subclass;

c. Made incomplete representations regarding compliance with emissions standards, while purposefully withholding material facts from Plaintiff and the Subclass that contradicted these representations; and

d. Made incomplete representations regarding the improved or superior fuel economy of the Trucks, while purposefully withholding material facts from Plaintiff and the Subclass that contradicted these representations.

340. The Defendants had a duty to disclose that the emissions system in the Trucks is defective, that the Trucks emitted far more pollutants than gasoline-powered vehicles, that the Trucks emit far more pollution than a reasonable consumer would expect in light of the Defendants' advertising campaign, that the Trucks emitted unlawfully high levels of pollutants, including NO<sub>x</sub>, as described above, that the durability and longevity of the Trucks would suffer as a result of the Flash Defect, and that the fuel economy of the Trucks would drop precipitously following service at the dealerships, including service that was performed secretly

and without Plaintiff's knowledge, because Plaintiff and the other Subclass members relied on the Defendants' material representations that the Trucks they were purchasing were reduced-emission vehicles, efficient, durable, and free from defects.

341. The Defendants' conduct proximately caused injuries to Plaintiff and the other Subclass members.

342. Plaintiff and the other Subclass members were injured and suffered ascertainable loss, injury-in-fact, and/or actual damage as a proximate result of the Defendants' conduct in that Plaintiff and the other Subclass members overpaid for their Trucks and did not receive the benefit of their bargain, and their Trucks have suffered a diminution in value. These injuries are the direct and natural consequence of the Defendants' misrepresentations and omissions.

343. The Defendants' violations present a continuing risk to Plaintiff as well as to the general public. The Defendants' unlawful acts and practices complained of herein affect the public interest.

344. Pursuant to Ala. Code § 8-19-10, Plaintiff and the Subclass members seek monetary relief against Defendants measured as the greater of (a) actual damages in an amount to be determined at trial and (b) statutory damages in the amount of \$100 for each Plaintiff and each Alabama Class member. Plaintiff also seeks an order enjoining Defendants' unfair, unlawful, and/or deceptive practices,

attorneys' fees, and any other just and proper relief available under Ala. Code § 8-19-1, et seq.

## **COUNT II**

### **BREACH OF CONTRACT (BASED ON ALABAMA LAW)**

345. Plaintiff incorporates by reference all preceding allegations as though fully set forth herein.

346. Plaintiff brings this Count on behalf of the Alabama Subclass.

347. The Defendants' misrepresentations and omissions alleged herein, including, but not limited to, the existence of the Washcoat Defect and the Flash Defect, that the Trucks emitted far more pollutants than gasoline-powered vehicles, that the Trucks emit far more pollution than a reasonable consumer would expect in light of the Defendants' advertising campaign, that the Trucks emitted unlawfully high levels of pollutants, including NO<sub>x</sub>, as described above, that the durability and longevity of the Trucks would suffer as a result of the Flash Defect, and that the fuel economy of the Trucks would drop precipitously following service at the dealerships, including service that was performed secretly and without Plaintiff's knowledge, caused Plaintiff and the other Subclass members to make their purchases or leases of their Trucks. Absent those misrepresentations and omissions, Plaintiff and the other Subclass members would not have purchased or leased these Trucks, would not have purchased or leased these Trucks at the

prices they paid, and/or would have purchased or leased less expensive alternative vehicles that did not contain the defective Engine and which were not marketed as including such a system. Accordingly, Plaintiff and the other Subclass members overpaid for their Trucks and did not receive the benefit of their bargain.

348. Each and every sale or lease of a Truck constitutes a contract between FCA and the purchaser or lessee. FCA breached these contracts by selling or leasing to Plaintiff and the other Subclass members defective Trucks and by misrepresenting or failing to disclose that the emissions system reduction system is defective, that the Trucks emitted far more pollutants than gasoline-powered vehicles, that the Trucks emit far more pollution than a reasonable consumer would expect in light of the Defendants' advertising campaign, that the Trucks emitted unlawfully high levels of pollutants, including NO<sub>x</sub>, as described above, and that the fuel economy of the Trucks would drop precipitously following service at the dealerships, including service that was performed secretly and without Plaintiffs' knowledge.

349. As a direct and proximate result of FCA's breach of contract, Plaintiff and the Subclass have been damaged in an amount to be proven at trial, which shall include, but is not limited to, all compensatory damages, incidental and consequential damages, and other damages allowed by law.

### **COUNT III**

**FRAUDULENT CONCEALMENT  
(BASED ON ALABAMA LAW)**

350. Plaintiff incorporates by reference all paragraphs as though fully set forth herein.

351. This claim is brought on behalf of the Alabama Subclass.

352. The Defendants intentionally concealed that the emissions system in the Trucks is defective, that the Trucks emitted far more pollutants than gasoline-powered vehicles, that the Trucks emit far more pollution than a reasonable consumer would expect in light of the Defendants' advertising campaign, that the Trucks emitted unlawfully high levels of pollutants, including NOx, as described above, that the durability and longevity of the Trucks would suffer as a result of the Flash Defect, and that the fuel economy of the Trucks would drop precipitously following service at the dealerships, including service that was performed secretly and without Plaintiff's knowledge, or the Defendants acted with reckless disregard for the truth and denied Plaintiff and the other Subclass members information that is highly relevant to their purchasing decision.

353. The Defendants further affirmatively misrepresented to Plaintiff and Subclass members in advertising and other forms of communication, including standard and uniform material provided with each car, that the Trucks they were selling had no significant defects, were clean and low-emission vehicles, complied

with EPA regulations, were fuel-efficient, and would perform and operate properly when driven in normal usage.

354. The Defendants knew these representations were false when made.

355. The Trucks purchased or leased by Plaintiff and the other Subclass members were, in fact, defective, emitting pollutants at a much higher rate than gasoline-powered vehicles and at a much higher rate than a reasonable consumer would expect in light of the Defendants' advertising campaign, non-EPA-compliant, and unreliable, and service would lead to a precipitous drop in fuel economy.

356. The Defendants had a duty to disclose that the emissions system in the Trucks is defective, that the Trucks emitted far more pollutants than gasoline-powered vehicles, that the Trucks emit far more pollution than a reasonable consumer would expect in light of the Defendants' advertising campaign, that the Trucks emitted unlawfully high levels of pollutants, including NO<sub>x</sub>, as described above, that the durability and longevity of the Trucks would suffer as a result of the Flash Defect, and that the fuel economy of the Trucks would drop precipitously following service at the dealerships, including service that was performed secretly and without Plaintiff's knowledge, because Plaintiff and the other Subclass members relied on the Defendants' material representations that the Trucks they were purchasing were reduced-emission vehicles, efficient, and free from defects.

357. As alleged in this Complaint, at all relevant times, the Defendants have held out the Trucks to be reduced-emissions, EPA-compliant vehicles. The Defendants disclosed certain details about the diesel engine, but nonetheless, the Defendants intentionally failed to disclose important facts, including the existence of the Washcoat Defect and the Flash Defect, that the emissions system in the Trucks is defective, that the Trucks emitted far more pollutants than gasoline-powered vehicles, that the Trucks emit far more pollution than a reasonable consumer would expect in light of the Defendants' advertising campaign, that the Trucks emitted unlawfully high levels of pollutants, including NOx, as described above, that the durability and longevity of the Trucks would suffer as a result of the Flash Defect, and that the fuel economy of the Trucks would drop precipitously following service at the dealerships, including service that was performed secretly and without Plaintiff's knowledge, and were non-compliant with EPA emissions requirements, making other disclosures about the emission system deceptive.

358. The truth about the defective emissions controls, the non-compliance with EPA emissions requirements, and the precipitous drop in performance of the Trucks was known only to the Defendants; Plaintiff and the Subclass members did not know of these facts and the Defendants actively concealed these facts from Plaintiff and Subclass members.

359. Plaintiff and Subclass members reasonably relied upon the Defendants' deception. They had no way of knowing that the Defendants' representations were false and/or misleading. As consumers, the Plaintiff and Subclass members did not, and could not, unravel the Defendants' deception on their own. Rather, the Defendants intended to deceive Plaintiff and Subclass members by concealing the true facts about the Trucks' emissions and defects.

360. The Defendants also concealed and suppressed material facts concerning what is evidently the true culture of the Defendants—a culture characterized by an emphasis on profits and sales above compliance with federal and state clean air law and emissions regulations that are meant to protect the public and consumers. Defendants also emphasized profits and sales above the trust that Plaintiff and Subclass members placed in their representations. Consumers buy diesel cars from the Defendants because they feel they are clean diesel cars. They do not want to be spewing noxious gases into the environment. And yet, that is precisely what the Trucks are doing.

361. The Defendants' false representations were material to consumers, because they concerned the quality of the Trucks, compliance with applicable federal and state law and regulations regarding clean air and emissions, anticipated fuel economy and costs for fuel, and also because the representations played a significant role in the value of the Trucks. As the Defendants well knew, their

customers, including Plaintiff and Subclass members, highly valued that the Trucks they were purchasing or leasing were fuel efficient, clean diesel cars with reduced emissions and increased longevity, and they paid accordingly.

362. The Defendants had a duty to disclose the Washcoat Defect and the Flash Defect because details of the true facts were known and/or accessible only to the Defendants, because the Defendants had exclusive knowledge as to such facts, and because the Defendants knew these facts were not known to or reasonably discoverable by Plaintiff or Subclass members. The Defendants also had a duty to disclose because they made general affirmative representations about the qualities of the Trucks with respect to emissions, including references to them as the lowest-emissions diesel cars and as compliant with all laws in each country, which were misleading, deceptive, and incomplete without the disclosure of the additional facts set forth above regarding the actual emissions of the Trucks, their actual philosophy with respect to compliance with federal and state clean air law and emissions regulations, and their actual practices with respect to the Trucks at issue. Having volunteered to provide information to Plaintiff and Subclass members, the Defendants had the duty to disclose not just the partial truth, but the entire truth. These omitted and concealed facts were material because they directly impact the value of the Trucks purchased or leased by Plaintiff and Subclass members. Whether a manufacturer's products pollute, comply with federal and state clean air

law and emissions regulations, and whether that manufacturer tells the truth with respect to such compliance or non-compliance, are material concerns to a consumer, including with respect to the emissions certifications testing their Trucks must pass. The Defendants represented to Plaintiff and Subclass members that they were purchasing or leasing reduced-emission diesel vehicles when, in fact, they were purchasing or leasing defective, high-emission vehicles with unlawfully high emissions.

363. The Defendants actively concealed and/or suppressed these material facts, in whole or in part, to pad and protect their profits and to avoid the perception that their Trucks were not clean diesel vehicles and did not or could not comply with federal and state laws governing clean air and emissions, which perception would hurt the brand's image and cost the Defendants money, and they did so at the expense of Plaintiff and Subclass members.

364. The Defendants still have not made full and adequate disclosures, and they continue to defraud Plaintiff and Subclass members by concealing material information regarding the emissions qualities of the Trucks.

365. Plaintiff and Subclass members were unaware of the omitted material facts referenced herein, and they would not have acted as they did if they had known of the concealed and/or suppressed facts, in that they would not have purchased purportedly reduced-emissions diesel cars manufactured by the

Defendants, and/or would not have continued to drive their heavily polluting Trucks, or would have taken other affirmative steps in light of the information concealed from them. Plaintiff's and Subclass members' actions were justified. The Defendants were in exclusive control of the material facts, and such facts were not generally known to the public, Plaintiff, or Subclass members.

366. Because of the concealment and/or suppression of the facts, Plaintiff and Subclass members have sustained damage because they own Trucks that are diminished in value as a result of the Defendants' concealment of the true quality and quantity of those Trucks' emissions and the Defendants' failure to timely disclose the defect or defective design of the diesel engine system, the actual emissions qualities and quantities of the Defendants' Trucks, and the serious issues engendered by the Defendants' corporate policies. Had Plaintiff and Subclass members been aware of the true emissions facts with regard to the Trucks, and the Defendants' disregard for the truth and compliance with applicable federal and state law and regulations, Plaintiff and Subclass members who purchased or leased new or certified previously owned Trucks would have paid less for their Trucks or would not have purchased or leased them at all.

367. The value of Plaintiff's and Subclass members' Trucks has diminished as a result of the Defendants' fraudulent concealment of the defective emissions controls of the Trucks, the unlawfully high emissions of the Trucks, and

the non-compliance with EPA emissions requirements, all of which has greatly tarnished the Defendants' brand name attached to Plaintiff's and Subclass members' Trucks and made any reasonable consumer reluctant to purchase any of the Trucks, let alone pay what otherwise would have been fair market value for the Trucks.

368. Accordingly, the Defendants are liable to Plaintiff and Subclass members for damages in an amount to be proven at trial.

369. The Defendants' acts were done wantonly, maliciously, oppressively, deliberately, with intent to defraud, and in reckless disregard of Plaintiff's and Subclass members' rights and the representations that the Defendants made to them, in order to enrich the Defendants. The Defendants' conduct warrants an assessment of punitive damages in an amount sufficient to deter such conduct in the future, which amount is to be determined according to proof.

#### **COUNT IV**

#### **UNJUST ENRICHMENT**

370. Plaintiff incorporates by reference all preceding allegations as though fully set forth herein.

371. Plaintiff brings this Count on behalf of himself and the Alabama Subclass.

372. FCA and Cummins have received and retained a benefit from Plaintiff and inequity has resulted.

373. FCA and Cummins have benefitted from selling and leasing defective cars at a profit whose value was artificially inflated by FCA and Cummins's concealment of the Washcoat Defect and the Flash Defect, and Plaintiff and the Class have overpaid for the cars and been forced to pay other costs.

374. Thus, all Alabama Subclass members conferred a benefit on FCA and Cummins.

375. Plaintiff and the Class were not aware of the true facts about the Class Trucks, and did not benefit from FCA and Cummins's conduct.

376. FCA and Cummins knowingly accepted the benefits of their unjust conduct.

377. As a result of FCA and Cummins's conduct, the amount of their unjust enrichment should be disgorged as to each defendant, in an amount according to proof.

**D. Claims Brought on Behalf of the California Subclass**

**COUNT I**

**VIOLATIONS OF THE CALIFORNIA UNFAIR COMPETITION LAW  
(CAL. BUS. & PROF. CODE § 17200 *ET SEQ.*)**

378. Plaintiffs Dennis Kogler and Ian Hacker (“Plaintiffs” for purposes of all California subclass claims) incorporate by reference all paragraphs as though fully set forth herein.

379. Plaintiffs bring this Count on behalf of the California Subclass.

380. California’s Unfair Competition Law (“UCL”), CAL. BUS. & PROF. CODE § 17200 *et seq.*, proscribes acts of unfair competition, including “any unlawful, unfair or fraudulent business act or practice and unfair, deceptive, untrue or misleading advertising.”

381. The Defendants’ conduct, as described herein, was and is in violation of the UCL. The Defendants’ conduct violates the UCL in at least the following ways:

- i. By failing to disclose that the emissions system in the Trucks is defective;
- ii. By selling and leasing Trucks that suffer from a defective emissions control system and that emit unlawfully high levels of pollutants;

iii. By knowingly and intentionally concealing from Plaintiffs and the other Subclass members that the fuel economy of the Trucks would drop precipitously following service at the dealership;

iv. By knowingly and intentionally concealing from Plaintiffs and the other Subclass members that the dealerships were “flashing” the Trucks, leading to the drop in fuel economy;

v. By marketing Trucks as reduced emissions vehicles possessing functional and defect-free, EPA-compliant diesel engine systems;

vi. By violating federal laws, including the Clean Air Act; and

vii. By violating other California laws, including California consumer protection laws and California laws governing vehicle emissions and emission testing requirements.

382. The Defendants intentionally and knowingly misrepresented material facts regarding the Trucks with an intent to mislead Plaintiffs and the Subclass.

383. In purchasing or leasing the Trucks, Plaintiffs and the other Subclass members were deceived by the Defendants’ failure to disclose that the emissions system in the Trucks is defective, that the Trucks emitted far more pollutants than gasoline-powered vehicles, that the Trucks emit far more pollution than a reasonable consumer would expect in light of the Defendants’ advertising campaign, that the Trucks emitted unlawfully high levels of pollutants, including

NOx, as described above, that the durability and longevity of the Trucks would suffer as a result of the Flash Defect, and that the fuel economy of the Trucks would drop precipitously following service at the dealerships, including service that was performed secretly and without Plaintiffs' knowledge.

384. Plaintiffs and Subclass members reasonably relied upon the Defendants' false misrepresentations. They had no way of knowing that the Defendants' representations were false and gravely misleading. As alleged herein, the Defendants engaged in extremely sophisticated methods of deception. Plaintiffs and Subclass members did not, and could not, unravel Defendants' deception on their own.

385. The Defendants knew or should have known that their conduct violated the UCL.

386. The Defendants owed Plaintiffs and the Subclass a duty to disclose the truth about their emissions systems manipulation because the Defendants:

- a. Possessed exclusive knowledge regarding the Washcoat Defect, and intentionally concealed the foregoing from Plaintiffs and the Subclass;
- b. Possessed exclusive knowledge regarding the Flash Defect, and intentionally concealed the foregoing from Plaintiffs and the Subclass;

c. Made incomplete representations regarding compliance with emissions standards, while purposefully withholding material facts from Plaintiffs and the Subclass that contradicted these representations; and

d. Made incomplete representations regarding the improved or superior fuel economy of the Trucks, while purposefully withholding material facts from Plaintiffs and the Subclass that contradicted these representations.

387. The Defendants had a duty to disclose that the emissions system in the Trucks is defective, that the Trucks emitted far more pollutants than gasoline-powered vehicles, that the Trucks emit far more pollution than a reasonable consumer would expect in light of the Defendants' advertising campaign, that the Trucks emitted unlawfully high levels of pollutants, including NO<sub>x</sub>, as described above, that the durability and longevity of the Trucks would suffer as a result of the Flash Defect, and that the fuel economy of the Trucks would drop precipitously following service at the dealerships, including service that was performed secretly and without Plaintiffs' knowledge, because Plaintiffs and the other Subclass members relied on the Defendants' material representations that the Trucks they were purchasing were reduced-emission vehicles, efficient, durable, and free from defects.

388. The Defendants' conduct proximately caused injuries to Plaintiffs and the other Subclass members.

389. Plaintiffs and the other Subclass members were injured and suffered ascertainable loss, injury-in-fact, and/or actual damage as a proximate result of the Defendants' conduct in that Plaintiffs and the other Subclass members overpaid for their Trucks and did not receive the benefit of their bargain, and their Trucks have suffered a diminution in value. They also were required to pay more for fuel than they reasonably anticipated based on the Defendants' material representations. These injuries are the direct and natural consequence of the Defendants' misrepresentations and omissions.

390. The Defendants' violations present a continuing risk to Plaintiffs as well as to the general public. The Defendants' unlawful acts and practices complained of herein affect the public interest.

391. The Defendants' misrepresentations and omissions alleged herein caused Plaintiffs and the other Subclass members to make their purchases or leases of their Trucks. Absent those misrepresentations and omissions, Plaintiffs and the other Subclass members would not have purchased or leased these vehicles, would not have purchased or leased these Trucks at the prices they paid, and/or would have purchased or leased less expensive alternative vehicles that did not contain a defective emissions system that failed to comply with EPA and California emissions standards.

392. Accordingly, Plaintiffs and the other Subclass members have suffered injury in fact, including lost money or property, as a result of the Defendants' misrepresentations and omissions.

393. Plaintiffs request that this Court enter such orders or judgments as may be necessary to restore to Plaintiffs and members of the Subclass any money Defendants acquired by unfair competition, including restitution and/or restitutionary disgorgement, as provided in CAL. BUS. & PROF. CODE § 17203 and CAL. CIV. CODE § 3345, and for such other relief as may be appropriate.

## COUNT II

### **VIOLATIONS OF THE CALIFORNIA CONSUMER LEGAL REMEDIES ACT (CAL. CIV. CODE § 1750 *ET SEQ.*)**

394. Plaintiffs incorporate by reference all paragraphs as though fully set forth herein.

395. This claim is brought on behalf of the California Subclass.

396. California's Consumers Legal Remedies Act ("CLRA"), CAL. CIV. CODE § 1750 *et seq.*, proscribes "unfair methods of competition and unfair or deceptive acts or practices undertaken by any person in a transaction intended to result or which results in the sale or lease of goods or services to any consumer."

397. The Trucks are "goods" as defined in CAL. CIV. CODE § 1761(a).

398. Plaintiffs and the other Subclass members are “consumers” as defined in CAL. CIV. CODE § 1761(d), and Plaintiffs, the other Subclass members, and the Defendants are “persons” as defined in CAL. CIV. CODE § 1761(c).

399. As alleged above, the Defendants made representations concerning the benefits, efficiency, performance, and safety features of the Trucks and Emissions system that were misleading.

400. In purchasing or leasing the Trucks, Plaintiffs and the other Subclass members were deceived by the Defendants’ failure to disclose that the emissions system in the Trucks is defective, that the Trucks emitted far more pollutants than gasoline-powered vehicles, that the Trucks emit far more pollution than a reasonable consumer would expect in light of the Defendants’ advertising campaign, that the Trucks emitted unlawfully high levels of pollutants, including NO<sub>x</sub>, as described above, that the durability and longevity of the Trucks would suffer as a result of the Flash Defect, and that the fuel economy of the Trucks would drop precipitously following service at the dealerships, including service that was performed secretly and without Plaintiffs’ knowledge.

401. The Defendants’ conduct, as described hereinabove, was and is in violation of the CLRA. The Defendants’ conduct violates at least the following enumerated CLRA provisions:

- i. CAL. CIV. CODE § 1770(a)(2): Misrepresenting the approval or certification of goods.
- ii. CAL. CIV. CODE § 1770(a)(3): Misrepresenting the certification by another.
- iii. CAL. CIV. CODE § 1770(a)(5): Representing that goods have sponsorship, approval, characteristics, uses, benefits, or quantities which they do not have.
- iv. CAL. CIV. CODE § 1770(a)(7): Representing that goods are of a particular standard, quality, or grade, if they are of another.
- v. CAL. CIV. CODE § 1770(a)(9): Advertising goods with intent not to sell them as advertised.
- vi. CAL. CIV. CODE § 1770(a)(16): Representing that goods have been supplied in accordance with a previous representation when they have not.

402. The Defendants intentionally and knowingly misrepresented material facts regarding the Trucks with an intent to mislead Plaintiffs and the Subclass.

403. Plaintiffs and Subclass members reasonably relied upon the Defendants' false misrepresentations. They had no way of knowing that the Defendants' representations were false and gravely misleading. As alleged herein, the Defendants engaged in extremely sophisticated methods of deception. Plaintiffs

and Subclass members did not, and could not, unravel the Defendants' deception on their own.

404. The Defendants knew or should have known that their conduct violated the CLRA.

405. The Defendants owed Plaintiffs and the Subclass a duty to disclose the truth about their emissions systems manipulation because the Defendants:

- a. Possessed exclusive knowledge regarding the Washcoat Defect, and intentionally concealed the foregoing from Plaintiffs and the Subclass;
- b. Possessed exclusive knowledge regarding the Flash Defect, and intentionally concealed the foregoing from Plaintiffs and the Subclass;
- c. Made incomplete representations regarding compliance with emissions standards, while purposefully withholding material facts from Plaintiffs and the Subclass that contradicted these representations; and
- d. Made incomplete representations regarding the improved or superior fuel economy of the Trucks, while purposefully withholding material facts from Plaintiffs and the Subclass that contradicted these representations.

406. The Defendants had a duty to disclose that the emissions system in the Trucks is defective, that the Trucks emitted far more pollutants than gasoline-powered vehicles, that the Trucks emit far more pollution than a reasonable consumer would expect in light of the Defendants' advertising campaign, that the

Trucks emitted unlawfully high levels of pollutants, including NOx, as described above, that the durability and longevity of the Trucks would suffer as a result of the Flash Defect, and that the fuel economy of the Trucks would drop precipitously following service at the dealerships, including service that was performed secretly and without Plaintiffs' knowledge, because Plaintiffs and the other Subclass members relied on the Defendants' material representations that the Trucks they were purchasing were reduced-emission vehicles, efficient, durable, and free from defects.

407. The Defendants' conduct proximately caused injuries to Plaintiffs and the other Subclass members.

408. Plaintiffs and the other Subclass members were injured and suffered ascertainable loss, injury-in-fact, and/or actual damage as a proximate result of the Defendants' conduct in that Plaintiffs and the other Subclass members overpaid for their Trucks and did not receive the benefit of their bargain, and their Trucks have suffered a diminution in value. They also were required to pay more for fuel than they reasonably anticipated based on the Defendants' material representations. These injuries are the direct and natural consequence of the Defendants' misrepresentations and omissions.

409. The Defendants' violations present a continuing risk to Plaintiffs as well as to the general public. The Defendants' unlawful acts and practices complained of herein affect the public interest.

410. The Defendants knew, should have known, or was reckless in not knowing of the defective design and/or manufacture of the Emissions system, and that the Trucks were not suitable for their intended use.

411. The facts concealed and omitted by the Defendants from Plaintiffs and the other Subclass members are material in that a reasonable consumer would have considered them to be important in deciding whether to purchase or lease the Trucks or pay a lower price. Had Plaintiffs and Subclass members been aware of the true emissions facts with regard to the Trucks, and the Defendants' disregard for the truth and compliance with applicable federal and state law and regulations, Plaintiffs and Subclass members who purchased or leased new or certified previously owned Trucks would have paid less for their Trucks or would not have purchased or leased them at all.

412. Plaintiffs' and the other Subclass members' injuries were proximately caused by the Defendants' unlawful and deceptive business practices.

413. In accordance with Cal. Civ. Code § 1780(a), Plaintiffs and the California Class seek injunctive relief for Defendants' violations of the CLRA.

417. Pursuant to Cal. Civ. Code § 1780(a), Plaintiffs and the California Class seek an order enjoining Defendants' unfair and/or deceptive acts or practices, and awarding damages, punitive damages, and any other just and proper relief available under the CLRA. Under Cal Civ. Code § 1780(b), Plaintiffs seek an additional award against Defendants of up to \$5,000 for each California Class member who qualifies as a "senior citizen" or a "disabled person" under the CLRA. Defendant knew or should have known that their conduct was directed to one or more California Class members who are senior citizens or disabled persons. Defendants' conduct caused one or more of these senior citizens or disabled persons to suffer a substantial loss of property set aside for retirement or for personal or family care and maintenance, or assets essential to the health or welfare of the senior citizen or disabled person. One or more California Class members who are senior citizens or disabled persons are substantially more vulnerable to Defendants' conduct because of age, poor health or infirmity, impaired understanding, restricted mobility, or disability, and each of them suffered substantial physical, emotional, or economic damage resulting from Defendants' conduct.

414. Plaintiffs have provided Defendants with notice of its violations of the CLRA. Because Defendants failed to remedy their unlawful conduct within the

requisite time period, Plaintiffs seek all damages and relief to which Plaintiffs and the California Class are entitled.

### **COUNT III**

#### **VIOLATIONS OF THE CALIFORNIA FALSE ADVERTISING LAW (CAL. BUS. & PROF. CODE § 17500 *ET SEQ.*)**

415. Plaintiffs incorporate by reference all paragraphs as though fully set forth herein.

416. This claim is brought on behalf of the California Subclass.

417. CAL. BUS. & PROF. CODE § 17500 states: “It is unlawful for any ... corporation ... with intent directly or indirectly to dispose of real or personal property ... to induce the public to enter into any obligation relating thereto, to make or disseminate or cause to be made or disseminated ... from this state before the public in any state, in any newspaper or other publication, or any advertising device, ... or in any other manner or means whatever, including over the Internet, any statement ... which is untrue or misleading, and which is known, or which by the exercise of reasonable care should be known, to be untrue or misleading.”

418. The Defendants caused to be made or disseminated through California and the United States, through advertising, marketing, and other publications, statements that were untrue or misleading, and which were known, or which by the exercise of reasonable care should have been known to the Defendants, to be

untrue and misleading to consumers, including Plaintiffs and the other Subclass members.

419. The Defendants have violated § 17500 because the misrepresentations and omissions regarding the functionality, reliability, environmental-friendliness, lawfulness, fuel efficiency, and safety of the Trucks as set forth in this Complaint were material and likely to deceive a reasonable consumer.

420. Plaintiffs and the other Subclass members have suffered an injury in fact, including the loss of money or property, as a result of the Defendants' unfair, unlawful, and/or deceptive practices. In purchasing or leasing their Trucks, Plaintiffs and the other Subclass members relied on the misrepresentations and/or omissions of the Defendants with respect to the functionality, reliability, environmental-friendliness, fuel efficiency, and lawfulness of the Trucks. The Trucks purchased or leased by Plaintiffs and the other Subclass members were, in fact, defective, emitting pollutants at a much higher rate than gasoline-powered vehicles and at a much higher rate than a reasonable consumer would expect in light of the Defendants' advertising campaign, non-EPA-compliant, and unreliable, and service would lead to a precipitous drop in fuel economy. Had Plaintiffs and the other Subclass members known this, they would not have purchased or leased their Trucks and/or paid as much for them. Accordingly, Plaintiffs and the other

Subclass members overpaid for their Trucks and did not receive the benefit of their bargain.

421. All of the wrongful conduct alleged herein occurred, and continues to occur, in the conduct of the Defendants' business. The Defendants' wrongful conduct is part of a pattern or generalized course of conduct that is still perpetuated and repeated, both in the State of California and nationwide.

422. Plaintiffs, individually and on behalf of the other Subclass members, request that this Court enter such orders or judgments as may be necessary to restore to Plaintiffs and the other Subclass members any money the Defendants acquired by unfair competition, including restitution and/or restitutionary disgorgement, and for such other relief as may be appropriate.

#### **COUNT IV**

#### **BREACH OF CONTRACT (BASED ON CALIFORNIA LAW)**

423. Plaintiffs incorporate by reference all paragraphs as though fully set forth herein.

424. Plaintiffs bring this Count on behalf of the California Subclass members.

425. The Defendants' misrepresentations and omissions alleged herein, including, but not limited to, the existence of the Washcoat Defect and the Flash Defect, that the Trucks emitted far more pollutants than gasoline-powered vehicles,

that the Trucks emit far more pollution than a reasonable consumer would expect in light of the Defendants' advertising campaign, that the Trucks emitted unlawfully high levels of pollutants, including NOx, as described above, that the durability and longevity of the Trucks would suffer as a result of the Flash Defect, and that the fuel economy of the Trucks would drop precipitously following service at the dealerships, including service that was performed secretly and without Plaintiffs' knowledge, caused Plaintiffs and the other Subclass members to make their purchases or leases of their Trucks. Absent those misrepresentations and omissions, Plaintiffs and the other Subclass members would not have purchased or leased these Trucks, would not have purchased or leased these Trucks at the prices they paid, and/or would have purchased or leased less expensive alternative vehicles that did not contain the defective Engine and which were not marketed as including such a system. Accordingly, Plaintiffs and the other Subclass members overpaid for their Trucks and did not receive the benefit of their bargain.

426. Each and every sale or lease of a Truck constitutes a contract between FCA and the purchaser or lessee. FCA breached these contracts by selling or leasing to Plaintiffs and the other Subclass members defective Trucks and by misrepresenting or failing to disclose that the emissions system reduction system is defective, that the Trucks emitted far more pollutants than gasoline-powered

vehicles, that the Trucks emit far more pollution than a reasonable consumer would expect in light of the Defendants' advertising campaign, that the Trucks emitted unlawfully high levels of pollutants, including NOx, as described above, and that the fuel economy of the Trucks would drop precipitously following service at the dealerships, including service that was performed secretly and without Plaintiffs' knowledge.

427. As a direct and proximate result of FCA's breach of contract, Plaintiffs and the Subclass have been damaged in an amount to be proven at trial, which shall include, but is not limited to, all compensatory damages, incidental and consequential damages, and other damages allowed by law.

428. As a direct and proximate result of FCA's breach of contract, Plaintiffs and the Subclass have been damaged in an amount to be proven at trial, which shall include, but is not limited to, all compensatory damages, incidental and consequential damages, and other damages allowed by law.

## **COUNT V**

### **FRAUDULENT CONCEALMENT (BASED ON CALIFORNIA LAW)**

429. Plaintiffs incorporate by reference all paragraphs as though fully set forth herein.

430. This claim is brought on behalf of the California Subclass.

431. The Defendants intentionally concealed that the emissions system in the Trucks is defective, that the Trucks emitted far more pollutants than gasoline-powered vehicles, that the Trucks emit far more pollution than a reasonable consumer would expect in light of the Defendants' advertising campaign, that the Trucks emitted unlawfully high levels of pollutants, including NO<sub>x</sub>, as described above, that the durability and longevity of the Trucks would suffer as a result of the Flash Defect, and that the fuel economy of the Trucks would drop precipitously following service at the dealerships, including service that was performed secretly and without Plaintiffs' knowledge, or the Defendants acted with reckless disregard for the truth and denied Plaintiffs and the other Subclass members information that is highly relevant to their purchasing decision.

432. The Defendants further affirmatively misrepresented to Plaintiffs and Subclass members in advertising and other forms of communication, including standard and uniform material provided with each car, that the Trucks they were selling had no significant defects, were clean and low-emission vehicles, complied with EPA regulations, were fuel-efficient, and would perform and operate properly when driven in normal usage.

433. The Defendants knew these representations were false when made.

434. The Trucks purchased or leased by Plaintiffs and the other Subclass members were, in fact, defective, emitting pollutants at a much higher rate than

gasoline-powered vehicles and at a much higher rate than a reasonable consumer would expect in light of the Defendants' advertising campaign, non-EPA-compliant, and unreliable, and service would lead to a precipitous drop in fuel economy.

435. The Defendants had a duty to disclose that the emissions system in the Trucks is defective, that the Trucks emitted far more pollutants than gasoline-powered vehicles, that the Trucks emit far more pollution than a reasonable consumer would expect in light of the Defendants' advertising campaign, that the Trucks emitted unlawfully high levels of pollutants, including NOx, as described above, that the durability and longevity of the Trucks would suffer as a result of the Flash Defect, and that the fuel economy of the Trucks would drop precipitously following service at the dealerships, including service that was performed secretly and without Plaintiffs' knowledge, because Plaintiffs and the other Subclass members relied on the Defendants' material representations that the Trucks they were purchasing were reduced-emission vehicles, efficient, and free from defects.

436. As alleged in this Complaint, at all relevant times, the Defendants have held out the Trucks to be reduced-emissions, EPA-compliant vehicles. The Defendants disclosed certain details about the diesel engine, but nonetheless, the Defendants intentionally failed to disclose important facts, including the existence of the Washcoat Defect and the Flash Defect, that the Emissions system in the

Trucks is defective, that the Trucks emitted far more pollutants than gasoline-powered vehicles, that the Trucks emit far more pollution than a reasonable consumer would expect in light of the Defendants' advertising campaign, that the Trucks emitted unlawfully high levels of pollutants, including NO<sub>x</sub>, as described above, and that the fuel economy of the Trucks would drop precipitously following service at the dealerships, including service that was performed secretly and without Plaintiffs' knowledge, and were non-compliant with EPA emissions requirements, making other disclosures about the emission system deceptive.

437. The truth about the defective emissions controls, the non-compliance with EPA emissions requirements, and the precipitous drop in performance of the Trucks was known only to the Defendants; Plaintiff and the Subclass members did not know of these facts and the Defendants actively concealed these facts from Plaintiff and Subclass members.

438. Plaintiffs and Subclass members reasonably relied upon the Defendants' deception. They had no way of knowing that the Defendants' representations were false and/or misleading. As consumers, the Plaintiffs and Subclass members did not, and could not, unravel the Defendants' deception on their own. Rather, the Defendants intended to deceive Plaintiffs and Subclass members by concealing the true facts about the Trucks' emissions and defects.

439. The Defendants also concealed and suppressed material facts concerning what is evidently the true culture of the Defendants—a culture characterized by an emphasis on profits and sales above compliance with federal and state clean air law and emissions regulations that are meant to protect the public and consumers. Defendants also emphasized profits and sales above the trust that Plaintiffs and Subclass members placed in their representations. Consumers buy diesel cars from the Defendants because they feel they are clean diesel cars. They do not want to be spewing noxious gases into the environment. And yet, that is precisely what the Trucks are doing.

440. The Defendants' false representations were material to consumers, because they concerned the quality of the Trucks, compliance with applicable federal and state law and regulations regarding clean air and emissions, anticipated fuel economy and costs for fuel, and also because the representations played a significant role in the value of the Trucks. As the Defendants well knew, their customers, including Plaintiffs and Subclass members, highly valued that the Trucks they were purchasing or leasing were fuel efficient, clean diesel cars with reduced emissions and increased longevity, and they paid accordingly.

441. The Defendants had a duty to disclose the Washcoat Defect and the Flash Defect because details of the true facts were known and/or accessible only to the Defendants, because the Defendants had exclusive knowledge as to such facts,

and because the Defendants knew these facts were not known to or reasonably discoverable by Plaintiffs or Subclass members. The Defendants also had a duty to disclose because they made general affirmative representations about the qualities of the Trucks with respect to emissions, including references to them as the lowest-emissions diesel cars and as compliant with all laws in each country, which were misleading, deceptive, and incomplete without the disclosure of the additional facts set forth above regarding the actual emissions of the Trucks, their actual philosophy with respect to compliance with federal and state clean air law and emissions regulations, and their actual practices with respect to the Trucks at issue. Having volunteered to provide information to Plaintiffs and Subclass members, the Defendants had the duty to disclose not just the partial truth, but the entire truth. These omitted and concealed facts were material because they directly impact the value of the Trucks purchased or leased by Plaintiffs and Subclass members. Whether a manufacturer's products pollute, comply with federal and state clean air law and emissions regulations, and whether that manufacturer tells the truth with respect to such compliance or non-compliance, are material concerns to a consumer, including with respect to the emissions certifications testing their Trucks must pass. The Defendants represented to Plaintiffs and Subclass members that they were purchasing or leasing reduced-emission diesel vehicles when, in

fact, they were purchasing or leasing defective, high-emission vehicles with unlawfully high emissions.

442. The Defendants actively concealed and/or suppressed these material facts, in whole or in part, to pad and protect their profits and to avoid the perception that their Trucks were not clean diesel vehicles and did not or could not comply with federal and state laws governing clean air and emissions, which perception would hurt the brand's image and cost the Defendants money, and they did so at the expense of Plaintiffs and Subclass members.

443. The Defendants still have not made full and adequate disclosures, and they continue to defraud Plaintiffs and Subclass members by concealing material information regarding the emissions qualities of the Trucks.

444. Plaintiffs and Subclass members were unaware of the omitted material facts referenced herein, and they would not have acted as they did if they had known of the concealed and/or suppressed facts, in that they would not have purchased purportedly reduced-emissions diesel cars manufactured by the Defendants, and/or would not have continued to drive their heavily polluting Trucks, or would have taken other affirmative steps in light of the information concealed from them. Plaintiff's and Subclass members' actions were justified. The Defendants were in exclusive control of the material facts, and such facts were not generally known to the public, Plaintiffs, or Subclass members.

445. Because of the concealment and/or suppression of the facts, Plaintiffs and Subclass members have sustained damage because they own Trucks that are diminished in value as a result of the Defendants' concealment of the true quality and quantity of those Trucks' emissions and the Defendants' failure to timely disclose the defect or defective design of the diesel engine system, the actual emissions qualities and quantities of the Defendants' Trucks, and the serious issues engendered by the Defendants' corporate policies. Had Plaintiffs and Subclass members been aware of the true emissions facts with regard to the Trucks, and the Defendants' disregard for the truth and compliance with applicable federal and state law and regulations, Plaintiffs and Subclass members who purchased or leased new or certified previously owned Trucks would have paid less for their Trucks or would not have purchased or leased them at all.

446. The value of Plaintiff's and Subclass members' Trucks has diminished as a result of the Defendants' fraudulent concealment of the defective emissions controls of the Trucks, the unlawfully high emissions of the Trucks, and the non-compliance with EPA emissions requirements, all of which has greatly tarnished the Defendants' brand name attached to Plaintiffs' and Subclass members' Trucks and made any reasonable consumer reluctant to purchase any of the Trucks, let alone pay what otherwise would have been fair market value for the Trucks.

447. Accordingly, the Defendants are liable to Plaintiffs and Subclass members for damages in an amount to be proven at trial.

448. The Defendants' acts were done wantonly, maliciously, oppressively, deliberately, with intent to defraud, and in reckless disregard of Plaintiffs' and Subclass members' rights and the representations that the Defendants made to them, in order to enrich the Defendants. The Defendants' conduct warrants an assessment of punitive damages in an amount sufficient to deter such conduct in the future, which amount is to be determined according to proof.

## **COUNT VI**

### **UNJUST ENRICHMENT**

449. Plaintiffs incorporate by reference all preceding allegations as though fully set forth herein.

450. Plaintiffs bring this Count on behalf of himself and the California Subclass.

451. FCA and Cummins have received and retained a benefit from Plaintiffs and inequity has resulted.

452. FCA and Cummins have benefitted from selling and leasing defective cars at a profit whose value was artificially inflated by FCA and Cummins's concealment of the Washcoat Defect and the Flash Defect, and Plaintiffs and the Class have overpaid for the cars and been forced to pay other costs.

453. Thus, all California Subclass members conferred a benefit on FCA and Cummins.

454. Plaintiffs and the Class were not aware of the true facts about the Class Trucks, and did not benefit from FCA and Cummins's conduct.

455. FCA and Cummins knowingly accepted the benefits of their unjust conduct.

456. As a result of FCA and Cummins's conduct, the amount of their unjust enrichment should be disgorged as to each defendant, in an amount according to proof.

**E. Claims Brought on Behalf of the Colorado Subclass**

**COUNT I**

**VIOLATIONS OF THE COLORADO CONSUMER PROTECTION ACT  
(COLO. REV. STAT. § 6-1-101 *ET SEQ.*)**

457. Plaintiff Justin Sylva ("Plaintiff" for purposes of all Colorado subclass claims) incorporates by reference all paragraphs as though fully set forth herein.

458. Plaintiff brings this Count on behalf of the Colorado Subclass.

459. Colorado's Consumer Protection Act (the "Colorado CPA") prohibits a person from engaging in a "deceptive trade practice," which includes knowingly making "a false representation as to the source, sponsorship, approval, or certification of goods," or "a false representation as to the characteristics, ingredients, uses, benefits, alterations, or quantities of goods." COLO. REV. STAT.

§ 6-1-105(1)(b), (e). The Colorado CPA further prohibits “represent[ing] that goods ... are of a particular standard, quality, or grade ... if he knows or should know that they are of another,” and “advertis[ing] goods ... with intent not to sell them as advertised.” COLO. REV. STAT. § 6-1-105(1)(g), (i).

460. Each Defendant is a “person” under § 6-1-102(6) of the Colorado CPA, COLO. REV. STAT. § 6-1-101 *et seq.*

461. Plaintiff and Colorado Subclass members are “consumers” for the purpose of COLO. REV. STAT. § 6-1-113(1)(a) who purchased or leased one or more Trucks.

462. In the course of the Defendants’ business, they willfully failed to disclose and actively concealed that the emissions system in the Trucks is defective, that the Trucks emitted far more pollutants than gasoline-powered vehicles, that the Trucks emit far more pollution than a reasonable consumer would expect in light of the Defendants’ advertising campaign, and that the Trucks emitted unlawfully high levels of pollutants, including NO<sub>x</sub>, as described above. Defendants further willfully failed to disclose and actively concealed that the fuel economy of the Trucks would drop precipitously following service at the dealerships, including service that was performed secretly and without Plaintiff’s knowledge. Accordingly, the Defendants engaged in unfair methods of competition, unconscionable acts or practices, and unfair or deceptive acts or

practices, including representing that the Trucks have characteristics, uses, benefits, and qualities which they do not have; representing that the Trucks are of a particular standard and quality when they are not; failing to reveal a material fact, the omission of which tends to mislead or deceive the consumer, and which fact could not reasonably be known by the consumer; making a representation of fact or statement of fact material to the transaction such that a person reasonably believes the represented or suggested state of affairs to be other than it actually is; and failing to reveal facts that are material to the transaction in light of representations of fact made in a positive manner.

463. In purchasing or leasing the Trucks, Plaintiff and the other Subclass members were deceived by the Defendants' failure to disclose that the emissions system in the Trucks is defective, that the Trucks emitted far more pollutants than gasoline-powered vehicles, that the Trucks emit far more pollution than a reasonable consumer would expect in light of the Defendants' advertising campaign, that the Trucks emitted unlawfully high levels of pollutants, including NO<sub>x</sub>, as described above, that the durability and longevity of the Trucks would suffer as a result of the Flash Defect, and that the fuel economy of the Trucks would drop precipitously following service at the dealerships, including service that was performed secretly and without Plaintiff's knowledge.

464. Plaintiff and Subclass members reasonably relied upon the Defendants' false misrepresentations. They had no way of knowing that the Defendants' representations were false and gravely misleading. As alleged herein, the Defendants engaged in extremely sophisticated methods of deception. Plaintiff and Subclass members did not, and could not, unravel Defendants' deception on their own.

465. The Defendants' actions as set forth above occurred in the conduct of trade or commerce.

466. The Defendants' unfair or deceptive acts or practices were likely to and did in fact deceive reasonable consumers.

467. The Defendants intentionally and knowingly misrepresented material facts regarding the Trucks with an intent to mislead Plaintiff and the Subclass.

468. The Defendants knew or should have known that their conduct violated the Colorado CPA.

469. The Defendants owed Plaintiff and the Subclass a duty to disclose the truth about their emissions systems manipulation because the Defendants:

- a. Possessed exclusive knowledge regarding the Washcoat Defect, and intentionally concealed the foregoing from Plaintiff and the Subclass;
- b. Possessed exclusive knowledge regarding the Flash Defect, and intentionally concealed the foregoing from Plaintiff and the Subclass;

c. Made incomplete representations regarding compliance with emissions standards, while purposefully withholding material facts from Plaintiff and the Subclass that contradicted these representations; and

d. Made incomplete representations regarding the improved or superior fuel economy of the Trucks, while purposefully withholding material facts from Plaintiff and the Subclass that contradicted these representations.

470. The Defendants had a duty to disclose that the emissions system in the Trucks is defective, that the Trucks emitted far more pollutants than gasoline-powered vehicles, that the Trucks emit far more pollution than a reasonable consumer would expect in light of the Defendants' advertising campaign, that the Trucks emitted unlawfully high levels of pollutants, including NO<sub>x</sub>, as described above, that the durability and longevity of the Trucks would suffer as a result of the Flash Defect, and that the fuel economy of the Trucks would drop precipitously following service at the dealerships, including service that was performed secretly and without Plaintiff's knowledge, because Plaintiff and the other Subclass members relied on the Defendants' material representations that the Trucks they were purchasing were reduced-emission vehicles, efficient, durable, and free from defects.

471. The Defendants' conduct proximately caused injuries to Plaintiff and the other Subclass members.

472. Plaintiff and the other Subclass members were injured and suffered ascertainable loss, injury-in-fact, and/or actual damage as a proximate result of the Defendants' conduct in that Plaintiff and the other Subclass members overpaid for their Trucks and did not receive the benefit of their bargain, and their Trucks have suffered a diminution in value. These injuries are the direct and natural consequence of the Defendants' misrepresentations and omissions.

473. The Defendants' violations present a continuing risk to Plaintiff as well as to the general public. The Defendants' unlawful acts and practices complained of herein affect the public interest.

474. Pursuant to COLO. REV. STAT. § 6-1-113, Plaintiffs and the Subclass seek monetary relief against Defendants measured as the greater of (a) actual damages in an amount to be determined at trial and the discretionary trebling of such damages, or (b) statutory damages in the amount of \$500 for each Plaintiff and Subclass member.

475. Plaintiffs and the Subclass also seek declaratory relief, attorneys' fees, and any other just and proper relief available under the Colorado CPA.

## **COUNT II**

### **BREACH OF CONTRACT (BASED ON COLORADO LAW)**

476. Plaintiff incorporates by reference all preceding allegations as though fully set forth herein.

477. Plaintiff brings this Count on behalf of the Colorado Subclass.

478. The Defendants' misrepresentations and omissions alleged herein, including, but not limited to, the existence of the Washcoat Defect and the Flash Defect, that the Trucks emitted far more pollutants than gasoline-powered vehicles, that the Trucks emit far more pollution than a reasonable consumer would expect in light of the Defendants' advertising campaign, that the Trucks emitted unlawfully high levels of pollutants, including NO<sub>x</sub>, as described above, that the durability and longevity of the Trucks would suffer as a result of the Flash Defect, and that the fuel economy of the Trucks would drop precipitously following service at the dealerships, including service that was performed secretly and without Plaintiff's knowledge, caused Plaintiff and the other Subclass members to make their purchases or leases of their Trucks. Absent those misrepresentations and omissions, Plaintiff and the other Subclass members would not have purchased or leased these Trucks, would not have purchased or leased these Trucks at the prices they paid, and/or would have purchased or leased less expensive alternative vehicles that did not contain the defective Engine and which were not marketed as including such a system. Accordingly, Plaintiff and the other Subclass members overpaid for their Trucks and did not receive the benefit of their bargain.

479. Each and every sale or lease of a Truck constitutes a contract between FCA and the purchaser or lessee. FCA breached these contracts by selling or

leasing to Plaintiff and the other Subclass members defective Trucks and by misrepresenting or failing to disclose that the Emissions system is defective, that the Trucks emitted far more pollutants than gasoline-powered vehicles, that the Trucks emit far more pollution than a reasonable consumer would expect in light of the Defendants' advertising campaign, that the Trucks emitted unlawfully high levels of pollutants, including NOx, as described above, and that the fuel economy of the Trucks would drop precipitously following service at the dealerships, including service that was performed secretly and without Plaintiffs' knowledge.

480. As a direct and proximate result of FCA's breach of contract, Plaintiff and the Subclass have been damaged in an amount to be proven at trial, which shall include, but is not limited to, all compensatory damages, incidental and consequential damages, and other damages allowed by law.

### **COUNT III**

#### **FRAUDULENT CONCEALMENT (BASED ON COLORADO LAW)**

481. Plaintiff incorporates by reference all paragraphs as though fully set forth herein.

482. Plaintiff brings this Count on behalf of the Colorado Subclass.

483. The Defendants intentionally concealed that the emissions system in the Trucks is defective, that the Trucks emitted far more pollutants than gasoline-powered vehicles, that the Trucks emit far more pollution than a reasonable

consumer would expect in light of the Defendants' advertising campaign, that the Trucks emitted unlawfully high levels of pollutants, including NOx, as described above, that the durability and longevity of the Trucks would suffer as a result of the Flash Defect, and that the fuel economy of the Trucks would drop precipitously following service at the dealerships, including service that was performed secretly and without Plaintiff's knowledge, or the Defendants acted with reckless disregard for the truth and denied Plaintiff and the other Subclass members information that is highly relevant to their purchasing decision.

484. The Defendants further affirmatively misrepresented to Plaintiff and Subclass members in advertising and other forms of communication, including standard and uniform material provided with each car, that the Trucks they were selling had no significant defects, were clean and low-emission vehicles, complied with EPA regulations, were fuel-efficient, and would perform and operate properly when driven in normal usage.

485. The Defendants knew these representations were false when made.

486. The Trucks purchased or leased by Plaintiff and the other Subclass members were, in fact, defective, emitting pollutants at a much higher rate than gasoline-powered vehicles and at a much higher rate than a reasonable consumer would expect in light of the Defendants' advertising campaign, non-EPA-

compliant, and unreliable, and service would lead to a precipitous drop in fuel economy.

487. The Defendants had a duty to disclose that the emissions system in the Trucks is defective, that the Trucks emitted far more pollutants than gasoline-powered vehicles, that the Trucks emit far more pollution than a reasonable consumer would expect in light of the Defendants' advertising campaign, that the Trucks emitted unlawfully high levels of pollutants, including NO<sub>x</sub>, as described above, that the durability and longevity of the Trucks would suffer as a result of the Flash Defect, and that the fuel economy of the Trucks would drop precipitously following service at the dealerships, including service that was performed secretly and without Plaintiff's knowledge, because Plaintiff and the other Subclass members relied on the Defendants' material representations that the Trucks they were purchasing were reduced-emission vehicles, efficient, and free from defects.

488. As alleged in this Complaint, at all relevant times, the Defendants have held out the Trucks to be reduced-emissions, EPA-compliant vehicles. The Defendants disclosed certain details about the diesel engine, but nonetheless, the Defendants intentionally failed to disclose important facts, including the existence of the Washcoat Defect and the Flash Defect, that the emissions system in the Trucks is defective, that the Trucks emitted far more pollutants than gasoline-powered vehicles, that the Trucks emit far more pollution than a reasonable

consumer would expect in light of the Defendants' advertising campaign, that the Trucks emitted unlawfully high levels of pollutants, including NO<sub>x</sub>, as described above, that the durability and longevity of the Trucks would suffer as a result of the Flash Defect, and that the fuel economy of the Trucks would drop precipitously following service at the dealerships, including service that was performed secretly and without Plaintiff's knowledge, and were non-compliant with EPA emissions requirements, making other disclosures about the emission system deceptive.

489. The truth about the defective emissions controls, the non-compliance with EPA emissions requirements, and the precipitous drop in performance of the Trucks was known only to the Defendants; Plaintiff and the Subclass members did not know of these facts and the Defendants actively concealed these facts from Plaintiff and Subclass members.

490. Plaintiff and Subclass members reasonably relied upon the Defendants' deception. They had no way of knowing that the Defendants' representations were false and/or misleading. As consumers, the Plaintiff and Subclass members did not, and could not, unravel the Defendants' deception on their own. Rather, the Defendants intended to deceive Plaintiff and Subclass members by concealing the true facts about the Trucks' emissions and defects.

491. The Defendants also concealed and suppressed material facts concerning what is evidently the true culture of the Defendants—a culture

characterized by an emphasis on profits and sales above compliance with federal and state clean air law and emissions regulations that are meant to protect the public and consumers. Defendants also emphasized profits and sales above the trust that Plaintiff and Subclass members placed in their representations.

Consumers buy diesel cars from the Defendants because they feel they are clean diesel cars. They do not want to be spewing noxious gases into the environment. And yet, that is precisely what the Trucks are doing.

492. The Defendants' false representations were material to consumers, because they concerned the quality of the Trucks, compliance with applicable federal and state law and regulations regarding clean air and emissions, anticipated fuel economy and costs for fuel, and also because the representations played a significant role in the value of the Trucks. As the Defendants well knew, their customers, including Plaintiff and Subclass members, highly valued that the Trucks they were purchasing or leasing were fuel efficient, clean diesel cars with reduced emissions and increased longevity, and they paid accordingly.

493. The Defendants had a duty to disclose the Washcoat Defect and the Flash Defect because details of the true facts were known and/or accessible only to the Defendants, because the Defendants had exclusive knowledge as to such facts, and because the Defendants knew these facts were not known to or reasonably discoverable by Plaintiff or Subclass members. The Defendants also had a duty to

disclose because they made general affirmative representations about the qualities of the Trucks with respect to emissions, including references to them as the lowest-emissions diesel cars and as compliant with all laws in each country, which were misleading, deceptive, and incomplete without the disclosure of the additional facts set forth above regarding the actual emissions of the Trucks, their actual philosophy with respect to compliance with federal and state clean air law and emissions regulations, and their actual practices with respect to the Trucks at issue. Having volunteered to provide information to Plaintiff and Subclass members, the Defendants had the duty to disclose not just the partial truth, but the entire truth. These omitted and concealed facts were material because they directly impact the value of the Trucks purchased or leased by Plaintiff and Subclass members. Whether a manufacturer's products pollute, comply with federal and state clean air law and emissions regulations, and whether that manufacturer tells the truth with respect to such compliance or non-compliance, are material concerns to a consumer, including with respect to the emissions certifications testing their Trucks must pass. The Defendants represented to Plaintiff and Subclass members that they were purchasing or leasing reduced-emission diesel vehicles when, in fact, they were purchasing or leasing defective, high-emission vehicles with unlawfully high emissions.

494. The Defendants actively concealed and/or suppressed these material facts, in whole or in part, to pad and protect their profits and to avoid the perception that their Trucks were not clean diesel vehicles and did not or could not comply with federal and state laws governing clean air and emissions, which perception would hurt the brand's image and cost the Defendants money, and they did so at the expense of Plaintiff and Subclass members.

495. The Defendants still have not made full and adequate disclosures, and they continue to defraud Plaintiff and Subclass members by concealing material information regarding the emissions qualities of the Trucks.

496. Plaintiff and Subclass members were unaware of the omitted material facts referenced herein, and they would not have acted as they did if they had known of the concealed and/or suppressed facts, in that they would not have purchased purportedly reduced-emissions diesel cars manufactured by the Defendants, and/or would not have continued to drive their heavily polluting Trucks, or would have taken other affirmative steps in light of the information concealed from them. Plaintiff's and Subclass members' actions were justified. The Defendants were in exclusive control of the material facts, and such facts were not generally known to the public, Plaintiff, or Subclass members.

497. Because of the concealment and/or suppression of the facts, Plaintiff and Subclass members have sustained damage because they own Trucks that are

diminished in value as a result of the Defendants' concealment of the true quality and quantity of those Trucks' emissions and the Defendants' failure to timely disclose the defect or defective design of the diesel engine system, the actual emissions qualities and quantities of the Defendants' Trucks, and the serious issues engendered by the Defendants' corporate policies. Had Plaintiff and Subclass members been aware of the true emissions facts with regard to the Trucks, and the Defendants' disregard for the truth and compliance with applicable federal and state law and regulations, Plaintiff and Subclass members who purchased or leased new or certified previously owned Trucks would have paid less for their Trucks or would not have purchased or leased them at all.

498. The value of Plaintiff's and Subclass members' Trucks has diminished as a result of the Defendants' fraudulent concealment of the defective emissions controls of the Trucks, the unlawfully high emissions of the Trucks, and the non-compliance with EPA emissions requirements, all of which has greatly tarnished the Defendants' brand name attached to Plaintiff's and Subclass members' Trucks and made any reasonable consumer reluctant to purchase any of the Trucks, let alone pay what otherwise would have been fair market value for the Trucks.

499. Accordingly, the Defendants are liable to Plaintiff and Subclass members for damages in an amount to be proven at trial.

500. The Defendants' acts were done wantonly, maliciously, oppressively, deliberately, with intent to defraud, and in reckless disregard of Plaintiff's and Subclass members' rights and the representations that the Defendants made to them, in order to enrich the Defendants. The Defendants' conduct warrants an assessment of punitive damages in an amount sufficient to deter such conduct in the future, which amount is to be determined according to proof.

#### **COUNT IV**

#### **UNJUST ENRICHMENT**

501. Plaintiff incorporates by reference all preceding allegations as though fully set forth herein.

502. Plaintiff brings this Count on behalf of himself and the Colorado Subclass.

503. FCA and Cummins have received and retained a benefit from Plaintiff and inequity has resulted.

504. FCA and Cummins have benefitted from selling and leasing defective cars at a profit whose value was artificially inflated by FCA and Cummins's concealment of the Washcoat Defect and the Flash Defect, and Plaintiff and the Class have overpaid for the cars and been forced to pay other costs.

505. Thus, all Colorado Subclass members conferred a benefit on FCA and Cummins.

506. Plaintiff and the Class were not aware of the true facts about the Class Trucks, and did not benefit from FCA and Cummins's conduct.

507. FCA and Cummins knowingly accepted the benefits of their unjust conduct.

508. As a result of FCA and Cummins's conduct, the amount of their unjust enrichment should be disgorged as to each defendant, in an amount according to proof.

**F. Claims Brought on Behalf of the Florida Subclass**

**COUNT I**

**VIOLATIONS OF THE FLORIDA UNFAIR AND DECEPTIVE TRADE  
PRACTICES ACT  
(FLA. STAT. § 501.201 *ET SEQ.*)**

509. Plaintiffs Brendon Goldstein and Manuel Pena ("Plaintiffs" for purposes of all Florida subclass claims) incorporate by reference all preceding allegations as though fully set forth herein.

510. Plaintiffs bring this Count on behalf of the Florida Subclass.

511. Plaintiffs and the Subclass are "consumers" within the meaning of the Florida Unfair and Deceptive Trade Practices Act ("Florida UDTPA"), Fla. Stat. § 501.203(7).

512. Defendants engaged in "trade or commerce" within the meaning of Fla. Stat. § 501.203(8).

513. Florida's Deceptive and Unfair Trade Practices Act prohibits "[u]nfair methods of competition, unconscionable acts or practices, and unfair or deceptive acts or practices in the conduct of any trade or commerce." Fla. Stat. § 501.204(1). Defendants participated in unfair and deceptive trade practices that violated the Florida UDTPA as described herein. In the course of the Defendants' business, they willfully failed to disclose and actively concealed that the emissions system in the Trucks is defective, that the Trucks emitted far more pollutants than gasoline-powered vehicles, that the Trucks emit far more pollution than a reasonable consumer would expect in light of the Defendants' advertising campaign, and that the Trucks emitted unlawfully high levels of pollutants, including NO<sub>x</sub>, as described above. Defendants further willfully failed to disclose and actively concealed that the fuel economy of the Trucks would drop precipitously following service at the dealerships, including service that was performed secretly and without Plaintiffs' knowledge. Accordingly, the Defendants engaged in unfair methods of competition, unconscionable acts or practices, and unfair or deceptive acts or practices, including representing that Trucks have characteristics, uses, benefits, and qualities which they do not have; representing that Trucks are of a particular standard and quality when they are not; failing to reveal a material fact, the omission of which tends to mislead or deceive the consumer, and which fact could not reasonably be known by the consumer; making a representation of fact or

statement of fact material to the transaction such that a person reasonably believes the represented or suggested state of affairs to be other than it actually is; and failing to reveal facts that are material to the transaction in light of representations of fact made in a positive manner.

514. In purchasing or leasing the Trucks, Plaintiffs and the other Subclass members were deceived by the Defendants' failure to disclose that the emissions system in the Trucks is defective, that the Trucks emitted far more pollutants than gasoline-powered vehicles, that the Trucks emit far more pollution than a reasonable consumer would expect in light of the Defendants' advertising campaign, that the Trucks emitted unlawfully high levels of pollutants, including NO<sub>x</sub>, as described above, that the durability and longevity of the Trucks would suffer as a result of the Flash Defect, and that the fuel economy of the Trucks would drop precipitously following service at the dealerships, including service that was performed secretly and without Plaintiffs' knowledge.

515. Plaintiffs and Subclass members reasonably relied upon the Defendants' false misrepresentations. They had no way of knowing that the Defendants' representations were false and gravely misleading. As alleged herein, the Defendants engaged in extremely sophisticated methods of deception. Plaintiffs and Subclass members did not, and could not, unravel Defendants' deception on their own.

516. The Defendants' actions as set forth above occurred in the conduct of trade or commerce.

517. The Defendants' unfair or deceptive acts or practices were likely to and did in fact deceive reasonable consumers.

518. The Defendants intentionally and knowingly misrepresented material facts regarding the Trucks with an intent to mislead Plaintiffs and the Subclass.

519. The Defendants knew or should have known that their conduct violated the Florida UDTPA.

520. The Defendants owed Plaintiffs and the Subclass a duty to disclose the truth about their emissions systems manipulation because the Defendants:

- a. Possessed exclusive knowledge regarding the Washcoat Defect, and intentionally concealed the foregoing from Plaintiff and the Subclass;
- b. Possessed exclusive knowledge regarding the Flash Defect, and intentionally concealed the foregoing from Plaintiff and the Subclass;
- c. Made incomplete representations regarding compliance with emissions standards, while purposefully withholding material facts from Plaintiffs and the Subclass that contradicted these representations; and
- d. Made incomplete representations regarding the improved or superior fuel economy of the Trucks, while purposefully withholding material facts from Plaintiff and the Subclass that contradicted these representations.

521. The Defendants had a duty to disclose that the emissions system in the Trucks is defective, that the Trucks emitted far more pollutants than gasoline-powered vehicles, that the Trucks emit far more pollution than a reasonable consumer would expect in light of the Defendants' advertising campaign, that the Trucks emitted unlawfully high levels of pollutants, including NOx, as described above, that the durability and longevity of the Trucks would suffer as a result of the Flash Defect, and that the fuel economy of the Trucks would drop precipitously following service at the dealerships, including service that was performed secretly and without Plaintiffs' knowledge, because Plaintiffs and the other Subclass members relied on the Defendants' material representations that the Trucks they were purchasing were reduced-emission vehicles, efficient, durable, and free from defects.

522. The Defendants' conduct proximately caused injuries to Plaintiffs and the other Subclass members.

523. Plaintiffs and the other Subclass members were injured and suffered ascertainable loss, injury-in-fact, and/or actual damage as a proximate result of the Defendants' conduct in that Plaintiffs and the other Subclass members overpaid for their Trucks and did not receive the benefit of their bargain, and their Trucks have suffered a diminution in value. These injuries are the direct and natural consequence of the Defendants' misrepresentations and omissions.

524. The Defendants' violations present a continuing risk to Plaintiffs as well as to the general public. The Defendants' unlawful acts and practices complained of herein affect the public interest.

525. Accordingly, the Defendants are liable to Plaintiffs and Subclass members for damages in an amount to be proven at trial.

## **COUNT II**

### **BREACH OF CONTRACT (BASED ON FLORIDA LAW)**

526. Plaintiffs incorporate by reference all preceding allegations as though fully set forth herein.

527. Plaintiffs bring this Count on behalf of the Florida Subclass members.

528. The Defendants' misrepresentations and omissions alleged herein, including, but not limited to, the existence of the Washcoat Defect and the Flash Defect, that the Trucks emitted far more pollutants than gasoline-powered vehicles, that the Trucks emit far more pollution than a reasonable consumer would expect in light of the Defendants' advertising campaign, that the Trucks emitted unlawfully high levels of pollutants, including NOx, as described above, that the durability and longevity of the Trucks would suffer as a result of the Flash Defect, and that the fuel economy of the Trucks would drop precipitously following service at the dealerships, including service that was performed secretly and without Plaintiffs' knowledge, caused Plaintiffs and the other Subclass members to

make their purchases or leases of their Trucks. Absent those misrepresentations and omissions, Plaintiffs and the other Subclass members would not have purchased or leased these Trucks, would not have purchased or leased these Trucks at the prices they paid, and/or would have purchased or leased less expensive alternative vehicles that did not contain the defective Engine and which were not marketed as including such a system. Accordingly, Plaintiffs and the other Subclass members overpaid for their Trucks and did not receive the benefit of their bargain.

529. Each and every sale or lease of a Truck constitutes a contract between FCA and the purchaser or lessee. FCA breached these contracts by selling or leasing to Plaintiffs and the other Subclass members defective Trucks and by misrepresenting or failing to disclose that the Emissions system is defective, that the Trucks emitted far more pollutants than gasoline-powered vehicles, that the Trucks emit far more pollution than a reasonable consumer would expect in light of the Defendants' advertising campaign, that the Trucks emitted unlawfully high levels of pollutants, including NO<sub>x</sub>, as described above, and that the fuel economy of the Trucks would drop precipitously following service at the dealerships, including service that was performed secretly and without Plaintiffs' knowledge.

530. As a direct and proximate result of FCA's breach of contract, Plaintiffs and the Subclass have been damaged in an amount to be proven at trial,

which shall include, but is not limited to, all compensatory damages, incidental and consequential damages, and other damages allowed by law.

### **COUNT III**

#### **FRAUDULENT CONCEALMENT (BASED ON FLORIDA LAW)**

531. Plaintiffs incorporate by reference all preceding allegations as though fully set forth herein.

532. Plaintiffs bring this Count on behalf of the Florida Subclass.

533. The Defendants intentionally concealed that the emissions system in the Trucks is defective, that the Trucks emitted far more pollutants than gasoline-powered vehicles, that the Trucks emit far more pollution than a reasonable consumer would expect in light of the Defendants' advertising campaign, that the Trucks emitted unlawfully high levels of pollutants, including NOx, as described above, that the durability and longevity of the Trucks would suffer as a result of the Flash Defect, and that the fuel economy of the Trucks would drop precipitously following service at the dealerships, including service that was performed secretly and without Plaintiffs' knowledge, or the Defendants acted with reckless disregard for the truth and denied Plaintiffs and the other Subclass members information that is highly relevant to their purchasing decision.

534. The Defendants further affirmatively misrepresented to Plaintiffs and Subclass members in advertising and other forms of communication, including

standard and uniform material provided with each car, that the Trucks they were selling had no significant defects, were clean and low-emission vehicles, complied with EPA regulations, were fuel-efficient, and would perform and operate properly when driven in normal usage.

535. The Defendants knew these representations were false when made.

536. The Trucks purchased or leased by Plaintiffs and the other Subclass members were, in fact, defective, emitting pollutants at a much higher rate than gasoline-powered vehicles and at a much higher rate than a reasonable consumer would expect in light of the Defendants' advertising campaign, non-EPA-compliant, and unreliable, and service would lead to a precipitous drop in fuel economy.

537. The Defendants had a duty to disclose that the emissions system in the Trucks is defective, that the Trucks emitted far more pollutants than gasoline-powered vehicles, that the Trucks emit far more pollution than a reasonable consumer would expect in light of the Defendants' advertising campaign, that the Trucks emitted unlawfully high levels of pollutants, including NO<sub>x</sub>, as described above, that the durability and longevity of the Trucks would suffer as a result of the Flash Defect, and that the fuel economy of the Trucks would drop precipitously following service at the dealerships, including service that was performed secretly and without Plaintiffs' knowledge, because Plaintiffs and the other Subclass

members relied on the Defendants' material representations that the Trucks they were purchasing were reduced-emission vehicles, efficient, and free from defects.

538. As alleged in this Complaint, at all relevant times, the Defendants have held out the Trucks to be reduced-emissions, EPA-compliant vehicles. The Defendants disclosed certain details about the diesel engine, but nonetheless, the Defendants intentionally failed to disclose important facts, including the existence of the Washcoat Defect and the Flash Defect, that the emissions system in the Trucks is defective, that the Trucks emitted far more pollutants than gasoline-powered vehicles, that the Trucks emit far more pollution than a reasonable consumer would expect in light of the Defendants' advertising campaign, that the Trucks emitted unlawfully high levels of pollutants, including NO<sub>x</sub>, as described above, that the durability and longevity of the Trucks would suffer as a result of the Flash Defect, and that the fuel economy of the Trucks would drop precipitously following service at the dealerships, including service that was performed secretly and without Plaintiffs' knowledge, and were non-compliant with EPA emissions requirements, making other disclosures about the emission system deceptive.

539. The truth about the defective emissions controls, the non-compliance with EPA emissions requirements, and the precipitous drop in performance of the Trucks was known only to the Defendants; Plaintiffs and the Subclass members

did not know of these facts, and the Defendants actively concealed these facts from Plaintiffs and Subclass members.

540. Plaintiffs and Subclass members reasonably relied upon the Defendants' deception. They had no way of knowing that the Defendants' representations were false and/or misleading. As consumers, the Plaintiffs and Subclass members did not, and could not, unravel the Defendants' deception on their own. Rather, the Defendants intended to deceive Plaintiffs and Subclass members by concealing the true facts about the Trucks' emissions and defects.

541. The Defendants also concealed and suppressed material facts concerning what is evidently the true culture of the Defendants—a culture characterized by an emphasis on profits and sales above compliance with federal and state clean air law and emissions regulations that are meant to protect the public and consumers. Defendants also emphasized profits and sales above the trust that Plaintiffs and Subclass members placed in their representations. Consumers buy diesel cars from the Defendants because they feel they are clean diesel cars. They do not want to be spewing noxious gases into the environment. And yet, that is precisely what the Trucks are doing.

542. The Defendants' false representations were material to consumers, because they concerned the quality of the Trucks, compliance with applicable federal and state law and regulations regarding clean air and emissions, anticipated

fuel economy and costs for fuel, and also because the representations played a significant role in the value of the Trucks. As the Defendants well knew, their customers, including Plaintiffs and Subclass members, highly valued that the Trucks they were purchasing or leasing were fuel efficient, clean diesel cars with reduced emissions and increased longevity, and they paid accordingly.

543. The Defendants had a duty to disclose the Washcoat Defect and the Flash Defect because details of the true facts were known and/or accessible only to the Defendants, because the Defendants had exclusive knowledge as to such facts, and because the Defendants knew these facts were not known to or reasonably discoverable by Plaintiffs or Subclass members. The Defendants also had a duty to disclose because they made general affirmative representations about the qualities of the Trucks with respect to emissions, including references to them as the lowest-emissions diesel cars and as compliant with all laws in each country, which were misleading, deceptive, and incomplete without the disclosure of the additional facts set forth above regarding the actual emissions of the Trucks, their actual philosophy with respect to compliance with federal and state clean air law and emissions regulations, and their actual practices with respect to the Trucks at issue. Having volunteered to provide information to Plaintiffs and Subclass members, the Defendants had the duty to disclose not just the partial truth, but the entire truth. These omitted and concealed facts were material because they directly impact the

value of the Trucks purchased or leased by Plaintiffs and Subclass members.

Whether a manufacturer's products pollute, comply with federal and state clean air law and emissions regulations, and whether that manufacturer tells the truth with respect to such compliance or non-compliance, are material concerns to a consumer, including with respect to the emissions certifications testing their Trucks must pass. The Defendants represented to Plaintiffs and Subclass members that they were purchasing or leasing reduced-emission diesel vehicles when, in fact, they were purchasing or leasing defective, high-emission vehicles with unlawfully high emissions.

544. The Defendants actively concealed and/or suppressed these material facts, in whole or in part, to pad and protect their profits and to avoid the perception that their Trucks were not clean diesel vehicles and did not or could not comply with federal and state laws governing clean air and emissions, which perception would hurt the brand's image and cost the Defendants money, and they did so at the expense of Plaintiffs and Subclass members.

545. The Defendants still have not made full and adequate disclosures and continue to defraud Plaintiffs and Subclass members by concealing material information regarding the emissions qualities of the Trucks.

546. Plaintiffs and Subclass members were unaware of the omitted material facts referenced herein, and they would not have acted as they did if they had

known of the concealed and/or suppressed facts, in that they would not have purchased purportedly reduced-emissions diesel cars manufactured by the Defendants, and/or would not have continued to drive their heavily polluting Trucks, or would have taken other affirmative steps in light of the information concealed from them. Plaintiffs' and Subclass members' actions were justified. The Defendants were in exclusive control of the material facts, and such facts were not generally known to the public, Plaintiffs, or Subclass members.

547. Because of the concealment and/or suppression of the facts, Plaintiffs and Subclass members have sustained damage because they own Trucks that are diminished in value as a result of the Defendants' concealment of the true quality and quantity of those Trucks' emissions and the Defendants' failure to timely disclose the defect or defective design of the diesel engine system, the actual emissions qualities and quantities of the Defendants' Trucks, and the serious issues engendered by the Defendants' corporate policies. Had Plaintiffs and Subclass members been aware of the true emissions facts with regard to the Trucks, and the Defendants' disregard for the truth and compliance with applicable federal and state law and regulations, Plaintiffs and Subclass members who purchased or leased new or certified previously owned Trucks would have paid less for their Trucks or would not have purchased or leased them at all.

548. The value of Plaintiffs' and Subclass members' Trucks has diminished as a result of the Defendants' fraudulent concealment of the defective emissions controls of the Trucks, the unlawfully high emissions of the Trucks, and the non-compliance with EPA emissions requirements, all of which has greatly tarnished the Defendants' brand name attached to Plaintiffs' and Subclass members' Trucks and made any reasonable consumer reluctant to purchase any of the Trucks, let alone pay what otherwise would have been fair market value for the Trucks.

549. Accordingly, the Defendants are liable to Plaintiffs and Subclass members for damages in an amount to be proven at trial.

550. The Defendants' acts were done wantonly, maliciously, oppressively, deliberately, with intent to defraud, and in reckless disregard of Plaintiffs' and Subclass members' rights and the representations that the Defendants made to them, in order to enrich the Defendants. The Defendants' conduct warrants an assessment of punitive damages in an amount sufficient to deter such conduct in the future, which amount is to be determined according to proof.

#### **COUNT IV**

#### **UNJUST ENRICHMENT**

551. Plaintiffs incorporate by reference all preceding allegations as though fully set forth herein.

552. Plaintiffs bring this Count on behalf of themselves and the Florida Subclass.

553. FCA and Cummins have received and retained a benefit from Plaintiffs and inequity has resulted.

554. FCA and Cummins have benefitted from selling and leasing defective cars at a profit whose value was artificially inflated by FCA and Cummins's concealment of the Washcoat Defect and the Flash Defect, and Plaintiffs and the Class have overpaid for the cars and been forced to pay other costs.

555. Thus, all Florida Subclass members conferred a benefit on FCA and Cummins.

556. Plaintiffs and the Class were not aware of the true facts about the Class Trucks, and did not benefit from FCA and Cummins's conduct.

557. FCA and Cummins knowingly accepted the benefits of their unjust conduct.

558. As a result of FCA and Cummins's conduct, the amount of their unjust enrichment should be disgorged as to each defendant, in an amount according to proof.

**G. Claims Brought on Behalf of the Georgia Subclass**

**COUNT I**

**VIOLATION OF GEORGIA'S FAIR BUSINESS PRACTICES ACT  
(GA. CODE ANN. § 10-1-390 *ET SEQ.*)**

559. Plaintiff Forrest Poulson (“Plaintiff” for purposes of all Georgia subclass claims) incorporates by reference all preceding allegations as though fully set forth herein.

560. This claim is made on behalf of the Georgia Subclass.

561. The Georgia Fair Business Practices Act (“Georgia FBPA”) declares “[u]nfair or deceptive acts or practices in the conduct of consumer transactions and consumer acts or practices in trade or commerce” to be unlawful, Ga. Code. Ann. § 10-1-393(a), including, but not limited to, “representing that goods or services have sponsorship, approval, characteristics, ingredients, uses, benefits, or quantities that they do not have,” “[r]epresenting that goods or services are of a particular standard, quality, or grade . . . if they are of another,” and “[a]dvertising goods or services with intent not to sell them as advertised.” Ga. Code. Ann. § 10-1-393(b). On June 30, 2017, Plaintiff issued a demand in satisfaction to Defendants in accordance with Ga. Code. Ann. § 10-1-399(b).

562. In the course of the Defendants’ business, they willfully failed to disclose and actively concealed that the emissions system in the Trucks is defective, that the Trucks emitted far more pollutants than gasoline-powered

vehicles, that the Trucks emit far more pollution than a reasonable consumer would expect in light of the Defendants' advertising campaign, and that the Trucks emitted unlawfully high levels of pollutants, including NOx, as described above. Defendants further willfully failed to disclose and actively concealed that the fuel economy of the Trucks would drop precipitously following service at the dealerships, including service that was performed secretly and without Plaintiff's knowledge. Accordingly, the Defendants engaged in unfair methods of competition, unconscionable acts or practices, and unfair or deceptive acts or practices, including representing that the Trucks have characteristics, uses, benefits, and qualities which they do not have; representing that the Trucks are of a particular standard and quality when they are not; failing to reveal a material fact, the omission of which tends to mislead or deceive the consumer, and which fact could not reasonably be known by the consumer; making a representation of fact or statement of fact material to the transaction such that a person reasonably believes the represented or suggested state of affairs to be other than it actually is; and failing to reveal facts that are material to the transaction in light of representations of fact made in a positive manner.

563. In purchasing or leasing the Trucks, Plaintiff and the other Subclass members were deceived by the Defendants' failure to disclose that the emissions system in the Trucks is defective, that the Trucks emitted far more pollutants than

gasoline-powered vehicles, that the Trucks emit far more pollution than a reasonable consumer would expect in light of the Defendants' advertising campaign, that the Trucks emitted unlawfully high levels of pollutants, including NO<sub>x</sub>, as described above, that the durability and longevity of the Trucks would suffer as a result of the Flash Defect, and that the fuel economy of the Trucks would drop precipitously following service at the dealerships, including service that was performed secretly and without Plaintiff's knowledge.

564. Plaintiff and Subclass members reasonably relied upon the Defendants' false misrepresentations. They had no way of knowing that the Defendants' representations were false and gravely misleading. As alleged herein, the Defendants engaged in extremely sophisticated methods of deception. Plaintiff and Subclass members did not, and could not, unravel Defendants' deception on their own.

565. The Defendants' actions as set forth above occurred in the conduct of trade or commerce.

566. The Defendants' unfair or deceptive acts or practices were likely to and did in fact deceive reasonable consumers.

567. The Defendants intentionally and knowingly misrepresented material facts regarding the Trucks with an intent to mislead Plaintiff and the Subclass.

568. The Defendants knew or should have known that their conduct violated the Georgia FBPA.

569. The Defendants owed Plaintiff and the Subclass a duty to disclose the truth about their emissions systems manipulation because the Defendants:

a. Possessed exclusive knowledge regarding the Washcoat Defect, and intentionally concealed the foregoing from Plaintiff and the Subclass;

b. Possessed exclusive knowledge regarding the Flash Defect, and intentionally concealed the foregoing from Plaintiff and the Subclass;

c. Made incomplete representations regarding compliance with emissions standards, while purposefully withholding material facts from Plaintiff and the Subclass that contradicted these representations; and

d. Made incomplete representations regarding the improved or superior fuel economy of the Trucks, while purposefully withholding material facts from Plaintiff and the Subclass that contradicted these representations.

570. The Defendants had a duty to disclose that the emissions system in the Trucks is defective, that the Trucks emitted far more pollutants than gasoline-powered vehicles, that the Trucks emit far more pollution than a reasonable consumer would expect in light of the Defendants' advertising campaign, that the Trucks emitted unlawfully high levels of pollutants, including NO<sub>x</sub>, as described above, that the durability and longevity of the Trucks would suffer as a result of

the Flash Defect, and that the fuel economy of the Trucks would drop precipitously following service at the dealerships, including service that was performed secretly and without Plaintiff's knowledge, because Plaintiff and the other Subclass members relied on the Defendants' material representations that the Trucks they were purchasing were reduced-emission vehicles, efficient, durable, and free from defects.

571. The Defendants' conduct proximately caused injuries to Plaintiff and the other Subclass members.

572. Plaintiff and the other Subclass members were injured and suffered ascertainable loss, injury-in-fact, and/or actual damage as a proximate result of the Defendants' conduct in that Plaintiff and the other Subclass members overpaid for their Trucks and did not receive the benefit of their bargain, and their Trucks have suffered a diminution in value. These injuries are the direct and natural consequence of the Defendants' misrepresentations and omissions.

573. The Defendants' violations present a continuing risk to Plaintiff as well as to the general public. The Defendants' unlawful acts and practices complained of herein affect the public interest.

574. Plaintiff and the Subclass members are entitled to recover damages and exemplary damages (for intentional violations) per Ga. Code. Ann. § 10-1-399(a). Plaintiff also seeks an order enjoining Defendants' unfair, unlawful, and/or

deceptive practices, attorneys' fees, and any other just and proper relief available under the Georgia FBPA per Ga. Code. Ann. § 10-1-399.

## **COUNT II**

### **BREACH OF CONTRACT (BASED ON GEORGIA LAW)**

575. Plaintiff incorporates by reference all preceding allegations as though fully set forth herein.

576. This claim is brought on behalf of the Georgia Subclass.

577. The Defendants' misrepresentations and omissions alleged herein, including, but not limited to, the existence of the Washcoat Defect and the Flash Defect, that the Trucks emitted far more pollutants than gasoline-powered vehicles, that the Trucks emit far more pollution than a reasonable consumer would expect in light of the Defendants' advertising campaign, that the Trucks emitted unlawfully high levels of pollutants, including NO<sub>x</sub>, as described above, that the durability and longevity of the Trucks would suffer as a result of the Flash Defect, and that the fuel economy of the Trucks would drop precipitously following service at the dealerships, including service that was performed secretly and without Plaintiff's knowledge, caused Plaintiff and the other Subclass members to make their purchases or leases of their Trucks. Absent those misrepresentations and omissions, Plaintiff and the other Subclass members would not have purchased or leased these Trucks, would not have purchased or leased these Trucks at the

prices they paid, and/or would have purchased or leased less expensive alternative vehicles that did not contain the defective Engine and which were not marketed as including such a system. Accordingly, Plaintiff and the other Subclass members overpaid for their Trucks and did not receive the benefit of their bargain.

578. Each and every sale or lease of a Truck constitutes a contract between FCA and the purchaser or lessee. FCA breached these contracts by selling or leasing to Plaintiff and the other Subclass members defective Trucks and by misrepresenting or failing to disclose that the Emissions system is defective, that the Trucks emitted far more pollutants than gasoline-powered vehicles, that the Trucks emit far more pollution than a reasonable consumer would expect in light of the Defendants' advertising campaign, that the Trucks emitted unlawfully high levels of pollutants, including NO<sub>x</sub>, as described above, and that the fuel economy of the Trucks would drop precipitously following service at the dealerships, including service that was performed secretly and without Plaintiffs' knowledge.

579. As a direct and proximate result of FCA's breach of contract, Plaintiff and the Subclass have been damaged in an amount to be proven at trial, which shall include, but is not limited to, all compensatory damages, incidental and consequential damages, and other damages allowed by law.

### COUNT III

#### FRAUDULENT CONCEALMENT (BASED ON GEORGIA LAW)

580. Plaintiff incorporates by reference all preceding allegations as though fully set forth herein.

581. This claim is brought on behalf of the Georgia Subclass.

582. The Defendants intentionally concealed that the emissions system in the Trucks is defective, that the Trucks emitted far more pollutants than gasoline-powered vehicles, that the Trucks emit far more pollution than a reasonable consumer would expect in light of the Defendants' advertising campaign, that the Trucks emitted unlawfully high levels of pollutants, including NOx, as described above, that the durability and longevity of the Trucks would suffer as a result of the Flash Defect, and that the fuel economy of the Trucks would drop precipitously following service at the dealerships, including service that was performed secretly and without Plaintiff's knowledge, or the Defendants acted with reckless disregard for the truth and denied Plaintiff and the other Subclass members information that is highly relevant to their purchasing decision.

583. The Defendants further affirmatively misrepresented to Plaintiff and Subclass members in advertising and other forms of communication, including standard and uniform material provided with each car, that the Trucks they were selling had no significant defects, were clean and low-emission vehicles, complied

with EPA regulations, were fuel-efficient, and would perform and operate properly when driven in normal usage.

584. The Defendants knew these representations were false when made.

585. The Trucks purchased or leased by Plaintiff and the other Subclass members were, in fact, defective, emitting pollutants at a much higher rate than gasoline-powered vehicles and at a much higher rate than a reasonable consumer would expect in light of the Defendants' advertising campaign, non-EPA-compliant, and unreliable, and service would lead to a precipitous drop in fuel economy.

586. The Defendants had a duty to disclose that the emissions system in the Trucks is defective, that the Trucks emitted far more pollutants than gasoline-powered vehicles, that the Trucks emit far more pollution than a reasonable consumer would expect in light of the Defendants' advertising campaign, that the Trucks emitted unlawfully high levels of pollutants, including NO<sub>x</sub>, as described above, that the durability and longevity of the Trucks would suffer as a result of the Flash Defect, and that the fuel economy of the Trucks would drop precipitously following service at the dealerships, including service that was performed secretly and without Plaintiff's knowledge, because Plaintiff and the other Subclass members relied on the Defendants' material representations that the Trucks they were purchasing were reduced-emission vehicles, efficient, and free from defects.

587. As alleged in this Complaint, at all relevant times, the Defendants have held out the Trucks to be reduced-emissions, EPA-compliant vehicles. The Defendants disclosed certain details about the diesel engine, but nonetheless, the Defendants intentionally failed to disclose important facts, including the existence of the Washcoat Defect and the Flash Defect, that the emissions system in the Trucks is defective, that the Trucks emitted far more pollutants than gasoline-powered vehicles, that the Trucks emit far more pollution than a reasonable consumer would expect in light of the Defendants' advertising campaign, that the Trucks emitted unlawfully high levels of pollutants, including NOx, as described above, that the durability and longevity of the Trucks would suffer as a result of the Flash Defect, and that the fuel economy of the Trucks would drop precipitously following service at the dealerships, including service that was performed secretly and without Plaintiff's knowledge, and were non-compliant with EPA emissions requirements, making other disclosures about the emission system deceptive.

588. The truth about the defective emissions controls, the non-compliance with EPA emissions requirements, and the precipitous drop in performance of the Trucks was known only to the Defendants; Plaintiff and the Subclass members did not know of these facts and the Defendants actively concealed these facts from Plaintiff and Subclass members.

589. Plaintiff and Subclass members reasonably relied upon the Defendants' deception. They had no way of knowing that the Defendants' representations were false and/or misleading. As consumers, the Plaintiff and Subclass members did not, and could not, unravel the Defendants' deception on their own. Rather, the Defendants intended to deceive Plaintiff and Subclass members by concealing the true facts about the Trucks' emissions and defects.

590. The Defendants also concealed and suppressed material facts concerning what is evidently the true culture of the Defendants—a culture characterized by an emphasis on profits and sales above compliance with federal and state clean air law and emissions regulations that are meant to protect the public and consumers. Defendants also emphasized profits and sales above the trust that Plaintiff and Subclass members placed in their representations. Consumers buy diesel cars from the Defendants because they feel they are clean diesel cars. They do not want to be spewing noxious gases into the environment. And yet, that is precisely what the Trucks are doing.

591. The Defendants' false representations were material to consumers, because they concerned the quality of the Trucks, compliance with applicable federal and state law and regulations regarding clean air and emissions, anticipated fuel economy and costs for fuel, and also because the representations played a significant role in the value of the Trucks. As the Defendants well knew, their

customers, including Plaintiff and Subclass members, highly valued that the Trucks they were purchasing or leasing were fuel efficient, clean diesel cars with reduced emissions and increased longevity, and they paid accordingly.

592. The Defendants had a duty to disclose the Washcoat Defect and the Flash Defect because details of the true facts were known and/or accessible only to the Defendants, because the Defendants had exclusive knowledge as to such facts, and because the Defendants knew these facts were not known to or reasonably discoverable by Plaintiff or Subclass members. The Defendants also had a duty to disclose because they made general affirmative representations about the qualities of the Trucks with respect to emissions, including references to them as the lowest-emissions diesel cars and as compliant with all laws in each country, which were misleading, deceptive, and incomplete without the disclosure of the additional facts set forth above regarding the actual emissions of the Trucks, their actual philosophy with respect to compliance with federal and state clean air law and emissions regulations, and their actual practices with respect to the Trucks at issue. Having volunteered to provide information to Plaintiff and Subclass members, the Defendants had the duty to disclose not just the partial truth, but the entire truth. These omitted and concealed facts were material because they directly impact the value of the Trucks purchased or leased by Plaintiff and Subclass members. Whether a manufacturer's products pollute, comply with federal and state clean air

law and emissions regulations, and whether that manufacturer tells the truth with respect to such compliance or non-compliance, are material concerns to a consumer, including with respect to the emissions certifications testing their Trucks must pass. The Defendants represented to Plaintiff and Subclass members that they were purchasing or leasing reduced-emission diesel vehicles when, in fact, they were purchasing or leasing defective, high-emission vehicles with unlawfully high emissions.

593. The Defendants actively concealed and/or suppressed these material facts, in whole or in part, to pad and protect their profits and to avoid the perception that their Trucks were not clean diesel vehicles and did not or could not comply with federal and state laws governing clean air and emissions, which perception would hurt the brand's image and cost the Defendants money, and they did so at the expense of Plaintiff and Subclass members.

594. The Defendants still have not made full and adequate disclosures, and they continue to defraud Plaintiff and Subclass members by concealing material information regarding the emissions qualities of the Trucks.

595. Plaintiff and Subclass members were unaware of the omitted material facts referenced herein, and they would not have acted as they did if they had known of the concealed and/or suppressed facts, in that they would not have purchased purportedly reduced-emissions diesel cars manufactured by the

Defendants, and/or would not have continued to drive their heavily polluting Trucks, or would have taken other affirmative steps in light of the information concealed from them. Plaintiff's and Subclass members' actions were justified. The Defendants were in exclusive control of the material facts, and such facts were not generally known to the public, Plaintiff, or Subclass members.

596. Because of the concealment and/or suppression of the facts, Plaintiff and Subclass members have sustained damage because they own Trucks that are diminished in value as a result of the Defendants' concealment of the true quality and quantity of those Trucks' emissions and the Defendants' failure to timely disclose the defect or defective design of the diesel engine system, the actual emissions qualities and quantities of the Defendants' Trucks, and the serious issues engendered by the Defendants' corporate policies. Had Plaintiff and Subclass members been aware of the true emissions facts with regard to the Trucks, and the Defendants' disregard for the truth and compliance with applicable federal and state law and regulations, Plaintiff and Subclass members who purchased or leased new or certified previously owned Trucks would have paid less for their Trucks or would not have purchased or leased them at all.

597. The value of Plaintiff's and Subclass members' Trucks has diminished as a result of the Defendants' fraudulent concealment of the defective emissions controls of the Trucks, the unlawfully high emissions of the Trucks, and

the non-compliance with EPA emissions requirements, all of which has greatly tarnished the Defendants' brand name attached to Plaintiff's and Subclass members' Trucks and made any reasonable consumer reluctant to purchase any of the Trucks, let alone pay what otherwise would have been fair market value for the Trucks.

598. Accordingly, the Defendants are liable to Plaintiff and Subclass members for damages in an amount to be proven at trial.

599. The Defendants' acts were done wantonly, maliciously, oppressively, deliberately, with intent to defraud, and in reckless disregard of Plaintiff's and Subclass members' rights and the representations that the Defendants made to them, in order to enrich the Defendants. The Defendants' conduct warrants an assessment of punitive damages in an amount sufficient to deter such conduct in the future, which amount is to be determined according to proof.

#### **COUNT IV**

#### **UNJUST ENRICHMENT**

600. Plaintiff incorporates by reference all preceding allegations as though fully set forth herein.

601. Plaintiff brings this Count on behalf of himself and the Georgia Subclass.

602. FCA and Cummins have received and retained a benefit from Plaintiff and inequity has resulted.

603. FCA and Cummins have benefitted from selling and leasing defective cars at a profit whose value was artificially inflated by FCA and Cummins's concealment of the Washcoat Defect and the Flash Defect, and Plaintiff and the Class have overpaid for the cars and been forced to pay other costs.

604. Thus, all Georgia Subclass members conferred a benefit on FCA and Cummins.

605. Plaintiff and the Class were not aware of the true facts about the Class Trucks, and did not benefit from FCA and Cummins's conduct.

606. FCA and Cummins knowingly accepted the benefits of their unjust conduct.

607. As a result of FCA and Cummins's conduct, the amount of their unjust enrichment should be disgorged as to each defendant, in an amount according to proof.

#### **H. Claims Brought on Behalf of the Idaho Subclass**

##### **COUNT I**

##### **VIOLATIONS OF THE IDAHO CONSUMER PROTECTION ACT (IDAHO CODE § 48-601 *ET SEQ.*)**

608. Plaintiff Dennis Kogler ("Plaintiff" for purposes of all Idaho Subclass claims) incorporates by reference all paragraphs as though fully set forth herein.

609. Plaintiff brings this Count on behalf of the Idaho Subclass.

610. Each Defendant is a “person” under the Idaho Consumer Protection Act (“Idaho CPA”), IDAHO CODE § 48-602(1).

611. The Defendants’ acts or practices as set forth above occurred in the conduct of “trade” or “commerce” under IDAHO CODE § 48-602(2).

612. IDAHO CODE § 48-603 prohibits the following conduct in trade or commerce: engaging in any act or practice which is otherwise misleading, false, or deceptive to the consumer; and engaging in any unconscionable method, act or practice in the conduct of trade or commerce, as provided in section 48-603C.

613. In the course of the Defendants’ business, they willfully failed to disclose and actively concealed that the emissions system in the Trucks is defective, that the Trucks emitted far more pollutants than gasoline-powered vehicles, that the Trucks emit far more pollution than a reasonable consumer would expect in light of the Defendants’ advertising campaign, and that the Trucks emitted unlawfully high levels of pollutants, including NO<sub>x</sub>, as described above. Defendants further willfully failed to disclose and actively concealed that the fuel economy of the Trucks would drop precipitously following service at the dealerships, including service that was performed secretly and without Plaintiff’s knowledge. Accordingly, the Defendants engaged in unfair methods of competition, unconscionable acts or practices, and unfair or deceptive acts or

practices, including representing that the Trucks have characteristics, uses, benefits, and qualities which they do not have; representing that the Trucks are of a particular standard and quality when they are not; failing to reveal a material fact, the omission of which tends to mislead or deceive the consumer, and which fact could not reasonably be known by the consumer; making a representation of fact or statement of fact material to the transaction such that a person reasonably believes the represented or suggested state of affairs to be other than it actually is; and failing to reveal facts that are material to the transaction in light of representations of fact made in a positive manner.

614. In purchasing or leasing the Trucks, Plaintiff and the other Subclass members were deceived by the Defendants' failure to disclose that the emissions system in the Trucks is defective, that the Trucks emitted far more pollutants than gasoline-powered vehicles, that the Trucks emit far more pollution than a reasonable consumer would expect in light of the Defendants' advertising campaign, that the Trucks emitted unlawfully high levels of pollutants, including NO<sub>x</sub>, as described above, that the durability and longevity of the Trucks would suffer as a result of the Flash Defect, and that the fuel economy of the Trucks would drop precipitously following service at the dealerships, including service that was performed secretly and without Plaintiff's knowledge.

615. Plaintiff and Subclass members reasonably relied upon the Defendants' false misrepresentations. They had no way of knowing that the Defendants' representations were false and gravely misleading. As alleged herein, the Defendants engaged in extremely sophisticated methods of deception. Plaintiff and Subclass members did not, and could not, unravel Defendants' deception on their own.

616. The Defendants' actions as set forth above occurred in the conduct of trade or commerce.

617. The Defendants' unfair or deceptive acts or practices were likely to and did in fact deceive reasonable consumers.

618. The Defendants intentionally and knowingly misrepresented material facts regarding the Trucks with an intent to mislead Plaintiff and the Subclass.

619. The Defendants knew or should have known that their conduct violated the Idaho CPA.

620. The Defendants owed Plaintiff and the Subclass a duty to disclose the truth about their emissions systems manipulation because the Defendants:

- a. Possessed exclusive knowledge regarding the Washcoat Defect, and intentionally concealed the foregoing from Plaintiff and the Subclass;
- b. Possessed exclusive knowledge regarding the Flash Defect, and intentionally concealed the foregoing from Plaintiff and the Subclass;

c. Made incomplete representations regarding compliance with emissions standards, while purposefully withholding material facts from Plaintiff and the Subclass that contradicted these representations; and

d. Made incomplete representations regarding the improved or superior fuel economy of the Trucks, while purposefully withholding material facts from Plaintiff and the Subclass that contradicted these representations.

621. The Defendants had a duty to disclose that the emissions system in the Trucks is defective, that the Trucks emitted far more pollutants than gasoline-powered vehicles, that the Trucks emit far more pollution than a reasonable consumer would expect in light of the Defendants' advertising campaign, that the Trucks emitted unlawfully high levels of pollutants, including NO<sub>x</sub>, as described above, that the durability and longevity of the Trucks would suffer as a result of the Flash Defect, and that the fuel economy of the Trucks would drop precipitously following service at the dealerships, including service that was performed secretly and without Plaintiff's knowledge, because Plaintiff and the other Subclass members relied on the Defendants' material representations that the Trucks they were purchasing were reduced-emission vehicles, efficient, durable, and free from defects.

622. The Defendants' conduct proximately caused injuries to Plaintiff and the other Subclass members.

623. Plaintiff and the other Subclass members were injured and suffered ascertainable loss, injury-in-fact, and/or actual damage as a proximate result of the Defendants' conduct in that Plaintiff and the other Subclass members overpaid for their Trucks and did not receive the benefit of their bargain, and their Trucks have suffered a diminution in value. These injuries are the direct and natural consequence of the Defendants' misrepresentations and omissions.

624. The Defendants' violations present a continuing risk to Plaintiff as well as to the general public. The Defendants' unlawful acts and practices complained of herein affect the public interest.

625. Plaintiff seeks attorneys' fees and any other just and proper relief available under the Idaho CPA. Plaintiff also seeks punitive damages against the Defendants because the Defendants' conduct evidences an extreme deviation from reasonable standards. The Defendants' unlawful conduct constitutes malice, oppression, and fraud warranting punitive damages.

## **COUNT II**

### **BREACH OF CONTRACT (BASED ON IDAHO LAW)**

626. Plaintiff incorporates by reference all preceding allegations as though fully set forth herein.

627. Plaintiff brings this Count on behalf of the Idaho Subclass.

628. The Defendants' misrepresentations and omissions alleged herein, including, but not limited to, the existence of the Washcoat Defect and the Flash Defect, that the Trucks emitted far more pollutants than gasoline-powered vehicles, that the Trucks emit far more pollution than a reasonable consumer would expect in light of the Defendants' advertising campaign, that the Trucks emitted unlawfully high levels of pollutants, including NOx, as described above, that the durability and longevity of the Trucks would suffer as a result of the Flash Defect, and that the fuel economy of the Trucks would drop precipitously following service at the dealerships, including service that was performed secretly and without Plaintiff's knowledge, caused Plaintiff and the other Subclass members to make their purchases or leases of their Trucks. Absent those misrepresentations and omissions, Plaintiff and the other Subclass members would not have purchased or leased these Trucks, would not have purchased or leased these Trucks at the prices they paid, and/or would have purchased or leased less expensive alternative vehicles that did not contain the defective Engine and which were not marketed as including such a system. Accordingly, Plaintiff and the other Subclass members overpaid for their Trucks and did not receive the benefit of their bargain.

629. Each and every sale or lease of a Truck constitutes a contract between FCA and the purchaser or lessee. FCA breached these contracts by selling or leasing to Plaintiff and the other Subclass members defective Trucks and by

misrepresenting or failing to disclose that the Emissions system is defective, that the Trucks emitted far more pollutants than gasoline-powered vehicles, that the Trucks emit far more pollution than a reasonable consumer would expect in light of the Defendants' advertising campaign, that the Trucks emitted unlawfully high levels of pollutants, including NOx, as described above, and that the fuel economy of the Trucks would drop precipitously following service at the dealerships, including service that was performed secretly and without Plaintiffs' knowledge.

630. As a direct and proximate result of FCA's breach of contract, Plaintiff and the Subclass have been damaged in an amount to be proven at trial, which shall include, but is not limited to, all compensatory damages, incidental and consequential damages, and other damages allowed by law.

### **COUNT III**

#### **FRAUDULENT CONCEALMENT (BASED ON IDAHO LAW)**

631. Plaintiff incorporates by reference all paragraphs as though fully set forth herein.

632. This claim is brought on behalf of the Idaho Subclass.

633. The Defendants intentionally concealed that the emissions system in the Trucks is defective, that the Trucks emitted far more pollutants than gasoline-powered vehicles, that the Trucks emit far more pollution than a reasonable consumer would expect in light of the Defendants' advertising campaign, that the

Trucks emitted unlawfully high levels of pollutants, including NO<sub>x</sub>, as described above, that the durability and longevity of the Trucks would suffer as a result of the Flash Defect, and that the fuel economy of the Trucks would drop precipitously following service at the dealerships, including service that was performed secretly and without Plaintiff's knowledge, or the Defendants acted with reckless disregard for the truth and denied Plaintiff and the other Subclass members information that is highly relevant to their purchasing decision.

634. The Defendants further affirmatively misrepresented to Plaintiff and Subclass members in advertising and other forms of communication, including standard and uniform material provided with each car, that the Trucks they were selling had no significant defects, were clean and low-emission vehicles, complied with EPA regulations, were fuel-efficient, and would perform and operate properly when driven in normal usage.

635. The Defendants knew these representations were false when made.

636. The Trucks purchased or leased by Plaintiff and the other Subclass members were, in fact, defective, emitting pollutants at a much higher rate than gasoline-powered vehicles and at a much higher rate than a reasonable consumer would expect in light of the Defendants' advertising campaign, non-EPA-compliant, and unreliable, and service would lead to a precipitous drop in fuel economy.

637. The Defendants had a duty to disclose that the emissions system in the Trucks is defective, that the Trucks emitted far more pollutants than gasoline-powered vehicles, that the Trucks emit far more pollution than a reasonable consumer would expect in light of the Defendants' advertising campaign, that the Trucks emitted unlawfully high levels of pollutants, including NOx, as described above, that the durability and longevity of the Trucks would suffer as a result of the Flash Defect, and that the fuel economy of the Trucks would drop precipitously following service at the dealerships, including service that was performed secretly and without Plaintiff's knowledge, because Plaintiff and the other Subclass members relied on the Defendants' material representations that the Trucks they were purchasing were reduced-emission vehicles, efficient, and free from defects.

638. As alleged in this Complaint, at all relevant times, the Defendants have held out the Trucks to be reduced-emissions, EPA-compliant vehicles. The Defendants disclosed certain details about the diesel engine, but nonetheless, the Defendants intentionally failed to disclose important facts, including the existence of the Washcoat Defect and the Flash Defect, that the emissions system in the Trucks is defective, that the Trucks emitted far more pollutants than gasoline-powered vehicles, that the Trucks emit far more pollution than a reasonable consumer would expect in light of the Defendants' advertising campaign, that the Trucks emitted unlawfully high levels of pollutants, including NOx, as described

above, that the durability and longevity of the Trucks would suffer as a result of the Flash Defect, and that the fuel economy of the Trucks would drop precipitously following service at the dealerships, including service that was performed secretly and without Plaintiff's knowledge, and were non-compliant with EPA emissions requirements, making other disclosures about the emission system deceptive.

639. The truth about the defective emissions controls, the non-compliance with EPA emissions requirements, and the precipitous drop in performance of the Trucks was known only to the Defendants; Plaintiff and the Subclass members did not know of these facts and the Defendants actively concealed these facts from Plaintiff and Subclass members.

640. Plaintiff and Subclass members reasonably relied upon the Defendants' deception. They had no way of knowing that the Defendants' representations were false and/or misleading. As consumers, the Plaintiff and Subclass members did not, and could not, unravel the Defendants' deception on their own. Rather, the Defendants intended to deceive Plaintiff and Subclass members by concealing the true facts about the Trucks' emissions and defects.

641. The Defendants also concealed and suppressed material facts concerning what is evidently the true culture of the Defendants—a culture characterized by an emphasis on profits and sales above compliance with federal and state clean air law and emissions regulations that are meant to protect the

public and consumers. Defendants also emphasized profits and sales above the trust that Plaintiff and Subclass members placed in their representations.

Consumers buy diesel cars from the Defendants because they feel they are clean diesel cars. They do not want to be spewing noxious gases into the environment. And yet, that is precisely what the Trucks are doing.

642. The Defendants' false representations were material to consumers, because they concerned the quality of the Trucks, compliance with applicable federal and state law and regulations regarding clean air and emissions, anticipated fuel economy and costs for fuel, and also because the representations played a significant role in the value of the Trucks. As the Defendants well knew, their customers, including Plaintiff and Subclass members, highly valued that the Trucks they were purchasing or leasing were fuel efficient, clean diesel cars with reduced emissions and increased longevity, and they paid accordingly.

643. The Defendants had a duty to disclose the Washcoat Defect and the Flash Defect because details of the true facts were known and/or accessible only to the Defendants, because the Defendants had exclusive knowledge as to such facts, and because the Defendants knew these facts were not known to or reasonably discoverable by Plaintiff or Subclass members. The Defendants also had a duty to disclose because they made general affirmative representations about the qualities of the Trucks with respect to emissions, including references to them as the lowest-

emissions diesel cars and as compliant with all laws in each country, which were misleading, deceptive, and incomplete without the disclosure of the additional facts set forth above regarding the actual emissions of the Trucks, their actual philosophy with respect to compliance with federal and state clean air law and emissions regulations, and their actual practices with respect to the Trucks at issue. Having volunteered to provide information to Plaintiff and Subclass members, the Defendants had the duty to disclose not just the partial truth, but the entire truth. These omitted and concealed facts were material because they directly impact the value of the Trucks purchased or leased by Plaintiff and Subclass members. Whether a manufacturer's products pollute, comply with federal and state clean air law and emissions regulations, and whether that manufacturer tells the truth with respect to such compliance or non-compliance, are material concerns to a consumer, including with respect to the emissions certifications testing their Trucks must pass. The Defendants represented to Plaintiff and Subclass members that they were purchasing or leasing reduced-emission diesel vehicles when, in fact, they were purchasing or leasing defective, high-emission vehicles with unlawfully high emissions.

644. The Defendants actively concealed and/or suppressed these material facts, in whole or in part, to pad and protect their profits and to avoid the perception that their Trucks were not clean diesel vehicles and did not or could not

comply with federal and state laws governing clean air and emissions, which perception would hurt the brand's image and cost the Defendants money, and they did so at the expense of Plaintiff and Subclass members.

645. The Defendants still have not made full and adequate disclosures, and they continue to defraud Plaintiff and Subclass members by concealing material information regarding the emissions qualities of the Trucks.

646. Plaintiff and Subclass members were unaware of the omitted material facts referenced herein, and they would not have acted as they did if they had known of the concealed and/or suppressed facts, in that they would not have purchased purportedly reduced-emissions diesel cars manufactured by the Defendants, and/or would not have continued to drive their heavily polluting Trucks, or would have taken other affirmative steps in light of the information concealed from them. Plaintiff's and Subclass members' actions were justified. The Defendants were in exclusive control of the material facts, and such facts were not generally known to the public, Plaintiff, or Subclass members.

647. Because of the concealment and/or suppression of the facts, Plaintiff and Subclass members have sustained damage because they own Trucks that are diminished in value as a result of the Defendants' concealment of the true quality and quantity of those Trucks' emissions and the Defendants' failure to timely disclose the defect or defective design of the diesel engine system, the actual

emissions qualities and quantities of the Defendants' Trucks, and the serious issues engendered by the Defendants' corporate policies. Had Plaintiff and Subclass members been aware of the true emissions facts with regard to the Trucks, and the Defendants' disregard for the truth and compliance with applicable federal and state law and regulations, Plaintiff and Subclass members who purchased or leased new or certified previously owned Trucks would have paid less for their Trucks or would not have purchased or leased them at all.

648. The value of Plaintiff's and Subclass members' Trucks has diminished as a result of the Defendants' fraudulent concealment of the defective emissions controls of the Trucks, the unlawfully high emissions of the Trucks, and the non-compliance with EPA emissions requirements, all of which has greatly tarnished the Defendants' brand name attached to Plaintiff's and Subclass members' Trucks and made any reasonable consumer reluctant to purchase any of the Trucks, let alone pay what otherwise would have been fair market value for the Trucks.

649. Accordingly, the Defendants are liable to Plaintiff and Subclass members for damages in an amount to be proven at trial.

650. The Defendants' acts were done wantonly, maliciously, oppressively, deliberately, with intent to defraud, and in reckless disregard of Plaintiff's and Subclass members' rights and the representations that the Defendants made to

them, in order to enrich the Defendants. The Defendants' conduct warrants an assessment of punitive damages in an amount sufficient to deter such conduct in the future, which amount is to be determined according to proof.

#### **COUNT IV**

#### **UNJUST ENRICHMENT**

651. Plaintiff incorporates by reference all preceding allegations as though fully set forth herein.

652. Plaintiff brings this Count on behalf of himself and the Idaho Subclass.

653. FCA and Cummins have received and retained a benefit from Plaintiff and inequity has resulted.

654. FCA and Cummins have benefitted from selling and leasing defective cars at a profit whose value was artificially inflated by FCA and Cummins's concealment of the Washcoat Defect and the Flash Defect, and Plaintiff and the Class have overpaid for the cars and been forced to pay other costs.

655. Thus, all Idaho Subclass members conferred a benefit on FCA and Cummins.

656. Plaintiff and the Class were not aware of the true facts about the Class Trucks, and did not benefit from FCA and Cummins's conduct.

657. FCA and Cummins knowingly accepted the benefits of their unjust conduct.

658. As a result of FCA and Cummins's conduct, the amount of their unjust enrichment should be disgorged as to each defendant, in an amount according to proof.

**I. Claims Brought on Behalf of the Kentucky Subclass**

**COUNT I**

**VIOLATIONS OF THE KENTUCKY CONSUMER PROTECTION ACT  
(KY. REV. STAT. ANN. § 367.110 *ET SEQ.*)**

659. Plaintiff Jason Gindele ("Plaintiff" for purposes of all Kentucky subclass claims) incorporates by reference all paragraphs as though fully set forth herein.

660. Plaintiff brings this Count on behalf of the Kentucky Subclass.

661. Each Defendant, each Plaintiff, and each member of the Kentucky Subclass is a "person" within the meaning of the KY. REV. STAT. ANN. § 367.110(1).

662. The Defendants engaged in "trade" or "commerce" within the meaning of KY. REV. STAT. ANN. § 367.110(2).

663. The Kentucky Consumer Protection Act ("Kentucky CPA") makes unlawful "[u]nfair, false, misleading, or deceptive acts or practices in the conduct of any trade or commerce." KY. REV. STAT. ANN. § 367.170(1).

664. In the course of the Defendants' business, they willfully failed to disclose and actively concealed that the emissions system in the Trucks is defective, that the Trucks emitted far more pollutants than gasoline-powered vehicles, that the Trucks emit far more pollution than a reasonable consumer would expect in light of the Defendants' advertising campaign, and that the Trucks emitted unlawfully high levels of pollutants, including NOx, as described above. Defendants further willfully failed to disclose and actively concealed that the fuel economy of the Trucks would drop precipitously following service at the dealerships, including service that was performed secretly and without Plaintiff's knowledge. Accordingly, the Defendants engaged in unfair methods of competition, unconscionable acts or practices, and unfair or deceptive acts or practices, including representing that the Trucks have characteristics, uses, benefits, and qualities which they do not have; representing that the Trucks are of a particular standard and quality when they are not; failing to reveal a material fact, the omission of which tends to mislead or deceive the consumer, and which fact could not reasonably be known by the consumer; making a representation of fact or statement of fact material to the transaction such that a person reasonably believes the represented or suggested state of affairs to be other than it actually is; and failing to reveal facts that are material to the transaction in light of representations of fact made in a positive manner.

665. In purchasing or leasing the Trucks, Plaintiff and the other Subclass members were deceived by the Defendants' failure to disclose that the emissions system in the Trucks is defective, that the Trucks emitted far more pollutants than gasoline-powered vehicles, that the Trucks emit far more pollution than a reasonable consumer would expect in light of the Defendants' advertising campaign, that the Trucks emitted unlawfully high levels of pollutants, including NO<sub>x</sub>, as described above, that the durability and longevity of the Trucks would suffer as a result of the Flash Defect, and that the fuel economy of the Trucks would drop precipitously following service at the dealerships, including service that was performed secretly and without Plaintiff's knowledge.

666. Plaintiff and Subclass members reasonably relied upon the Defendants' false misrepresentations. They had no way of knowing that the Defendants' representations were false and gravely misleading. As alleged herein, the Defendants engaged in extremely sophisticated methods of deception. Plaintiff and Subclass members did not, and could not, unravel Defendants' deception on their own.

667. The Defendants' actions as set forth above occurred in the conduct of trade or commerce.

668. The Defendants' unfair or deceptive acts or practices were likely to and did in fact deceive reasonable consumers.

669. The Defendants intentionally and knowingly misrepresented material facts regarding the Trucks with an intent to mislead Plaintiff and the Subclass.

670. The Defendants knew or should have known that their conduct violated the Kentucky CPA.

671. The Defendants owed Plaintiff and the Subclass a duty to disclose the truth about their emissions systems manipulation because the Defendants:

a. Possessed exclusive knowledge regarding the Washcoat Defect, and intentionally concealed the foregoing from Plaintiff and the Subclass;

b. Possessed exclusive knowledge regarding the Flash Defect, and intentionally concealed the foregoing from Plaintiff and the Subclass;

c. Made incomplete representations regarding compliance with emissions standards, while purposefully withholding material facts from Plaintiff and the Subclass that contradicted these representations;

d. Made incomplete representations regarding the improved or superior fuel economy of the Trucks, while purposefully withholding material facts from Plaintiff and the Subclass that contradicted these representations.

672. The Defendants had a duty to disclose that the emissions system in the Trucks is defective, that the Trucks emitted far more pollutants than gasoline-powered vehicles, that the Trucks emit far more pollution than a reasonable consumer would expect in light of the Defendants' advertising campaign, that the

Trucks emitted unlawfully high levels of pollutants, including NOx, as described above, that the durability and longevity of the Trucks would suffer as a result of the Flash Defect, and that the fuel economy of the Trucks would drop precipitously following service at the dealerships, including service that was performed secretly and without Plaintiff's knowledge, because Plaintiff and the other Subclass members relied on the Defendants' material representations that the Trucks they were purchasing were reduced-emission vehicles, efficient, durable, and free from defects.

673. The Defendants' conduct proximately caused injuries to Plaintiff and the other Subclass members.

674. Plaintiff and the other Subclass members were injured and suffered ascertainable loss, injury-in-fact, and/or actual damage as a proximate result of the Defendants' conduct in that Plaintiff and the other Subclass members overpaid for their Trucks and did not receive the benefit of their bargain, and their Trucks have suffered a diminution in value. These injuries are the direct and natural consequence of the Defendants' misrepresentations and omissions.

675. The Defendants' violations present a continuing risk to Plaintiff as well as to the general public. The Defendants' unlawful acts and practices complained of herein affect the public interest.

676. Plaintiff seeks monetary relief measured as the greater of (a) actual damages in an amount to be determined at trial and (b) statutory damages in the amount of \$250 for Plaintiff and each Kentucky Subclass member; reasonable attorneys' fees; and any other just and proper relief. Plaintiff also seeks punitive damages against the Defendants because they carried out despicable conduct with willful and conscious disregard of the rights of others. The Defendants' unlawful conduct constitutes malice, oppression, and fraud warranting punitive damages.

## **COUNT II**

### **BREACH OF CONTRACT (BASED ON KENTUCKY LAW)**

677. Plaintiff incorporates by reference all preceding allegations as though fully set forth herein.

678. Plaintiff brings this Count on behalf of the Kentucky Subclass.

679. The Defendants' misrepresentations and omissions alleged herein, including, but not limited to, the existence of the Washcoat Defect and the Flash Defect, that the Trucks emitted far more pollutants than gasoline-powered vehicles, that the Trucks emit far more pollution than a reasonable consumer would expect in light of the Defendants' advertising campaign, that the Trucks emitted unlawfully high levels of pollutants, including NOx, as described above, that the durability and longevity of the Trucks would suffer as a result of the Flash Defect, and that the fuel economy of the Trucks would drop precipitously following

service at the dealerships, including service that was performed secretly and without Plaintiff's knowledge, caused Plaintiff and the other Subclass members to make their purchases or leases of their Trucks. Absent those misrepresentations and omissions, Plaintiff and the other Subclass members would not have purchased or leased these Trucks, would not have purchased or leased these Trucks at the prices they paid, and/or would have purchased or leased less expensive alternative vehicles that did not contain the defective Engine and which were not marketed as including such a system. Accordingly, Plaintiff and the other Subclass members overpaid for their Trucks and did not receive the benefit of their bargain.

680. Each and every sale or lease of a Truck constitutes a contract between FCA and the purchaser or lessee. FCA breached these contracts by selling or leasing to Plaintiff and the other Subclass members defective Trucks and by misrepresenting or failing to disclose that the Emissions system is defective, that the Trucks emitted far more pollutants than gasoline-powered vehicles, that the Trucks emit far more pollution than a reasonable consumer would expect in light of the Defendants' advertising campaign, that the Trucks emitted unlawfully high levels of pollutants, including NOx, as described above, and that the fuel economy of the Trucks would drop precipitously following service at the dealerships, including service that was performed secretly and without Plaintiffs' knowledge.

681. As a direct and proximate result of FCA's breach of contract, Plaintiff and the Subclass have been damaged in an amount to be proven at trial, which shall include, but is not limited to, all compensatory damages, incidental and consequential damages, and other damages allowed by law.

### **COUNT III**

#### **FRAUD BY OMISSION (BASED ON KENTUCKY LAW)**

682. Plaintiff incorporates by reference all paragraphs as though fully set forth herein.

683. This claim is brought on behalf of the Kentucky Subclass.

684. The Defendants intentionally concealed that the emissions system in the Trucks is defective, that the Trucks emitted far more pollutants than gasoline-powered vehicles, that the Trucks emit far more pollution than a reasonable consumer would expect in light of the Defendants' advertising campaign, that the Trucks emitted unlawfully high levels of pollutants, including NOx, as described above, that the durability and longevity of the Trucks would suffer as a result of the Flash Defect, and that the fuel economy of the Trucks would drop precipitously following service at the dealerships, including service that was performed secretly and without Plaintiff's knowledge, or the Defendants acted with reckless disregard for the truth and denied Plaintiff and the other Subclass members information that is highly relevant to their purchasing decision.

685. The Defendants further affirmatively misrepresented to Plaintiff and Subclass members in advertising and other forms of communication, including standard and uniform material provided with each car, that the Trucks they were selling had no significant defects, were clean and low-emission vehicles, complied with EPA regulations, were fuel-efficient, and would perform and operate properly when driven in normal usage.

686. The Defendants knew these representations were false when made.

687. The Trucks purchased or leased by Plaintiff and the other Subclass members were, in fact, defective, emitting pollutants at a much higher rate than gasoline-powered vehicles and at a much higher rate than a reasonable consumer would expect in light of the Defendants' advertising campaign, non-EPA-compliant, and unreliable, and service would lead to a precipitous drop in fuel economy.

688. The Defendants had a duty to disclose that the emissions system in the Trucks is defective, that the Trucks emitted far more pollutants than gasoline-powered vehicles, that the Trucks emit far more pollution than a reasonable consumer would expect in light of the Defendants' advertising campaign, that the Trucks emitted unlawfully high levels of pollutants, including NO<sub>x</sub>, as described above, that the durability and longevity of the Trucks would suffer as a result of the Flash Defect, and that the fuel economy of the Trucks would drop precipitously

following service at the dealerships, including service that was performed secretly and without Plaintiff's knowledge, because Plaintiff and the other Subclass members relied on the Defendants' material representations that the Trucks they were purchasing were reduced-emission vehicles, efficient, and free from defects.

689. As alleged in this Complaint, at all relevant times, the Defendants have held out the Trucks to be reduced-emissions, EPA-compliant vehicles. The Defendants disclosed certain details about the diesel engine, but nonetheless, the Defendants intentionally failed to disclose important facts, including the existence of the Washcoat Defect and the Flash Defect, that the emissions system in the Trucks is defective, that the Trucks emitted far more pollutants than gasoline-powered vehicles, that the Trucks emit far more pollution than a reasonable consumer would expect in light of the Defendants' advertising campaign, that the Trucks emitted unlawfully high levels of pollutants, including NO<sub>x</sub>, as described above, that the durability and longevity of the Trucks would suffer as a result of the Flash Defect, and that the fuel economy of the Trucks would drop precipitously following service at the dealerships, including service that was performed secretly and without Plaintiff's knowledge, and were non-compliant with EPA emissions requirements, making other disclosures about the emission system deceptive.

690. The truth about the defective emissions controls, the non-compliance with EPA emissions requirements, and the precipitous drop in performance of the

Trucks was known only to the Defendants; Plaintiff and the Subclass members did not know of these facts and the Defendants actively concealed these facts from Plaintiff and Subclass members.

691. Plaintiff and Subclass members reasonably relied upon the Defendants' deception. They had no way of knowing that the Defendants' representations were false and/or misleading. As consumers, the Plaintiff and Subclass members did not, and could not, unravel the Defendants' deception on their own. Rather, the Defendants intended to deceive Plaintiff and Subclass members by concealing the true facts about the Trucks' emissions and defects.

692. The Defendants also concealed and suppressed material facts concerning what is evidently the true culture of the Defendants—a culture characterized by an emphasis on profits and sales above compliance with federal and state clean air law and emissions regulations that are meant to protect the public and consumers. Defendants also emphasized profits and sales above the trust that Plaintiff and Subclass members placed in their representations. Consumers buy diesel cars from the Defendants because they feel they are clean diesel cars. They do not want to be spewing noxious gases into the environment. And yet, that is precisely what the Trucks are doing.

693. The Defendants' false representations were material to consumers, because they concerned the quality of the Trucks, compliance with applicable

federal and state law and regulations regarding clean air and emissions, anticipated fuel economy and costs for fuel, and also because the representations played a significant role in the value of the Trucks. As the Defendants well knew, their customers, including Plaintiff and Subclass members, highly valued that the Trucks they were purchasing or leasing were fuel efficient, clean diesel cars with reduced emissions and increased longevity, and they paid accordingly.

694. The Defendants had a duty to disclose the Washcoat Defect and the Flash Defect because details of the true facts were known and/or accessible only to the Defendants, because the Defendants had exclusive knowledge as to such facts, and because the Defendants knew these facts were not known to or reasonably discoverable by Plaintiff or Subclass members. The Defendants also had a duty to disclose because they made general affirmative representations about the qualities of the Trucks with respect to emissions, including references to them as the lowest-emissions diesel cars and as compliant with all laws in each country, which were misleading, deceptive, and incomplete without the disclosure of the additional facts set forth above regarding the actual emissions of the Trucks, their actual philosophy with respect to compliance with federal and state clean air law and emissions regulations, and their actual practices with respect to the Trucks at issue. Having volunteered to provide information to Plaintiff and Subclass members, the Defendants had the duty to disclose not just the partial truth, but the entire truth.

These omitted and concealed facts were material because they directly impact the value of the Trucks purchased or leased by Plaintiff and Subclass members.

Whether a manufacturer's products pollute, comply with federal and state clean air law and emissions regulations, and whether that manufacturer tells the truth with respect to such compliance or non-compliance, are material concerns to a consumer, including with respect to the emissions certifications testing their Trucks must pass. The Defendants represented to Plaintiff and Subclass members that they were purchasing or leasing reduced-emission diesel vehicles when, in fact, they were purchasing or leasing defective, high-emission vehicles with unlawfully high emissions.

695. The Defendants actively concealed and/or suppressed these material facts, in whole or in part, to pad and protect their profits and to avoid the perception that their Trucks were not clean diesel vehicles and did not or could not comply with federal and state laws governing clean air and emissions, which perception would hurt the brand's image and cost the Defendants money, and they did so at the expense of Plaintiff and Subclass members.

696. The Defendants still have not made full and adequate disclosures, and they continue to defraud Plaintiff and Subclass members by concealing material information regarding the emissions qualities of the Trucks.

697. Plaintiff and Subclass members were unaware of the omitted material facts referenced herein, and they would not have acted as they did if they had known of the concealed and/or suppressed facts, in that they would not have purchased purportedly reduced-emissions diesel cars manufactured by the Defendants, and/or would not have continued to drive their heavily polluting Trucks, or would have taken other affirmative steps in light of the information concealed from them. Plaintiff's and Subclass members' actions were justified. The Defendants were in exclusive control of the material facts, and such facts were not generally known to the public, Plaintiff, or Subclass members.

698. Because of the concealment and/or suppression of the facts, Plaintiff and Subclass members have sustained damage because they own Trucks that are diminished in value as a result of the Defendants' concealment of the true quality and quantity of those Trucks' emissions and the Defendants' failure to timely disclose the defect or defective design of the diesel engine system, the actual emissions qualities and quantities of the Defendants' Trucks, and the serious issues engendered by the Defendants' corporate policies. Had Plaintiff and Subclass members been aware of the true emissions facts with regard to the Trucks, and the Defendants' disregard for the truth and compliance with applicable federal and state law and regulations, Plaintiff and Subclass members who purchased or leased

new or certified previously owned Trucks would have paid less for their Trucks or would not have purchased or leased them at all.

699. The value of Plaintiff's and Subclass members' Trucks has diminished as a result of the Defendants' fraudulent concealment of the defective emissions controls of the Trucks, the unlawfully high emissions of the Trucks, and the non-compliance with EPA emissions requirements, all of which has greatly tarnished the Defendants' brand name attached to Plaintiff's and Subclass members' Trucks and made any reasonable consumer reluctant to purchase any of the Trucks, let alone pay what otherwise would have been fair market value for the Trucks.

700. Accordingly, the Defendants are liable to Plaintiff and Subclass members for damages in an amount to be proven at trial.

701. The Defendants' acts were done wantonly, maliciously, oppressively, deliberately, with intent to defraud, and in reckless disregard of Plaintiff's and Subclass members' rights and the representations that the Defendants made to them, in order to enrich the Defendants. The Defendants' conduct warrants an assessment of punitive damages in an amount sufficient to deter such conduct in the future, which amount is to be determined according to proof.

## COUNT IV

### UNJUST ENRICHMENT

702. Plaintiff incorporates by reference all preceding allegations as though fully set forth herein.

703. Plaintiff brings this Count on behalf of himself and the Kentucky Subclass.

704. FCA and Cummins have received and retained a benefit from Plaintiff and inequity has resulted.

705. FCA and Cummins have benefitted from selling and leasing defective cars at a profit whose value was artificially inflated by FCA and Cummins's concealment of the Washcoat Defect and the Flash Defect, and Plaintiff and the Class have overpaid for the cars and been forced to pay other costs.

706. Thus, all Kentucky Subclass members conferred a benefit on FCA and Cummins.

707. Plaintiff and the Class were not aware of the true facts about the Class Trucks, and did not benefit from FCA and Cummins's conduct.

708. FCA and Cummins knowingly accepted the benefits of their unjust conduct.

709. As a result of FCA and Cummins's conduct, the amount of their unjust enrichment should be disgorged as to each defendant, in an amount according to proof.

**J. Claims Brought on Behalf of the Mississippi Subclass**

**COUNT I**

**VIOLATION OF MISSISSIPPI CONSUMER PROTECTION ACT  
(MISS. CODE. ANN. § 75-24-1, *ET SEQ.*)**

710. Plaintiff Clarence "Todd" Johnson ("Plaintiff" for purposes of all Mississippi subclass claims) incorporates by reference all preceding allegations as though fully set forth herein.

711. This claim is brought only on behalf of members of the Mississippi Subclass.

712. The Mississippi Consumer Protection Act ("Mississippi CPA") prohibits "unfair or deceptive trade practices in or affecting commerce." MISS. CODE. ANN. § 75-24-5(1). Unfair or deceptive practices include, but are not limited to, "(e) Representing that goods or services have sponsorship, approval, characteristics, ingredients, uses, benefits, or quantities that they do not have or that a person has a sponsorship, approval, status, affiliation, or connection that he does not have;" "(g) Representing that goods or services are of a particular standard, quality, or grade, or that goods are of a particular style or model, if they

are of another;” and “(i) Advertising goods or services with intent not to sell them as advertised.”

713. In the course of the Defendants’ business, they willfully failed to disclose and actively concealed that the emissions system in the Trucks is defective, that the Trucks emitted far more pollutants than gasoline-powered vehicles, that the Trucks emit far more pollution than a reasonable consumer would expect in light of the Defendants’ advertising campaign, and that the Trucks emitted unlawfully high levels of pollutants, including NOx, as described above. Defendants further willfully failed to disclose and actively concealed that the fuel economy of the Trucks would drop precipitously following service at the dealerships, including service that was performed secretly and without Plaintiff’s knowledge. Accordingly, the Defendants engaged in unfair methods of competition, unconscionable acts or practices, and unfair or deceptive acts or practices, including representing that the Trucks have characteristics, uses, benefits, and qualities which they do not have; representing that the Trucks are of a particular standard and quality when they are not; failing to reveal a material fact, the omission of which tends to mislead or deceive the consumer, and which fact could not reasonably be known by the consumer; making a representation of fact or statement of fact material to the transaction such that a person reasonably believes the represented or suggested state of affairs to be other than it actually is; and

failing to reveal facts that are material to the transaction in light of representations of fact made in a positive manner.

714. In purchasing or leasing the Trucks, Plaintiff and the other Subclass members were deceived by the Defendants' failure to disclose that the emissions system in the Trucks is defective, that the Trucks emitted far more pollutants than gasoline-powered vehicles, that the Trucks emit far more pollution than a reasonable consumer would expect in light of the Defendants' advertising campaign, that the Trucks emitted unlawfully high levels of pollutants, including NO<sub>x</sub>, as described above, that the durability and longevity of the Trucks would suffer as a result of the Flash Defect, and that the fuel economy of the Trucks would drop precipitously following service at the dealerships, including service that was performed secretly and without Plaintiff's knowledge.

715. Plaintiff and Subclass members reasonably relied upon the Defendants' false misrepresentations. They had no way of knowing that the Defendants' representations were false and gravely misleading. As alleged herein, the Defendants engaged in extremely sophisticated methods of deception. Plaintiff and Subclass members did not, and could not, unravel Defendants' deception on their own.

716. The Defendants' actions as set forth above occurred in the conduct of trade or commerce.

717. The Defendants' unfair or deceptive acts or practices were likely to and did in fact deceive reasonable consumers.

718. The Defendants intentionally and knowingly misrepresented material facts regarding the Trucks with an intent to mislead Plaintiff and the Subclass.

719. The Defendants knew or should have known that their conduct violated the Mississippi CPA.

720. The Defendants owed Plaintiff and the Subclass a duty to disclose the truth about their emissions systems manipulation because the Defendants:

a. Possessed exclusive knowledge regarding the Washcoat Defect, and intentionally concealed the foregoing from Plaintiff and the Subclass;

b. Possessed exclusive knowledge regarding the Flash Defect, and intentionally concealed the foregoing from Plaintiff and the Subclass;

c. Made incomplete representations regarding compliance with emissions standards, while purposefully withholding material facts from Plaintiff and the Subclass that contradicted these representations; and

d. Made incomplete representations regarding the improved or superior fuel economy of the Trucks, while purposefully withholding material facts from Plaintiff and the Subclass that contradicted these representations.

721. The Defendants had a duty to disclose that the emissions system in the Trucks is defective, that the Trucks emitted far more pollutants than gasoline-

powered vehicles, that the Trucks emit far more pollution than a reasonable consumer would expect in light of the Defendants' advertising campaign, that the Trucks emitted unlawfully high levels of pollutants, including NOx, as described above, that the durability and longevity of the Trucks would suffer as a result of the Flash Defect, and that the fuel economy of the Trucks would drop precipitously following service at the dealerships, including service that was performed secretly and without Plaintiff's knowledge, because Plaintiff and the other Subclass members relied on the Defendants' material representations that the Trucks they were purchasing were reduced-emission vehicles, efficient, durable, and free from defects.

722. The Defendants' conduct proximately caused injuries to Plaintiff and the other Subclass members.

723. Plaintiff and the other Subclass members were injured and suffered ascertainable loss, injury-in-fact, and/or actual damage as a proximate result of the Defendants' conduct in that Plaintiff and the other Subclass members overpaid for their Trucks and did not receive the benefit of their bargain, and their Trucks have suffered a diminution in value. These injuries are the direct and natural consequence of the Defendants' misrepresentations and omissions.

724. The Defendants' violations present a continuing risk to Plaintiff as well as to the general public. The Defendants' unlawful acts and practices complained of herein affect the public interest.

## **COUNT II**

### **FRAUD BY CONCEALMENT**

725. The Defendants intentionally concealed that the emissions system in the Trucks is defective, that the Trucks emitted far more pollutants than gasoline-powered vehicles, that the Trucks emit far more pollution than a reasonable consumer would expect in light of the Defendants' advertising campaign, that the Trucks emitted unlawfully high levels of pollutants, including NO<sub>x</sub>, as described above, that the durability and longevity of the Trucks would suffer as a result of the Flash Defect, and that the fuel economy of the Trucks would drop precipitously following service at the dealerships, including service that was performed secretly and without Plaintiff's knowledge, or the Defendants acted with reckless disregard for the truth and denied Plaintiff and the other Subclass members information that is highly relevant to their purchasing decision.

726. The Defendants further affirmatively misrepresented to Plaintiff and Subclass members in advertising and other forms of communication, including standard and uniform material provided with each car, that the Trucks they were selling had no significant defects, were clean and low-emission vehicles, complied

with EPA regulations, were fuel-efficient, and would perform and operate properly when driven in normal usage.

727. The Defendants knew these representations were false when made.

728. The Trucks purchased or leased by Plaintiff and the other Subclass members were, in fact, defective, emitting pollutants at a much higher rate than gasoline-powered vehicles and at a much higher rate than a reasonable consumer would expect in light of the Defendants' advertising campaign, non-EPA-compliant, and unreliable, and service would lead to a precipitous drop in fuel economy.

729. The Defendants had a duty to disclose that the emissions system in the Trucks is defective, that the Trucks emitted far more pollutants than gasoline-powered vehicles, that the Trucks emit far more pollution than a reasonable consumer would expect in light of the Defendants' advertising campaign, that the Trucks emitted unlawfully high levels of pollutants, including NO<sub>x</sub>, as described above, that the durability and longevity of the Trucks would suffer as a result of the Flash Defect, and that the fuel economy of the Trucks would drop precipitously following service at the dealerships, including service that was performed secretly and without Plaintiff's knowledge, because Plaintiff and the other Subclass members relied on the Defendants' material representations that the Trucks they were purchasing were reduced-emission vehicles, efficient, and free from defects.

730. As alleged in this Complaint, at all relevant times, the Defendants have held out the Trucks to be reduced-emissions, EPA-compliant vehicles. The Defendants disclosed certain details about the diesel engine, but nonetheless, the Defendants intentionally failed to disclose important facts, including the existence of the Washcoat Defect and the Flash Defect, that the emissions system in the Trucks is defective, that the Trucks emitted far more pollutants than gasoline-powered vehicles, that the Trucks emit far more pollution than a reasonable consumer would expect in light of the Defendants' advertising campaign, that the Trucks emitted unlawfully high levels of pollutants, including NOx, as described above, that the durability and longevity of the Trucks would suffer as a result of the Flash Defect, and that the fuel economy of the Trucks would drop precipitously following service at the dealerships, including service that was performed secretly and without Plaintiff's knowledge, and were non-compliant with EPA emissions requirements, making other disclosures about the emission system deceptive.

731. The truth about the defective emissions controls, the non-compliance with EPA emissions requirements, and the precipitous drop in performance of the Trucks was known only to the Defendants; Plaintiff and the Subclass members did not know of these facts and the Defendants actively concealed these facts from Plaintiff and Subclass members.

732. Plaintiff and Subclass members reasonably relied upon the Defendants' deception. They had no way of knowing that the Defendants' representations were false and/or misleading. As consumers, the Plaintiff and Subclass members did not, and could not, unravel the Defendants' deception on their own. Rather, the Defendants intended to deceive Plaintiff and Subclass members by concealing the true facts about the Trucks' emissions and defects.

733. The Defendants also concealed and suppressed material facts concerning what is evidently the true culture of the Defendants—a culture characterized by an emphasis on profits and sales above compliance with federal and state clean air law and emissions regulations that are meant to protect the public and consumers. Defendants also emphasized profits and sales above the trust that Plaintiff and Subclass members placed in their representations. Consumers buy diesel cars from the Defendants because they feel they are clean diesel cars. They do not want to be spewing noxious gases into the environment. And yet, that is precisely what the Trucks are doing.

734. The Defendants' false representations were material to consumers, because they concerned the quality of the Trucks, compliance with applicable federal and state law and regulations regarding clean air and emissions, anticipated fuel economy and costs for fuel, and also because the representations played a significant role in the value of the Trucks. As the Defendants well knew, their

customers, including Plaintiff and Subclass members, highly valued that the Trucks they were purchasing or leasing were fuel efficient, clean diesel cars with reduced emissions and increased longevity, and they paid accordingly.

735. The Defendants had a duty to disclose the Washcoat Defect and the Flash Defect because details of the true facts were known and/or accessible only to the Defendants, because the Defendants had exclusive knowledge as to such facts, and because the Defendants knew these facts were not known to or reasonably discoverable by Plaintiff or Subclass members. The Defendants also had a duty to disclose because they made general affirmative representations about the qualities of the Trucks with respect to emissions, including references to them as the lowest-emissions diesel cars and as compliant with all laws in each country, which were misleading, deceptive, and incomplete without the disclosure of the additional facts set forth above regarding the actual emissions of the Trucks, their actual philosophy with respect to compliance with federal and state clean air law and emissions regulations, and their actual practices with respect to the Trucks at issue. Having volunteered to provide information to Plaintiff and Subclass members, the Defendants had the duty to disclose not just the partial truth, but the entire truth. These omitted and concealed facts were material because they directly impact the value of the Trucks purchased or leased by Plaintiff and Subclass members. Whether a manufacturer's products pollute, comply with federal and state clean air

law and emissions regulations, and whether that manufacturer tells the truth with respect to such compliance or non-compliance, are material concerns to a consumer, including with respect to the emissions certifications testing their Trucks must pass. The Defendants represented to Plaintiff and Subclass members that they were purchasing or leasing reduced-emission diesel vehicles when, in fact, they were purchasing or leasing defective, high-emission vehicles with unlawfully high emissions.

736. The Defendants actively concealed and/or suppressed these material facts, in whole or in part, to pad and protect their profits and to avoid the perception that their Trucks were not clean diesel vehicles and did not or could not comply with federal and state laws governing clean air and emissions, which perception would hurt the brand's image and cost the Defendants money, and they did so at the expense of Plaintiff and Subclass members.

737. The Defendants still have not made full and adequate disclosures, and they continue to defraud Plaintiff and Subclass members by concealing material information regarding the emissions qualities of the Trucks.

738. Plaintiff and Subclass members were unaware of the omitted material facts referenced herein, and they would not have acted as they did if they had known of the concealed and/or suppressed facts, in that they would not have purchased purportedly reduced-emissions diesel cars manufactured by the

Defendants, and/or would not have continued to drive their heavily polluting Trucks, or would have taken other affirmative steps in light of the information concealed from them. Plaintiff's and Subclass members' actions were justified. The Defendants were in exclusive control of the material facts, and such facts were not generally known to the public, Plaintiff, or Subclass members.

739. Because of the concealment and/or suppression of the facts, Plaintiff and Subclass members have sustained damage because they own Trucks that are diminished in value as a result of the Defendants' concealment of the true quality and quantity of those Trucks' emissions and the Defendants' failure to timely disclose the defect or defective design of the diesel engine system, the actual emissions qualities and quantities of the Defendants' Trucks, and the serious issues engendered by the Defendants' corporate policies. Had Plaintiff and Subclass members been aware of the true emissions facts with regard to the Trucks, and the Defendants' disregard for the truth and compliance with applicable federal and state law and regulations, Plaintiff and Subclass members who purchased or leased new or certified previously owned Trucks would have paid less for their Trucks or would not have purchased or leased them at all.

740. The value of Plaintiff's and Subclass members' Trucks has diminished as a result of the Defendants' fraudulent concealment of the defective emissions controls of the Trucks, the unlawfully high emissions of the Trucks, and

the non-compliance with EPA emissions requirements, all of which has greatly tarnished the Defendants' brand name attached to Plaintiff's and Subclass members' Trucks and made any reasonable consumer reluctant to purchase any of the Trucks, let alone pay what otherwise would have been fair market value for the Trucks.

741. Accordingly, the Defendants are liable to Plaintiff and Subclass members for damages in an amount to be proven at trial.

742. The Defendants' acts were done wantonly, maliciously, oppressively, deliberately, with intent to defraud, and in reckless disregard of Plaintiff's and Subclass members' rights and the representations that the Defendants made to them, in order to enrich the Defendants. The Defendants' conduct warrants an assessment of punitive damages in an amount sufficient to deter such conduct in the future, which amount is to be determined according to proof.

### **COUNT III**

#### **BREACH OF CONTRACT (BASED ON MISSISSIPPI LAW)**

743. Plaintiff incorporates by reference all preceding allegations as though fully set forth herein.

744. Plaintiff brings this Count on behalf of new vehicle or certified pre-owned vehicle purchasers in the Mississippi Subclass.

745. The Defendants' misrepresentations and omissions alleged herein, including, but not limited to, the existence of the Washcoat Defect and the Flash Defect, that the Trucks emitted far more pollutants than gasoline-powered vehicles, that the Trucks emit far more pollution than a reasonable consumer would expect in light of the Defendants' advertising campaign, that the Trucks emitted unlawfully high levels of pollutants, including NOx, as described above, that the durability and longevity of the Trucks would suffer as a result of the Flash Defect, and that the fuel economy of the Trucks would drop precipitously following service at the dealerships, including service that was performed secretly and without Plaintiff's knowledge, caused Plaintiff and the other Subclass members to make their purchases or leases of their Trucks. Absent those misrepresentations and omissions, Plaintiff and the other Subclass members would not have purchased or leased these Trucks, would not have purchased or leased these Trucks at the prices they paid, and/or would have purchased or leased less expensive alternative vehicles that did not contain the defective Engine and which were not marketed as including such a system. Accordingly, Plaintiff and the other Subclass members overpaid for their Trucks and did not receive the benefit of their bargain.

746. Each and every sale or lease of a Truck constitutes a contract between FCA and the purchaser or lessee. FCA breached these contracts by selling or leasing to Plaintiff and the other Subclass members defective Trucks and by

misrepresenting or failing to disclose that the Emissions system is defective, that the Trucks emitted far more pollutants than gasoline-powered vehicles, that the Trucks emit far more pollution than a reasonable consumer would expect in light of the Defendants' advertising campaign, that the Trucks emitted unlawfully high levels of pollutants, including NOx, as described above, and that the fuel economy of the Trucks would drop precipitously following service at the dealerships, including service that was performed secretly and without Plaintiffs' knowledge.

747. As a direct and proximate result of FCA's breach of contract, Plaintiff and the Subclass have been damaged in an amount to be proven at trial, which shall include, but is not limited to, all compensatory damages, incidental and consequential damages, and other damages allowed by law.

#### **COUNT IV**

#### **UNJUST ENRICHMENT**

748. Plaintiff incorporates by reference all preceding allegations as though fully set forth herein.

749. Plaintiff brings this Count on behalf of himself and the Mississippi Subclass.

750. FCA and Cummins have received and retained a benefit from Plaintiff and inequity has resulted.

751. FCA and Cummins have benefitted from selling and leasing defective cars at a profit whose value was artificially inflated by FCA and Cummins's concealment of the Washcoat Defect and the Flash Defect, and Plaintiff and the Class have overpaid for the cars and been forced to pay other costs.

752. Thus, all Mississippi Subclass members conferred a benefit on FCA and Cummins.

753. Plaintiff and the Class were not aware of the true facts about the Class Trucks, and did not benefit from FCA and Cummins's conduct.

754. FCA and Cummins knowingly accepted the benefits of their unjust conduct.

755. As a result of FCA and Cummins's conduct, the amount of their unjust enrichment should be disgorged as to each defendant, in an amount according to proof.

**K. Claims Brought on Behalf of the New Jersey Subclass**

**COUNT I**

**VIOLATIONS OF THE NEW JERSEY CONSUMER FRAUD ACT  
(N.J.S.A. § 56:8-1 ET SEQ.)**

756. Plaintiff Chris Wendel ("Plaintiff" for purposes of all New Jersey subclass claims) incorporates by reference all preceding allegations as though fully set forth herein.

757. Plaintiff brings this Count on behalf of the New Jersey Subclass.

758. The New Jersey Consumer Fraud Act, N.J.S.A. § 56:8-1 *et seq.* (“NJ CFA”), prohibits unfair or deceptive acts or practices in the conduct of any trade or commerce.

759. In the course of the Defendants’ business, they willfully failed to disclose and actively concealed that the emissions system in the Trucks is defective, that the Trucks emitted far more pollutants than gasoline-powered vehicles, that the Trucks emit far more pollution than a reasonable consumer would expect in light of the Defendants’ advertising campaign, and that the Trucks emitted unlawfully high levels of pollutants, including NOx, as described above. Defendants further willfully failed to disclose and actively concealed that the fuel economy of the Trucks would drop precipitously following service at the dealerships, including service that was performed secretly and without Plaintiff’s knowledge. Accordingly, the Defendants engaged in unfair methods of competition, unconscionable acts or practices, and unfair or deceptive acts or practices, including representing that the Trucks have characteristics, uses, benefits, and qualities which they do not have; representing that the Trucks are of a particular standard and quality when they are not; failing to reveal a material fact, the omission of which tends to mislead or deceive the consumer, and which fact could not reasonably be known by the consumer; making a representation of fact or

statement of fact material to the transaction such that a person reasonably believes the represented or suggested state of affairs to be other than it actually is; and failing to reveal facts that are material to the transaction in light of representations of fact made in a positive manner.

760. In purchasing or leasing the Trucks, Plaintiff and the other Subclass members were deceived by the Defendants' failure to disclose that the emissions system in the Trucks is defective, that the Trucks emitted far more pollutants than gasoline-powered vehicles, that the Trucks emit far more pollution than a reasonable consumer would expect in light of the Defendants' advertising campaign, that the Trucks emitted unlawfully high levels of pollutants, including NOx, as described above, that the durability and longevity of the Trucks would suffer as a result of the Flash Defect, and that the fuel economy of the Trucks would drop precipitously following service at the dealerships, including service that was performed secretly and without Plaintiff's knowledge.

761. Plaintiff and Subclass members reasonably relied upon the Defendants' false misrepresentations. They had no way of knowing that the Defendants' representations were false and gravely misleading. As alleged herein, the Defendants engaged in extremely sophisticated methods of deception. Plaintiff and Subclass members did not, and could not, unravel Defendants' deception on their own.

762. The Defendants' actions as set forth above occurred in the conduct of trade or commerce.

763. The Defendants' unfair or deceptive acts or practices were likely to and did in fact deceive reasonable consumers.

764. The Defendants intentionally and knowingly misrepresented material facts regarding the Trucks with an intent to mislead Plaintiff and the Subclass.

765. The Defendants knew or should have known that their conduct violated the New Jersey CFA.

766. The Defendants owed Plaintiff and the Subclass a duty to disclose the truth about their emissions systems manipulation because the Defendants:

a. Possessed exclusive knowledge regarding the Washcoat Defect, and intentionally concealed the foregoing from Plaintiff and the Subclass;

b. Possessed exclusive knowledge regarding the Flash Defect, and intentionally concealed the foregoing from Plaintiff and the Subclass;

c. Made incomplete representations regarding compliance with emissions standards, while purposefully withholding material facts from Plaintiff and the Subclass that contradicted these representations; and

d. Made incomplete representations regarding the improved or superior fuel economy of the Trucks, while purposefully withholding material facts from Plaintiff and the Subclass that contradicted these representations.

767. The Defendants had a duty to disclose that the emissions system in the Trucks is defective, that the Trucks emitted far more pollutants than gasoline-powered vehicles, that the Trucks emit far more pollution than a reasonable consumer would expect in light of the Defendants' advertising campaign, that the Trucks emitted unlawfully high levels of pollutants, including NOx, as described above, that the durability and longevity of the Trucks would suffer as a result of the Flash Defect, and that the fuel economy of the Trucks would drop precipitously following service at the dealerships, including service that was performed secretly and without Plaintiff's knowledge, because Plaintiff and the other Subclass members relied on the Defendants' material representations that the Trucks they were purchasing were reduced-emission vehicles, efficient, durable, and free from defects.

768. The Defendants' conduct proximately caused injuries to Plaintiff and the other Subclass members.

769. Plaintiff and the other Subclass members were injured and suffered ascertainable loss, injury-in-fact, and/or actual damage as a proximate result of the Defendants' conduct in that Plaintiff and the other Subclass members overpaid for their Trucks and did not receive the benefit of their bargain, and their Trucks have suffered a diminution in value. These injuries are the direct and natural consequence of the Defendants' misrepresentations and omissions.

770. The Defendants' violations present a continuing risk to Plaintiff as well as to the general public. The Defendants' unlawful acts and practices complained of herein affect the public interest.

771. Pursuant to N.J.S.A. § 56:8-20, Plaintiffs will serve the New Jersey Attorney General with a copy of this Complaint within 10 days of filing.

## **COUNT II**

### **BREACH OF CONTRACT (BASED ON NEW JERSEY LAW)**

772. Plaintiffs incorporate by reference all preceding allegations as though fully set forth herein.

773. Plaintiffs bring this Count on behalf of the New Jersey Subclass.

774. The Defendants' misrepresentations and omissions alleged herein, including, but not limited to, the existence of the Washcoat Defect and the Flash Defect, that the Trucks emitted far more pollutants than gasoline-powered vehicles, that the Trucks emit far more pollution than a reasonable consumer would expect in light of the Defendants' advertising campaign, that the Trucks emitted unlawfully high levels of pollutants, including NOx, as described above, that the durability and longevity of the Trucks would suffer as a result of the Flash Defect, and that the fuel economy of the Trucks would drop precipitously following service at the dealerships, including service that was performed secretly and without Plaintiff's knowledge, caused Plaintiff and the other Subclass members to

make their purchases or leases of their Trucks. Absent those misrepresentations and omissions, Plaintiff and the other Subclass members would not have purchased or leased these Trucks, would not have purchased or leased these Trucks at the prices they paid, and/or would have purchased or leased less expensive alternative vehicles that did not contain the defective Engine and which were not marketed as including such a system. Accordingly, Plaintiff and the other Subclass members overpaid for their Trucks and did not receive the benefit of their bargain.

775. Each and every sale or lease of a Truck constitutes a contract between FCA and the purchaser or lessee. FCA breached these contracts by selling or leasing to Plaintiff and the other Subclass members defective Trucks and by misrepresenting or failing to disclose that the Emissions system is defective, that the Trucks emitted far more pollutants than gasoline-powered vehicles, that the Trucks emit far more pollution than a reasonable consumer would expect in light of the Defendants' advertising campaign, that the Trucks emitted unlawfully high levels of pollutants, including NO<sub>x</sub>, as described above, and that the fuel economy of the Trucks would drop precipitously following service at the dealerships, including service that was performed secretly and without Plaintiffs' knowledge.

776. As a direct and proximate result of FCA's breach of contract, Plaintiff and the Subclass have been damaged in an amount to be proven at trial, which

shall include, but is not limited to, all compensatory damages, incidental and consequential damages, and other damages allowed by law.

### **COUNT III**

#### **FRAUDULENT CONCEALMENT (BASED ON NEW JERSEY LAW)**

777. Plaintiff incorporates by reference all preceding allegations as though fully set forth herein.

778. Plaintiff brings this Count on behalf of the New Jersey Subclass.

779. The Defendants intentionally concealed that the emissions system in the Trucks is defective, that the Trucks emitted far more pollutants than gasoline-powered vehicles, that the Trucks emit far more pollution than a reasonable consumer would expect in light of the Defendants' advertising campaign, that the Trucks emitted unlawfully high levels of pollutants, including NO<sub>x</sub>, as described above, that the durability and longevity of the Trucks would suffer as a result of the Flash Defect, and that the fuel economy of the Trucks would drop precipitously following service at the dealerships, including service that was performed secretly and without Plaintiff's knowledge, or the Defendants acted with reckless disregard for the truth and denied Plaintiff and the other Subclass members information that is highly relevant to their purchasing decision.

780. The Defendants further affirmatively misrepresented to Plaintiff and Subclass members in advertising and other forms of communication, including

standard and uniform material provided with each car, that the Trucks they were selling had no significant defects, were clean and low-emission vehicles, complied with EPA regulations, were fuel-efficient, and would perform and operate properly when driven in normal usage.

781. The Defendants knew these representations were false when made.

782. The Trucks purchased or leased by Plaintiff and the other Subclass members were, in fact, defective, emitting pollutants at a much higher rate than gasoline-powered vehicles and at a much higher rate than a reasonable consumer would expect in light of the Defendants' advertising campaign, non-EPA-compliant, and unreliable, and service would lead to a precipitous drop in fuel economy.

783. The Defendants had a duty to disclose that the emissions system in the Trucks is defective, that the Trucks emitted far more pollutants than gasoline-powered vehicles, that the Trucks emit far more pollution than a reasonable consumer would expect in light of the Defendants' advertising campaign, that the Trucks emitted unlawfully high levels of pollutants, including NO<sub>x</sub>, as described above, that the durability and longevity of the Trucks would suffer as a result of the Flash Defect, and that the fuel economy of the Trucks would drop precipitously following service at the dealerships, including service that was performed secretly and without Plaintiff's knowledge, because Plaintiff and the other Subclass

members relied on the Defendants' material representations that the Trucks they were purchasing were reduced-emission vehicles, efficient, and free from defects.

784. As alleged in this Complaint, at all relevant times, the Defendants have held out the Trucks to be reduced-emissions, EPA-compliant vehicles. The Defendants disclosed certain details about the diesel engine, but nonetheless, the Defendants intentionally failed to disclose important facts, including the existence of the Washcoat Defect and the Flash Defect, that the emissions system in the Trucks is defective, that the Trucks emitted far more pollutants than gasoline-powered vehicles, that the Trucks emit far more pollution than a reasonable consumer would expect in light of the Defendants' advertising campaign, that the Trucks emitted unlawfully high levels of pollutants, including NO<sub>x</sub>, as described above, that the durability and longevity of the Trucks would suffer as a result of the Flash Defect, and that the fuel economy of the Trucks would drop precipitously following service at the dealerships, including service that was performed secretly and without Plaintiff's knowledge, and were non-compliant with EPA emissions requirements, making other disclosures about the emission system deceptive.

785. The truth about the defective emissions controls, the non-compliance with EPA emissions requirements, and the precipitous drop in performance of the Trucks was known only to the Defendants; Plaintiff and the Subclass members did

not know of these facts and the Defendants actively concealed these facts from Plaintiff and Subclass members.

786. Plaintiff and Subclass members reasonably relied upon the Defendants' deception. They had no way of knowing that the Defendants' representations were false and/or misleading. As consumers, the Plaintiff and Subclass members did not, and could not, unravel the Defendants' deception on their own. Rather, the Defendants intended to deceive Plaintiff and Subclass members by concealing the true facts about the Trucks' emissions and defects.

787. The Defendants also concealed and suppressed material facts concerning what is evidently the true culture of the Defendants—a culture characterized by an emphasis on profits and sales above compliance with federal and state clean air law and emissions regulations that are meant to protect the public and consumers. Defendants also emphasized profits and sales above the trust that Plaintiff and Subclass members placed in their representations. Consumers buy diesel cars from the Defendants because they feel they are clean diesel cars. They do not want to be spewing noxious gases into the environment. And yet, that is precisely what the Trucks are doing.

788. The Defendants' false representations were material to consumers, because they concerned the quality of the Trucks, compliance with applicable federal and state law and regulations regarding clean air and emissions, anticipated

fuel economy and costs for fuel, and also because the representations played a significant role in the value of the Trucks. As the Defendants well knew, their customers, including Plaintiff and Subclass members, highly valued that the Trucks they were purchasing or leasing were fuel efficient, clean diesel cars with reduced emissions and increased longevity, and they paid accordingly.

789. The Defendants had a duty to disclose the Washcoat Defect and the Flash Defect because details of the true facts were known and/or accessible only to the Defendants, because the Defendants had exclusive knowledge as to such facts, and because the Defendants knew these facts were not known to or reasonably discoverable by Plaintiff or Subclass members. The Defendants also had a duty to disclose because they made general affirmative representations about the qualities of the Trucks with respect to emissions, including references to them as the lowest-emissions diesel cars and as compliant with all laws in each country, which were misleading, deceptive, and incomplete without the disclosure of the additional facts set forth above regarding the actual emissions of the Trucks, their actual philosophy with respect to compliance with federal and state clean air law and emissions regulations, and their actual practices with respect to the Trucks at issue. Having volunteered to provide information to Plaintiff and Subclass members, the Defendants had the duty to disclose not just the partial truth, but the entire truth. These omitted and concealed facts were material because they directly impact the

value of the Trucks purchased or leased by Plaintiff and Subclass members.

Whether a manufacturer's products pollute, comply with federal and state clean air law and emissions regulations, and whether that manufacturer tells the truth with respect to such compliance or non-compliance, are material concerns to a consumer, including with respect to the emissions certifications testing their Trucks must pass. The Defendants represented to Plaintiff and Subclass members that they were purchasing or leasing reduced-emission diesel vehicles when, in fact, they were purchasing or leasing defective, high-emission vehicles with unlawfully high emissions.

790. The Defendants actively concealed and/or suppressed these material facts, in whole or in part, to pad and protect their profits and to avoid the perception that their Trucks were not clean diesel vehicles and did not or could not comply with federal and state laws governing clean air and emissions, which perception would hurt the brand's image and cost the Defendants money, and they did so at the expense of Plaintiff and Subclass members.

791. The Defendants still have not made full and adequate disclosures, and they continue to defraud Plaintiff and Subclass members by concealing material information regarding the emissions qualities of the Trucks.

792. Plaintiff and Subclass members were unaware of the omitted material facts referenced herein, and they would not have acted as they did if they had

known of the concealed and/or suppressed facts, in that they would not have purchased purportedly reduced-emissions diesel cars manufactured by the Defendants, and/or would not have continued to drive their heavily polluting Trucks, or would have taken other affirmative steps in light of the information concealed from them. Plaintiff's and Subclass members' actions were justified. The Defendants were in exclusive control of the material facts, and such facts were not generally known to the public, Plaintiff, or Subclass members.

793. Because of the concealment and/or suppression of the facts, Plaintiff and Subclass members have sustained damage because they own Trucks that are diminished in value as a result of the Defendants' concealment of the true quality and quantity of those Trucks' emissions and the Defendants' failure to timely disclose the defect or defective design of the diesel engine system, the actual emissions qualities and quantities of the Defendants' Trucks, and the serious issues engendered by the Defendants' corporate policies. Had Plaintiff and Subclass members been aware of the true emissions facts with regard to the Trucks, and the Defendants' disregard for the truth and compliance with applicable federal and state law and regulations, Plaintiff and Subclass members who purchased or leased new or certified previously owned Trucks would have paid less for their Trucks or would not have purchased or leased them at all.

794. The value of Plaintiff's and Subclass members' Trucks has diminished as a result of the Defendants' fraudulent concealment of the defective emissions controls of the Trucks, the unlawfully high emissions of the Trucks, and the non-compliance with EPA emissions requirements, all of which has greatly tarnished the Defendants' brand name attached to Plaintiff's and Subclass members' Trucks and made any reasonable consumer reluctant to purchase any of the Trucks, let alone pay what otherwise would have been fair market value for the Trucks.

795. Accordingly, the Defendants are liable to Plaintiff and Subclass members for damages in an amount to be proven at trial.

796. The Defendants' acts were done wantonly, maliciously, oppressively, deliberately, with intent to defraud, and in reckless disregard of Plaintiff's and Subclass members' rights and the representations that the Defendants made to them, in order to enrich the Defendants. The Defendants' conduct warrants an assessment of punitive damages in an amount sufficient to deter such conduct in the future, which amount is to be determined according to proof.

#### **COUNT IV**

#### **UNJUST ENRICHMENT**

797. Plaintiff incorporates by reference all preceding allegations as though fully set forth herein.

798. Plaintiff brings this Count on behalf of himself and the New Jersey Subclass.

799. FCA and Cummins have received and retained a benefit from Plaintiff and inequity has resulted.

800. FCA and Cummins have benefitted from selling and leasing defective cars at a profit whose value was artificially inflated by FCA and Cummins's concealment of the Washcoat Defect and the Flash Defect, and Plaintiff and the Class have overpaid for the cars and been forced to pay other costs.

801. Thus, all New Jersey Subclass members conferred a benefit on FCA and Cummins.

802. Plaintiff and the Class were not aware of the true facts about the Class Trucks, and did not benefit from FCA and Cummins's conduct.

803. FCA and Cummins knowingly accepted the benefits of their unjust conduct.

804. As a result of FCA and Cummins's conduct, the amount of their unjust enrichment should be disgorged as to each defendant, in an amount according to proof.

**L. Claims Brought on Behalf of the North Carolina Subclass**

**COUNT I**

**VIOLATIONS OF THE NORTH CAROLINA UNFAIR AND  
DECEPTIVE ACTS AND PRACTICES ACT  
(N.C. GEN. STAT. § 75-1.1 *ET SEQ.*)**

805. Plaintiff Stephen Zimmerer (“Plaintiff” for purposes of all the North Carolina Subclass counts) incorporates by reference all paragraphs as though fully set forth herein.

806. Plaintiff brings this Count on behalf of the North Carolina Subclass.

807. Defendants engaged in “commerce” within the meaning of N.C. GEN. STAT. § 75-1.1(b).

808. The North Carolina UDTPA broadly prohibits “unfair or deceptive acts or practices in or affecting commerce.” N.C. GEN. STAT. § 75-1.1(a). In the course of Defendants’ business, they willfully failed to disclose and actively concealed that the NOx reduction system in the Trucks turns off or is limited during normal driving conditions, that the Trucks emitted far more pollutants than gasoline-powered vehicles, that the Trucks emit far more pollution than a reasonable consumer would expect in light of Defendants’ advertising campaign, and that the Trucks emitted unlawfully high levels of pollutants, including NOx, as described above. Accordingly, Defendants engaged in unfair and deceptive trade practices because they (1) had the capacity or tendency to deceive, (2) offend

public policy, (3) are immoral, unethical, oppressive or unscrupulous, or (4) cause substantial injury to consumers.

809. In the course of the Defendants' business, they willfully failed to disclose and actively concealed that the emissions system in the Trucks is defective, that the Trucks emitted far more pollutants than gasoline-powered vehicles, that the Trucks emit far more pollution than a reasonable consumer would expect in light of the Defendants' advertising campaign, and that the Trucks emitted unlawfully high levels of pollutants, including NOx, as described above. Defendants further willfully failed to disclose and actively concealed that the fuel economy of the Trucks would drop precipitously following service at the dealerships, including service that was performed secretly and without Plaintiff's knowledge. Accordingly, the Defendants engaged in unfair methods of competition, unconscionable acts or practices, and unfair or deceptive acts or practices, including representing that the Trucks have characteristics, uses, benefits, and qualities which they do not have; representing that the Trucks are of a particular standard and quality when they are not; failing to reveal a material fact, the omission of which tends to mislead or deceive the consumer, and which fact could not reasonably be known by the consumer; making a representation of fact or statement of fact material to the transaction such that a person reasonably believes the represented or suggested state of affairs to be other than it actually is; and

failing to reveal facts that are material to the transaction in light of representations of fact made in a positive manner.

810. In purchasing or leasing the Trucks, Plaintiff and the other Subclass members were deceived by the Defendants' failure to disclose that the emissions system in the Trucks is defective, that the Trucks emitted far more pollutants than gasoline-powered vehicles, that the Trucks emit far more pollution than a reasonable consumer would expect in light of the Defendants' advertising campaign, that the Trucks emitted unlawfully high levels of pollutants, including NO<sub>x</sub>, as described above, that the durability and longevity of the Trucks would suffer as a result of the Flash Defect, and that the fuel economy of the Trucks would drop precipitously following service at the dealerships, including service that was performed secretly and without Plaintiff's knowledge.

811. Plaintiff and Subclass members reasonably relied upon the Defendants' false misrepresentations. They had no way of knowing that the Defendants' representations were false and gravely misleading. As alleged herein, the Defendants engaged in extremely sophisticated methods of deception. Plaintiff and Subclass members did not, and could not, unravel Defendants' deception on their own.

812. The Defendants' actions as set forth above occurred in the conduct of trade or commerce.

813. The Defendants' unfair or deceptive acts or practices were likely to and did in fact deceive reasonable consumers.

814. The Defendants intentionally and knowingly misrepresented material facts regarding the Trucks with an intent to mislead Plaintiff and the Subclass.

815. The Defendants knew or should have known that their conduct violated the North Carolina UDTPA

816. The Defendants owed Plaintiff and the Subclass a duty to disclose the truth about their emissions systems manipulation because the Defendants:

a. Possessed exclusive knowledge regarding the Washcoat Defect, and intentionally concealed the foregoing from Plaintiff and the Subclass;

b. Possessed exclusive knowledge regarding the Flash Defect, and intentionally concealed the foregoing from Plaintiff and the Subclass;

c. Made incomplete representations regarding compliance with emissions standards, while purposefully withholding material facts from Plaintiff and the Subclass that contradicted these representations; and

d. Made incomplete representations regarding the improved or superior fuel economy of the Trucks, while purposefully withholding material facts from Plaintiff and the Subclass that contradicted these representations.

817. The Defendants had a duty to disclose that the emissions system in the Trucks is defective, that the Trucks emitted far more pollutants than gasoline-

powered vehicles, that the Trucks emit far more pollution than a reasonable consumer would expect in light of the Defendants' advertising campaign, that the Trucks emitted unlawfully high levels of pollutants, including NOx, as described above, that the durability and longevity of the Trucks would suffer as a result of the Flash Defect, and that the fuel economy of the Trucks would drop precipitously following service at the dealerships, including service that was performed secretly and without Plaintiff's knowledge, because Plaintiff and the other Subclass members relied on the Defendants' material representations that the Trucks they were purchasing were reduced-emission vehicles, efficient, durable, and free from defects.

818. The Defendants' conduct proximately caused injuries to Plaintiff and the other Subclass members.

819. Plaintiff and the other Subclass members were injured and suffered ascertainable loss, injury-in-fact, and/or actual damage as a proximate result of the Defendants' conduct in that Plaintiff and the other Subclass members overpaid for their Trucks and did not receive the benefit of their bargain, and their Trucks have suffered a diminution in value. These injuries are the direct and natural consequence of the Defendants' misrepresentations and omissions.

820. The Defendants' violations present a continuing risk to Plaintiff as well as to the general public. The Defendants' unlawful acts and practices complained of herein affect the public interest.

821. Plaintiff seeks an order for treble their actual damages, court costs, attorney's fees, and any other just and proper relief available under the North Carolina Act, N.C. GEN. STAT. § 75-16.

822. Plaintiff also seeks punitive damages against the Defendants because the Defendants' conduct was malicious, willful, reckless, wanton, fraudulent and in bad faith.

## **COUNT II**

### **BREACH OF CONTRACT (BASED ON NORTH CAROLINA LAW)**

823. Plaintiff incorporates by reference all preceding allegations as though fully set forth herein.

824. Plaintiff brings this Count on behalf of the North Carolina Subclass members.

825. Plaintiff incorporates by reference all preceding allegations as though fully set forth herein.

826. The Defendants' misrepresentations and omissions alleged herein, including, but not limited to, the existence of the Washcoat Defect and the Flash Defect, that the Trucks emitted far more pollutants than gasoline-powered vehicles,

that the Trucks emit far more pollution than a reasonable consumer would expect in light of the Defendants' advertising campaign, that the Trucks emitted unlawfully high levels of pollutants, including NOx, as described above, that the durability and longevity of the Trucks would suffer as a result of the Flash Defect, and that the fuel economy of the Trucks would drop precipitously following service at the dealerships, including service that was performed secretly and without Plaintiff's knowledge, caused Plaintiff and the other Subclass members to make their purchases or leases of their Trucks. Absent those misrepresentations and omissions, Plaintiff and the other Subclass members would not have purchased or leased these Trucks, would not have purchased or leased these Trucks at the prices they paid, and/or would have purchased or leased less expensive alternative vehicles that did not contain the defective Engine and which were not marketed as including such a system. Accordingly, Plaintiff and the other Subclass members overpaid for their Trucks and did not receive the benefit of their bargain.

827. Each and every sale or lease of a Truck constitutes a contract between FCA and the purchaser or lessee. FCA breached these contracts by selling or leasing to Plaintiff and the other Subclass members defective Trucks and by misrepresenting or failing to disclose that the Emissions system is defective, that the Trucks emitted far more pollutants than gasoline-powered vehicles, that the Trucks emit far more pollution than a reasonable consumer would expect in light

of the Defendants' advertising campaign, that the Trucks emitted unlawfully high levels of pollutants, including NOx, as described above, and that the fuel economy of the Trucks would drop precipitously following service at the dealerships, including service that was performed secretly and without Plaintiffs' knowledge.

828. As a direct and proximate result of FCA's breach of contract, Plaintiff and the Subclass have been damaged in an amount to be proven at trial, which shall include, but is not limited to, all compensatory damages, incidental and consequential damages, and other damages allowed by law.

### **COUNT III**

#### **FRAUDULENT CONCEALMENT (BASED ON NORTH CAROLINA LAW)**

829. Plaintiff incorporates by reference all preceding allegations as though fully set forth herein.

830. This claim is brought on behalf of the North Carolina Subclass.

831. The Defendants intentionally concealed that the emissions system in the Trucks is defective, that the Trucks emitted far more pollutants than gasoline-powered vehicles, that the Trucks emit far more pollution than a reasonable consumer would expect in light of the Defendants' advertising campaign, that the Trucks emitted unlawfully high levels of pollutants, including NOx, as described above, that the durability and longevity of the Trucks would suffer as a result of the Flash Defect, and that the fuel economy of the Trucks would drop precipitously

following service at the dealerships, including service that was performed secretly and without Plaintiff's knowledge, or the Defendants acted with reckless disregard for the truth and denied Plaintiff and the other Subclass members information that is highly relevant to their purchasing decision.

832. The Defendants further affirmatively misrepresented to Plaintiff and Subclass members in advertising and other forms of communication, including standard and uniform material provided with each car, that the Trucks they were selling had no significant defects, were clean and low-emission vehicles, complied with EPA regulations, were fuel-efficient, and would perform and operate properly when driven in normal usage.

833. The Defendants knew these representations were false when made.

834. The Trucks purchased or leased by Plaintiff and the other Subclass members were, in fact, defective, emitting pollutants at a much higher rate than gasoline-powered vehicles and at a much higher rate than a reasonable consumer would expect in light of the Defendants' advertising campaign, non-EPA-compliant, and unreliable, and service would lead to a precipitous drop in fuel economy.

835. The Defendants had a duty to disclose that the emissions system in the Trucks is defective, that the Trucks emitted far more pollutants than gasoline-powered vehicles, that the Trucks emit far more pollution than a reasonable

consumer would expect in light of the Defendants' advertising campaign, that the Trucks emitted unlawfully high levels of pollutants, including NOx, as described above, that the durability and longevity of the Trucks would suffer as a result of the Flash Defect, and that the fuel economy of the Trucks would drop precipitously following service at the dealerships, including service that was performed secretly and without Plaintiff's knowledge, because Plaintiff and the other Subclass members relied on the Defendants' material representations that the Trucks they were purchasing were reduced-emission vehicles, efficient, and free from defects.

836. As alleged in this Complaint, at all relevant times, the Defendants have held out the Trucks to be reduced-emissions, EPA-compliant vehicles. The Defendants disclosed certain details about the diesel engine, but nonetheless, the Defendants intentionally failed to disclose important facts, including the existence of the Washcoat Defect and the Flash Defect, that the emissions system in the Trucks is defective, that the Trucks emitted far more pollutants than gasoline-powered vehicles, that the Trucks emit far more pollution than a reasonable consumer would expect in light of the Defendants' advertising campaign, that the Trucks emitted unlawfully high levels of pollutants, including NOx, as described above, that the durability and longevity of the Trucks would suffer as a result of the Flash Defect, and that the fuel economy of the Trucks would drop precipitously following service at the dealerships, including service that was performed secretly

and without Plaintiff's knowledge, and were non-compliant with EPA emissions requirements, making other disclosures about the emission system deceptive.

837. The truth about the defective emissions controls, the non-compliance with EPA emissions requirements, and the precipitous drop in performance of the Trucks was known only to the Defendants; Plaintiff and the Subclass members did not know of these facts and the Defendants actively concealed these facts from Plaintiff and Subclass members.

838. Plaintiff and Subclass members reasonably relied upon the Defendants' deception. They had no way of knowing that the Defendants' representations were false and/or misleading. As consumers, the Plaintiff and Subclass members did not, and could not, unravel the Defendants' deception on their own. Rather, the Defendants intended to deceive Plaintiff and Subclass members by concealing the true facts about the Trucks' emissions and defects.

839. The Defendants also concealed and suppressed material facts concerning what is evidently the true culture of the Defendants—a culture characterized by an emphasis on profits and sales above compliance with federal and state clean air law and emissions regulations that are meant to protect the public and consumers. Defendants also emphasized profits and sales above the trust that Plaintiff and Subclass members placed in their representations. Consumers buy diesel cars from the Defendants because they feel they are clean

diesel cars. They do not want to be spewing noxious gases into the environment. And yet, that is precisely what the Trucks are doing.

840. The Defendants' false representations were material to consumers, because they concerned the quality of the Trucks, compliance with applicable federal and state law and regulations regarding clean air and emissions, anticipated fuel economy and costs for fuel, and also because the representations played a significant role in the value of the Trucks. As the Defendants well knew, their customers, including Plaintiff and Subclass members, highly valued that the Trucks they were purchasing or leasing were fuel efficient, clean diesel cars with reduced emissions and increased longevity, and they paid accordingly.

841. The Defendants had a duty to disclose the Washcoat Defect and the Flash Defect because details of the true facts were known and/or accessible only to the Defendants, because the Defendants had exclusive knowledge as to such facts, and because the Defendants knew these facts were not known to or reasonably discoverable by Plaintiff or Subclass members. The Defendants also had a duty to disclose because they made general affirmative representations about the qualities of the Trucks with respect to emissions, including references to them as the lowest-emissions diesel cars and as compliant with all laws in each country, which were misleading, deceptive, and incomplete without the disclosure of the additional facts set forth above regarding the actual emissions of the Trucks, their actual

philosophy with respect to compliance with federal and state clean air law and emissions regulations, and their actual practices with respect to the Trucks at issue. Having volunteered to provide information to Plaintiff and Subclass members, the Defendants had the duty to disclose not just the partial truth, but the entire truth. These omitted and concealed facts were material because they directly impact the value of the Trucks purchased or leased by Plaintiff and Subclass members. Whether a manufacturer's products pollute, comply with federal and state clean air law and emissions regulations, and whether that manufacturer tells the truth with respect to such compliance or non-compliance, are material concerns to a consumer, including with respect to the emissions certifications testing their Trucks must pass. The Defendants represented to Plaintiff and Subclass members that they were purchasing or leasing reduced-emission diesel vehicles when, in fact, they were purchasing or leasing defective, high-emission vehicles with unlawfully high emissions.

842. The Defendants actively concealed and/or suppressed these material facts, in whole or in part, to pad and protect their profits and to avoid the perception that their Trucks were not clean diesel vehicles and did not or could not comply with federal and state laws governing clean air and emissions, which perception would hurt the brand's image and cost the Defendants money, and they did so at the expense of Plaintiff and Subclass members.

843. The Defendants still have not made full and adequate disclosures, and they continue to defraud Plaintiff and Subclass members by concealing material information regarding the emissions qualities of the Trucks.

844. Plaintiff and Subclass members were unaware of the omitted material facts referenced herein, and they would not have acted as they did if they had known of the concealed and/or suppressed facts, in that they would not have purchased purportedly reduced-emissions diesel cars manufactured by the Defendants, and/or would not have continued to drive their heavily polluting Trucks, or would have taken other affirmative steps in light of the information concealed from them. Plaintiff's and Subclass members' actions were justified. The Defendants were in exclusive control of the material facts, and such facts were not generally known to the public, Plaintiff, or Subclass members.

845. Because of the concealment and/or suppression of the facts, Plaintiff and Subclass members have sustained damage because they own Trucks that are diminished in value as a result of the Defendants' concealment of the true quality and quantity of those Trucks' emissions and the Defendants' failure to timely disclose the defect or defective design of the diesel engine system, the actual emissions qualities and quantities of the Defendants' Trucks, and the serious issues engendered by the Defendants' corporate policies. Had Plaintiff and Subclass members been aware of the true emissions facts with regard to the Trucks, and the

Defendants' disregard for the truth and compliance with applicable federal and state law and regulations, Plaintiff and Subclass members who purchased or leased new or certified previously owned Trucks would have paid less for their Trucks or would not have purchased or leased them at all.

846. The value of Plaintiff's and Subclass members' Trucks has diminished as a result of the Defendants' fraudulent concealment of the defective emissions controls of the Trucks, the unlawfully high emissions of the Trucks, and the non-compliance with EPA emissions requirements, all of which has greatly tarnished the Defendants' brand name attached to Plaintiff's and Subclass members' Trucks and made any reasonable consumer reluctant to purchase any of the Trucks, let alone pay what otherwise would have been fair market value for the Trucks.

847. Accordingly, the Defendants are liable to Plaintiff and Subclass members for damages in an amount to be proven at trial.

848. The Defendants' acts were done wantonly, maliciously, oppressively, deliberately, with intent to defraud, and in reckless disregard of Plaintiff's and Subclass members' rights and the representations that the Defendants made to them, in order to enrich the Defendants. The Defendants' conduct warrants an assessment of punitive damages in an amount sufficient to deter such conduct in the future, which amount is to be determined according to proof.

## COUNT IV

### UNJUST ENRICHMENT

849. Plaintiff incorporates by reference all preceding allegations as though fully set forth herein.

850. Plaintiff brings this Count on behalf of himself and the North Carolina Subclass.

851. FCA and Cummins have received and retained a benefit from Plaintiff and inequity has resulted.

852. FCA and Cummins have benefitted from selling and leasing defective cars at a profit whose value was artificially inflated by FCA and Cummins's concealment of the Washcoat Defect and the Flash Defect, and Plaintiff and the Class have overpaid for the cars and been forced to pay other costs.

853. Thus, all North Carolina Subclass members conferred a benefit on FCA and Cummins.

854. Plaintiff and the Class were not aware of the true facts about the Class Trucks, and did not benefit from FCA and Cummins's conduct.

855. FCA and Cummins knowingly accepted the benefits of their unjust conduct.

856. As a result of FCA and Cummins's conduct, the amount of their unjust enrichment should be disgorged as to each defendant, in an amount according to proof.

**M. Claims Brought on Behalf of the Ohio Subclass**

**COUNT I**

**VIOLATIONS OF THE OHIO CONSUMER SALES PRACTICES ACT  
(OHIO REV. CODE § 1345.01 *ET SEQ.*)**

857. Plaintiff Jason Gindele ("Plaintiff" for purposes of all Ohio Subclass claims) incorporates by reference all preceding allegations as though fully set forth herein.

858. This claim is brought on behalf of the Ohio Subclass.

859. Plaintiff and the other Ohio Subclass members are "consumers" as defined by the Ohio Consumer Sales Practices Act, OHIO REV. CODE § 1345.01 ("Ohio CSPA"). Each of the Defendants is a "supplier" as defined by the Ohio CSPA. Plaintiff's and the other Ohio Subclass members' purchases or leases of Trucks were "consumer transactions" as defined by the Ohio CSPA.

860. The Ohio CSPA, OHIO REV. CODE § 1345.02, broadly prohibits unfair or deceptive acts or practices in connection with a consumer transaction. Specifically, and without limitation of the broad prohibition, the Act prohibits suppliers from representing (i) that goods have characteristics or uses or benefits

which they do not have; (ii) that their goods are of a particular quality or grade they are not; and (iii) the subject of a consumer transaction has been supplied in accordance with a previous representation, if it has not. *Id.* The Defendants' conduct as alleged above and below constitutes unfair and/or deceptive consumer sales practices in violation of OHIO REV. CODE § 1345.02.

861. In the course of the Defendants' business, they willfully failed to disclose and actively concealed that the emissions system in the Trucks is defective, that the Trucks emitted far more pollutants than gasoline-powered vehicles, that the Trucks emit far more pollution than a reasonable consumer would expect in light of the Defendants' advertising campaign, and that the Trucks emitted unlawfully high levels of pollutants, including NO<sub>x</sub>, as described above. Defendants further willfully failed to disclose and actively concealed that the fuel economy of the Trucks would drop precipitously following service at the dealerships, including service that was performed secretly and without Plaintiff's knowledge. Accordingly, the Defendants engaged in unfair methods of competition, unconscionable acts or practices, and unfair or deceptive acts or practices, including representing that the Trucks have characteristics, uses, benefits, and qualities which they do not have; representing that the Trucks are of a particular standard and quality when they are not; failing to reveal a material fact, the omission of which tends to mislead or deceive the consumer, and which fact

could not reasonably be known by the consumer; making a representation of fact or statement of fact material to the transaction such that a person reasonably believes the represented or suggested state of affairs to be other than it actually is; and failing to reveal facts that are material to the transaction in light of representations of fact made in a positive manner.

862. In purchasing or leasing the Trucks, Plaintiff and the other Subclass members were deceived by the Defendants' failure to disclose that the emissions system in the Trucks is defective, that the Trucks emitted far more pollutants than gasoline-powered vehicles, that the Trucks emit far more pollution than a reasonable consumer would expect in light of the Defendants' advertising campaign, that the Trucks emitted unlawfully high levels of pollutants, including NO<sub>x</sub>, as described above, that the durability and longevity of the Trucks would suffer as a result of the Flash Defect, and that the fuel economy of the Trucks would drop precipitously following service at the dealerships, including service that was performed secretly and without Plaintiff's knowledge.

863. Plaintiff and Subclass members reasonably relied upon the Defendants' false misrepresentations. They had no way of knowing that the Defendants' representations were false and gravely misleading. As alleged herein, the Defendants engaged in extremely sophisticated methods of deception. Plaintiff

and Subclass members did not, and could not, unravel Defendants' deception on their own.

864. The Defendants' actions as set forth above occurred in the conduct of trade or commerce.

865. The Defendants' unfair or deceptive acts or practices were likely to and did in fact deceive reasonable consumers.

866. The Defendants intentionally and knowingly misrepresented material facts regarding the Trucks with an intent to mislead Plaintiff and the Subclass.

867. The Defendants knew or should have known that their conduct violated the Ohio CSPA.

868. The Defendants owed Plaintiff and the Subclass a duty to disclose the truth about their emissions systems manipulation because the Defendants:

a. Possessed exclusive knowledge regarding the Washcoat Defect, and intentionally concealed the foregoing from Plaintiff and the Subclass;

b. Possessed exclusive knowledge regarding the Flash Defect, and intentionally concealed the foregoing from Plaintiff and the Subclass;

c. Made incomplete representations regarding compliance with emissions standards, while purposefully withholding material facts from Plaintiff and the Subclass that contradicted these representations; and

d. Made incomplete representations regarding the improved or superior fuel economy of the Trucks, while purposefully withholding material facts from Plaintiff and the Subclass that contradicted these representations.

869. The Defendants had a duty to disclose that the emissions system in the Trucks is defective, that the Trucks emitted far more pollutants than gasoline-powered vehicles, that the Trucks emit far more pollution than a reasonable consumer would expect in light of the Defendants' advertising campaign, that the Trucks emitted unlawfully high levels of pollutants, including NO<sub>x</sub>, as described above, that the durability and longevity of the Trucks would suffer as a result of the Flash Defect, and that the fuel economy of the Trucks would drop precipitously following service at the dealerships, including service that was performed secretly and without Plaintiff's knowledge, because Plaintiff and the other Subclass members relied on the Defendants' material representations that the Trucks they were purchasing were reduced-emission vehicles, efficient, durable, and free from defects.

870. The Defendants' conduct proximately caused injuries to Plaintiff and the other Subclass members.

871. Plaintiff and the other Subclass members were injured and suffered ascertainable loss, injury-in-fact, and/or actual damage as a proximate result of the Defendants' conduct in that Plaintiff and the other Subclass members overpaid for

their Trucks and did not receive the benefit of their bargain, and their Trucks have suffered a diminution in value. These injuries are the direct and natural consequence of the Defendants' misrepresentations and omissions.

872. The Defendants' violations present a continuing risk to Plaintiff as well as to the general public. The Defendants' unlawful acts and practices complained of herein affect the public interest.

873. Plaintiff and the Subclass sustained damages as a result of the Defendants' unlawful acts and are, therefore, entitled to damages and other relief as provided under the Ohio CSPA.

874. Plaintiff also seeks court costs and attorneys' fees as a result of Defendants' violations of the OCSPA as provided in OHIO REV. CODE § 1345.09.

## **COUNT II**

### **BREACH OF CONTRACT (BASED ON OHIO LAW)**

875. Plaintiff incorporates by reference all preceding allegations as though fully set forth herein.

876. Plaintiff brings this Count on behalf of Ohio Subclass members.

877. The Defendants' misrepresentations and omissions alleged herein, including, but not limited to, the existence of the Washcoat Defect and the Flash Defect, that the Trucks emitted far more pollutants than gasoline-powered vehicles, that the Trucks emit far more pollution than a reasonable consumer would expect

in light of the Defendants' advertising campaign, that the Trucks emitted unlawfully high levels of pollutants, including NOx, as described above, that the durability and longevity of the Trucks would suffer as a result of the Flash Defect, and that the fuel economy of the Trucks would drop precipitously following service at the dealerships, including service that was performed secretly and without Plaintiff's knowledge, caused Plaintiff and the other Subclass members to make their purchases or leases of their Trucks. Absent those misrepresentations and omissions, Plaintiff and the other Subclass members would not have purchased or leased these Trucks, would not have purchased or leased these Trucks at the prices they paid, and/or would have purchased or leased less expensive alternative vehicles that did not contain the defective Engine and which were not marketed as including such a system. Accordingly, Plaintiff and the other Subclass members overpaid for their Trucks and did not receive the benefit of their bargain.

878. Each and every sale or lease of a Truck constitutes a contract between FCA and the purchaser or lessee. FCA breached these contracts by selling or leasing to Plaintiff and the other Subclass members defective Trucks and by misrepresenting or failing to disclose that the Emissions system is defective, that the Trucks emitted far more pollutants than gasoline-powered vehicles, that the Trucks emit far more pollution than a reasonable consumer would expect in light of the Defendants' advertising campaign, that the Trucks emitted unlawfully high

levels of pollutants, including NOx, as described above, and that the fuel economy of the Trucks would drop precipitously following service at the dealerships, including service that was performed secretly and without Plaintiffs' knowledge.

879. As a direct and proximate result of FCA's breach of contract, Plaintiff and the Subclass have been damaged in an amount to be proven at trial, which shall include, but is not limited to, all compensatory damages, incidental and consequential damages, and other damages allowed by law.

### **COUNT III**

#### **FRAUDULENT CONCEALMENT (BASED ON OHIO LAW)**

880. Plaintiff incorporates by reference all preceding allegations as though fully set forth herein.

881. This claim is brought on behalf of the Ohio Subclass.

882. The Defendants intentionally concealed that the emissions system in the Trucks is defective, that the Trucks emitted far more pollutants than gasoline-powered vehicles, that the Trucks emit far more pollution than a reasonable consumer would expect in light of the Defendants' advertising campaign, that the Trucks emitted unlawfully high levels of pollutants, including NOx, as described above, that the durability and longevity of the Trucks would suffer as a result of the Flash Defect, and that the fuel economy of the Trucks would drop precipitously following service at the dealerships, including service that was performed secretly

and without Plaintiff's knowledge, or the Defendants acted with reckless disregard for the truth and denied Plaintiff and the other Subclass members information that is highly relevant to their purchasing decision.

883. The Defendants further affirmatively misrepresented to Plaintiff and Subclass members in advertising and other forms of communication, including standard and uniform material provided with each car, that the Trucks they were selling had no significant defects, were clean and low-emission vehicles, complied with EPA regulations, were fuel-efficient, and would perform and operate properly when driven in normal usage.

884. The Defendants knew these representations were false when made.

885. The Trucks purchased or leased by Plaintiff and the other Subclass members were, in fact, defective, emitting pollutants at a much higher rate than gasoline-powered vehicles and at a much higher rate than a reasonable consumer would expect in light of the Defendants' advertising campaign, non-EPA-compliant, and unreliable, and service would lead to a precipitous drop in fuel economy.

886. The Defendants had a duty to disclose that the emissions system in the Trucks is defective, that the Trucks emitted far more pollutants than gasoline-powered vehicles, that the Trucks emit far more pollution than a reasonable consumer would expect in light of the Defendants' advertising campaign, that the

Trucks emitted unlawfully high levels of pollutants, including NO<sub>x</sub>, as described above, that the durability and longevity of the Trucks would suffer as a result of the Flash Defect, and that the fuel economy of the Trucks would drop precipitously following service at the dealerships, including service that was performed secretly and without Plaintiff's knowledge, because Plaintiff and the other Subclass members relied on the Defendants' material representations that the Trucks they were purchasing were reduced-emission vehicles, efficient, and free from defects.

887. As alleged in this Complaint, at all relevant times, the Defendants have held out the Trucks to be reduced-emissions, EPA-compliant vehicles. The Defendants disclosed certain details about the diesel engine, but nonetheless, the Defendants intentionally failed to disclose important facts, including the existence of the Washcoat Defect and the Flash Defect, that the emissions system in the Trucks is defective, that the Trucks emitted far more pollutants than gasoline-powered vehicles, that the Trucks emit far more pollution than a reasonable consumer would expect in light of the Defendants' advertising campaign, that the Trucks emitted unlawfully high levels of pollutants, including NO<sub>x</sub>, as described above, that the durability and longevity of the Trucks would suffer as a result of the Flash Defect, and that the fuel economy of the Trucks would drop precipitously following service at the dealerships, including service that was performed secretly

and without Plaintiff's knowledge, and were non-compliant with EPA emissions requirements, making other disclosures about the emission system deceptive.

888. The truth about the defective emissions controls, the non-compliance with EPA emissions requirements, and the precipitous drop in performance of the Trucks was known only to the Defendants; Plaintiff and the Subclass members did not know of these facts and the Defendants actively concealed these facts from Plaintiff and Subclass members.

889. Plaintiff and Subclass members reasonably relied upon the Defendants' deception. They had no way of knowing that the Defendants' representations were false and/or misleading. As consumers, the Plaintiff and Subclass members did not, and could not, unravel the Defendants' deception on their own. Rather, the Defendants intended to deceive Plaintiff and Subclass members by concealing the true facts about the Trucks' emissions and defects.

890. The Defendants also concealed and suppressed material facts concerning what is evidently the true culture of the Defendants—a culture characterized by an emphasis on profits and sales above compliance with federal and state clean air law and emissions regulations that are meant to protect the public and consumers. Defendants also emphasized profits and sales above the trust that Plaintiff and Subclass members placed in their representations. Consumers buy diesel cars from the Defendants because they feel they are clean

diesel cars. They do not want to be spewing noxious gases into the environment. And yet, that is precisely what the Trucks are doing.

891. The Defendants' false representations were material to consumers, because they concerned the quality of the Trucks, compliance with applicable federal and state law and regulations regarding clean air and emissions, anticipated fuel economy and costs for fuel, and also because the representations played a significant role in the value of the Trucks. As the Defendants well knew, their customers, including Plaintiff and Subclass members, highly valued that the Trucks they were purchasing or leasing were fuel efficient, clean diesel cars with reduced emissions and increased longevity, and they paid accordingly.

892. The Defendants had a duty to disclose the Washcoat Defect and the Flash Defect because details of the true facts were known and/or accessible only to the Defendants, because the Defendants had exclusive knowledge as to such facts, and because the Defendants knew these facts were not known to or reasonably discoverable by Plaintiff or Subclass members. The Defendants also had a duty to disclose because they made general affirmative representations about the qualities of the Trucks with respect to emissions, including references to them as the lowest-emissions diesel cars and as compliant with all laws in each country, which were misleading, deceptive, and incomplete without the disclosure of the additional facts set forth above regarding the actual emissions of the Trucks, their actual

philosophy with respect to compliance with federal and state clean air law and emissions regulations, and their actual practices with respect to the Trucks at issue. Having volunteered to provide information to Plaintiff and Subclass members, the Defendants had the duty to disclose not just the partial truth, but the entire truth. These omitted and concealed facts were material because they directly impact the value of the Trucks purchased or leased by Plaintiff and Subclass members. Whether a manufacturer's products pollute, comply with federal and state clean air law and emissions regulations, and whether that manufacturer tells the truth with respect to such compliance or non-compliance, are material concerns to a consumer, including with respect to the emissions certifications testing their Trucks must pass. The Defendants represented to Plaintiff and Subclass members that they were purchasing or leasing reduced-emission diesel vehicles when, in fact, they were purchasing or leasing defective, high-emission vehicles with unlawfully high emissions.

893. The Defendants actively concealed and/or suppressed these material facts, in whole or in part, to pad and protect their profits and to avoid the perception that their Trucks were not clean diesel vehicles and did not or could not comply with federal and state laws governing clean air and emissions, which perception would hurt the brand's image and cost the Defendants money, and they did so at the expense of Plaintiff and Subclass members.

894. The Defendants still have not made full and adequate disclosures, and they continue to defraud Plaintiff and Subclass members by concealing material information regarding the emissions qualities of the Trucks.

895. Plaintiff and Subclass members were unaware of the omitted material facts referenced herein, and they would not have acted as they did if they had known of the concealed and/or suppressed facts, in that they would not have purchased purportedly reduced-emissions diesel cars manufactured by the Defendants, and/or would not have continued to drive their heavily polluting Trucks, or would have taken other affirmative steps in light of the information concealed from them. Plaintiff's and Subclass members' actions were justified. The Defendants were in exclusive control of the material facts, and such facts were not generally known to the public, Plaintiff, or Subclass members.

896. Because of the concealment and/or suppression of the facts, Plaintiff and Subclass members have sustained damage because they own Trucks that are diminished in value as a result of the Defendants' concealment of the true quality and quantity of those Trucks' emissions and the Defendants' failure to timely disclose the defect or defective design of the diesel engine system, the actual emissions qualities and quantities of the Defendants' Trucks, and the serious issues engendered by the Defendants' corporate policies. Had Plaintiff and Subclass members been aware of the true emissions facts with regard to the Trucks, and the

Defendants' disregard for the truth and compliance with applicable federal and state law and regulations, Plaintiff and Subclass members who purchased or leased new or certified previously owned Trucks would have paid less for their Trucks or would not have purchased or leased them at all.

897. The value of Plaintiff's and Subclass members' Trucks has diminished as a result of the Defendants' fraudulent concealment of the defective emissions controls of the Trucks, the unlawfully high emissions of the Trucks, and the non-compliance with EPA emissions requirements, all of which has greatly tarnished the Defendants' brand name attached to Plaintiff's and Subclass members' Trucks and made any reasonable consumer reluctant to purchase any of the Trucks, let alone pay what otherwise would have been fair market value for the Trucks.

898. Accordingly, the Defendants are liable to Plaintiff and Subclass members for damages in an amount to be proven at trial.

899. The Defendants' acts were done wantonly, maliciously, oppressively, deliberately, with intent to defraud, and in reckless disregard of Plaintiff's and Subclass members' rights and the representations that the Defendants made to them, in order to enrich the Defendants. The Defendants' conduct warrants an assessment of punitive damages in an amount sufficient to deter such conduct in the future, which amount is to be determined according to proof.

## COUNT IV

### UNJUST ENRICHMENT

900. Plaintiff incorporates by reference all preceding allegations as though fully set forth herein.

901. Plaintiff brings this Count on behalf of himself and the Ohio Subclass.

902. FCA and Cummins have received and retained a benefit from Plaintiff and inequity has resulted.

903. FCA and Cummins have benefitted from selling and leasing defective cars at a profit whose value was artificially inflated by FCA and Cummins's concealment of the Washcoat Defect and the Flash Defect, and Plaintiff and the Class have overpaid for the cars and been forced to pay other costs.

904. Thus, all Ohio Subclass members conferred a benefit on FCA and Cummins.

905. Plaintiff and the Class were not aware of the true facts about the Class Trucks, and did not benefit from FCA and Cummins's conduct.

906. FCA and Cummins knowingly accepted the benefits of their unjust conduct.

907. As a result of FCA and Cummins's conduct, the amount of their unjust enrichment should be disgorged as to each defendant, in an amount according to proof.

**N. Claims Brought on Behalf of the Oklahoma Subclass**

**COUNT I**

**VIOLATION OF OKLAHOMA CONSUMER PROTECTION ACT  
(OKLA. STAT. TIT. 15 § 751 ET SEQ.)**

908. Plaintiff Jeremy Batey (“Plaintiff” for purposes of all Oklahoma Subclass claims) incorporates by reference all paragraphs as though fully set forth herein.

909. Plaintiff brings this Count on behalf of the Oklahoma Subclass.

910. Plaintiffs and the Oklahoma Subclass members are “persons” under the Oklahoma Consumer Protection Act (“Oklahoma CPA”), OKLA. STAT. TIT. 15 § 752.

911. Each of the Defendants is a “person,” “corporation,” or “association” within the meaning of OKLA. STAT. TIT. 15 § 15-751(1).

912. The sale or lease of the Trucks to the Oklahoma Subclass members was a “consumer transaction” within the meaning of OKLA. STAT. TIT. 15 § 752, and the Defendants’ actions as set forth herein occurred in the conduct of trade or commerce.

913. The Oklahoma CPA declares unlawful, *inter alia*, the following acts or practices when committed in the course of business: “mak[ing] a false or misleading representation, knowingly or with reason to know, as to the characteristics, ... uses, [or] benefits, of the subject of a consumer transaction,” or

making a false representation, “knowingly or with reason to know, that the subject of a consumer transaction is of a particular standard, style or model, if it is of another or “[a]dvertis[ing], knowingly or with reason to know, the subject of a consumer transaction with intent not to sell it as advertised;” and otherwise committing “an unfair or deceptive trade practice.” *See* OKLA. STAT. TIT. 15, § 753.

914. In the course of the Defendants’ business, they willfully failed to disclose and actively concealed that the emissions system in the Trucks is defective, that the Trucks emitted far more pollutants than gasoline-powered vehicles, that the Trucks emit far more pollution than a reasonable consumer would expect in light of the Defendants’ advertising campaign, and that the Trucks emitted unlawfully high levels of pollutants, including NO<sub>x</sub>, as described above. Defendants further willfully failed to disclose and actively concealed that the fuel economy of the Trucks would drop precipitously following service at the dealerships, including service that was performed secretly and without Plaintiff’s knowledge. Accordingly, the Defendants engaged in unfair methods of competition, unconscionable acts or practices, and unfair or deceptive acts or practices, including representing that the Trucks have characteristics, uses, benefits, and qualities which they do not have; representing that the Trucks are of a particular standard and quality when they are not; failing to reveal a material fact, the omission of which tends to mislead or deceive the consumer, and which fact

could not reasonably be known by the consumer; making a representation of fact or statement of fact material to the transaction such that a person reasonably believes the represented or suggested state of affairs to be other than it actually is; and failing to reveal facts that are material to the transaction in light of representations of fact made in a positive manner.

915. In purchasing or leasing the Trucks, Plaintiff and the other Subclass members were deceived by the Defendants' failure to disclose that the emissions system in the Trucks is defective, that the Trucks emitted far more pollutants than gasoline-powered vehicles, that the Trucks emit far more pollution than a reasonable consumer would expect in light of the Defendants' advertising campaign, that the Trucks emitted unlawfully high levels of pollutants, including NO<sub>x</sub>, as described above, that the durability and longevity of the Trucks would suffer as a result of the Flash Defect, and that the fuel economy of the Trucks would drop precipitously following service at the dealerships, including service that was performed secretly and without Plaintiff's knowledge.

916. Plaintiff and Subclass members reasonably relied upon the Defendants' false misrepresentations. They had no way of knowing that the Defendants' representations were false and gravely misleading. As alleged herein, the Defendants engaged in extremely sophisticated methods of deception. Plaintiff

and Subclass members did not, and could not, unravel Defendants' deception on their own.

917. The Defendants' actions as set forth above occurred in the conduct of trade or commerce.

918. The Defendants' unfair or deceptive acts or practices were likely to and did in fact deceive reasonable consumers.

919. The Defendants intentionally and knowingly misrepresented material facts regarding the Trucks with an intent to mislead Plaintiff and the Subclass.

920. The Defendants knew or should have known that their conduct violated the Oklahoma CPA.

921. The Defendants owed Plaintiff and the Subclass a duty to disclose the truth about their emissions systems manipulation because the Defendants:

a. Possessed exclusive knowledge regarding the Washcoat Defect, and intentionally concealed the foregoing from Plaintiff and the Subclass;

b. Possessed exclusive knowledge regarding the Flash Defect, and intentionally concealed the foregoing from Plaintiff and the Subclass;

c. Made incomplete representations regarding compliance with emissions standards, while purposefully withholding material facts from Plaintiff and the Subclass that contradicted these representations; and

d. Made incomplete representations regarding the improved or superior fuel economy of the Trucks, while purposefully withholding material facts from Plaintiff and the Subclass that contradicted these representations.

922. The Defendants had a duty to disclose that the emissions system in the Trucks is defective, that the Trucks emitted far more pollutants than gasoline-powered vehicles, that the Trucks emit far more pollution than a reasonable consumer would expect in light of the Defendants' advertising campaign, that the Trucks emitted unlawfully high levels of pollutants, including NO<sub>x</sub>, as described above, that the durability and longevity of the Trucks would suffer as a result of the Flash Defect, and that the fuel economy of the Trucks would drop precipitously following service at the dealerships, including service that was performed secretly and without Plaintiff's knowledge, because Plaintiff and the other Subclass members relied on the Defendants' material representations that the Trucks they were purchasing were reduced-emission vehicles, efficient, durable, and free from defects.

923. The Defendants' conduct proximately caused injuries to Plaintiff and the other Subclass members.

924. Plaintiff and the other Subclass members were injured and suffered ascertainable loss, injury-in-fact, and/or actual damage as a proximate result of the Defendants' conduct in that Plaintiff and the other Subclass members overpaid for

their Trucks and did not receive the benefit of their bargain, and their Trucks have suffered a diminution in value. These injuries are the direct and natural consequence of the Defendants' misrepresentations and omissions.

925. The Defendants' violations present a continuing risk to Plaintiff as well as to the general public. The Defendants' unlawful acts and practices complained of herein affect the public interest.

926. As a direct and proximate result of the Defendants' violations of the Oklahoma CPA, Plaintiff and the Oklahoma Class have suffered injury-in-fact and/or actual damage.

927. The Defendants' conduct as alleged herein was unconscionable because (1) the Defendants, knowingly or with reason to know, took advantage of consumers reasonably unable to protect their interests because of their age, physical infirmity, ignorance, illiteracy, inability to understand the language of an agreement or similar factor; (2) at the time the consumer transaction was entered into, the Defendants knew or had reason to know that price grossly exceeded the price at which similar vehicles were readily obtainable in similar transactions by like consumers; and (3) the Defendants knew or had reason to know that the transaction the Defendants induced the consumer to enter into was excessively one-sided in favor of the Defendants.

928. Because the Defendants' unconscionable conduct caused injury to Oklahoma Subclass members, Plaintiff and the Oklahoma Subclass seek recovery of actual damages, discretionary penalties up to \$2,000 per violation, punitive damages, and reasonable attorneys' fees, under OKLA. STAT. TIT. 15 § 761.1. Plaintiff and the Oklahoma Subclass further seek an order enjoining the Defendants' unfair and/or deceptive acts or practices, and any other just and proper relief available under the Oklahoma CPA.

## **COUNT II**

### **FRAUDULENT CONCEALMENT (BASED ON OKLAHOMA LAW)**

929. Plaintiff incorporates by reference all preceding allegations as though fully set forth herein.

930. Plaintiff brings this Count on behalf of the Oklahoma Subclass.

931. The Defendants intentionally concealed that the emissions system in the Trucks is defective, that the Trucks emitted far more pollutants than gasoline-powered vehicles, that the Trucks emit far more pollution than a reasonable consumer would expect in light of the Defendants' advertising campaign, that the Trucks emitted unlawfully high levels of pollutants, including NOx, as described above, that the durability and longevity of the Trucks would suffer as a result of the Flash Defect, and that the fuel economy of the Trucks would drop precipitously following service at the dealerships, including service that was performed secretly

and without Plaintiff's knowledge, or the Defendants acted with reckless disregard for the truth and denied Plaintiff and the other Subclass members information that is highly relevant to their purchasing decision.

932. The Defendants further affirmatively misrepresented to Plaintiff and Subclass members in advertising and other forms of communication, including standard and uniform material provided with each car, that the Trucks they were selling had no significant defects, were clean and low-emission vehicles, complied with EPA regulations, were fuel-efficient, and would perform and operate properly when driven in normal usage.

933. The Defendants knew these representations were false when made.

934. The Trucks purchased or leased by Plaintiff and the other Subclass members were, in fact, defective, emitting pollutants at a much higher rate than gasoline-powered vehicles and at a much higher rate than a reasonable consumer would expect in light of the Defendants' advertising campaign, non-EPA-compliant, and unreliable, and service would lead to a precipitous drop in fuel economy.

935. The Defendants had a duty to disclose that the emissions system in the Trucks is defective, that the Trucks emitted far more pollutants than gasoline-powered vehicles, that the Trucks emit far more pollution than a reasonable consumer would expect in light of the Defendants' advertising campaign, that the

Trucks emitted unlawfully high levels of pollutants, including NO<sub>x</sub>, as described above, that the durability and longevity of the Trucks would suffer as a result of the Flash Defect, and that the fuel economy of the Trucks would drop precipitously following service at the dealerships, including service that was performed secretly and without Plaintiff's knowledge, because Plaintiff and the other Subclass members relied on the Defendants' material representations that the Trucks they were purchasing were reduced-emission vehicles, efficient, and free from defects.

936. As alleged in this Complaint, at all relevant times, the Defendants have held out the Trucks to be reduced-emissions, EPA-compliant vehicles. The Defendants disclosed certain details about the diesel engine, but nonetheless, the Defendants intentionally failed to disclose important facts, including the existence of the Washcoat Defect and the Flash Defect, that the emissions system in the Trucks is defective, that the Trucks emitted far more pollutants than gasoline-powered vehicles, that the Trucks emit far more pollution than a reasonable consumer would expect in light of the Defendants' advertising campaign, that the Trucks emitted unlawfully high levels of pollutants, including NO<sub>x</sub>, as described above, that the durability and longevity of the Trucks would suffer as a result of the Flash Defect, and that the fuel economy of the Trucks would drop precipitously following service at the dealerships, including service that was performed secretly

and without Plaintiff's knowledge, and were non-compliant with EPA emissions requirements, making other disclosures about the emission system deceptive.

937. The truth about the defective emissions controls, the non-compliance with EPA emissions requirements, and the precipitous drop in performance of the Trucks was known only to the Defendants; Plaintiff and the Subclass members did not know of these facts and the Defendants actively concealed these facts from Plaintiff and Subclass members.

938. Plaintiff and Subclass members reasonably relied upon the Defendants' deception. They had no way of knowing that the Defendants' representations were false and/or misleading. As consumers, the Plaintiff and Subclass members did not, and could not, unravel the Defendants' deception on their own. Rather, the Defendants intended to deceive Plaintiff and Subclass members by concealing the true facts about the Trucks' emissions and defects.

939. The Defendants also concealed and suppressed material facts concerning what is evidently the true culture of the Defendants—a culture characterized by an emphasis on profits and sales above compliance with federal and state clean air law and emissions regulations that are meant to protect the public and consumers. Defendants also emphasized profits and sales above the trust that Plaintiff and Subclass members placed in their representations. Consumers buy diesel cars from the Defendants because they feel they are clean

diesel cars. They do not want to be spewing noxious gases into the environment. And yet, that is precisely what the Trucks are doing.

940. The Defendants' false representations were material to consumers, because they concerned the quality of the Trucks, compliance with applicable federal and state law and regulations regarding clean air and emissions, anticipated fuel economy and costs for fuel, and also because the representations played a significant role in the value of the Trucks. As the Defendants well knew, their customers, including Plaintiff and Subclass members, highly valued that the Trucks they were purchasing or leasing were fuel efficient, clean diesel cars with reduced emissions and increased longevity, and they paid accordingly.

941. The Defendants had a duty to disclose the Washcoat Defect and the Flash Defect because details of the true facts were known and/or accessible only to the Defendants, because the Defendants had exclusive knowledge as to such facts, and because the Defendants knew these facts were not known to or reasonably discoverable by Plaintiff or Subclass members. The Defendants also had a duty to disclose because they made general affirmative representations about the qualities of the Trucks with respect to emissions, including references to them as the lowest-emissions diesel cars and as compliant with all laws in each country, which were misleading, deceptive, and incomplete without the disclosure of the additional facts set forth above regarding the actual emissions of the Trucks, their actual

philosophy with respect to compliance with federal and state clean air law and emissions regulations, and their actual practices with respect to the Trucks at issue. Having volunteered to provide information to Plaintiff and Subclass members, the Defendants had the duty to disclose not just the partial truth, but the entire truth. These omitted and concealed facts were material because they directly impact the value of the Trucks purchased or leased by Plaintiff and Subclass members. Whether a manufacturer's products pollute, comply with federal and state clean air law and emissions regulations, and whether that manufacturer tells the truth with respect to such compliance or non-compliance, are material concerns to a consumer, including with respect to the emissions certifications testing their Trucks must pass. The Defendants represented to Plaintiff and Subclass members that they were purchasing or leasing reduced-emission diesel vehicles when, in fact, they were purchasing or leasing defective, high-emission vehicles with unlawfully high emissions.

942. The Defendants actively concealed and/or suppressed these material facts, in whole or in part, to pad and protect their profits and to avoid the perception that their Trucks were not clean diesel vehicles and did not or could not comply with federal and state laws governing clean air and emissions, which perception would hurt the brand's image and cost the Defendants money, and they did so at the expense of Plaintiff and Subclass members.

943. The Defendants still have not made full and adequate disclosures, and they continue to defraud Plaintiff and Subclass members by concealing material information regarding the emissions qualities of the Trucks.

944. Plaintiff and Subclass members were unaware of the omitted material facts referenced herein, and they would not have acted as they did if they had known of the concealed and/or suppressed facts, in that they would not have purchased purportedly reduced-emissions diesel cars manufactured by the Defendants, and/or would not have continued to drive their heavily polluting Trucks, or would have taken other affirmative steps in light of the information concealed from them. Plaintiff's and Subclass members' actions were justified. The Defendants were in exclusive control of the material facts, and such facts were not generally known to the public, Plaintiff, or Subclass members.

945. Because of the concealment and/or suppression of the facts, Plaintiff and Subclass members have sustained damage because they own Trucks that are diminished in value as a result of the Defendants' concealment of the true quality and quantity of those Trucks' emissions and the Defendants' failure to timely disclose the defect or defective design of the diesel engine system, the actual emissions qualities and quantities of the Defendants' Trucks, and the serious issues engendered by the Defendants' corporate policies. Had Plaintiff and Subclass members been aware of the true emissions facts with regard to the Trucks, and the

Defendants' disregard for the truth and compliance with applicable federal and state law and regulations, Plaintiff and Subclass members who purchased or leased new or certified previously owned Trucks would have paid less for their Trucks or would not have purchased or leased them at all.

946. The value of Plaintiff's and Subclass members' Trucks has diminished as a result of the Defendants' fraudulent concealment of the defective emissions controls of the Trucks, the unlawfully high emissions of the Trucks, and the non-compliance with EPA emissions requirements, all of which has greatly tarnished the Defendants' brand name attached to Plaintiff's and Subclass members' Trucks and made any reasonable consumer reluctant to purchase any of the Trucks, let alone pay what otherwise would have been fair market value for the Trucks.

947. Accordingly, the Defendants are liable to Plaintiff and Subclass members for damages in an amount to be proven at trial.

### **COUNT III**

#### **BREACH OF CONTRACT (BASED ON OKLAHOMA LAW)**

948. Plaintiff incorporates by reference all preceding allegations as though fully set forth herein.

949. This claim is brought on behalf of the Oklahoma Subclass.

950. The Defendants' misrepresentations and omissions alleged herein, including, but not limited to, the existence of the Washcoat Defect and the Flash Defect, that the Trucks emitted far more pollutants than gasoline-powered vehicles, that the Trucks emit far more pollution than a reasonable consumer would expect in light of the Defendants' advertising campaign, that the Trucks emitted unlawfully high levels of pollutants, including NOx, as described above, that the durability and longevity of the Trucks would suffer as a result of the Flash Defect, and that the fuel economy of the Trucks would drop precipitously following service at the dealerships, including service that was performed secretly and without Plaintiff's knowledge, caused Plaintiff and the other Subclass members to make their purchases or leases of their Trucks. Absent those misrepresentations and omissions, Plaintiff and the other Subclass members would not have purchased or leased these Trucks, would not have purchased or leased these Trucks at the prices they paid, and/or would have purchased or leased less expensive alternative vehicles that did not contain the defective Engine and which were not marketed as including such a system. Accordingly, Plaintiff and the other Subclass members overpaid for their Trucks and did not receive the benefit of their bargain.

951. Each and every sale or lease of a Truck constitutes a contract between FCA and the purchaser or lessee. FCA breached these contracts by selling or leasing to Plaintiff and the other Subclass members defective Trucks and by

misrepresenting or failing to disclose that the Emissions system is defective, that the Trucks emitted far more pollutants than gasoline-powered vehicles, that the Trucks emit far more pollution than a reasonable consumer would expect in light of the Defendants' advertising campaign, that the Trucks emitted unlawfully high levels of pollutants, including NOx, as described above, and that the fuel economy of the Trucks would drop precipitously following service at the dealerships, including service that was performed secretly and without Plaintiffs' knowledge.

952. As a direct and proximate result of FCA's breach of contract, Plaintiff and the Subclass have been damaged in an amount to be proven at trial, which shall include, but is not limited to, all compensatory damages, incidental and consequential damages, and other damages allowed by law.

#### **COUNT IV**

#### **UNJUST ENRICHMENT**

953. Plaintiff incorporates by reference all preceding allegations as though fully set forth herein.

954. Plaintiff brings this Count on behalf of himself and the Oklahoma subclass.

955. FCA and Cummins have received and retained a benefit from Plaintiff and inequity has resulted.

956. FCA and Cummins have benefitted from selling and leasing defective cars at a profit whose value was artificially inflated by FCA and Cummins's concealment of the Washcoat Defect and the Flash Defect, and Plaintiff and the Class have overpaid for the cars and been forced to pay other costs.

957. Thus, all Oklahoma subclass members conferred a benefit on FCA and Cummins.

958. Plaintiff and the Class were not aware of the true facts about the Class Trucks, and did not benefit from FCA and Cummins's conduct.

959. FCA and Cummins knowingly accepted the benefits of their unjust conduct.

960. As a result of FCA and Cummins's conduct, the amount of their unjust enrichment should be disgorged as to each defendant, in an amount according to proof.

**O. Claims Brought on Behalf of the Pennsylvania Subclass**

**COUNT I**

**BREACH OF CONTRACT  
(BASED ON PENNSYLVANIA LAW)**

961. Plaintiff Gary Gaster ("Plaintiff" for purposes of all Pennsylvania Subclass claims) incorporates by reference all preceding allegations as though fully set forth herein.

962. Plaintiff brings this Count on behalf of the Pennsylvania Subclass.

963. The Defendants' misrepresentations and omissions alleged herein, including, but not limited to, the existence of the Washcoat Defect and the Flash Defect, that the Trucks emitted far more pollutants than gasoline-powered vehicles, that the Trucks emit far more pollution than a reasonable consumer would expect in light of the Defendants' advertising campaign, that the Trucks emitted unlawfully high levels of pollutants, including NOx, as described above, that the durability and longevity of the Trucks would suffer as a result of the Flash Defect, and that the fuel economy of the Trucks would drop precipitously following service at the dealerships, including service that was performed secretly and without Plaintiff's knowledge, caused Plaintiff and the other Subclass members to make their purchases or leases of their Trucks. Absent those misrepresentations and omissions, Plaintiff and the other Subclass members would not have purchased or leased these Trucks, would not have purchased or leased these Trucks at the prices they paid, and/or would have purchased or leased less expensive alternative vehicles that did not contain the defective Engine and which were not marketed as including such a system. Accordingly, Plaintiff and the other Subclass members overpaid for their Trucks and did not receive the benefit of their bargain.

964. Each and every sale or lease of a Truck constitutes a contract between FCA and the purchaser or lessee. FCA breached these contracts by selling or leasing to Plaintiff and the other Subclass members defective Trucks and by

misrepresenting or failing to disclose that the Emissions system is defective, that the Trucks emitted far more pollutants than gasoline-powered vehicles, that the Trucks emit far more pollution than a reasonable consumer would expect in light of the Defendants' advertising campaign, that the Trucks emitted unlawfully high levels of pollutants, including NOx, as described above, and that the fuel economy of the Trucks would drop precipitously following service at the dealerships, including service that was performed secretly and without Plaintiffs' knowledge.

965. As a direct and proximate result of FCA's breach of contract, Plaintiff and the Subclass have been damaged in an amount to be proven at trial, which shall include, but is not limited to, all compensatory damages, incidental and consequential damages, and other damages allowed by law.

## **COUNT II**

### **FRAUDULENT CONCEALMENT (BASED ON PENNSYLVANIA LAW)**

966. Plaintiff incorporates by reference all paragraphs as though fully set forth herein.

967. This claim is brought on behalf of the Pennsylvania Subclass.

968. The Defendants intentionally concealed that the emissions system in the Trucks is defective, that the Trucks emitted far more pollutants than gasoline-powered vehicles, that the Trucks emit far more pollution than a reasonable consumer would expect in light of the Defendants' advertising campaign, that the

Trucks emitted unlawfully high levels of pollutants, including NO<sub>x</sub>, as described above, that the durability and longevity of the Trucks would suffer as a result of the Flash Defect, and that the fuel economy of the Trucks would drop precipitously following service at the dealerships, including service that was performed secretly and without Plaintiff's knowledge, or the Defendants acted with reckless disregard for the truth and denied Plaintiff and the other Subclass members information that is highly relevant to their purchasing decision.

969. The Defendants further affirmatively misrepresented to Plaintiff and Subclass members in advertising and other forms of communication, including standard and uniform material provided with each car, that the Trucks they were selling had no significant defects, were clean and low-emission vehicles, complied with EPA regulations, were fuel-efficient, and would perform and operate properly when driven in normal usage.

970. The Defendants knew these representations were false when made.

971. The Trucks purchased or leased by Plaintiff and the other Subclass members were, in fact, defective, emitting pollutants at a much higher rate than gasoline-powered vehicles and at a much higher rate than a reasonable consumer would expect in light of the Defendants' advertising campaign, non-EPA-compliant, and unreliable, and service would lead to a precipitous drop in fuel economy.

972. The Defendants had a duty to disclose that the emissions system in the Trucks is defective, that the Trucks emitted far more pollutants than gasoline-powered vehicles, that the Trucks emit far more pollution than a reasonable consumer would expect in light of the Defendants' advertising campaign, that the Trucks emitted unlawfully high levels of pollutants, including NOx, as described above, that the durability and longevity of the Trucks would suffer as a result of the Flash Defect, and that the fuel economy of the Trucks would drop precipitously following service at the dealerships, including service that was performed secretly and without Plaintiff's knowledge, because Plaintiff and the other Subclass members relied on the Defendants' material representations that the Trucks they were purchasing were reduced-emission vehicles, efficient, and free from defects.

973. As alleged in this Complaint, at all relevant times, the Defendants have held out the Trucks to be reduced-emissions, EPA-compliant vehicles. The Defendants disclosed certain details about the diesel engine, but nonetheless, the Defendants intentionally failed to disclose important facts, including the existence of the Washcoat Defect and the Flash Defect, that the emissions system in the Trucks is defective, that the Trucks emitted far more pollutants than gasoline-powered vehicles, that the Trucks emit far more pollution than a reasonable consumer would expect in light of the Defendants' advertising campaign, that the Trucks emitted unlawfully high levels of pollutants, including NOx, as described

above, that the durability and longevity of the Trucks would suffer as a result of the Flash Defect, and that the fuel economy of the Trucks would drop precipitously following service at the dealerships, including service that was performed secretly and without Plaintiff's knowledge, and were non-compliant with EPA emissions requirements, making other disclosures about the emission system deceptive.

974. The truth about the defective emissions controls, the non-compliance with EPA emissions requirements, and the precipitous drop in performance of the Trucks was known only to the Defendants; Plaintiff and the Subclass members did not know of these facts and the Defendants actively concealed these facts from Plaintiff and Subclass members.

975. Plaintiff and Subclass members reasonably relied upon the Defendants' deception. They had no way of knowing that the Defendants' representations were false and/or misleading. As consumers, the Plaintiff and Subclass members did not, and could not, unravel the Defendants' deception on their own. Rather, the Defendants intended to deceive Plaintiff and Subclass members by concealing the true facts about the Trucks' emissions and defects.

976. The Defendants also concealed and suppressed material facts concerning what is evidently the true culture of the Defendants—a culture characterized by an emphasis on profits and sales above compliance with federal and state clean air law and emissions regulations that are meant to protect the

public and consumers. Defendants also emphasized profits and sales above the trust that Plaintiff and Subclass members placed in their representations.

Consumers buy diesel cars from the Defendants because they feel they are clean diesel cars. They do not want to be spewing noxious gases into the environment. And yet, that is precisely what the Trucks are doing.

977. The Defendants' false representations were material to consumers, because they concerned the quality of the Trucks, compliance with applicable federal and state law and regulations regarding clean air and emissions, anticipated fuel economy and costs for fuel, and also because the representations played a significant role in the value of the Trucks. As the Defendants well knew, their customers, including Plaintiff and Subclass members, highly valued that the Trucks they were purchasing or leasing were fuel efficient, clean diesel cars with reduced emissions and increased longevity, and they paid accordingly.

978. The Defendants had a duty to disclose the Washcoat Defect and the Flash Defect because details of the true facts were known and/or accessible only to the Defendants, because the Defendants had exclusive knowledge as to such facts, and because the Defendants knew these facts were not known to or reasonably discoverable by Plaintiff or Subclass members. The Defendants also had a duty to disclose because they made general affirmative representations about the qualities of the Trucks with respect to emissions, including references to them as the lowest-

emissions diesel cars and as compliant with all laws in each country, which were misleading, deceptive, and incomplete without the disclosure of the additional facts set forth above regarding the actual emissions of the Trucks, their actual philosophy with respect to compliance with federal and state clean air law and emissions regulations, and their actual practices with respect to the Trucks at issue. Having volunteered to provide information to Plaintiff and Subclass members, the Defendants had the duty to disclose not just the partial truth, but the entire truth. These omitted and concealed facts were material because they directly impact the value of the Trucks purchased or leased by Plaintiff and Subclass members. Whether a manufacturer's products pollute, comply with federal and state clean air law and emissions regulations, and whether that manufacturer tells the truth with respect to such compliance or non-compliance, are material concerns to a consumer, including with respect to the emissions certifications testing their Trucks must pass. The Defendants represented to Plaintiff and Subclass members that they were purchasing or leasing reduced-emission diesel vehicles when, in fact, they were purchasing or leasing defective, high-emission vehicles with unlawfully high emissions.

979. The Defendants actively concealed and/or suppressed these material facts, in whole or in part, to pad and protect their profits and to avoid the perception that their Trucks were not clean diesel vehicles and did not or could not

comply with federal and state laws governing clean air and emissions, which perception would hurt the brand's image and cost the Defendants money, and they did so at the expense of Plaintiff and Subclass members.

980. The Defendants still have not made full and adequate disclosures, and they continue to defraud Plaintiff and Subclass members by concealing material information regarding the emissions qualities of the Trucks.

981. Plaintiff and Subclass members were unaware of the omitted material facts referenced herein, and they would not have acted as they did if they had known of the concealed and/or suppressed facts, in that they would not have purchased purportedly reduced-emissions diesel cars manufactured by the Defendants, and/or would not have continued to drive their heavily polluting Trucks, or would have taken other affirmative steps in light of the information concealed from them. Plaintiff's and Subclass members' actions were justified. The Defendants were in exclusive control of the material facts, and such facts were not generally known to the public, Plaintiff, or Subclass members.

982. Because of the concealment and/or suppression of the facts, Plaintiff and Subclass members have sustained damage because they own Trucks that are diminished in value as a result of the Defendants' concealment of the true quality and quantity of those Trucks' emissions and the Defendants' failure to timely disclose the defect or defective design of the diesel engine system, the actual

emissions qualities and quantities of the Defendants' Trucks, and the serious issues engendered by the Defendants' corporate policies. Had Plaintiff and Subclass members been aware of the true emissions facts with regard to the Trucks, and the Defendants' disregard for the truth and compliance with applicable federal and state law and regulations, Plaintiff and Subclass members who purchased or leased new or certified previously owned Trucks would have paid less for their Trucks or would not have purchased or leased them at all.

983. The value of Plaintiff's and Subclass members' Trucks has diminished as a result of the Defendants' fraudulent concealment of the defective emissions controls of the Trucks, the unlawfully high emissions of the Trucks, and the non-compliance with EPA emissions requirements, all of which has greatly tarnished the Defendants' brand name attached to Plaintiff's and Subclass members' Trucks and made any reasonable consumer reluctant to purchase any of the Trucks, let alone pay what otherwise would have been fair market value for the Trucks.

984. Accordingly, the Defendants are liable to Plaintiff and Subclass members for damages in an amount to be proven at trial.

985. The Defendants' acts were done wantonly, maliciously, oppressively, deliberately, with intent to defraud, and in reckless disregard of Plaintiff's and Subclass members' rights and the representations that the Defendants made to

them, in order to enrich the Defendants. The Defendants' conduct warrants an assessment of punitive damages in an amount sufficient to deter such conduct in the future, which amount is to be determined according to proof.

### **COUNT III**

#### **UNJUST ENRICHMENT**

986. Plaintiff incorporates by reference all preceding allegations as though fully set forth herein.

987. Plaintiff brings this Count on behalf of himself and the Pennsylvania subclass.

988. FCA and Cummins have received and retained a benefit from Plaintiff and inequity has resulted.

989. FCA and Cummins have benefitted from selling and leasing defective cars at a profit whose value was artificially inflated by FCA and Cummins's concealment of the Washcoat Defect and the Flash Defect, and Plaintiff and the Class have overpaid for the cars and been forced to pay other costs.

990. Thus, all Pennsylvania Subclass members conferred a benefit on FCA and Cummins.

991. Plaintiff and the Class were not aware of the true facts about the Class Trucks, and did not benefit from FCA and Cummins's conduct.

992. FCA and Cummins knowingly accepted the benefits of their unjust conduct.

993. As a result of FCA and Cummins's conduct, the amount of their unjust enrichment should be disgorged as to each defendant, in an amount according to proof.

**P. Claims Brought on Behalf of the Texas Subclass**

**COUNT I**

**VIOLATIONS OF THE DECEPTIVE TRADE PRACTICES ACT  
(TEX. BUS. & COM. CODE § 17.41 *ET SEQ.*)**

994. Plaintiffs John Reyes and Darin Ginther ("Plaintiffs" for purposes of this claim) incorporate by reference all paragraphs as though fully set forth herein.

995. This claim is brought on behalf of the Texas Subclass against FCA.

996. Plaintiffs and the Texas Subclass members are individuals with assets of less than \$25 million (or are controlled by corporations or entities with less than \$25 million in assets). *See* Tex. Bus. & Com. Code § 17.41.

997. The Texas Deceptive Trade Practices-Consumer Protection Act ("Texas DTPA") provides a private right of action to a consumer where the consumer suffers economic damage as the result of either (i) the use of false, misleading, or deceptive act or practice specifically enumerated in Tex. Bus. & Com. Code § 17.46(b); or (ii) "an unconscionable action or course of action by any person." Tex. Bus. & Com. Code § 17.50(a)(2) & (3). The Texas DTPA declares

several specific actions to be unlawful, including: “(5) Representing that goods or services have sponsorship, approval, characteristics, ingredients, uses, benefits, or qualities that they do not have”; “(7) Representing that goods or services are of a particular standard, quality, or grade, or that goods are of a particular style or model, if they are of another”; and “(9) advertising goods or services with intent not to sell them as advertised.” An “unconscionable action or course of action” means “an act or practice which, to a consumer’s detriment, takes advantage of the lack of knowledge, ability, experience, or capacity of the consumer to a grossly unfair degree.” Tex. Bus. & Com. Code § 17.45(5). As detailed herein, Defendants have engaged in an unconscionable action or course of action and thereby caused economic damages to the Texas Subclass.

998. In the course of the Defendants’ business, they willfully failed to disclose and actively concealed that the emissions system in the Trucks is defective, that the Trucks emitted far more pollutants than gasoline-powered vehicles, that the Trucks emit far more pollution than a reasonable consumer would expect in light of the Defendants’ advertising campaign, and that the Trucks emitted unlawfully high levels of pollutants, including NOx, as described above. Defendants further willfully failed to disclose and actively concealed that the fuel economy of the Trucks would drop precipitously following service at the dealerships, including service that was performed secretly and without Plaintiffs’

knowledge. Accordingly, the Defendants engaged in unfair methods of competition, unconscionable acts or practices, and unfair or deceptive acts or practices, including representing that the Trucks have characteristics, uses, benefits, and qualities which they do not have; representing that the Trucks are of a particular standard and quality when they are not; failing to reveal a material fact, the omission of which tends to mislead or deceive the consumer, and which fact could not reasonably be known by the consumer; making a representation of fact or statement of fact material to the transaction such that a person reasonably believes the represented or suggested state of affairs to be other than it actually is; and failing to reveal facts that are material to the transaction in light of representations of fact made in a positive manner.

999. In purchasing or leasing the Trucks, Plaintiffs and the other Subclass members were deceived by the Defendants' failure to disclose that the emissions system in the Trucks is defective, that the Trucks emitted far more pollutants than gasoline-powered vehicles, that the Trucks emit far more pollution than a reasonable consumer would expect in light of the Defendants' advertising campaign, that the Trucks emitted unlawfully high levels of pollutants, including NO<sub>x</sub>, as described above, that the durability and longevity of the Trucks would suffer as a result of the Flash Defect, and that the fuel economy of the Trucks

would drop precipitously following service at the dealerships, including service that was performed secretly and without Plaintiffs' knowledge.

1000. Plaintiffs and Subclass members reasonably relied upon the Defendants' false misrepresentations. They had no way of knowing that the Defendants' representations were false and gravely misleading. As alleged herein, the Defendants engaged in extremely sophisticated methods of deception. Plaintiffs and Subclass members did not, and could not, unravel Defendants' deception on their own.

1001. The Defendants' actions as set forth above occurred in the conduct of trade or commerce.

1002. The Defendants' unfair or deceptive acts or practices were likely to and did in fact deceive reasonable consumers.

1003. The Defendants intentionally and knowingly misrepresented material facts regarding the Trucks with an intent to mislead Plaintiffs and the Subclass.

1004. The Defendants knew or should have known that their conduct violated the Texas DTPA.

1005. The Defendants owed Plaintiffs and the Subclass a duty to disclose the truth about their emissions systems manipulation because the Defendants:

a. Possessed exclusive knowledge regarding the Washcoat Defect, and intentionally concealed the foregoing from Plaintiffs and the Subclass;

- b. Possessed exclusive knowledge regarding the Flash Defect, and intentionally concealed the foregoing from Plaintiffs and the Subclass;
- c. Made incomplete representations regarding compliance with emissions standards, while purposefully withholding material facts from Plaintiffs and the Subclass that contradicted these representations; and
- d. Made incomplete representations regarding the improved or superior fuel economy of the Trucks, while purposefully withholding material facts from Plaintiffs and the Subclass that contradicted these representations.

1006. The Defendants had a duty to disclose that the emissions system in the Trucks is defective, that the Trucks emitted far more pollutants than gasoline-powered vehicles, that the Trucks emit far more pollution than a reasonable consumer would expect in light of the Defendants' advertising campaign, that the Trucks emitted unlawfully high levels of pollutants, including NOx, as described above, that the durability and longevity of the Trucks would suffer as a result of the Flash Defect, and that the fuel economy of the Trucks would drop precipitously following service at the dealerships, including service that was performed secretly and without Plaintiffs' knowledge, because Plaintiffs and the other Subclass members relied on the Defendants' material representations that the Trucks they were purchasing were reduced-emission vehicles, efficient, durable, and free from defects.

1007. Defendants had an ongoing duty to all FCA/Cummins customers to refrain from unfair and deceptive practices under the Texas DTPA.

1008. Defendants' violations present a continuing risk to Plaintiffs as well as to the general public. Defendants' unlawful acts and practices complained of herein affect the public interest.

1009. As a direct and proximate result of Defendants' violations of the Texas DTPA, Plaintiffs and the Texas Subclass have suffered injury-in-fact and/or actual damage.

1010. Plaintiffs seek monetary relief against Defendants measured as actual damages in an amount to be determined at trial, treble damages for Defendants' knowing violations of the DTPA, and any other just and proper relief available under the Texas DTPA

1011. Plaintiffs have complied with the notice requirements of Tex. Bus. & Com. Code § 17.505. Because Defendants failed to remedy their unlawful conduct within the requisite time period, Plaintiffs seek all damages and relief to which Plaintiffs and the Texas Subclass are entitled.

## **COUNT II**

### **BREACH OF CONTRACT (BASED ON TEXAS LAW)**

1012. Plaintiffs incorporate by reference all preceding allegations as though fully set forth herein.

1013. Plaintiffs bring this Count on behalf of the Texas Subclass members.

1014. The Defendants' misrepresentations and omissions alleged herein, including, but not limited to, the existence of the Washcoat Defect and the Flash Defect, that the Trucks emitted far more pollutants than gasoline-powered vehicles, that the Trucks emit far more pollution than a reasonable consumer would expect in light of the Defendants' advertising campaign, that the Trucks emitted unlawfully high levels of pollutants, including NO<sub>x</sub>, as described above, that the durability and longevity of the Trucks would suffer as a result of the Flash Defect, and that the fuel economy of the Trucks would drop precipitously following service at the dealerships, including service that was performed secretly and without Plaintiffs' knowledge, caused Plaintiffs and the other Subclass members to make their purchases or leases of their Trucks. Absent those misrepresentations and omissions, Plaintiffs and the other Subclass members would not have purchased or leased these Trucks, would not have purchased or leased these Trucks at the prices they paid, and/or would have purchased or leased less expensive alternative vehicles that did not contain the defective Engine and which were not marketed as including such a system. Accordingly, Plaintiffs and the other Subclass members overpaid for their Trucks and did not receive the benefit of their bargain.

1015. Each and every sale or lease of a Truck constitutes a contract between FCA and the purchaser or lessee. FCA breached these contracts by selling or leasing to Plaintiff and the other Subclass members defective Trucks and by misrepresenting or failing to disclose that the Emissions system is defective, that the Trucks emitted far more pollutants than gasoline-powered vehicles, that the Trucks emit far more pollution than a reasonable consumer would expect in light of the Defendants' advertising campaign, that the Trucks emitted unlawfully high levels of pollutants, including NOx, as described above, and that the fuel economy of the Trucks would drop precipitously following service at the dealerships, including service that was performed secretly and without Plaintiffs' knowledge.

1016. As a direct and proximate result of FCA's breach of contract, Plaintiffs and the Subclass have been damaged in an amount to be proven at trial, which shall include, but is not limited to, all compensatory damages, incidental and consequential damages, and other damages allowed by law.

### **COUNT III**

#### **FRAUDULENT CONCEALMENT (BASED ON TEXAS LAW)**

1017. Plaintiffs incorporate by reference all preceding allegations as though fully set forth herein.

1018. This claim is brought on behalf of the Texas Subclass.

1019. The Defendants intentionally concealed that the emissions system in the Trucks is defective, that the Trucks emitted far more pollutants than gasoline-powered vehicles, that the Trucks emit far more pollution than a reasonable consumer would expect in light of the Defendants' advertising campaign, that the Trucks emitted unlawfully high levels of pollutants, including NO<sub>x</sub>, as described above, that the durability and longevity of the Trucks would suffer as a result of the Flash Defect, and that the fuel economy of the Trucks would drop precipitously following service at the dealerships, including service that was performed secretly and without Plaintiffs' knowledge, or the Defendants acted with reckless disregard for the truth and denied Plaintiffs and the other Subclass members information that is highly relevant to their purchasing decision.

1020. The Defendants further affirmatively misrepresented to Plaintiffs and Subclass members in advertising and other forms of communication, including standard and uniform material provided with each car, that the Trucks they were selling had no significant defects, were clean and low-emission vehicles, complied with EPA regulations, were fuel-efficient, and would perform and operate properly when driven in normal usage.

1021. The Defendants knew these representations were false when made.

1022. The Trucks purchased or leased by Plaintiffs and the other Subclass members were, in fact, defective, emitting pollutants at a much higher rate than

gasoline-powered vehicles and at a much higher rate than a reasonable consumer would expect in light of the Defendants' advertising campaign, non-EPA-compliant, and unreliable, and service would lead to a precipitous drop in fuel economy.

1023. The Defendants had a duty to disclose that the emissions system in the Trucks is defective, that the Trucks emitted far more pollutants than gasoline-powered vehicles, that the Trucks emit far more pollution than a reasonable consumer would expect in light of the Defendants' advertising campaign, that the Trucks emitted unlawfully high levels of pollutants, including NOx, as described above, that the durability and longevity of the Trucks would suffer as a result of the Flash Defect, and that the fuel economy of the Trucks would drop precipitously following service at the dealerships, including service that was performed secretly and without Plaintiff's knowledge, because Plaintiff and the other Subclass members relied on the Defendants' material representations that the Trucks they were purchasing were reduced-emission vehicles, efficient, and free from defects.

1024. As alleged in this Complaint, at all relevant times, the Defendants have held out the Trucks to be reduced-emissions, EPA-compliant vehicles. The Defendants disclosed certain details about the diesel engine, but nonetheless, the Defendants intentionally failed to disclose important facts, including the existence of the Washcoat Defect and the Flash Defect, that the emissions system in the

Trucks is defective, that the Trucks emitted far more pollutants than gasoline-powered vehicles, that the Trucks emit far more pollution than a reasonable consumer would expect in light of the Defendants' advertising campaign, that the Trucks emitted unlawfully high levels of pollutants, including NO<sub>x</sub>, as described above, that the durability and longevity of the Trucks would suffer as a result of the Flash Defect, and that the fuel economy of the Trucks would drop precipitously following service at the dealerships, including service that was performed secretly and without Plaintiffs' knowledge, and were non-compliant with EPA emissions requirements, making other disclosures about the emission system deceptive.

1025. The truth about the defective emissions controls, the non-compliance with EPA emissions requirements, and the precipitous drop in performance of the Trucks was known only to the Defendants; Plaintiffs and the Subclass members did not know of these facts and the Defendants actively concealed these facts from Plaintiffs and Subclass members.

1026. Plaintiffs and Subclass members reasonably relied upon the Defendants' deception. They had no way of knowing that the Defendants' representations were false and/or misleading. As consumers, the Plaintiffs and Subclass members did not, and could not, unravel the Defendants' deception on their own. Rather, the Defendants intended to deceive Plaintiffs and Subclass members by concealing the true facts about the Trucks' emissions and defects.

1027. The Defendants also concealed and suppressed material facts concerning what is evidently the true culture of the Defendants—a culture characterized by an emphasis on profits and sales above compliance with federal and state clean air law and emissions regulations that are meant to protect the public and consumers. Defendants also emphasized profits and sales above the trust that Plaintiffs and Subclass members placed in their representations. Consumers buy diesel cars from the Defendants because they feel they are clean diesel cars. They do not want to be spewing noxious gases into the environment. And yet, that is precisely what the Trucks are doing.

1028. The Defendants' false representations were material to consumers, because they concerned the quality of the Trucks, compliance with applicable federal and state law and regulations regarding clean air and emissions, anticipated fuel economy and costs for fuel, and also because the representations played a significant role in the value of the Trucks. As the Defendants well knew, their customers, including Plaintiffs and Subclass members, highly valued that the Trucks they were purchasing or leasing were fuel efficient, clean diesel cars with reduced emissions and increased longevity, and they paid accordingly.

1029. The Defendants had a duty to disclose the Washcoat Defect and the Flash Defect because details of the true facts were known and/or accessible only to the Defendants, because the Defendants had exclusive knowledge as to such facts,

and because the Defendants knew these facts were not known to or reasonably discoverable by Plaintiffs or Subclass members. The Defendants also had a duty to disclose because they made general affirmative representations about the qualities of the Trucks with respect to emissions, including references to them as the lowest-emissions diesel cars and as compliant with all laws in each country, which were misleading, deceptive, and incomplete without the disclosure of the additional facts set forth above regarding the actual emissions of the Trucks, their actual philosophy with respect to compliance with federal and state clean air law and emissions regulations, and their actual practices with respect to the Trucks at issue. Having volunteered to provide information to Plaintiffs and Subclass members, the Defendants had the duty to disclose not just the partial truth, but the entire truth. These omitted and concealed facts were material because they directly impact the value of the Trucks purchased or leased by Plaintiffs and Subclass members. Whether a manufacturer's products pollute, comply with federal and state clean air law and emissions regulations, and whether that manufacturer tells the truth with respect to such compliance or non-compliance, are material concerns to a consumer, including with respect to the emissions certifications testing their Trucks must pass. The Defendants represented to Plaintiffs and Subclass members that they were purchasing or leasing reduced-emission diesel vehicles when, in

fact, they were purchasing or leasing defective, high-emission vehicles with unlawfully high emissions.

1030. The Defendants actively concealed and/or suppressed these material facts, in whole or in part, to pad and protect their profits and to avoid the perception that their Trucks were not clean diesel vehicles and did not or could not comply with federal and state laws governing clean air and emissions, which perception would hurt the brand's image and cost the Defendants money, and they did so at the expense of Plaintiffs and Subclass members.

1031. The Defendants still have not made full and adequate disclosures, and they continue to defraud Plaintiffs and Subclass members by concealing material information regarding the emissions qualities of the Trucks.

1032. Plaintiffs and Subclass members were unaware of the omitted material facts referenced herein, and they would not have acted as they did if they had known of the concealed and/or suppressed facts, in that they would not have purchased purportedly reduced-emissions diesel cars manufactured by the Defendants, and/or would not have continued to drive their heavily polluting Trucks, or would have taken other affirmative steps in light of the information concealed from them. Plaintiffs' and Subclass members' actions were justified. The Defendants were in exclusive control of the material facts, and such facts were not generally known to the public, Plaintiffs, or Subclass members.

1033. Because of the concealment and/or suppression of the facts, Plaintiffs and Subclass members have sustained damage because they own Trucks that are diminished in value as a result of the Defendants' concealment of the true quality and quantity of those Trucks' emissions and the Defendants' failure to timely disclose the defect or defective design of the diesel engine system, the actual emissions qualities and quantities of the Defendants' Trucks, and the serious issues engendered by the Defendants' corporate policies. Had Plaintiffs and Subclass members been aware of the true emissions facts with regard to the Trucks, and the Defendants' disregard for the truth and compliance with applicable federal and state law and regulations, Plaintiffs and Subclass members who purchased or leased new or certified previously owned Trucks would have paid less for their Trucks or would not have purchased or leased them at all.

1034. The value of Plaintiffs' and Subclass members' Trucks has diminished as a result of the Defendants' fraudulent concealment of the defective emissions controls of the Trucks, the unlawfully high emissions of the Trucks, and the non-compliance with EPA emissions requirements, all of which has greatly tarnished the Defendants' brand name attached to Plaintiffs' and Subclass members' Trucks and made any reasonable consumer reluctant to purchase any of the Trucks, let alone pay what otherwise would have been fair market value for the Trucks.

1035. Accordingly, the Defendants are liable to Plaintiffs and Subclass members for damages in an amount to be proven at trial.

1036. The Defendants' acts were done wantonly, maliciously, oppressively, deliberately, with intent to defraud, and in reckless disregard of Plaintiffs' and Subclass members' rights and the representations that the Defendants made to them, in order to enrich the Defendants. The Defendants' conduct warrants an assessment of punitive damages in an amount sufficient to deter such conduct in the future, which amount is to be determined according to proof.

#### **COUNT IV**

#### **UNJUST ENRICHMENT**

1037. Plaintiffs incorporate by reference all preceding allegations as though fully set forth herein.

1038. Plaintiffs bring this Count on behalf of himself and the Texas subclass.

1039. FCA and Cummins have received and retained a benefit from Plaintiffs and inequity has resulted.

1040. FCA and Cummins have benefitted from selling and leasing defective cars at a profit whose value was artificially inflated by FCA and Cummins's concealment of the Washcoat Defect and the Flash Defect, and Plaintiffs and the Class have overpaid for the cars and been forced to pay other costs.

1041. Thus, all Texas subclass members conferred a benefit on FCA and Cummins.

1042. Plaintiffs and the Class were not aware of the true facts about the Class Trucks, and did not benefit from FCA and Cummins's conduct.

1043. FCA and Cummins knowingly accepted the benefits of their unjust conduct.

1044. As a result of FCA and Cummins's conduct, the amount of their unjust enrichment should be disgorged as to each defendant, in an amount according to proof.

**Q. Claims Brought on Behalf of the Utah Subclass**

**COUNT I**

**VIOLATIONS OF THE UTAH CONSUMER SALES PRACTICES ACT  
(UTAH CODE ANN. § 13-11-1 *ET SEQ.*)**

1045. Plaintiffs Luke Wyatt and Dennis Kogler ("Plaintiffs" for purposes of all Utah Subclass claims) incorporate by reference all paragraphs as though fully set forth herein.

1046. Plaintiffs bring this Count on behalf of the Utah Subclass.

1047. Each of the Defendants qualifies as a "supplier" under the Utah Consumer Sales Practices Act ("Utah CSPA"), UTAH CODE ANN. § 13-11-3.

1048. Plaintiffs and the Subclass members are "persons" under UTAH CODE ANN. § 13-11-3.

1049. Sales of the Trucks to Plaintiffs and the Subclass were “consumer transactions” within the meaning of UTAH CODE ANN. § 13-11-3.

1050. The Utah CSPA makes unlawful any “deceptive act or practice by a supplier in connection with a consumer transaction” under UTAH CODE ANN. § 13-11-4. Specifically, “a supplier commits a deceptive act or practice if the supplier knowingly or intentionally: (a) indicates that the subject of a consumer transaction has sponsorship, approval, performance characteristics, accessories, uses, or benefits, if it has not” or “(b) indicates that the subject of a consumer transaction is of a particular standard, quality, grade, style, or model, if it is not.” UTAH CODE ANN. § 13-11-4. “An unconscionable act or practice by a supplier in connection with a consumer transaction” also violates the Utah CSPA. UTAH CODE ANN. § 13-11-5.

1051. In the course of the Defendants’ business, they willfully failed to disclose and actively concealed that the emissions system in the Trucks is defective, that the Trucks emitted far more pollutants than gasoline-powered vehicles, that the Trucks emit far more pollution than a reasonable consumer would expect in light of the Defendants’ advertising campaign, and that the Trucks emitted unlawfully high levels of pollutants, including NO<sub>x</sub>, as described above. Defendants further willfully failed to disclose and actively concealed that the fuel economy of the Trucks would drop precipitously following service at the

dealerships, including service that was performed secretly and without Plaintiffs' knowledge. Accordingly, the Defendants engaged in unfair methods of competition, unconscionable acts or practices, and unfair or deceptive acts or practices, including representing that the Trucks have characteristics, uses, benefits, and qualities which they do not have; representing that the Trucks are of a particular standard and quality when they are not; failing to reveal a material fact, the omission of which tends to mislead or deceive the consumer, and which fact could not reasonably be known by the consumer; making a representation of fact or statement of fact material to the transaction such that a person reasonably believes the represented or suggested state of affairs to be other than it actually is; and failing to reveal facts that are material to the transaction in light of representations of fact made in a positive manner.

1052. In purchasing or leasing the Trucks, Plaintiffs and the other Subclass members were deceived by the Defendants' failure to disclose that the emissions system in the Trucks is defective, that the Trucks emitted far more pollutants than gasoline-powered vehicles, that the Trucks emit far more pollution than a reasonable consumer would expect in light of the Defendants' advertising campaign, that the Trucks emitted unlawfully high levels of pollutants, including NO<sub>x</sub>, as described above, that the durability and longevity of the Trucks would suffer as a result of the Flash Defect, and that the fuel economy of the Trucks

would drop precipitously following service at the dealerships, including service that was performed secretly and without Plaintiffs' knowledge.

1053. Plaintiffs and Subclass members reasonably relied upon the Defendants' false misrepresentations. They had no way of knowing that the Defendants' representations were false and gravely misleading. As alleged herein, the Defendants engaged in extremely sophisticated methods of deception. Plaintiffs and Subclass members did not, and could not, unravel Defendants' deception on their own.

1054. The Defendants' actions as set forth above occurred in the conduct of trade or commerce.

1055. The Defendants' unfair or deceptive acts or practices were likely to and did in fact deceive reasonable consumers.

1056. The Defendants intentionally and knowingly misrepresented material facts regarding the Trucks with an intent to mislead Plaintiffs and the Subclass.

1057. The Defendants knew or should have known that their conduct violated the Utah CSPA.

1058. The Defendants owed Plaintiffs and the Subclass a duty to disclose the truth about their emissions systems manipulation because the Defendants:

a. Possessed exclusive knowledge regarding the Washcoat Defect, and intentionally concealed the foregoing from Plaintiffs and the Subclass;

- b. Possessed exclusive knowledge regarding the Flash Defect, and intentionally concealed the foregoing from Plaintiffs and the Subclass;
- c. Made incomplete representations regarding compliance with emissions standards, while purposefully withholding material facts from Plaintiffs and the Subclass that contradicted these representations; and
- d. Made incomplete representations regarding the improved or superior fuel economy of the Trucks, while purposefully withholding material facts from Plaintiffs and the Subclass that contradicted these representations.

1059. The Defendants had a duty to disclose that the emissions system in the Trucks is defective, that the Trucks emitted far more pollutants than gasoline-powered vehicles, that the Trucks emit far more pollution than a reasonable consumer would expect in light of the Defendants' advertising campaign, that the Trucks emitted unlawfully high levels of pollutants, including NOx, as described above, that the durability and longevity of the Trucks would suffer as a result of the Flash Defect, and that the fuel economy of the Trucks would drop precipitously following service at the dealerships, including service that was performed secretly and without Plaintiffs' knowledge, because Plaintiffs and the other Subclass members relied on the Defendants' material representations that the Trucks they were purchasing were reduced-emission vehicles, efficient, durable, and free from defects.

1060. The Defendants' conduct proximately caused injuries to Plaintiffs and the other Subclass members.

1061. Plaintiffs and the other Subclass members were injured and suffered ascertainable loss, injury-in-fact, and/or actual damage as a proximate result of the Defendants' conduct in that Plaintiffs and the other Subclass members overpaid for their Trucks and did not receive the benefit of their bargain, and their Trucks have suffered a diminution in value. These injuries are the direct and natural consequence of the Defendants' misrepresentations and omissions.

1062. The Defendants' violations present a continuing risk to Plaintiff as well as to the general public. The Defendants' unlawful acts and practices complained of herein affect the public interest.

1063. Pursuant to UTAH CODE ANN. § 13-11-4, Plaintiffs and the Subclass seek monetary relief against the Defendants measured as the greater of (a) actual damages in an amount to be determined at trial and (b) statutory damages in the amount of \$2,000 for each Plaintiff and Utah Class member, reasonable attorneys' fees, and any other just and proper relief available under the Utah CSPA.

## **COUNT II**

### **BREACH OF CONTRACT (BASED ON UTAH LAW)**

1064. Plaintiffs incorporate by reference all preceding allegations as though fully set forth herein.

1065. Plaintiffs bring this Count on behalf of the Utah Subclass members.

1066. The Defendants' misrepresentations and omissions alleged herein, including, but not limited to, the existence of the Washcoat Defect and the Flash Defect, that the Trucks emitted far more pollutants than gasoline-powered vehicles, that the Trucks emit far more pollution than a reasonable consumer would expect in light of the Defendants' advertising campaign, that the Trucks emitted unlawfully high levels of pollutants, including NO<sub>x</sub>, as described above, that the durability and longevity of the Trucks would suffer as a result of the Flash Defect, and that the fuel economy of the Trucks would drop precipitously following service at the dealerships, including service that was performed secretly and without Plaintiffs' knowledge, caused Plaintiffs and the other Subclass members to make their purchases or leases of their Trucks. Absent those misrepresentations and omissions, Plaintiffs and the other Subclass members would not have purchased or leased these Trucks, would not have purchased or leased these Trucks at the prices they paid, and/or would have purchased or leased less expensive alternative vehicles that did not contain the defective Engine and which were not marketed as including such a system. Accordingly, Plaintiffs and the other Subclass members overpaid for their Trucks and did not receive the benefit of their bargain.

1067. Each and every sale or lease of a Truck constitutes a contract between FCA and the purchaser or lessee. FCA breached these contracts by selling or leasing to Plaintiffs and the other Subclass members defective Trucks and by misrepresenting or failing to disclose that the Emissions system is defective, that the Trucks emitted far more pollutants than gasoline-powered vehicles, that the Trucks emit far more pollution than a reasonable consumer would expect in light of the Defendants' advertising campaign, that the Trucks emitted unlawfully high levels of pollutants, including NOx, as described above, and that the fuel economy of the Trucks would drop precipitously following service at the dealerships, including service that was performed secretly and without Plaintiffs' knowledge.

1068. As a direct and proximate result of FCA's breach of contract, Plaintiffs and the Subclass have been damaged in an amount to be proven at trial, which shall include, but is not limited to, all compensatory damages, incidental and consequential damages, and other damages allowed by law.

### **COUNT III**

#### **FRAUDULENT CONCEALMENT (BASED ON UTAH LAW)**

1069. Plaintiffs incorporate by reference all preceding allegations as though fully set forth herein.

1070. Plaintiffs bring this Count on behalf of the Utah Subclass.

1071. The Defendants intentionally concealed that the emissions system in the Trucks is defective, that the Trucks emitted far more pollutants than gasoline-powered vehicles, that the Trucks emit far more pollution than a reasonable consumer would expect in light of the Defendants' advertising campaign, that the Trucks emitted unlawfully high levels of pollutants, including NO<sub>x</sub>, as described above, that the durability and longevity of the Trucks would suffer as a result of the Flash Defect, and that the fuel economy of the Trucks would drop precipitously following service at the dealerships, including service that was performed secretly and without Plaintiffs' knowledge, or the Defendants acted with reckless disregard for the truth and denied Plaintiffs and the other Subclass members information that is highly relevant to their purchasing decision.

1072. The Defendants further affirmatively misrepresented to Plaintiffs and Subclass members in advertising and other forms of communication, including standard and uniform material provided with each car, that the Trucks they were selling had no significant defects, were clean and low-emission vehicles, complied with EPA regulations, were fuel-efficient, and would perform and operate properly when driven in normal usage.

1073. The Defendants knew these representations were false when made.

1074. The Trucks purchased or leased by Plaintiffs and the other Subclass members were, in fact, defective, emitting pollutants at a much higher rate than

gasoline-powered vehicles and at a much higher rate than a reasonable consumer would expect in light of the Defendants' advertising campaign, non-EPA-compliant, and unreliable, and service would lead to a precipitous drop in fuel economy.

1075. The Defendants had a duty to disclose that the emissions system in the Trucks is defective, that the Trucks emitted far more pollutants than gasoline-powered vehicles, that the Trucks emit far more pollution than a reasonable consumer would expect in light of the Defendants' advertising campaign, that the Trucks emitted unlawfully high levels of pollutants, including NOx, as described above, that the durability and longevity of the Trucks would suffer as a result of the Flash Defect, and that the fuel economy of the Trucks would drop precipitously following service at the dealerships, including service that was performed secretly and without Plaintiffs' knowledge, because Plaintiffs and the other Subclass members relied on the Defendants' material representations that the Trucks they were purchasing were reduced-emission vehicles, efficient, and free from defects.

1076. As alleged in this Complaint, at all relevant times, the Defendants have held out the Trucks to be reduced-emissions, EPA-compliant vehicles. The Defendants disclosed certain details about the diesel engine, but nonetheless, the Defendants intentionally failed to disclose important facts, including the existence of the Washcoat Defect and the Flash Defect, that the emissions system in the

Trucks is defective, that the Trucks emitted far more pollutants than gasoline-powered vehicles, that the Trucks emit far more pollution than a reasonable consumer would expect in light of the Defendants' advertising campaign, that the Trucks emitted unlawfully high levels of pollutants, including NO<sub>x</sub>, as described above, that the durability and longevity of the Trucks would suffer as a result of the Flash Defect, and that the fuel economy of the Trucks would drop precipitously following service at the dealerships, including service that was performed secretly and without Plaintiffs' knowledge, and were non-compliant with EPA emissions requirements, making other disclosures about the emission system deceptive.

1077. The truth about the defective emissions controls, the non-compliance with EPA emissions requirements, and the precipitous drop in performance of the Trucks was known only to the Defendants; Plaintiffs and the Subclass members did not know of these facts and the Defendants actively concealed these facts from Plaintiffs and Subclass members.

1078. Plaintiffs and Subclass members reasonably relied upon the Defendants' deception. They had no way of knowing that the Defendants' representations were false and/or misleading. As consumers, Plaintiffs and Subclass members did not, and could not, unravel the Defendants' deception on their own. Rather, the Defendants intended to deceive Plaintiffs and Subclass members by concealing the true facts about the Trucks' emissions and defects.

1079. The Defendants also concealed and suppressed material facts concerning what is evidently the true culture of the Defendants—a culture characterized by an emphasis on profits and sales above compliance with federal and state clean air law and emissions regulations that are meant to protect the public and consumers. Defendants also emphasized profits and sales above the trust that Plaintiffs and Subclass members placed in their representations. Consumers buy diesel cars from the Defendants because they feel they are clean diesel cars. They do not want to be spewing noxious gases into the environment. And yet, that is precisely what the Trucks are doing.

1080. The Defendants' false representations were material to consumers, because they concerned the quality of the Trucks, compliance with applicable federal and state law and regulations regarding clean air and emissions, anticipated fuel economy and costs for fuel, and also because the representations played a significant role in the value of the Trucks. As the Defendants well knew, their customers, including Plaintiffs and Subclass members, highly valued that the Trucks they were purchasing or leasing were fuel efficient, clean diesel cars with reduced emissions and increased longevity, and they paid accordingly.

1081. The Defendants had a duty to disclose the Washcoat Defect and the Flash Defect because details of the true facts were known and/or accessible only to the Defendants, because the Defendants had exclusive knowledge as to such facts,

and because the Defendants knew these facts were not known to or reasonably discoverable by Plaintiffs or Subclass members. The Defendants also had a duty to disclose because they made general affirmative representations about the qualities of the Trucks with respect to emissions, including references to them as the lowest-emissions diesel cars and as compliant with all laws in each country, which were misleading, deceptive, and incomplete without the disclosure of the additional facts set forth above regarding the actual emissions of the Trucks, their actual philosophy with respect to compliance with federal and state clean air law and emissions regulations, and their actual practices with respect to the Trucks at issue. Having volunteered to provide information to Plaintiffs and Subclass members, the Defendants had the duty to disclose not just the partial truth, but the entire truth. These omitted and concealed facts were material because they directly impact the value of the Trucks purchased or leased by Plaintiffs and Subclass members. Whether a manufacturer's products pollute, comply with federal and state clean air law and emissions regulations, and whether that manufacturer tells the truth with respect to such compliance or non-compliance, are material concerns to a consumer, including with respect to the emissions certifications testing their Trucks must pass. The Defendants represented to Plaintiffs and Subclass members that they were purchasing or leasing reduced-emission diesel vehicles when, in

fact, they were purchasing or leasing defective, high-emission vehicles with unlawfully high emissions.

1082. The Defendants actively concealed and/or suppressed these material facts, in whole or in part, to pad and protect their profits and to avoid the perception that their Trucks were not clean diesel vehicles and did not or could not comply with federal and state laws governing clean air and emissions, which perception would hurt the brand's image and cost the Defendants money, and they did so at the expense of Plaintiffs and Subclass members.

1083. The Defendants still have not made full and adequate disclosures, and they continue to defraud Plaintiffs and Subclass members by concealing material information regarding the emissions qualities of the Trucks.

1084. Plaintiffs and Subclass members were unaware of the omitted material facts referenced herein, and they would not have acted as they did if they had known of the concealed and/or suppressed facts, in that they would not have purchased purportedly reduced-emissions diesel cars manufactured by the Defendants, and/or would not have continued to drive their heavily polluting Trucks, or would have taken other affirmative steps in light of the information concealed from them. Plaintiffs' and Subclass members' actions were justified. The Defendants were in exclusive control of the material facts, and such facts were not generally known to the public, Plaintiffs, or Subclass members.

1085. Because of the concealment and/or suppression of the facts, Plaintiffs and Subclass members have sustained damage because they own Trucks that are diminished in value as a result of the Defendants' concealment of the true quality and quantity of those Trucks' emissions and the Defendants' failure to timely disclose the defect or defective design of the diesel engine system, the actual emissions qualities and quantities of the Defendants' Trucks, and the serious issues engendered by the Defendants' corporate policies. Had Plaintiffs and Subclass members been aware of the true emissions facts with regard to the Trucks, and the Defendants' disregard for the truth and compliance with applicable federal and state law and regulations, Plaintiffs and Subclass members who purchased or leased new or certified previously owned Trucks would have paid less for their Trucks or would not have purchased or leased them at all.

1086. The value of Plaintiffs' and Subclass members' Trucks has diminished as a result of the Defendants' fraudulent concealment of the defective emissions controls of the Trucks, the unlawfully high emissions of the Trucks, and the non-compliance with EPA emissions requirements, all of which has greatly tarnished the Defendants' brand name attached to Plaintiffs' and Subclass members' Trucks and made any reasonable consumer reluctant to purchase any of the Trucks, let alone pay what otherwise would have been fair market value for the Trucks.

1087. Accordingly, the Defendants are liable to Plaintiffs and Subclass members for damages in an amount to be proven at trial.

1088. The Defendants' acts were done wantonly, maliciously, oppressively, deliberately, with intent to defraud, and in reckless disregard of Plaintiffs' and Subclass members' rights and the representations that the Defendants made to them, in order to enrich the Defendants. The Defendants' conduct warrants an assessment of punitive damages in an amount sufficient to deter such conduct in the future, which amount is to be determined according to proof.

#### **COUNT IV**

#### **UNJUST ENRICHMENT**

1089. Plaintiffs incorporate by reference all preceding allegations as though fully set forth herein.

1090. Plaintiffs bring this Count on behalf of himself and the Utah Subclass.

1091. FCA and Cummins have received and retained a benefit from Plaintiffs and inequity has resulted.

1092. FCA and Cummins have benefitted from selling and leasing defective cars at a profit whose value was artificially inflated by FCA and Cummins's concealment of the Washcoat Defect and the Flash Defect, and Plaintiffs and the Class have overpaid for the cars and been forced to pay other costs.

1093. Thus, all Utah Subclass members conferred a benefit on FCA and Cummins.

1094. Plaintiffs and the Class were not aware of the true facts about the Class Trucks, and did not benefit from FCA and Cummins's conduct.

1095. FCA and Cummins knowingly accepted the benefits of their unjust conduct.

1096. As a result of FCA and Cummins's conduct, the amount of their unjust enrichment should be disgorged as to each defendant, in an amount according to proof.

**R. Claims Brought on Behalf of the Virginia Subclass**

**COUNT I**

**VIOLATIONS OF THE VIRGINIA CONSUMER PROTECTION ACT  
(VA. CODE ANN. § 59.1-196 *ET SEQ.*)**

1097. Plaintiff Stephen Zimmerer ("Plaintiff" for purposes of all Virginia Subclass claims) incorporates by reference all paragraphs as though fully set forth herein.

1098. This claim is brought on behalf of the Virginia Subclass.

1099. Each Defendant is a "person" as defined by VA. CODE ANN. § 59.1-198. The transactions between Plaintiff and the other Subclass members on the one hand and Defendants on the other, leading to the purchase or lease of the Trucks by Plaintiffs and the other Subclass members, are "consumer transactions" as defined

by VA. CODE ANN. § 59.1-198, because the Trucks were purchased or leased primarily for personal, family or household purposes.

1100. The Virginia Consumer Protection Act (“Virginia CPA”) prohibits “(5) misrepresenting that goods or services have certain quantities, characteristics, ingredients, uses, or benefits; (6) misrepresenting that goods or services are of a particular standard, quality, grade, style, or model; ... (8) advertising goods or services with intent not to sell them as advertised; ... [and] (14) using any other deception, fraud, false pretense, false promise, or misrepresentation in connection with a consumer transaction[.]” VA. CODE ANN. § 59.1-200(A).

1101. In the course of the Defendants’ business, they willfully failed to disclose and actively concealed that the emissions system in the Trucks is defective, that the Trucks emitted far more pollutants than gasoline-powered vehicles, that the Trucks emit far more pollution than a reasonable consumer would expect in light of the Defendants’ advertising campaign, and that the Trucks emitted unlawfully high levels of pollutants, including NOx, as described above. Defendants further willfully failed to disclose and actively concealed that the fuel economy of the Trucks would drop precipitously following service at the dealerships, including service that was performed secretly and without Plaintiff’s knowledge. Accordingly, the Defendants engaged in unfair methods of competition, unconscionable acts or practices, and unfair or deceptive acts or

practices, including representing that the Trucks have characteristics, uses, benefits, and qualities which they do not have; representing that the Trucks are of a particular standard and quality when they are not; failing to reveal a material fact, the omission of which tends to mislead or deceive the consumer, and which fact could not reasonably be known by the consumer; making a representation of fact or statement of fact material to the transaction such that a person reasonably believes the represented or suggested state of affairs to be other than it actually is; and failing to reveal facts that are material to the transaction in light of representations of fact made in a positive manner.

1102. In purchasing or leasing the Trucks, Plaintiff and the other Subclass members were deceived by the Defendants' failure to disclose that the emissions system in the Trucks is defective, that the Trucks emitted far more pollutants than gasoline-powered vehicles, that the Trucks emit far more pollution than a reasonable consumer would expect in light of the Defendants' advertising campaign, that the Trucks emitted unlawfully high levels of pollutants, including NO<sub>x</sub>, as described above, that the durability and longevity of the Trucks would suffer as a result of the Flash Defect, and that the fuel economy of the Trucks would drop precipitously following service at the dealerships, including service that was performed secretly and without Plaintiff's knowledge.

1103. Plaintiff and Subclass members reasonably relied upon the Defendants' false misrepresentations. They had no way of knowing that the Defendants' representations were false and gravely misleading. As alleged herein, the Defendants engaged in extremely sophisticated methods of deception. Plaintiff and Subclass members did not, and could not, unravel Defendants' deception on their own.

1104. The Defendants' actions as set forth above occurred in the conduct of trade or commerce.

1105. The Defendants' unfair or deceptive acts or practices were likely to and did in fact deceive reasonable consumers.

1106. The Defendants intentionally and knowingly misrepresented material facts regarding the Trucks with an intent to mislead Plaintiff and the Subclass.

1107. The Defendants knew or should have known that their conduct violated the Virginia CPA.

1108. The Defendants owed Plaintiff and the Subclass a duty to disclose the truth about their emissions systems manipulation because the Defendants:

- a. Possessed exclusive knowledge regarding the Washcoat Defect, and intentionally concealed the foregoing from Plaintiff and the Subclass;
- b. Possessed exclusive knowledge regarding the Flash Defect, and intentionally concealed the foregoing from Plaintiff and the Subclass;

c. Made incomplete representations regarding compliance with emissions standards, while purposefully withholding material facts from Plaintiff and the Subclass that contradicted these representations; and

d. Made incomplete representations regarding the improved or superior fuel economy of the Trucks, while purposefully withholding material facts from Plaintiff and the Subclass that contradicted these representations.

1109. The Defendants had a duty to disclose that the emissions system in the Trucks is defective, that the Trucks emitted far more pollutants than gasoline-powered vehicles, that the Trucks emit far more pollution than a reasonable consumer would expect in light of the Defendants' advertising campaign, that the Trucks emitted unlawfully high levels of pollutants, including NO<sub>x</sub>, as described above, that the durability and longevity of the Trucks would suffer as a result of the Flash Defect, and that the fuel economy of the Trucks would drop precipitously following service at the dealerships, including service that was performed secretly and without Plaintiff's knowledge, because Plaintiff and the other Subclass members relied on the Defendants' material representations that the Trucks they were purchasing were reduced-emission vehicles, efficient, durable, and free from defects.

1110. The Defendants' conduct proximately caused injuries to Plaintiff and the other Subclass members.

1111. Plaintiff and the other Subclass members were injured and suffered ascertainable loss, injury-in-fact, and/or actual damage as a proximate result of the Defendants' conduct in that Plaintiff and the other Subclass members overpaid for their Trucks and did not receive the benefit of their bargain, and their Trucks have suffered a diminution in value. These injuries are the direct and natural consequence of the Defendants' misrepresentations and omissions.

1112. The Defendants' violations present a continuing risk to Plaintiff as well as to the general public. The Defendants' unlawful acts and practices complained of herein affect the public interest.

1113. Pursuant to VA. CODE ANN. § 59.1-204, Plaintiff and the Subclass seek monetary relief against the Defendants measured as the greater of (a) actual damages in an amount to be determined at trial and (b) statutory damages in the amount of \$500 for each Plaintiff and Subclass member. Because Defendants' conduct was committed willfully and knowingly, Plaintiffs are entitled to recover, for each Plaintiff and Subclass member, the greater of (a) three times actual damages or (b) \$1,000.

1114. Plaintiff also seeks punitive damages, and attorneys' fees, and any other just and proper relief available under General Business Law § 59.1-204 *et seq.*

## COUNT II

### **BREACH OF CONTRACT (BASED ON VIRGINIA LAW)**

1115. Plaintiff incorporates by reference all preceding allegations as though fully set forth herein.

1116. Plaintiff brings this Count on behalf of Virginia Subclass members.

1117. The Defendants' misrepresentations and omissions alleged herein, including, but not limited to, the existence of the Washcoat Defect and the Flash Defect, that the Trucks emitted far more pollutants than gasoline-powered vehicles, that the Trucks emit far more pollution than a reasonable consumer would expect in light of the Defendants' advertising campaign, that the Trucks emitted unlawfully high levels of pollutants, including NOx, as described above, that the durability and longevity of the Trucks would suffer as a result of the Flash Defect, and that the fuel economy of the Trucks would drop precipitously following service at the dealerships, including service that was performed secretly and without Plaintiff's knowledge, caused Plaintiff and the other Subclass members to make their purchases or leases of their Trucks. Absent those misrepresentations and omissions, Plaintiff and the other Subclass members would not have purchased or leased these Trucks, would not have purchased or leased these Trucks at the prices they paid, and/or would have purchased or leased less expensive alternative vehicles that did not contain the defective Engine and which were not marketed as

including such a system. Accordingly, Plaintiff and the other Subclass members overpaid for their Trucks and did not receive the benefit of their bargain.

1118. Each and every sale or lease of a Truck constitutes a contract between FCA and the purchaser or lessee. FCA breached these contracts by selling or leasing to Plaintiff and the other Subclass members defective Trucks and by misrepresenting or failing to disclose that the Emissions system is defective, that the Trucks emitted far more pollutants than gasoline-powered vehicles, that the Trucks emit far more pollution than a reasonable consumer would expect in light of the Defendants' advertising campaign, that the Trucks emitted unlawfully high levels of pollutants, including NOx, as described above, and that the fuel economy of the Trucks would drop precipitously following service at the dealerships, including service that was performed secretly and without Plaintiffs' knowledge.

1119. As a direct and proximate result of FCA's breach of contract, Plaintiff and the Subclass have been damaged in an amount to be proven at trial, which shall include, but is not limited to, all compensatory damages, incidental and consequential damages, and other damages allowed by law.

### **COUNT III**

#### **FRAUDULENT CONCEALMENT (BASED ON VIRGINIA LAW)**

1120. Plaintiff incorporates by reference all preceding allegations as though fully set forth herein.

1121. Plaintiff brings this Count on behalf of the Virginia Subclass.

1122. The Defendants intentionally concealed that the emissions system in the Trucks is defective, that the Trucks emitted far more pollutants than gasoline-powered vehicles, that the Trucks emit far more pollution than a reasonable consumer would expect in light of the Defendants' advertising campaign, that the Trucks emitted unlawfully high levels of pollutants, including NOx, as described above, that the durability and longevity of the Trucks would suffer as a result of the Flash Defect, and that the fuel economy of the Trucks would drop precipitously following service at the dealerships, including service that was performed secretly and without Plaintiff's knowledge, or the Defendants acted with reckless disregard for the truth and denied Plaintiff and the other Subclass members information that is highly relevant to their purchasing decision.

1123. The Defendants further affirmatively misrepresented to Plaintiff and Subclass members in advertising and other forms of communication, including standard and uniform material provided with each car, that the Trucks they were selling had no significant defects, were clean and low-emission vehicles, complied with EPA regulations, were fuel-efficient, and would perform and operate properly when driven in normal usage.

1124. The Defendants knew these representations were false when made.

1125. The Trucks purchased or leased by Plaintiff and the other Subclass members were, in fact, defective, emitting pollutants at a much higher rate than gasoline-powered vehicles and at a much higher rate than a reasonable consumer would expect in light of the Defendants' advertising campaign, non-EPA-compliant, and unreliable, and service would lead to a precipitous drop in fuel economy.

1126. The Defendants had a duty to disclose that the emissions system in the Trucks is defective, that the Trucks emitted far more pollutants than gasoline-powered vehicles, that the Trucks emit far more pollution than a reasonable consumer would expect in light of the Defendants' advertising campaign, that the Trucks emitted unlawfully high levels of pollutants, including NO<sub>x</sub>, as described above, that the durability and longevity of the Trucks would suffer as a result of the Flash Defect, and that the fuel economy of the Trucks would drop precipitously following service at the dealerships, including service that was performed secretly and without Plaintiff's knowledge, because Plaintiff and the other Subclass members relied on the Defendants' material representations that the Trucks they were purchasing were reduced-emission vehicles, efficient, and free from defects.

1127. As alleged in this Complaint, at all relevant times, the Defendants have held out the Trucks to be reduced-emissions, EPA-compliant vehicles. The Defendants disclosed certain details about the diesel engine, but nonetheless, the

Defendants intentionally failed to disclose important facts, including the existence of the Washcoat Defect and the Flash Defect, that the emissions system in the Trucks is defective, that the Trucks emitted far more pollutants than gasoline-powered vehicles, that the Trucks emit far more pollution than a reasonable consumer would expect in light of the Defendants' advertising campaign, that the Trucks emitted unlawfully high levels of pollutants, including NOx, as described above, that the durability and longevity of the Trucks would suffer as a result of the Flash Defect, and that the fuel economy of the Trucks would drop precipitously following service at the dealerships, including service that was performed secretly and without Plaintiff's knowledge, and were non-compliant with EPA emissions requirements, making other disclosures about the emission system deceptive.

1128. The truth about the defective emissions controls, the non-compliance with EPA emissions requirements, and the precipitous drop in performance of the Trucks was known only to the Defendants; Plaintiff and the Subclass members did not know of these facts and the Defendants actively concealed these facts from Plaintiff and Subclass members.

1129. Plaintiff and Subclass members reasonably relied upon the Defendants' deception. They had no way of knowing that the Defendants' representations were false and/or misleading. As consumers, the Plaintiff and Subclass members did not, and could not, unravel the Defendants' deception on

their own. Rather, the Defendants intended to deceive Plaintiff and Subclass members by concealing the true facts about the Trucks' emissions and defects.

1130. The Defendants also concealed and suppressed material facts concerning what is evidently the true culture of the Defendants—a culture characterized by an emphasis on profits and sales above compliance with federal and state clean air law and emissions regulations that are meant to protect the public and consumers. Defendants also emphasized profits and sales above the trust that Plaintiff and Subclass members placed in their representations. Consumers buy diesel cars from the Defendants because they feel they are clean diesel cars. They do not want to be spewing noxious gases into the environment. And yet, that is precisely what the Trucks are doing.

1131. The Defendants' false representations were material to consumers, because they concerned the quality of the Trucks, compliance with applicable federal and state law and regulations regarding clean air and emissions, anticipated fuel economy and costs for fuel, and also because the representations played a significant role in the value of the Trucks. As the Defendants well knew, their customers, including Plaintiff and Subclass members, highly valued that the Trucks they were purchasing or leasing were fuel efficient, clean diesel cars with reduced emissions and increased longevity, and they paid accordingly.

1132. The Defendants had a duty to disclose the Washcoat Defect and the Flash Defect because details of the true facts were known and/or accessible only to the Defendants, because the Defendants had exclusive knowledge as to such facts, and because the Defendants knew these facts were not known to or reasonably discoverable by Plaintiff or Subclass members. The Defendants also had a duty to disclose because they made general affirmative representations about the qualities of the Trucks with respect to emissions, including references to them as the lowest-emissions diesel cars and as compliant with all laws in each country, which were misleading, deceptive, and incomplete without the disclosure of the additional facts set forth above regarding the actual emissions of the Trucks, their actual philosophy with respect to compliance with federal and state clean air law and emissions regulations, and their actual practices with respect to the Trucks at issue. Having volunteered to provide information to Plaintiff and Subclass members, the Defendants had the duty to disclose not just the partial truth, but the entire truth. These omitted and concealed facts were material because they directly impact the value of the Trucks purchased or leased by Plaintiff and Subclass members. Whether a manufacturer's products pollute, comply with federal and state clean air law and emissions regulations, and whether that manufacturer tells the truth with respect to such compliance or non-compliance, are material concerns to a consumer, including with respect to the emissions certifications testing their

Trucks must pass. The Defendants represented to Plaintiff and Subclass members that they were purchasing or leasing reduced-emission diesel vehicles when, in fact, they were purchasing or leasing defective, high-emission vehicles with unlawfully high emissions.

1133. The Defendants actively concealed and/or suppressed these material facts, in whole or in part, to pad and protect their profits and to avoid the perception that their Trucks were not clean diesel vehicles and did not or could not comply with federal and state laws governing clean air and emissions, which perception would hurt the brand's image and cost the Defendants money, and they did so at the expense of Plaintiff and Subclass members.

1134. The Defendants still have not made full and adequate disclosures, and they continue to defraud Plaintiff and Subclass members by concealing material information regarding the emissions qualities of the Trucks.

1135. Plaintiff and Subclass members were unaware of the omitted material facts referenced herein, and they would not have acted as they did if they had known of the concealed and/or suppressed facts, in that they would not have purchased purportedly reduced-emissions diesel cars manufactured by the Defendants, and/or would not have continued to drive their heavily polluting Trucks, or would have taken other affirmative steps in light of the information concealed from them. Plaintiff's and Subclass members' actions were justified.

The Defendants were in exclusive control of the material facts, and such facts were not generally known to the public, Plaintiff, or Subclass members.

1136. Because of the concealment and/or suppression of the facts, Plaintiff and Subclass members have sustained damage because they own Trucks that are diminished in value as a result of the Defendants' concealment of the true quality and quantity of those Trucks' emissions and the Defendants' failure to timely disclose the defect or defective design of the diesel engine system, the actual emissions qualities and quantities of the Defendants' Trucks, and the serious issues engendered by the Defendants' corporate policies. Had Plaintiff and Subclass members been aware of the true emissions facts with regard to the Trucks, and the Defendants' disregard for the truth and compliance with applicable federal and state law and regulations, Plaintiff and Subclass members who purchased or leased new or certified previously owned Trucks would have paid less for their Trucks or would not have purchased or leased them at all.

1137. The value of Plaintiff's and Subclass members' Trucks has diminished as a result of the Defendants' fraudulent concealment of the defective emissions controls of the Trucks, the unlawfully high emissions of the Trucks, and the non-compliance with EPA emissions requirements, all of which has greatly tarnished the Defendants' brand name attached to Plaintiff's and Subclass members' Trucks and made any reasonable consumer reluctant to purchase any of

the Trucks, let alone pay what otherwise would have been fair market value for the Trucks.

1138. Accordingly, the Defendants are liable to Plaintiff and Subclass members for damages in an amount to be proven at trial.

1139. The Defendants' acts were done wantonly, maliciously, oppressively, deliberately, with intent to defraud, and in reckless disregard of Plaintiff's and Subclass members' rights and the representations that the Defendants made to them, in order to enrich the Defendants. The Defendants' conduct warrants an assessment of punitive damages in an amount sufficient to deter such conduct in the future, which amount is to be determined according to proof.

1140. The Defendants' acts were done wantonly, maliciously, oppressively, deliberately, with intent to defraud, and in reckless disregard of Plaintiff's and Subclass members' rights and the representations that the Defendants made to them, in order to enrich the Defendants. The Defendants' conduct warrants an assessment of punitive damages in an amount sufficient to deter such conduct in the future, which amount is to be determined according to proof.

#### **COUNT IV**

#### **UNJUST ENRICHMENT**

1141. Plaintiff incorporates by reference all preceding allegations as though fully set forth herein.

1142. Plaintiff brings this Count on behalf of himself and the Virginia Subclass.

1143. FCA and Cummins have received and retained a benefit from Plaintiff and inequity has resulted.

1144. FCA and Cummins have benefitted from selling and leasing defective cars at a profit whose value was artificially inflated by FCA and Cummins's concealment of the Washcoat Defect and the Flash Defect, and Plaintiff and the Class have overpaid for the cars and been forced to pay other costs.

1145. Thus, all Virginia Subclass members conferred a benefit on FCA and Cummins.

1146. Plaintiff and the Class were not aware of the true facts about the Class Trucks, and did not benefit from FCA and Cummins's conduct.

1147. FCA and Cummins knowingly accepted the benefits of their unjust conduct.

1148. As a result of FCA and Cummins's conduct, the amount of their unjust enrichment should be disgorged as to each defendant, in an amount according to proof.

**S. Claims Brought on Behalf of the Washington Subclass**

**COUNT I**

**VIOLATION OF THE WASHINGTON CONSUMER PROTECTION ACT  
(WASH. REV. CODE ANN. § 19.86.010 *ET SEQ.*)**

1149. Plaintiff Jim Blount (“Plaintiff” for purposes of all Washington Subclass claims) incorporates by reference all preceding allegations as though fully set forth herein.

1150. Plaintiff brings this Count on behalf of the Washington Subclass.

1151. Each Defendant, Plaintiff, and each member of the Washington Subclass is a “person” under WASH. REV. CODE ANN. § 19.86.010(1) (“Washington CPA”).

1152. Defendants engaged in “trade” or “commerce” under WASH. REV. CODE ANN. § 19.86.010(2).

1153. The Washington Consumer Protection Act (“Washington CPA”) broadly prohibits “[u]nfair methods of competition and unfair or deceptive acts or practices in the conduct of any trade or commerce.” WASH. REV. CODE. ANN. § 19.96.010.

1154. In the course of the Defendants’ business, they willfully failed to disclose and actively concealed that the emissions system in the Trucks is defective, that the Trucks emitted far more pollutants than gasoline-powered vehicles, that the Trucks emit far more pollution than a reasonable consumer would

expect in light of the Defendants' advertising campaign, and that the Trucks emitted unlawfully high levels of pollutants, including NOx, as described above. Defendants further willfully failed to disclose and actively concealed that the fuel economy of the Trucks would drop precipitously following service at the dealerships, including service that was performed secretly and without Plaintiff's knowledge. Accordingly, the Defendants engaged in unfair methods of competition, unconscionable acts or practices, and unfair or deceptive acts or practices, including representing that the Trucks have characteristics, uses, benefits, and qualities which they do not have; representing that the Trucks are of a particular standard and quality when they are not; failing to reveal a material fact, the omission of which tends to mislead or deceive the consumer, and which fact could not reasonably be known by the consumer; making a representation of fact or statement of fact material to the transaction such that a person reasonably believes the represented or suggested state of affairs to be other than it actually is; and failing to reveal facts that are material to the transaction in light of representations of fact made in a positive manner.

1155. In purchasing or leasing the Trucks, Plaintiff and the other Subclass members were deceived by the Defendants' failure to disclose that the emissions system in the Trucks is defective, that the Trucks emitted far more pollutants than gasoline-powered vehicles, that the Trucks emit far more pollution than a

reasonable consumer would expect in light of the Defendants' advertising campaign, that the Trucks emitted unlawfully high levels of pollutants, including NO<sub>x</sub>, as described above, that the durability and longevity of the Trucks would suffer as a result of the Flash Defect, and that the fuel economy of the Trucks would drop precipitously following service at the dealerships, including service that was performed secretly and without Plaintiff's knowledge.

1156. Plaintiff and Subclass members reasonably relied upon the Defendants' false misrepresentations. They had no way of knowing that the Defendants' representations were false and gravely misleading. As alleged herein, the Defendants engaged in extremely sophisticated methods of deception. Plaintiff and Subclass members did not, and could not, unravel Defendants' deception on their own.

1157. The Defendants' actions as set forth above occurred in the conduct of trade or commerce.

1158. The Defendants' unfair or deceptive acts or practices were likely to and did in fact deceive reasonable consumers.

1159. The Defendants intentionally and knowingly misrepresented material facts regarding the Trucks with an intent to mislead Plaintiff and the Subclass.

1160. The Defendants knew or should have known that their conduct violated the Washington CPA.

1161. The Defendants owed Plaintiff and the Subclass a duty to disclose the truth about their emissions systems manipulation because the Defendants:

a. Possessed exclusive knowledge regarding the Washcoat Defect, and intentionally concealed the foregoing from Plaintiff and the Subclass;

b. Possessed exclusive knowledge regarding the Flash Defect, and intentionally concealed the foregoing from Plaintiff and the Subclass;

c. Made incomplete representations regarding compliance with emissions standards, while purposefully withholding material facts from Plaintiff and the Subclass that contradicted these representations; and

d. Made incomplete representations regarding the improved or superior fuel economy of the Trucks, while purposefully withholding material facts from Plaintiff and the Subclass that contradicted these representations.

1162. The Defendants had a duty to disclose that the emissions system in the Trucks is defective, that the Trucks emitted far more pollutants than gasoline-powered vehicles, that the Trucks emit far more pollution than a reasonable consumer would expect in light of the Defendants' advertising campaign, that the Trucks emitted unlawfully high levels of pollutants, including NO<sub>x</sub>, as described above, that the durability and longevity of the Trucks would suffer as a result of the Flash Defect, and that the fuel economy of the Trucks would drop precipitously following service at the dealerships, including service that was performed secretly

and without Plaintiff's knowledge, because Plaintiff and the other Subclass members relied on the Defendants' material representations that the Trucks they were purchasing were reduced-emission vehicles, efficient, durable, and free from defects.

1163. The Defendants' conduct proximately caused injuries to Plaintiff and the other Subclass members.

1164. Plaintiff and the other Subclass members were injured and suffered ascertainable loss, injury-in-fact, and/or actual damage as a proximate result of the Defendants' conduct in that Plaintiff and the other Subclass members overpaid for their Trucks and did not receive the benefit of their bargain, and their Trucks have suffered a diminution in value. These injuries are the direct and natural consequence of the Defendants' misrepresentations and omissions.

1165. The Defendants' violations present a continuing risk to Plaintiff as well as to the general public. The Defendants' unlawful acts and practices complained of herein affect the public interest.

1166. The Defendants are liable to Plaintiff and the Subclass for damages in amounts to be proven at trial, including attorneys' fees, costs, and treble damages, as well as any other remedies the Court may deem appropriate under WASH. REV. CODE. ANN. § 19.86.090.

## COUNT II

### **BREACH OF CONTRACT (BASED ON WASHINGTON LAW)**

1167. Plaintiff incorporates by reference all preceding allegations as though fully set forth herein.

1168. Plaintiff brings this Count on behalf of the Washington Subclass members.

1169. The Defendants' misrepresentations and omissions alleged herein, including, but not limited to, the existence of the Washcoat Defect and the Flash Defect, that the Trucks emitted far more pollutants than gasoline-powered vehicles, that the Trucks emit far more pollution than a reasonable consumer would expect in light of the Defendants' advertising campaign, that the Trucks emitted unlawfully high levels of pollutants, including NOx, as described above, that the durability and longevity of the Trucks would suffer as a result of the Flash Defect, and that the fuel economy of the Trucks would drop precipitously following service at the dealerships, including service that was performed secretly and without Plaintiff's knowledge, caused Plaintiff and the other Subclass members to make their purchases or leases of their Trucks. Absent those misrepresentations and omissions, Plaintiff and the other Subclass members would not have purchased or leased these Trucks, would not have purchased or leased these Trucks at the prices they paid, and/or would have purchased or leased less expensive alternative

vehicles that did not contain the defective Engine and which were not marketed as including such a system. Accordingly, Plaintiff and the other Subclass members overpaid for their Trucks and did not receive the benefit of their bargain.

1170. Each and every sale or lease of a Truck constitutes a contract between FCA and the purchaser or lessee. FCA breached these contracts by selling or leasing to Plaintiff and the other Subclass members defective Trucks and by misrepresenting or failing to disclose that the Emissions system is defective, that the Trucks emitted far more pollutants than gasoline-powered vehicles, that the Trucks emit far more pollution than a reasonable consumer would expect in light of the Defendants' advertising campaign, that the Trucks emitted unlawfully high levels of pollutants, including NO<sub>x</sub>, as described above, and that the fuel economy of the Trucks would drop precipitously following service at the dealerships, including service that was performed secretly and without Plaintiffs' knowledge.

1171. As a direct and proximate result of FCA's breach of contract, Plaintiff and the Subclass have been damaged in an amount to be proven at trial, which shall include, but is not limited to, all compensatory damages, incidental and consequential damages, and other damages allowed by law.

### **COUNT III**

#### **FRAUDULENT CONCEALMENT (BASED ON WASHINGTON LAW)**

1172. Plaintiff incorporates by reference all preceding allegations as though fully set forth herein.

1173. Plaintiff brings this Count on behalf of the Washington Subclass.

1174. The Defendants intentionally concealed that the emissions system in the Trucks is defective, that the Trucks emitted far more pollutants than gasoline-powered vehicles, that the Trucks emit far more pollution than a reasonable consumer would expect in light of the Defendants' advertising campaign, that the Trucks emitted unlawfully high levels of pollutants, including NO<sub>x</sub>, as described above, that the durability and longevity of the Trucks would suffer as a result of the Flash Defect, and that the fuel economy of the Trucks would drop precipitously following service at the dealerships, including service that was performed secretly and without Plaintiff's knowledge, or the Defendants acted with reckless disregard for the truth and denied Plaintiff and the other Subclass members information that is highly relevant to their purchasing decision.

1175. The Defendants further affirmatively misrepresented to Plaintiff and Subclass members in advertising and other forms of communication, including standard and uniform material provided with each car, that the Trucks they were selling had no significant defects, were clean and low-emission vehicles, complied

with EPA regulations, were fuel-efficient, and would perform and operate properly when driven in normal usage.

1176. The Defendants knew these representations were false when made.

1177. The Trucks purchased or leased by Plaintiff and the other Subclass members were, in fact, defective, emitting pollutants at a much higher rate than gasoline-powered vehicles and at a much higher rate than a reasonable consumer would expect in light of the Defendants' advertising campaign, non-EPA-compliant, and unreliable, and service would lead to a precipitous drop in fuel economy.

1178. The Defendants had a duty to disclose that the emissions system in the Trucks is defective, that the Trucks emitted far more pollutants than gasoline-powered vehicles, that the Trucks emit far more pollution than a reasonable consumer would expect in light of the Defendants' advertising campaign, that the Trucks emitted unlawfully high levels of pollutants, including NO<sub>x</sub>, as described above, that the durability and longevity of the Trucks would suffer as a result of the Flash Defect, and that the fuel economy of the Trucks would drop precipitously following service at the dealerships, including service that was performed secretly and without Plaintiff's knowledge, because Plaintiff and the other Subclass members relied on the Defendants' material representations that the Trucks they were purchasing were reduced-emission vehicles, efficient, and free from defects.

1179. As alleged in this Complaint, at all relevant times, the Defendants have held out the Trucks to be reduced-emissions, EPA-compliant vehicles. The Defendants disclosed certain details about the diesel engine, but nonetheless, the Defendants intentionally failed to disclose important facts, including the existence of the Washcoat Defect and the Flash Defect, that the emissions system in the Trucks is defective, that the Trucks emitted far more pollutants than gasoline-powered vehicles, that the Trucks emit far more pollution than a reasonable consumer would expect in light of the Defendants' advertising campaign, that the Trucks emitted unlawfully high levels of pollutants, including NOx, as described above, that the durability and longevity of the Trucks would suffer as a result of the Flash Defect, and that the fuel economy of the Trucks would drop precipitously following service at the dealerships, including service that was performed secretly and without Plaintiff's knowledge, and were non-compliant with EPA emissions requirements, making other disclosures about the emission system deceptive.

1180. The truth about the defective emissions controls, the non-compliance with EPA emissions requirements, and the precipitous drop in performance of the Trucks was known only to the Defendants; Plaintiff and the Subclass members did not know of these facts and the Defendants actively concealed these facts from Plaintiff and Subclass members.

1181. Plaintiff and Subclass members reasonably relied upon the Defendants' deception. They had no way of knowing that the Defendants' representations were false and/or misleading. As consumers, the Plaintiff and Subclass members did not, and could not, unravel the Defendants' deception on their own. Rather, the Defendants intended to deceive Plaintiff and Subclass members by concealing the true facts about the Trucks' emissions and defects.

1182. The Defendants also concealed and suppressed material facts concerning what is evidently the true culture of the Defendants—a culture characterized by an emphasis on profits and sales above compliance with federal and state clean air law and emissions regulations that are meant to protect the public and consumers. Defendants also emphasized profits and sales above the trust that Plaintiff and Subclass members placed in their representations. Consumers buy diesel cars from the Defendants because they feel they are clean diesel cars. They do not want to be spewing noxious gases into the environment. And yet, that is precisely what the Trucks are doing.

1183. The Defendants' false representations were material to consumers, because they concerned the quality of the Trucks, compliance with applicable federal and state law and regulations regarding clean air and emissions, anticipated fuel economy and costs for fuel, and also because the representations played a significant role in the value of the Trucks. As the Defendants well knew, their

customers, including Plaintiff and Subclass members, highly valued that the Trucks they were purchasing or leasing were fuel efficient, clean diesel cars with reduced emissions and increased longevity, and they paid accordingly.

1184. The Defendants had a duty to disclose the Washcoat Defect and the Flash Defect because details of the true facts were known and/or accessible only to the Defendants, because the Defendants had exclusive knowledge as to such facts, and because the Defendants knew these facts were not known to or reasonably discoverable by Plaintiff or Subclass members. The Defendants also had a duty to disclose because they made general affirmative representations about the qualities of the Trucks with respect to emissions, including references to them as the lowest-emissions diesel cars and as compliant with all laws in each country, which were misleading, deceptive, and incomplete without the disclosure of the additional facts set forth above regarding the actual emissions of the Trucks, their actual philosophy with respect to compliance with federal and state clean air law and emissions regulations, and their actual practices with respect to the Trucks at issue. Having volunteered to provide information to Plaintiff and Subclass members, the Defendants had the duty to disclose not just the partial truth, but the entire truth. These omitted and concealed facts were material because they directly impact the value of the Trucks purchased or leased by Plaintiff and Subclass members. Whether a manufacturer's products pollute, comply with federal and state clean air

law and emissions regulations, and whether that manufacturer tells the truth with respect to such compliance or non-compliance, are material concerns to a consumer, including with respect to the emissions certifications testing their Trucks must pass. The Defendants represented to Plaintiff and Subclass members that they were purchasing or leasing reduced-emission diesel vehicles when, in fact, they were purchasing or leasing defective, high-emission vehicles with unlawfully high emissions.

1185. The Defendants actively concealed and/or suppressed these material facts, in whole or in part, to pad and protect their profits and to avoid the perception that their Trucks were not clean diesel vehicles and did not or could not comply with federal and state laws governing clean air and emissions, which perception would hurt the brand's image and cost the Defendants money, and they did so at the expense of Plaintiff and Subclass members.

1186. The Defendants still have not made full and adequate disclosures, and they continue to defraud Plaintiff and Subclass members by concealing material information regarding the emissions qualities of the Trucks.

1187. Plaintiff and Subclass members were unaware of the omitted material facts referenced herein, and they would not have acted as they did if they had known of the concealed and/or suppressed facts, in that they would not have purchased purportedly reduced-emissions diesel cars manufactured by the

Defendants, and/or would not have continued to drive their heavily polluting Trucks, or would have taken other affirmative steps in light of the information concealed from them. Plaintiff's and Subclass members' actions were justified. The Defendants were in exclusive control of the material facts, and such facts were not generally known to the public, Plaintiff, or Subclass members.

1188. Because of the concealment and/or suppression of the facts, Plaintiff and Subclass members have sustained damage because they own Trucks that are diminished in value as a result of the Defendants' concealment of the true quality and quantity of those Trucks' emissions and the Defendants' failure to timely disclose the defect or defective design of the diesel engine system, the actual emissions qualities and quantities of the Defendants' Trucks, and the serious issues engendered by the Defendants' corporate policies. Had Plaintiff and Subclass members been aware of the true emissions facts with regard to the Trucks, and the Defendants' disregard for the truth and compliance with applicable federal and state law and regulations, Plaintiff and Subclass members who purchased or leased new or certified previously owned Trucks would have paid less for their Trucks or would not have purchased or leased them at all.

1189. The value of Plaintiff's and Subclass members' Trucks has diminished as a result of the Defendants' fraudulent concealment of the defective emissions controls of the Trucks, the unlawfully high emissions of the Trucks, and

the non-compliance with EPA emissions requirements, all of which has greatly tarnished the Defendants' brand name attached to Plaintiff's and Subclass members' Trucks and made any reasonable consumer reluctant to purchase any of the Trucks, let alone pay what otherwise would have been fair market value for the Trucks.

1190. Accordingly, the Defendants are liable to Plaintiff and Subclass members for damages in an amount to be proven at trial.

1191. The Defendants' acts were done wantonly, maliciously, oppressively, deliberately, with intent to defraud, and in reckless disregard of Plaintiff's and Subclass members' rights and the representations that the Defendants made to them, in order to enrich the Defendants. The Defendants' conduct warrants an assessment of punitive damages in an amount sufficient to deter such conduct in the future, which amount is to be determined according to proof.

#### **COUNT IV**

#### **UNJUST ENRICHMENT**

1192. Plaintiff incorporates by reference all preceding allegations as though fully set forth herein.

1193. Plaintiff brings this Count on behalf of himself and the Washington subclass.

1194. FCA and Cummins have received and retained a benefit from Plaintiff and inequity has resulted.

1195. FCA and Cummins have benefitted from selling and leasing defective cars at a profit whose value was artificially inflated by FCA and Cummins's concealment of the Washcoat Defect and the Flash Defect, and Plaintiff and the Class have overpaid for the cars and been forced to pay other costs.

1196. Thus, all Washington subclass members conferred a benefit on FCA and Cummins.

1197. Plaintiff and the Class were not aware of the true facts about the Class Trucks, and did not benefit from FCA and Cummins's conduct.

1198. FCA and Cummins knowingly accepted the benefits of their unjust conduct.

1199. As a result of FCA and Cummins's conduct, the amount of their unjust enrichment should be disgorged as to each defendant, in an amount according to proof.

### **REQUEST FOR RELIEF**

WHEREFORE, Plaintiffs, individually and on behalf of members of the Nationwide Class and State Subclasses, respectfully request that the Court enter judgment in their favor and against the Defendants, as follows:

A. Certification of the proposed Nationwide Class and State Subclasses, including appointment of Plaintiffs' counsel as Class Counsel;

B. Restitution, including at the election of Class members, recovery of the purchase price of their Trucks, or the overpayment or diminution in value of their Trucks;

C. Damages, including punitive damages, costs, and disgorgement in an amount to be determined at trial, except that monetary relief under certain consumer protection statutes, as stated above, shall be limited prior to completion of the applicable notice requirements;

D. An order requiring the Defendants to pay both pre- and post-judgment interest on any amounts awarded;

E. An award of costs and attorneys' fees; and

F. Such other or further relief as may be appropriate.

### **DEMAND FOR JURY TRIAL**

Plaintiffs hereby demand a jury trial for all claims so triable.

Dated: October 4, 2018

Respectfully submitted,

By: /s/ Steve W. Berman

Steve W. Berman

Jerrod C. Patterson

HAGENS BERMAN SOBOL SHAPIRO LLP

1301 Second Avenue, Suite 2000

Seattle, WA 98101

Telephone: (206) 623-7292

Facsimile: (206) 623-0594

Email: [steve@hbsslw.com](mailto:steve@hbsslw.com)

Email: [jerrodp@hbsslw.com](mailto:jerrodp@hbsslw.com)

E. Powell Miller (P39487)

Sharon S. Almonrode (P33938)

THE MILLER LAW FIRM PC

950 W. University Dr., Ste. 300

Rochester, MI 48307

Telephone: (248) 841-2200

Facsimile: (248) 652-2852

Email: [epm@millerlawpc.com](mailto:epm@millerlawpc.com)

Email: [ssa@millerlawpc.com](mailto:ssa@millerlawpc.com)

Christopher A. Seeger

SEEGER WEISS LLP

77 Water Street

New York, NY 10005

Telephone: (212) 584-0700

Facsimile: (212) 584-0799

Email: [cseeger@seegerweiss.com](mailto:cseeger@seegerweiss.com)

James E. Cecchi

CARELLA, BYRNE, CECCHI, OLSTEIN,

BRODY & AGNELLO, P.C.

5 Becker Farm Road

Roseland, NJ 07068

Telephone: (973) 994-1700

Facsimile: (973) 994-1744

Email: [JCecchi@carellabyrne.com](mailto:JCecchi@carellabyrne.com)

Eric J. Artrip  
MASTANDO & ARTRIP  
301 Washington St., Suite 302  
Huntsville, Alabama 35801  
Telephone: (256) 532-2222  
Facsimile: (256) 513-7489

*Attorneys for Plaintiffs and the  
Proposed Class*

**CERTIFICATE OF SERVICE**

The undersigned hereby certifies that on October 4, 2018 the foregoing was electronically filed with the Clerk of the Court using the CM/ECF system, which will send notification of such filing to counsel of record.

By: /s/ Steve W. Berman  
Steve W. Berman

## **INDEX OF EXHIBITS**

- Exhibit 1 – Ram Owner’s Manual - Ram Truck Diesel Supplement (2013)
- Exhibit 2 – Ram brochure (2012)
- Exhibit 3 – DOJ Press Release (May 23, 2017)
- Exhibit 4 – Ram brochure (2013)
- Exhibit 5 – Ram Owner’s Manual - Ram Truck Diesel Supplement (2014)
- Exhibit 6 – Ram Owner’s Manual - Ram Truck Diesel Supplement (2015)
- Exhibit 7 – Ram Owner’s Manual - Ram Truck Diesel Supplement (2016)
- Exhibit 8 – Ram Owner’s Manual - Ram Truck Diesel Supplement (2017)
- Exhibit 9 – Cummins - 2015 Cummins Powered Ram Trucks Deliver Best-in-Class 865lb-ft of Torque
- Exhibit 10 – Screenshot - 2015 Access Denied
- Exhibit 11 – Cummins History – “Nearly 100 years of dependability and performance”
- Exhibit 12 – Cummins - Cummins Reveals Best-in-Class 2007 Turbo Diesel Engine
- Exhibit 13 – DieselNet: Emission Standards
- Exhibit 14 – DOJ Press Release (June 16, 1998)
- Exhibit 15 – Jalopnik – “How the EPA Won” (Sept. 21, 2015)
- Exhibit 16 – DOJ Press Release (Feb. 22, 2010)
- Exhibit 17 – Fortune – “Cummins: An Engine Maker Bets on Clean Air-and Wins” (June 8, 2015)
- Exhibit 18 – PR Newswire (Sept. 28, 2006)
- Exhibit 19 – Cummins - Top 10 Ways Cummins is Redefining Value
- Exhibit 20 – Ram Trucks website - Ram 2500
- Exhibit 21 – Ram brochure (2014)
- Exhibit 22 – Cummins - Two-Millionth Cummins Pickup Engine

Exhibit 23 – Ram brochure (2016)

Exhibit 24 – Ram brochure (2017)

Exhibit 25 – Ram Trucks website - B20 Biofuel

Exhibit 26 – Cummins - Cummins Engines for Medium-Duty Truck

Exhibit 27 – Ram Build & Price - 2017 RAM 2500 LARAMIE CREW CAB 4X4

Exhibit 28 – Ram Build & Price - 2017 RAM 2500 SLT REGULAR CAB 4X2

Exhibit 29 – Ram Build & Price - 2017 RAM 2500 TRADESMAN REGULAR  
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Exhibit 30 – Ram Build & Price - 2017 RAM 2500 BIG HORN CREW CAB 4X2

Exhibit 31 – Ram Build & Price - 2017 RAM 2500 LARAMIE LONGHORN  
CREW CAB 4X2

Exhibit 32 – Ram Build & Price - 2017 RAM 2500 LIMITED CREW CAB 4X2

Exhibit 33 – EPA Notice of Violation to FCA (Jan. 12, 2017)

Exhibit 34 – EPA News Release “EPA Notifies Fiat Chrysler of Clean Air Act  
Violation” (Jan. 12, 2017)

Exhibit 35 – 70 FR 59848

Exhibit 36 – EPA - Certification and Fuel Economy for Light-Duty Passenger Cars  
and Trucks

Exhibit 37 – EPA COC to Cummins (Nov. 30, 2012)

Exhibit 38 – EPA COC to Cummins (Nov. 28, 2012)

Exhibit 39 – EPA COC to Cummins (July 30, 2013)

Exhibit 40 – EPA COC to Cummins (July 30, 2013)

Exhibit 41 – EPA COC to Cummins (July 7, 2014)

Exhibit 42 – Certification Summary Information Report (July 7, 2014)

Exhibit 43 – EPA COC to Cummins (July 7, 2014)

Exhibit 44 – EPA COC to Cummins (May 15, 2015)

Exhibit 45 – EPA COC to Cummins (May 15, 2015)

Exhibit 46 – Application for Certification by Cummins (2015 MY)

Exhibit 47 – Application for Certification by Cummins (2015 MY)

Exhibit 48 – Application for Certification by Cummins (2016 MY)

Exhibit 49 – Application for Certification by Cummins (2017 MY)

Exhibit 50 – Application for Certification by Cummins (2017 MY)

Exhibit 51 – Application for Certification by Chrysler Group LLC (2012 MY)

Exhibit 52 – Application for Certification by Chrysler Group LLC (2013 MY)

Exhibit 53 – Application for Certification by Chrysler Group LLC (2014 MY)

Exhibit 54 – EPA COC to Cummins (July 27, 2016)

Exhibit 55 – EPA COC to Cummins (July 27, 2016)

# Exhibit 1



**RAM**

2013

OWNER'S MANUAL

Ram Truck  
Diesel Supplement

**VEHICLES SOLD IN CANADA**

With respect to any Vehicles Sold in Canada, the name Chrysler Group LLC shall be deemed to be deleted and the name Chrysler Canada Inc. used in substitution therefore.

**DRIVING AND ALCOHOL**

Drunken driving is one of the most frequent causes of accidents.

Your driving ability can be seriously impaired with blood alcohol levels far below the legal minimum. If you are drinking, don't drive. Ride with a designated non-drinking driver, call a cab, a friend, or use public transportation.

<b>WARNING!</b>
Driving after drinking can lead to an accident. Your perceptions are less sharp, your reflexes are slower, and your judgment is impaired when you have been drinking. Never drink and then drive.

This manual illustrates and describes the operation of features and equipment that are either standard or optional on this vehicle. This manual may also include a description of features and equipment that are no longer available or were not ordered on this vehicle. Please disregard any features and equipment described in this manual that are not on this vehicle.

Chrysler Group LLC reserves the right to make changes in design and specifications, and/or make additions to or improvements to its products without imposing any obligation upon itself to install them on products previously manufactured.



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# INTRODUCTION

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■ A MESSAGE FROM CHRYSLER GROUP LLC . . . .4

#### 4 INTRODUCTION

##### **A MESSAGE FROM CHRYSLER GROUP LLC**

Chrysler Group LLC and Cummins® welcome you as a Cummins® turbocharged diesel-powered truck owner. Your diesel truck will sound, feel, drive, and operate differently from a gasoline-powered truck. It is important that you read and understand this manual.

Almost 100% of the heavy duty trucks in the United States and Canada are diesel-powered because of the fuel economy, rugged durability, and high torque which permits pulling heavy loads. Cummins® engines power well over half of these trucks. Now this same technology and proven performance is yours in your truck equipped with the Cummins® turbocharged diesel engine.

You may find that some of the starting, operating, and maintenance procedures are different. However, they are simple to follow and careful adherence to them will ensure that you take full advantage of the features of this engine.

**NOTE:** Some aftermarket products may cause severe engine/transmission and/or exhaust system damage. Your vehicle's Powertrain Control Systems can detect and store information about vehicle modifications that increase horsepower and torque output such as whether or not performance-enhancing powertrain components, commonly referred to as downloaders, power boxes, or performance chips have been used.

This information cannot be erased and will stay in the system's memory even if the modification is removed. This information can be retrieved by Chrysler Group LLC, and service and repair facilities, when servicing your vehicle. This information may be used to determine if repair will be covered by the New Vehicle Limited Warranty.

There is a probability that the use of a "performance chip" will prohibit the engine from starting. In this instance, the vehicle will need to be serviced by a authorized dealer in order to return the vehicle to it's factory settings.

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# THINGS TO KNOW BEFORE STARTING YOUR VEHICLE

## CONTENTS

■ REMOTE STARTING SYSTEM — IF EQUIPPED . . .6	■ ENGINE BREAK-IN RECOMMENDATIONS . . .10
□ How To Use Remote Start . . . . .6	

## 6 THINGS TO KNOW BEFORE STARTING YOUR VEHICLE

### REMOTE STARTING SYSTEM — IF EQUIPPED



This system uses the Remote Keyless Entry (RKE) transmitter to start the engine conveniently from outside the vehicle while still maintaining security. The system has a range of approximately 300 ft (91 m).

#### NOTE:

- The vehicle must be equipped with an automatic transmission to be equipped with Remote Start.
- The remote start system will wait for the “Wait To Start” telltale to extinguish before cranking the engine. This allows time for the intake heater to pre-heat the incoming air, and is normal operation in cold weather. Refer to “Electronic Vehicle Information Center/EVIC Warning Lights” in “Understanding Your Instrument Panel” for further information on and “Wait To Start” telltale and pre-heat cycle.

### How To Use Remote Start

All of the following conditions must be met before the engine will remote start:

- Shift lever in PARK
- Doors closed
- Hood closed
- HAZARD switch off
- BRAKE switch inactive (brake pedal not pressed)
- Ignition key removed from ignition switch
- Battery at an acceptable charge level
- RKE PANIC button not pressed

**THINGS TO KNOW BEFORE STARTING YOUR VEHICLE 7**

- Fuel meets minimum requirement
- Water In Fuel Indicator Light is not illuminated
- Wait To Start Light is not illuminated

**WARNING!**

- **Do not start or run an engine in a closed garage or confined area. Exhaust gas contains Carbon Monoxide (CO) which is odorless and colorless. Carbon Monoxide is poisonous and can cause serious injury or death when inhaled.**
- **Keep Remote Keyless Entry (RKE) transmitters away from children. Operation of the Remote Start System, windows, door locks or other controls could cause serious injury or death.**

**Remote Start Abort Message On Electronic Vehicle Information Center (EVIC) – If Equipped**

The following messages will display in the EVIC if the vehicle fails to remote start or exits remote start prematurely:

- Remote Start Aborted - Door Ajar
- Remote Start Aborted - Hood Ajar
- Remote Start Aborted - Fuel Low
- Remote Start Aborted - System Fault

The EVIC message stays active until the ignition is turned to the ON/RUN position.

## 8 THINGS TO KNOW BEFORE STARTING YOUR VEHICLE

### To Enter Remote Start Mode



Press and release the REMOTE START button on the RKE transmitter twice, within five seconds. The parking lights will flash and the horn will chirp twice (if programmed). In cold ambient

temperature conditions, the diesel vehicle may delay crank up to 30 seconds for the fuel and grid heater. Once the vehicle has started, the engine will run for 15 minutes.

#### NOTE:

- The park lamps will turn on and remain on during Remote Start mode.
- For security, power window and power sunroof operation (if equipped) are disabled when the vehicle is in the Remote Start mode.

- The engine can be started two consecutive times (two 15-minute cycles) with the RKE transmitter. However, the ignition switch must be cycled to the ON position before you can repeat the start sequence for a third cycle.

### To Exit Remote Start Mode Without Driving The Vehicle

Press and release the REMOTE START button one time or allow the engine to run for the entire 15-minute cycle.

**NOTE:** To avoid unintentional shut downs, the system will disable the one time press of the REMOTE START button for two seconds after receiving a valid Remote Start request.

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**To Exit Remote Start Mode And Drive The Vehicle**

To exit Remote start Mode and Drive the vehicle Before the end of the 15-minute cycle, press and release the unlock button on the RKE transmitter to unlock the door and disarm the Vehicle Security Alarm System (if equipped). Then prior to the end of the 15 minute cycle, insert the Key Fob (if equipped) and rotate to RUN.

**NOTE:**

- The ignition switch must be in the ON/RUN position in order to drive the vehicle.
- For vehicles equipped with the Electronic Vehicle Information Center (EVIC), the message "Insert Key/ Turn To On" will flash in the EVIC until you insert the Key Fob into the ignition switch. Once inserted, the message "Turn To On" will flash in the EVIC until you turn the ignition switch to the ON/RUN position.

**Remote Start Comfort Systems – If Equipped**

When remote start is activated, the heated steering wheel, and driver heated seat features will automatically turn on in cold weather. In warm weather, the driver vented seat feature will automatically turn on when the remote start is activated. These features will stay on through the duration of remote start or until the ignition switch is turned to the ON position.

The Remote Start Comfort System can be activated and deactivated through the Electronic Vehicle Information Center (EVIC). For more information on Remote Start Comfort System operation refer to "Electronic Vehicle Information Center (EVIC)/Customer-Programmable Features (System Setup)" in "Understanding Your Instrument Panel".

## 10 THINGS TO KNOW BEFORE STARTING YOUR VEHICLE

### ENGINE BREAK-IN RECOMMENDATIONS

The Cummins® turbocharged diesel engine does not require a break-in period due to its construction. Normal operation is allowed, providing the following recommendations are followed:

- Warm up the engine before placing it under load.
- Do not operate the engine at idle for prolonged periods.
- Use the appropriate transmission gear to prevent engine lugging.
- Observe vehicle oil pressure and temperature indicators.
- Check the coolant and oil levels frequently.
- Vary throttle position at highway speeds when carrying or towing significant weight.

**NOTE:** Light duty operation such as light trailer towing or no load operation will extend the time before the engine is at full efficiency. Reduced fuel economy and power may be seen at this time.

For additional vehicle break-in requirements, refer to "Trailer Towing" in "Starting and Operating" of the Owners Manual.

Because of the construction of the Cummins® turbocharged diesel engine, engine run-in is enhanced by loaded operating conditions which allow the engine parts to achieve final finish and fit during the first 6,000 miles (10 000 km).

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# UNDERSTANDING YOUR INSTRUMENT PANEL

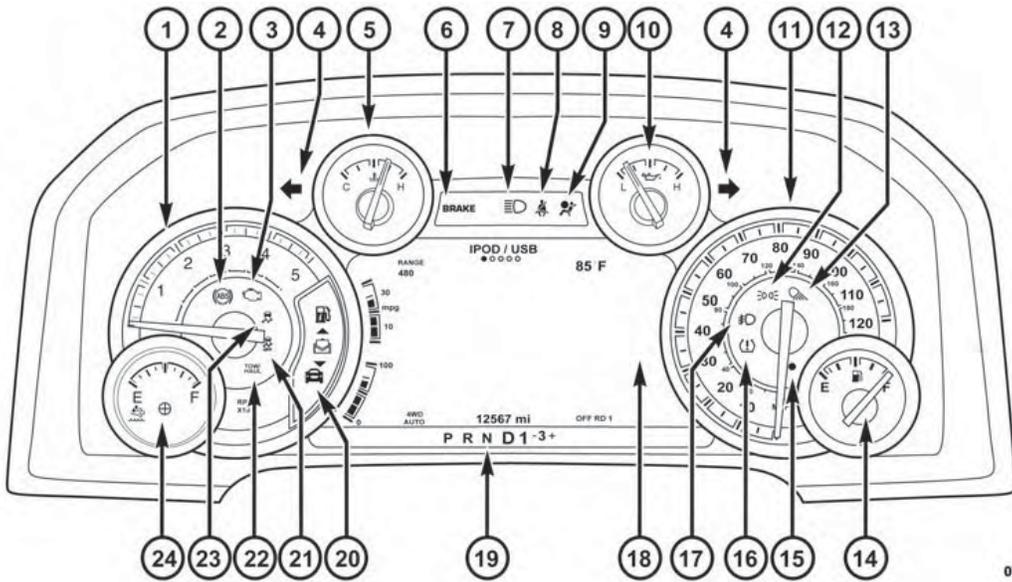
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12 UNDERSTANDING YOUR INSTRUMENT PANEL

INSTRUMENT CLUSTER



0717002590

## INSTRUMENT CLUSTER DESCRIPTIONS

### 1. Tachometer

The tachometer indicates engine speed in Revolutions Per Minute (RPM x 1000).

#### CAUTION!

Do not operate the engine with the tachometer pointer at high RPM for extended periods. Engine operation over 3200 RPM (Redline) can result in significant damage that will not be covered under warranty.

### 2. Anti-Lock Brake (ABS) Light



This light monitors the Anti-lock Brake System (ABS). The light will turn on when the ignition switch is turned to the ON/RUN position and may stay on for as long as four seconds.

If the ABS light remains on or turns on while driving, it indicates that the anti-lock portion of the brake system is not functioning and that service is required. However, the conventional brake system will continue to operate normally if the BRAKE warning light is not on.

If the ABS light is on, the brake system should be serviced as soon as possible to restore the benefits of anti-lock brakes. If the ABS light does not turn on when the ignition switch is turned to the ON/RUN position, have the light inspected by an authorized dealer.

### 3. Malfunction Indicator Light (MIL)



The Malfunction Indicator Light (MIL) is part of an onboard diagnostic (OBDII) system which monitors the emissions and engine control system. If the vehicle is ready for emissions testing, the light will come on when the ignition is first turned on and remain on, as a bulb check, until the engine is started.

#### 14 UNDERSTANDING YOUR INSTRUMENT PANEL

If the vehicle is not ready for emissions testing the light will come on when the ignition is first turned on and remain on for 15 seconds, then blink for 5 seconds, and remain on until the vehicle is started. If the bulb does not come on during starting, have the condition investigated promptly.

If this light comes on and remains on while driving, it suggests a potential engine control problem and the need for system service.

Although your vehicle will usually be drivable and not need towing, see your authorized dealer for service as soon as possible.

#### **CAUTION!**

**Prolonged driving with the Malfunction Indicator Light (MIL) on could cause damage to the engine**

*(Continued)*

#### **CAUTION! (Continued)**

**control system. It also could affect fuel economy and drivability. If the MIL is flashing, severe catalytic converter damage and power loss will soon occur. Immediate service is required.**

#### **WARNING!**

**A malfunctioning catalytic converter, as referenced above, can reach higher temperatures than in normal operating conditions. This can cause a fire if you drive slowly or park over flammable substances such as dry plants, wood, cardboard, etc. This could result in death or serious injury to the driver, occupants or others.**

4. Turn Signal Indicators

 The arrow will flash with the exterior turn signal when the turn signal lever is operated.

NOTE:

A continuous chime will sound if the vehicle is driven more than 1 mile (1.6 km) with either turn signal on.

Check for an inoperative outside light bulb if either indicator remains on and does not flash, or flashes at a rapid rate.

5. Engine Coolant Temperature

This gauge shows the engine coolant temperature. The gauge pointer will likely show higher temperatures when driving in hot weather, up mountain grades, or in heavy stop and go traffic. If the red Warning Light turns on while driving, safely bring the vehicle to a stop, and turn off the engine. DO NOT operate the vehicle until the cause is corrected.

**CAUTION!**  
Driving with a hot engine cooling system could damage your vehicle. If the temperature gauge reads "H" pull over and stop the vehicle. Idle the vehicle with the air conditioner turned off until the pointer drops back into the normal range. If the pointer remains on the "H" and you hear continuous chimes, turn the engine off immediately and call an authorized dealer for service.

**WARNING!**  
A hot engine cooling system is dangerous. You or others could be badly burned by steam or boiling coolant. You may want to call an authorized dealer for service if your vehicle overheats. If you decide to

(Continued)

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**WARNING! (Continued)**

look under the hood yourself, see "Maintaining Your Vehicle." Follow the warnings under the "Cooling System Pressure Cap" paragraph.

**6. Brake Warning Light**

**BRAKE** This light monitors various brake functions, including brake fluid level and parking brake application. If the brake light turns on it may indicate that the parking brake is applied, that the brake fluid level is low, or that there is a problem with the Anti-lock Brake System reservoir.

If the light remains on when the parking brake has been disengaged, and the fluid level is at the full mark on the master cylinder reservoir, it indicates a possible brake hydraulic system malfunction or that a problem with the Brake Booster has been detected by the Anti-Lock Brake System (ABS) / Electronic Stability Control (ESC) system.

In this case, the light will remain on until the condition has been corrected. If the problem is related to the brake booster, the ABS pump will run when applying the brake and a brake pedal pulsation may be felt during each stop.

The dual brake system provides a reserve braking capacity in the event of a failure to a portion of the hydraulic system. A leak in either half of the dual brake system is indicated by the Brake Warning Light, which will turn on when the brake fluid level in the master cylinder has dropped below a specified level.

The light will remain on until the cause is corrected.

**NOTE:** The light may flash momentarily during sharp cornering maneuvers, which change fluid level conditions. The vehicle should have service performed, and the brake fluid level checked.

If brake failure is indicated, immediate repair is necessary.

**WARNING!**

**Driving a vehicle with the red brake light on is dangerous. Part of the brake system may have failed. It will take longer to stop the vehicle. You could have a collision. Have the vehicle checked immediately.**

Vehicles equipped with the ABS, are also equipped with Electronic Brake Force Distribution (EBD). In the event of an EBD failure, the Brake Warning Light will turn on along with the ABS Light. Immediate repair to the ABS system is required.

Operation of the Brake Warning Light can be checked by turning the ignition switch from the OFF position to the ON/RUN position. The light should illuminate for approximately two seconds. The light should then turn off unless the parking brake is applied or a brake fault is detected. If the light does not illuminate, have the light inspected by an authorized dealer.

The light also will turn on when the parking brake is applied with the ignition switch in the ON/RUN position.

**NOTE:** This light shows only that the parking brake is applied. It does not show the degree of brake application.

**7. High Beam Indicator**

 This indicator shows that headlights are on high beam. Push the multifunction lever forward to switch the headlights to high beam, and pull toward yourself (normal position) to return to low beam.

**8. Seat Belt Reminder Light**

 When the ignition switch is first turned to ON/RUN, this light will turn on for four to eight seconds as a bulb check. During the bulb check, if the driver's seat belt is unbuckled, a chime will sound. After the bulb check or when driving, if the driver's seat belt remains unbuckled, the seat belt reminder light will

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flash or remain on continuously. Refer to “Occupant Restraints” in “Things To Know Before Starting Your Vehicle” for further information.

### 9. Air Bag Warning Light



This light will turn on for four to eight seconds as a bulb check when the ignition switch is first turned to ON/RUN. If the light is either not on during starting, stays on, or turns on while driving, have the system inspected at an authorized dealer as soon as possible. Refer to “Occupant Restraints” in “Things To Know Before Starting Your Vehicle” for further information.

### 10. Engine Oil Pressure

The pointer should always indicate some oil pressure when the engine is running. A continuous high or low reading under normal driving conditions may indicate a lubrication system malfunction. Immediate service should be obtained from an authorized dealer.

If the gauge pointer moves to either extreme of the gauge, the Check Gauges indicator will illuminate and a single chime will sound.

### 11. Speedometer

The speedometer shows the vehicle speed in miles per hour and/or kilometers per hour (mph/km/h).

### 12. Park/Headlight ON Indicator — If Equipped



This indicator will illuminate when the park lights or headlights are turned on.

### 13. Cargo Light



The cargo light will illuminate when the cargo light is activated by pressing the cargo light button on the headlight switch.

#### 14. Fuel Gauge

Shows level of fuel in tank when ignition switch is in the ON/RUN position.

#### 15. Vehicle Security Light — If Equipped



This light will flash at a fast rate for approximately 15 seconds, when the vehicle security alarm is arming, and then will flash slowly until the vehicle is disarmed.

#### 16. Tire Pressure Monitoring Telltale Light



Each tire, including the spare (if provided), should be checked monthly when cold and inflated to the inflation pressure recommended by the vehicle manufacturer on the vehicle placard or tire inflation pressure label. (If your vehicle has tires of a different size than the size indicated on the vehicle placard or tire inflation pressure label, you should determine the proper tire inflation pressure for those tires.)

As an added safety feature, your vehicle has been equipped with a Tire Pressure Monitoring System (TPMS) that illuminates a low tire pressure telltale when one or more of your tires is significantly under-inflated. Accordingly, when the low tire pressure telltale illuminates, you should stop and check your tires as soon as possible, and inflate them to the proper pressure. Driving on a significantly under-inflated tire causes the tire to overheat and can lead to tire failure. Under-inflation also reduces fuel efficiency and tire tread life, and may affect the vehicle's handling and stopping ability.

Please note that the TPMS is not a substitute for proper tire maintenance, and it is the driver's responsibility to maintain correct tire pressure, even if under-inflation has not reached the level to trigger illumination of the TPMS low tire pressure telltale.

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Your vehicle has also been equipped with a TPMS malfunction indicator to indicate when the system is not operating properly. The TPMS malfunction indicator is combined with the low tire pressure telltale. When the system detects a malfunction, the telltale will flash for approximately one minute and then remain continuously illuminated. This sequence will continue upon subsequent vehicle start-ups as long as the malfunction exists. When the malfunction indicator is illuminated, the system may not be able to detect or signal low tire pressure as intended. TPMS malfunctions may occur for a variety of reasons, including the installation of replacement or alternate tires or wheels on the vehicle that prevent the TPMS from functioning properly. Always check the TPMS malfunction telltale after replacing one or more tires or wheels on your vehicle, to ensure that the replacement or alternate tires and wheels allow the TPMS to continue to function properly.

### CAUTION!

**The TPMS has been optimized for the original equipment tires and wheels. TPMS pressures and warning have been established for the tire size equipped on your vehicle. Undesirable system operation or sensor damage may result when using replacement equipment that is not of the same size, type, and/or style. Aftermarket wheels can cause sensor damage. Do not use tire sealant from a can or balance beads if your vehicle is equipped with a TPMS, as damage to the sensors may result.**

**NOTE:** The TPMS telltale is also accompanied by a "Low Tire" message in the odometer (Base Cluster), or in the Electronic Vehicle Information Center (EVIC) screen indicating "Low Tire" for EVIC enabled clusters.

**17. Front Fog Light Indicator — If Equipped**

 This indicator will illuminate when the front fog lights are on.

**18. Electronic Vehicle Information Center (EVIC)**

The Electronic Vehicle Information Center (EVIC) features a driver-interactive display that is located in the instrument cluster. For further information, refer to “Electronic Vehicle Information Center (EVIC)”.

**19. Transmission Gear Position Indicator**

The Transmission Gear Position Indicator is self-contained within the instrument cluster. It displays the gear range of the automatic transmission.

**NOTE:** The highest available transmission gear is displayed in the lower right corner of the Electronic Vehicle Information Center (EVIC) whenever the Electronic Range Select (ERS) feature is active. Use the +/- selector

on the shift lever to activate ERS. Refer to “Automatic Transmission” in “Starting And Operating” for further information.

**20. Electronic Vehicle Information Center (EVIC) Menu**

The Electronic Vehicle Information Center (EVIC) features a driver-interactive display that is located in the instrument cluster. For further information, refer to “Electronic Vehicle Information Center (EVIC)”.

**21. Electronic Stability Control (ESC) OFF Indicator Light — If Equipped**



This light indicates that the Electronic Stability Control (ESC) is in Partial Off or Full Off mode.

**22. TOW/HAUL**



The TOW HAUL button is located on the center stack upper switch bank. This light will illuminate when TOW HAUL mode is selected.

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### 23. *Electronic Stability Control (ESC) Activation/ Malfunction Indicator Light — If Equipped*



The “ESC Activation/Malfunction Indicator Light” in the instrument cluster will come on when the ignition switch is turned to the ON/RUN position. It should go out with the engine running. If the “ESC Activation/Malfunction Indicator Light” comes on continuously with the engine running, a malfunction has been detected in the ESC system. If this light remains on after several ignition cycles, and the vehicle has been driven several miles (kilometers) at speeds greater than 30 mph (48 km/h), see your authorized dealer as soon as possible to have the problem diagnosed and corrected.

#### **NOTE:**

The “ESC Off Indicator Light” and the “ESC Activation/ Malfunction Indicator Light” come on momentarily each time the ignition switch is turned to ON/RUN.

Each time the ignition is turned to ON/RUN, the ESC system will be ON, even if it was turned off previously.

The ESC system will make buzzing or clicking sounds when it is active. This is normal; the sounds will stop when ESC becomes inactive following the maneuver that caused the ESC activation.

### 24. *DEF Gauge*

The DEF Gauge displays the actual level of Diesel Exhaust Fluid in the DEF tank. Diesel Exhaust Fluid (DEF) is required to maintain normal vehicle operation and emissions compliance. More information is available in the Electronic Vehicle Information (EVIC) section under the heading of Diesel Exhaust Fluid (DEF) Warning Messages.

### ELECTRONIC VEHICLE INFORMATION CENTER (EVIC)

The Electronic Vehicle Information Center (EVIC) features a driver-interactive display that is located in the instrument cluster.



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Electronic Vehicle Information Center (EVIC)

This system conveniently allows the driver to select a variety of useful information by pressing the switches mounted on the steering wheel.

Refer to “Electronic Vehicle Information Center – If Equipped” in the Owner’s Manual for further information.

### Electronic Vehicle Information Center (EVIC) Displays

When the appropriate conditions exist, the Electronic Vehicle Information Center (EVIC) Displays the following messages:

- System Setup Unavailable – Vehicle Not in Park
- System Setup Unavailable – Vehicle in Motion
- Service Air Filter
- Perform Service

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- Exhaust Filter XX% Full Safely Drive at Highway Speeds To Remedy
- Exhaust Filter Full – Power Reduced See Dealer
- Exhaust Service Required – See Dealer Now
- Exhaust System – Filter XX% Full Service Required See Dealer
- Exhaust System – Regeneration In Process Exhaust Filter XX% Full
- Exhaust System – Regeneration Completed
- DEF Low Refill Soon
- Speed Limited to 5 MPH in XXX mi Refill DEF
- 5 MPH Max Speed on Restart, Long Idle or Refuel Refill DEF
- 5 MPH Max Speed Refill DEF
- Service DEF System See Dealer
- 5 MPH Max Speed in XXX mi Service DEF System See Dealer
- 5 MPH Max Speed on Restart, Long Idle or Refuel Service DEF See Dealer
- 5 MPH Max Speed Service DEF System See Dealer
- Coolant Low
- Engine Power Reduced During Warmup
- Engine Power Reduced up to 30-sec During Warmup
- Engine Power Reduced up to 2-min During Warmup
- Active Airbox Service Required See Dealer

## EVIC Warning Lights

### Water In Fuel Indicator Light



The “Water In Fuel Indicator Light” will illuminate when there is water detected in the fuel filters. If this light remains on, DO NOT start the vehicle before you drain the water from the fuel filters to prevent engine damage. Refer to “Maintenance Procedures/ Draining Fuel/Water Separator Filters” in “Maintaining Your Vehicle” for further information.

### Wait To Start Light



The “Wait To Start Light” will illuminate when the ignition is turned to the RUN position and the intake manifold temperature is below 66°F (19°C). Wait until the “Wait To Start Light” turns OFF, then start the vehicle. Refer to “Starting Procedures” in “Starting and Operating” for further information.

**NOTE:** The “Wait To Start Light” may not illuminate if the intake manifold temperature is warm enough.

### Low Coolant Level Indicator



This telltale will turn on to indicate the vehicle coolant level is low.

### Cold Ambient Derate Mode Messages

The vehicle will display messages when a derate (engine power reduction) is activated to protect the turbocharger during engine start up in cold ambient temperatures.

- **Engine Power Reduced During Warmup** - This message will display during start up when the ambient temperature is between 10° F (-12° C) and -10° F (-23° C).
- **Engine Power Reduced Up To 30 Sec (Seconds) During Warmup** - This message will display during start up when the ambient temperature is between -10° F (-23° C) and -25 F (-32° C).

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- **Engine Power Reduced Up To 2 Min (Minutes) During Warmup** - This message will display during start up when the ambient temperature is -25° F (-32° C) and below.
- **Coolant Low** - This telltale will turn on to indicate the vehicle coolant level is low. See “Adding Coolant” under the section “Maintaining Your Vehicle” for more information.
- **DEF Low Refill Soon** – This message will display when the low level is reached, during vehicle start up, and with increased frequency during vehicle operation. It will be accompanied by a single chime. Approximately 5 gallons (19 Liters) of DEF is required to refill the tank when this message is initially displayed. on pickup applications, and approximately 7 gallons (28 Liters) are required on chassis-cab applications.
- **Speed Limited to 5 MPH in XXX mi Refill DEF** – This message will continuously display if the “DEF Low Refill Soon” message is ignored, and the frequency of occurrence of the chime will increase unless up to 2 gallons (7.5 Liters) of DEF is added to the tank.
- **5 MPH Max Speed on Restart, Long Idle or Refuel Refill DEF** – This message will continuously display when the counter reaches zero, and will be accompanied by a periodic chime.

### Diesel Exhaust Fluid (DEF) Warning Messages

Your vehicle will begin displaying warning messages when the DEF level reaches a driving range of approximately 350 miles (563 km). If the following warning message sequence is ignored, your vehicle may be limited to a maximum speed of 5 MPH (8 km/H) unless DEF is added.

- The vehicle will only be capable of a maximum speed of 5 MPH upon the first of the following conditions to occur:
  - If the vehicle is shutoff and restarted.
  - If the vehicle is idled for an extended period of time, approximately one hour or greater.
  - If the system detects that the level of fuel in the tank has increased.
- Add a minimum of 2 gallons (9.5 Liters) of DEF to the tank in order to avoid vehicle operation at a maximum speed of 5 MPH (8 km/H).
- **5 MPH Max Speed Refill DEF** – The vehicle will only be capable of a maximum speed of 5 MPH (8 km/H) when this message is displayed. Add up to 2.5 gallons (9.5 Liters) of DEF to the tank to restore normal vehicle operation.

**NOTE:** A minimum of 2 gallons (9.5 Liters) may be required to restore normal vehicle operation. Although the vehicle will start normally and can be placed in gear after this message has been initially displayed, extreme caution should be utilized since the vehicle will only be capable of maneuvering at a maximum speed of 5 MPH (8 km/H).

### **Diesel Exhaust Fluid (DEF) Fault Warning Messages**

There are four different messages which are displayed if the vehicle detects that the DEF system has been filled with a fluid other than DEF, has experienced component failures, or when tampering has been detected. The vehicle may be limited to a maximum speed of 5 MPH (8 km/H) if the DEF system is not serviced within less than 250 miles (402 km) of the fault being detected.

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When the DEF system needs to be serviced the following warnings will display:

- **Service DEF System – See Dealer** — This message will display when the fault is initially detected, each time the vehicle is started, and periodically during driving. The message will be accompanied by a single chime. We recommend you drive to your nearest authorized dealer and have your vehicle serviced as soon as possible.
- **5 MPH Max Speed in 200 mi Service DEF System See Dealer** — This message will display if the DEF system has not been serviced after the “Service DEF System – See Dealer” message is displayed. This message will continuously display until the mileage counter reaches zero, and will be accompanied by a periodic chime. The message will continue to countdown until it reaches zero unless the vehicle is serviced. We recommend you drive to your nearest authorized dealer and have your vehicle serviced immediately.

**NOTE:** Under some circumstances this mileage counter may start with a value of less than 200 miles (322 km). For example, if recurring faults are detected in a time interval of less than 40 hours, the counter may restart at the value where it stopped when a previous fault was temporarily remedied, or at a minimum of 50 miles (80 km).

- **5 MPH Max Speed on Restart, Long Idle or Refuel Service DEF See Dealer** — This message will continuously display when the mileage counter reaches zero, and will be accompanied by a periodic chime.
- The vehicle will only be capable of a maximum speed of 5 MPH upon the first of the following conditions to occur:
  - If the vehicle is shutoff and restarted.
  - If the vehicle is idled for an extended period of time, approximately one hour or greater.
  - If the system detects that the level of fuel in the tank has increased.

- **5 MPH Max Speed Service DEF System See Dealer** — This message will continuously display, and will be accompanied by a periodic chime. Although the vehicle can be started and placed in gear, the vehicle will only operate at a maximum speed of 5 MPH. Your vehicle will require towing, see your authorized dealer for service.

**NOTE:** When this message is displayed, the engine can still be started. However, the vehicle will only operate at a maximum speed of 5 MPH.

### **RAM Active Air System**

Your vehicle is equipped with an advanced Ram Active Air system that provides enhanced performance, especially when towing under demanding hot or high altitude conditions. If the EVIC displays the message “Active Airbox Service Required See Dealer”, vehicle performance may be reduced until service is performed by an authorized RAM dealer.

### **Vehicle Information (Customer Information Features)**

Press and release the UP or DOWN button until “Vehicle Info” displays in the EVIC and press the SELECT button. Press the UP and DOWN button to scroll through the available information displays, then press SELECT to display any one of the following choices.

- **Battery Voltage**

Displays the actual battery voltage.

**NOTE:** The battery voltage may show a fluctuation at various engine temperatures. This cycling operation is caused by the post-heat cycle of the intake manifold heater system. The number of cycles and the length of the cycling operation is controlled by the engine control module. Post-heat operation can run for several minutes, and then the electrical system and voltmeter needle will stabilize.

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- *Coolant Temp*

Displays the actual coolant temperature.

- *Oil Pressure*

Displays the actual oil pressure.

- *Trans Temperature*

Displays the actual automatic transmission sump temperature.

- *Engine Hours*

Displays the total hours of engine operation, and the hours in drive and at idle.

- *Oil Filter Life*

Displays the percentage of oil filter life remaining, and the miles since the last reset.

- *Fuel Filter Life*

Displays the percentage of fuel filter life remaining, and the miles since the last reset.

- *Exhaust Brake*

Displays actual exhaust brake power.

- *Turbo Boost*

Displays actual turbo boost value.

- *Tire Pressure Monitor System*

Displays the actual tire pressure

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## STARTING AND OPERATING

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**STARTING PROCEDURES**

Before starting your vehicle, adjust your seat, adjust both inside and outside mirrors, and fasten your seat belts.

The starter should not be operated for more than 15-second intervals. Waiting a few minutes between such intervals will protect the starter from overheating.

**WARNING!**

- Do not leave children or animals inside parked vehicles in hot weather. Interior heat build up may cause serious injury or death.
- When leaving the vehicle, always remove the key fob and lock your vehicle.

*(Continued)*

**WARNING! (Continued)**

- Never leave children alone in a vehicle, or with access to an unlocked vehicle. Allowing children to be in a vehicle unattended is dangerous for a number of reasons. A child or others could be seriously or fatally injured. Children should be warned not to touch the parking brake, brake pedal or the shift lever. Do not leave the key fob in or near the vehicle (or in a location accessible to children), A child could operate power windows, other controls, or move the vehicle.

**Manual Transmission – If Equipped**

Apply the parking brake, place the shift lever in NEUTRAL and press the clutch pedal to the floor before starting the vehicle. This vehicle is equipped with a clutch interlocking ignition system. It will not start unless the clutch is fully pressed.

### Automatic Transmission – If Equipped

Start the engine with the transmission in the NEUTRAL or PARK position. Apply the brake before shifting to any driving range.

### Tip Start Feature

**Do not** press the accelerator. Turn the ignition switch briefly to the START position and release it. The starter motor will continue to run but will automatically disengage when the engine is running.

### Keyless Enter-N-Go™



This feature allows the driver to operate the ignition switch with the push of a button, as long as the Remote Start/Keyless Enter-N-Go™ Key Fob is in the passenger compartment.

### Normal Starting

#### *Using The ENGINE START/STOP Button*

1. The transmission must be in PARK or NEUTRAL.
2. Press and hold the brake pedal while pressing the ENGINE START/STOP button once.
3. The system takes over and attempts to start the vehicle. If the vehicle fails to start, the starter will disengage automatically after 10 seconds.
4. If you wish to stop the cranking of the engine prior to the engine starting, remove your foot from the brake pedal and press the button again.

**NOTE:** Normal starting of either a cold or a warm engine is obtained without pumping or pressing the accelerator pedal.

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**NOTE:** Under cold weather conditions, the engine may not immediately crank if the "Wait To Start" telltale is illuminated. This is normal operation. For vehicles equipped with the optional remote start package the vehicle will automatically crank when the "Wait To Start" time has elapsed. See the section "Starting Procedure Engine Manifold Air Temperature 0°F to 66°F (18° C to 19°C)" for more information.

#### *To Turn Off The Engine Using ENGINE START/STOP Button*

1. Place the shift lever/shift selector in PARK, then press and release the ENGINE START/STOP button.
2. The ignition switch will return to the OFF position.

3. If the shift lever/shift selector is not in PARK, the ENGINE START/STOP button must be held for two seconds and vehicle speed must be above 5 mph (8 km/h) before the engine will shut off. The ignition switch position will remain in the ACC position until the shift lever/shift selector is in PARK and the button is pressed twice to the OFF position. If the shift lever/shift selector is not in PARK and the ENGINE START/STOP button is pressed once, the EVIC (if equipped) will display a "Vehicle Not In Park" message and the engine will remain running. Never leave a vehicle out of the PARK position, or it could roll.

**NOTE:** If the ignition switch is left in the ACC or RUN (engine not running) position and the transmission is in PARK, the system will automatically time out after 30 minutes of inactivity and the ignition will switch to the OFF position.

***ENGINE START/STOP Button Functions –  
With Driver’s Foot OFF The Brake Pedal  
(In PARK Or NEUTRAL Position)***

The ENGINE START/STOP button operates similar to an ignition switch. It has four positions, OFF, ACC, RUN and START. To change the ignition switch positions without starting the vehicle and use the accessories follow these steps.

1. Starting with the ignition switch in the OFF position:
2. Press the ENGINE START/STOP button once to change the ignition switch to the ACC position (EVIC displays “ACC”),
3. Press the ENGINE START/STOP button a second time to change the ignition switch to the RUN position (EVIC displays “RUN”),

4. Press the ENGINE START/STOP button a third time to return the ignition switch to the OFF position (EVIC displays “OFF”).

**Keyless Enter-N-Go™ Starting Procedure –  
Engine Manifold Air Temperature 0° F To 66° F  
(–18° C to 19° C)**

**NOTE:** The temperature displayed in the Electronic Vehicle Information Center (EVIC) does not necessarily reflect the engine manifold air temperature. Refer to “Electronic Vehicle Information Center (EVIC)” in “Understanding Your Instrument Panel” for further information. When engine temperatures fall below 66°F (19°C) the “Wait To Start Light” will remain on indicating the intake manifold heater system is active.

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Follow the steps in the "Normal Starting" procedure except:

1. Pushing the engine start button with the driver's foot on the brake will move the ignition from OFF or ACC to RUN, and will illuminate the "Wait To Start" telltale. The engine will not immediately crank, this is normal operation.
2. The "Wait To Start" telltale will remain on for a period of time that varies depending on the engine temperature.
3. While the "Wait to Start" telltale is on, the EVIC will additionally display a gauge or bar whose initial length represents the full "Wait to Start" time period. Its length will decrease until it disappears when the "Wait to Start" time has elapsed.

#### CAUTION!

**If the "Water in Fuel Indicator Light" remains on, DO NOT START engine before you drain the water from the fuel filters to avoid engine damage. Refer to "Maintenance Procedures/Draining Fuel/Water Separator Filter" in "Maintaining Your Vehicle" for further information.**

4. After engine "Wait To Start" telltale goes off, the engine will automatically crank on vehicles equipped with the optional remote start package.

**CAUTION!**

The engine may automatically crank when the “Wait To Start” time has elapsed. To abort the automatic starting process, ensure the driver’s foot is fully removed from the brake pedal prior to pushing the START/STOP button to cycle the ignition off.

5. After engine start-up, check to see that there is oil pressure.
6. Allow the engine to idle about three minutes until the manifold heaters have completed the post-heat cycle.
7. Release the parking brake and drive.

**NOTE:**

- Engine idle speed will automatically increase to 1,000 RPM and engage the Variable Geometry Turbocharger at low coolant temperatures to improve engine warm-up.
- If the engine stalls, or if the ignition switch is left ON for more than two minutes after the “Wait To Start Light” goes out, reset the grid heaters by turning the ignition switch to the OFF position for at least five seconds and then back ON. Repeat steps 1 through 7 of “Keyless Enter-N-Go Starting Procedure – Engine Manifold Air Temperature Below 66° F (19° C).”

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**Extreme Cold Weather**

The Cummins® diesel engine is equipped with several features designed to assist cold weather starting and operation:

- The engine block heater is a resistance heater installed in the water jacket of the engine just above and behind the oil filter. It requires a 110–115 Volt AC electrical outlet with a grounded, three-wire extension cord.

**NOTE:** The engine block heater cord is a factory installed option. If your vehicle is not equipped, heater cords are available from your authorized MOPAR® dealer.

- A 12 Volt heater built into the fuel filter housings aid in preventing fuel gelling. It is controlled by a built-in thermostat.
- A heated intake air system both improves engine starting and reduces the amount of white smoke generated by a warming engine.

**Normal Starting Procedure – Engine Manifold Air Temperature Above 66° F (19° C)**

Observe the instrument panel cluster lights when starting the engine.

1. Always apply the parking brake.
2. Shift into PARK for an automatic transmission. For vehicles equipped with a manual transmission, fully press and hold the clutch pedal and shift into NEUTRAL.
3. Turn the ignition switch to the ON position and watch the instrument panel cluster lights.

**CAUTION!**

**If the “Water in Fuel Indicator Light” remains on, DO NOT START the engine before you drain the water**

*(Continued)*

**CAUTION! (Continued)**

from the fuel filters to avoid engine damage. Refer to "Maintenance Procedures/Draining Fuel/Water Separator Filter" in "Maintaining Your Vehicle" for further information.

4. Turn the ignition switch to the START position and crank the engine. Do not press the accelerator during starting.

**CAUTION!**

Do not crank engine for more than 15 seconds at a time or starter motor damage may result. Turn the ignition switch to the OFF position and wait at least two minutes for the starter to cool before repeating start procedure.

5. When the engine starts, release the key fob.
6. Check that the oil pressure warning light has turned off.
7. Release the parking brake.

**Starting Procedure – Engine Manifold Air Temperature 0°F To 66°F (–18°C to 19°C)**

**NOTE:** The temperature displayed in the Electronic Vehicle Information Center (EVIC) does not necessarily reflect the engine manifold air temperature. Refer to "Electronic Vehicle Information Center (EVIC)" in "Understanding Your Instrument Panel" for further information. When engine temperatures fall below 66°F (19°C) the "Wait To Start Light" will remain on indicating the intake manifold heater system is active.

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Follow the steps in the "Normal Starting" procedure except:

1. The "Wait To Start" telltale will remain on for a period of time that varies depending on the engine temperature.
2. While the "Wait To Start" telltale is on, the EVIC will additionally display a gauge or bar whose initial length represents the full "Wait To Start" time period. Its length will decrease until it disappears when the "Wait To Start" time has elapsed.

3. After the "Wait To Start" telltale goes off, turn the ignition switch to the START position. Do not press the accelerator during starting.

**CAUTION!**

**Do not crank engine for more than 15 seconds at a time or starter motor damage may result. Turn the ignition switch to the OFF position and wait at least two minutes for the starter to cool before repeating start procedure.**

**CAUTION!**

**If the "Water in Fuel Indicator Light" remains on, DO NOT START engine before you drain the water from the fuel filters to avoid engine damage. Refer to "Maintenance Procedures/Draining Fuel/Water Separator Filter" in "Maintaining Your Vehicle" for further information.**

4. After engine start-up, check that the oil pressure warning light has turned off.
5. Allow the engine to idle about three minutes until the manifold heaters have completed the post-heat cycle.
6. Release the parking brake and drive.

**NOTE:**

- Engine idle speed will automatically increase to 1,000 RPM and engage the Variable Geometry Turbocharger at low coolant temperatures to improve engine warm-up.
- Automatic equipped vehicles with optional Keyless Enter-N-Go™ – If the start button is pushed once while in park with the ignition off and driver’s foot on the brake pedal, the vehicle will automatically crank and start after the Wait to Start time has elapsed. If it is desired to abort the start process before it completes, the driver’s foot should be fully removed from the brake pedal prior to pushing the start button again in order for the ignition to move directly to off.

- If the engine stalls, or if the ignition switch is left ON for more than two minutes after the “Wait To Start” telltale goes out, reset the grid heaters by turning the ignition switch to the OFF position for at least five seconds and then back ON. Repeat steps 1 through 5 of “Starting Procedure – Engine Manifold Air Temperature Below 66°F (19°C).”

**Starting Procedure – Engine Manifold Air Temperature Below 0°F (-18°C)**

In extremely cold weather below 0°F (-18°C) it may be beneficial to cycle the manifold heaters twice before attempting to start the engine. This can be accomplished by turning the ignition OFF for at least five seconds and then back ON after the “Wait To Start” telltale has turned off, but before the engine is started. However, excessive cycling of the manifold heaters will result in damage to the heater elements or reduced battery voltage.

#### 44 STARTING AND OPERATING

**NOTE:** If multiple pre-heat cycles are used before starting, additional engine run time may be required to maintain battery state of charge at a satisfactory level.

1. If the engine stalls after the initial start, the ignition must be turned to the OFF position for at least five seconds and then to the ON position to recycle the manifold heaters.

**NOTE:** Excessive white smoke and poor engine performance will result if manifold heaters are not recycled.

2. Heat generated by the manifold heaters dissipates rapidly in a cold engine. If more than two minutes pass between the time the "Wait To Start" telltale turns off and the engine is started, recycle the manifold heaters by turning the ignition switch to the OFF position for at least five seconds and then back ON.
3. If the vehicle is driven and vehicle speed exceeds 19 mph (31 km/h) before the manifold heater post-heat (after start) cycle is complete, the manifold heaters will shut off.

4. If the engine is started before the "Wait To Start" telltale turns off, the preheat cycle will turn off.

5. If the engine is cranked for more than 10 seconds, the post-heat cycle will turn off.

**NOTE:**

- Engine idle speed will automatically increase to 1,000 RPM and engage the Variable Geometry Turbocharger at low coolant temperatures to improve engine warm-up.
- When a diesel engine is allowed to run out of fuel or the fuel gels at low temperatures, air is pulled into the fuel system. If your engine has run out of fuel, refer to "Maintenance Procedures/Priming If The Engine Has Run Out Of Fuel" in "Maintaining Your Vehicle" for further information.

### Starting Fluids

#### WARNING!

Starting fluids or flammable liquids must never be used in the Cummins® diesel engine (see Warning label). Never pour diesel fuel, flammable liquid, starting fluids (ether) into the air cleaner canister, air intake piping, or turbocharger inlet in an attempt to start the vehicle. This could result in a flash fire and explosion causing serious personal injury and engine damage.

The engine is equipped with an automatic electric air preheating system. If the instructions in this manual are followed, the engine should start in all conditions.

#### WARNING!

- Do not leave children or animals inside parked vehicles in hot weather. Interior heat build up may cause serious injury or death.
- When leaving the vehicle, always remove the key fob and lock your vehicle.
- Never leave children alone in a vehicle, or with access to an unlocked vehicle. Allowing children to be in a vehicle unattended is dangerous for a number of reasons. A child or others could be seriously or fatally injured. Children should be warned not to touch the parking brake, brake pedal or the shift lever. Do not leave the key fob in or near the vehicle (or in a location accessible to children), A child could operate power windows, other controls, or move the vehicle.

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**NORMAL OPERATION – DIESEL ENGINE**

Observe the following when the engine is operating.

- All message center lights are off.
- Malfunction Indicator Light (MIL) is off.
- Engine oil pressure is above 10 psi (69 kPa) at idle.
- Voltmeter operation:

The voltmeter may show a gauge fluctuation at various engine temperatures. This cycling operation is caused by the post-heat cycle of the intake manifold heater system. The number of cycles and the length of the cycling operation is controlled by the engine control module. Post-heat operation can run for several minutes, and then the electrical system and voltmeter needle will stabilize.

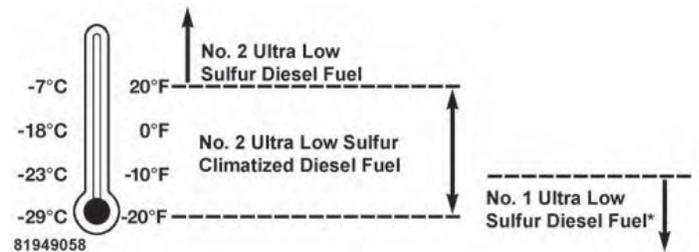
The cycling action will cause temporary dimming of the headlamps, interior lamps, and also a noticeable reduction in blower motor speed.

**Cold Weather Precautions**

Operation in ambient temperature below 32°F (0°C) may require special considerations. The following charts suggest these options:

**Fuel Operating Range**

**NOTE:** Use “Ultra Low Sulfur Diesel Fuels” **ONLY**.



\*No. 1 Ultra Low Sulfur Diesel Fuel should only be used where extended arctic conditions (-10°F/-23°C) exist.

**NOTE:**

- Use of Climatized Ultra Low Sulfur Diesel Fuel or Number 1 Ultra Low Sulfur Diesel Fuel results in a noticeable decrease in fuel economy.
- Climatized Ultra Low Sulfur Diesel Fuel is a blend of Number 2 Ultra Low Sulfur and Number 1 Ultra Low Sulfur Diesel Fuels which reduces the temperature at which wax crystals form in fuel.
- The fuel grade should be clearly marked on the pump at the fuel station
- The engine requires the use of **“Ultra Low Sulfur Diesel Fuel”**. Use of incorrect fuel could result in engine and exhaust system damage. Refer to “Fuel Requirements” in “Starting and Operating” for further information.

**Engine Oil Usage**

Refer to “Maintenance Procedures” in “Maintaining Your Vehicle” for the correct engine oil viscosity.

**Winter Front Usage**

A winter front or cold weather cover is to be used in ambient temperatures below -10°C, especially during extended idle conditions to reduce condensation build-up within engine crankcase. If a winter front or cold weather cover is to be used, a percentage of the total grille opening area must be left uncovered to provide sufficient air flow to the charge air cooler and automatic transmission oil cooler. The percentage of opening must be increased with the increasing ambient air temperature and/or engine load. If the cooling fan can be heard cycling frequently, increase the size of the opening in the winter front. A suitable cold weather cover is available from your MOPAR® dealer.

**Battery Blanket Usage**

A battery loses 60% of its cranking power as the battery temperature decreases to 0°F (-18°C). For the same decrease in temperature, the engine requires twice as much

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power to crank at the same RPM. The use of 120 VAC powered battery blankets will greatly increase starting capability at low temperatures. Suitable battery blankets are available from your authorized MOPAR® dealer.

### Engine Warm-Up

Avoid full throttle operation when the engine is cold. When starting a cold engine, bring the engine up to operating speed slowly to allow the oil pressure to stabilize as the engine warms up.

**NOTE:** High-speed, no-load running of a cold engine can result in excessive white smoke and poor engine performance. No-load engine speeds should be kept under 1,200 RPM during the warm-up period, especially in cold ambient temperature conditions.

Your vehicle is equipped with a turbo speed limiter, this feature limits the engine speed to 1,200 RPM when engine coolant temperatures are below 70°F (21°C). This

feature is designed to protect the turbocharger from damage and will only operate in PARK or NEUTRAL.

If temperatures are below 32°F (0°C), operate the engine at moderate speeds for five minutes before full loads are applied.

### NOTE:

- If ambient temperatures are low and the coolant temperature is below 180°F (82°C), the engine idle speed will slowly increase to 1,000 RPM after two minutes of idle, if the following conditions are met:
  - foot is off brake pedal and throttle pedal
  - automatic transmission is in PARK
  - vehicle speed is zero
  - Applying the throttle will cancel fast idle
- Operating the exhaust brake at idle will greatly improve warm up rate and will help keep the engine close to operating temperature during extended idle.

### Engine Idling

Avoid prolonged idling, long periods of idling may be harmful to your engine because combustion chamber temperatures can drop so low that the fuel may not burn completely. Incomplete combustion allows carbon and varnish to form on piston rings, engine valves, and injector nozzles. Also, the unburned fuel can enter the crankcase, diluting the oil and causing rapid wear to the engine.

If the engine is allowed to idle, under some conditions the idle speed may increase to 900 RPM then return to normal idle speed. This is normal operation.

**NOTE:** For EVIC messages related to the vehicle's exhaust system, refer to "Maintenance Procedures/ Intervention Regeneration Strategy – EVIC Message Process Flow" in "Maintaining Your Vehicle" for further information.

### Idle-Up Feature – Automatic Transmission Only

The driver-controlled high idle speed feature will help increase cylinder temperatures and provide additional cab heat, however, excessive idling may still cause the exhaust aftertreatment system to not properly regenerate. Extended periods of idle time should be avoided.

The Idle-Up feature uses the speed control switches to increase engine idle speed and quickly warm the vehicle's interior.

1. With the transmission in PARK, the parking brake applied, and the engine running, press the speed control switch to the ON position, then press the SET switch.

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2. The engine RPM will go up to 1100 RPM. To increase the RPM, press and hold the ACCEL/RESUME switch and the idle speed will increase to approximately 1500 RPM. To decrease the RPM, press and hold the DECEL switch and the idle speed will decrease to approximately 1100 RPM.
3. To cancel the Idle-Up feature, either press the CANCEL switch, press the ON/OFF switch, or press the brake pedal.

### Stopping The Engine

Idle the engine a few minutes before routine shutdown. After full load operation, idle the engine three to five minutes before shutting it down. This idle period will allow the lubricating oil and coolant to carry excess heat away from the combustion chamber, bearings, internal components, and turbocharger. This is especially important for turbocharged, charge air-cooled engines.

### NOTE:

- During engine shut down on vehicles equipped with manual transmissions, it is normal for the diesel engine to resonate heavily for a moment during engine shut off. When the engine is connected to a manual transmission, this resonance causes load gear rattle from the transmission. This is commonly referred to as "shut down rattle." The manufacturer recommends performing engine shut down with the clutch pedal pushed to the floor (clutch disengaged). When engine shut down is performed in this manner the rattle is reduced (not eliminated).
- Refer to the following chart for proper engine shutdown.

Driving Condition	Load	Turbo-charger Temperature	Idle Time (min.) Before Engine Shutdown
Stop and Go	Empty	Cool	Less than One
Stop and Go	Medium		One
Highway Speeds	Medium	Warm	Two
City Traffic	Maximum GCWR		Three
Highway Speeds	Maximum GCWR		Four
Uphill Grade	Maximum GCWR	Hot	Five

### Idle Shutdown

This feature can be enabled so that the truck will automatically shutdown when the truck has been idling for a set period of time when the engine is at operating temperature. Idle time can be set in 5 minute increments between 5 and 60 minutes. See your local authorized dealer to enable this feature.

### Programmable Maximum Vehicle Speed (Chassis Cab Only)

This feature allows the owner to set a maximum vehicle speed for the vehicle. The 3500 Series maximum vehicle speed can be set between 40 mph (64 km/h) and 87 mph (140 km/h). The 4500/5500 Series maximum vehicle speed can be set between 40 mph (64 km/h) and 85 mph (136 km/h). See your local authorized dealer to enable this feature.

**NOTE:** DO NOT set the maximum vehicle speed to a value greater than what the vehicle tires are rated for.

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### Operating Precautions

#### Avoid Overheating The Engine

The temperature of the engine coolant (antifreeze) (a mixture of 50% ethylene-glycol and 50% water) must not exceed the normal range of the temperature gauge 240°F (116°C) with a 16 psi (110 kPa) radiator cap.

Usually the engine coolant (antifreeze) temperature indicated during operation will be to the left of center in the normal range of the gauge.

#### Avoid Low Coolant Temperature Operation

Continual operation at low engine coolant (antifreeze) temperature below the normal range on the gauge 140°F (60°C) can be harmful to the engine. Low engine coolant (antifreeze) temperature can cause incomplete combustion which allows carbon and varnish to form on piston rings and injector nozzles. Also, the unburned fuel can enter the crankcase, diluting the lubricating oil and causing rapid wear to the engine.

### Cooling System Tips – Automatic Transmission

To reduce potential for engine and transmission overheating in high ambient temperature conditions, take the following actions:

- **City Driving** —

When stopped, shift the transmission into NEUTRAL and increase engine idle speed.

- **Highway Driving** —

Reduce your speed.

- **Up Steep Hills** —

Select a lower transmission gear.

- **Air Conditioning** —

Turn it off temporarily.

### Do Not Operate The Engine With Low Oil Pressure

When the engine is at normal operating temperature, the minimum oil pressures required are:

Idle 700 to 800 RPM	10 psi (69 kPa)
Full speed and load	30 psi (207 kPa)

#### CAUTION!

**If oil pressure falls to less than normal readings, shut the engine off immediately. Failure to do so could result in immediate and severe engine damage.**

### Do Not Operate The Engine With Failed Parts

All engine failures give some warning before the parts fail. Be on the alert for changes in performance, sounds, and visual evidence that the engine requires service. Some important clues are:

- engine misfiring or vibrating severely
- sudden loss of power
- unusual engine noises
- fuel, oil or coolant leaks
- sudden change, outside the normal operating range, in the engine operating temperature
- excessive smoke
- oil pressure drop

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**ENGINE BLOCK HEATER — IF EQUIPPED**

The engine block heater warms engine coolant and permits quicker starts in cold weather. Connect the heater cord to a ground-fault interrupter protected 110–115 Volt AC electrical outlet with a grounded, three-wire extension cord.

The engine block heater cord is routed under the hood to the right side and can be located just behind the grille near the headlamp.

**NOTE:** The engine block heater cord is a factory installed option. If your vehicle is not equipped, heater cords are available from your authorized MOPAR® dealer.

The block heater must be plugged in at least one hour to have an adequate warming effect on the coolant.

**WARNING!**

**Remember to disconnect the cord before driving. Damage to the 110–115 Volt electrical cord could cause electrocution.**

**NOTE:** The block heater will require 110 Volts AC and 6.5 Amps to activate the heater element.

**Block Heater Usage**

For ambient temperatures below 0°F (-18°C), engine block heater usage is recommended.

For ambient temperatures below -20°F (-29°C), engine block heater usage is required.

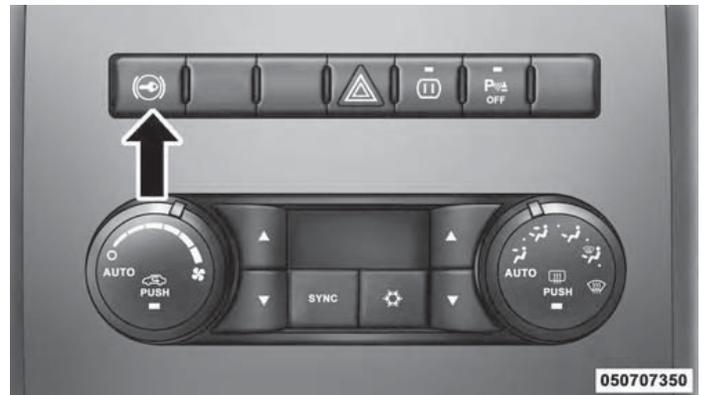
### DIESEL EXHAUST BRAKE (ENGINE BRAKING)

The purpose of the exhaust brake (engine braking) feature is to supply negative (braking) torque from the engine. Typically, the engine braking is used for, but not limited to, vehicle towing applications where vehicle braking can be achieved by the internal engine power, thereby sparing the mechanical brakes of the vehicle.

Benefits of the exhaust brake are:

- vehicle driving control
- reduced brake fade
- longer brake life
- faster cab warm-up.

The exhaust brake feature will only function when the driver toggles it on by pushing the exhaust brake button until the "Exhaust Brake Indicator" is illuminated. Normal (Full Strength) exhaust brake mode is indicated by a yellow "Exhaust Brake Indicator".



Exhaust Brake Switch

Once the "Exhaust Brake Indicator" is illuminated and the vehicle is moving faster than 5 mph (8 km/h); the exhaust brake will automatically operate when the driver removes pressure from the accelerator pedal. Exhaust braking is most effective when the engine RPM is higher.

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The automatic transmission will downshift more aggressively in TOW/HAUL mode when the exhaust brake is enabled to increase brake performance.

**CAUTION!**

Use of aftermarket exhaust brakes is not recommended and could lead to engine damage

**WARNING!**

Do not use the exhaust brake feature when driving in icy or slippery conditions as the increased engine braking can cause the rear wheels to slide and the vehicle to swing around with the possible loss of vehicle control, which may cause an accident possibly resulting in personal injury or death.

**NOTE:** For optimum braking power it is recommended to use the exhaust brake while in TOW/HAUL mode.

The exhaust brake feature can also be used to reduce the engine warm up time. To use the exhaust brake as a warm-up device, the vehicle must be stopped or moving less than 5 mph (8 km/h), the "Exhaust Brake Indicator" must be on, and the coolant temperature must be below 180°F (82°C) and ambient temperature below 60°F (16°C).

**Automatic Smart Exhaust Brake**

Automatic Exhaust Brake technology delivers smoother, less aggressive exhaust braking characteristics during downhill descents. Although it can apply full exhaust braking force if needed, Automatic Exhaust Brake may not apply obvious braking if the vehicle speed is not increasing. Automatic Exhaust Brake is intended to maintain vehicle speed, while Full Exhaust Brake is intended to reduce vehicle speed.

Automatic Exhaust Brake can be enabled by pushing the exhaust brake button again anytime after the normal Full Exhaust Brake has been turned on. The “Exhaust Brake Indicator” in the EVIC will change from Yellow to Green when Automatic Exhaust Brake is enabled. Pushing the exhaust brake button again will toggle the exhaust brake mode to off.

**AUTOMATIC TRANSMISSION — IF EQUIPPED**

<b>CAUTION!</b>
Damage to the transmission may occur if the following precautions are not observed: <ul style="list-style-type: none"><li>• Shift into PARK only after the vehicle has come to a complete stop.</li><li>• Shift into or out of REVERSE only after the vehicle has come to a complete stop and the engine is at idle speed.</li></ul>

(Continued)

<b>CAUTION! (Continued)</b>
<ul style="list-style-type: none"><li>• Do not shift between PARK, REVERSE, NEUTRAL, or DRIVE when the engine is above idle speed.</li><li>• Before shifting into any gear, make sure your foot is firmly pressing on the brake pedal.</li></ul>

<b>WARNING!</b>
<ul style="list-style-type: none"><li>• Unintended movement of a vehicle could injure those in and near the vehicle. As with all vehicles, you should never exit a vehicle while the engine is running. Before exiting a vehicle, always apply the parking brake, shift the transmission into PARK, turn the engine OFF, and remove the key fob. When the ignition is in the OFF position, the transmission is locked in PARK, securing the vehicle against unwanted movement.</li></ul>

(Continued)

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**WARNING! (Continued)**

- When leaving the vehicle, always remove the key fob and lock your vehicle.
- Never leave children alone in a vehicle, or with access to an unlocked vehicle. Allowing children to be in a vehicle unattended is dangerous for a number of reasons. A child or others could be seriously or fatally injured. Children should be warned not to touch the parking brake, brake pedal or the shift lever. Do not leave the key fob in or near the vehicle (or in a location accessible to children), and do not leave the ignition (in a vehicle equipped with Keyless Enter-N-Go™) in the ACC or ON/RUN position. A child could operate power windows, other controls, or move the vehicle.

*(Continued)*

**WARNING! (Continued)**

- It is dangerous to shift out of PARK or NEUTRAL if the engine speed is higher than idle speed. If your foot is not firmly pressing the brake pedal, the vehicle could accelerate quickly forward or in reverse. You could lose control of the vehicle and hit someone or something. Only shift into gear when the engine is idling normally and your foot is firmly pressing the brake pedal.

**NOTE:** You must press and hold the brake pedal while shifting out of PARK.

### Key Ignition Park Interlock

This vehicle is equipped with a Key Ignition Park Interlock which requires the transmission to be in PARK before the ignition switch can be turned to the full OFF (key removal) position. The key fob can only be removed from the ignition when the ignition is in the full OFF position, and the transmission is locked in PARK whenever the ignition switch is in the full OFF position.

### Brake/Transmission Shift Interlock System

This vehicle is equipped with a Brake Transmission Shift Interlock System (BTSI) that holds the shift lever in PARK unless the brakes are applied. To shift the transmission out of PARK, the ignition switch must be turned to the ON/RUN position (engine running or not) and the brake pedal must be pressed.

### Six-Speed Automatic Transmission – If Equipped

Chassis Cab models (with automatic transmission) use the AS69RC transmission (which is equipped with a Power Take-Off [PTO] access cover on the right side of the transmission case). Pickup models may use either the AS69RC transmission, or the 68RFE transmission (which has no PTO access cover).

The transmission gear position display (located in the instrument cluster) indicates the transmission gear range. The shift lever is mounted on the right side of the steering column. You must press the brake pedal to move the shift lever out of PARK (refer to “Brake/Transmission Shift Interlock System” in this section). To drive, move the shift lever from PARK or NEUTRAL to the DRIVE position. Pull the shift lever toward you when shifting into REVERSE or PARK, or when shifting out of PARK.

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The electronically-controlled transmission provides a precise shift schedule. The transmission electronics are self-calibrating; therefore, the first few shifts on a new vehicle may be somewhat abrupt. This is a normal condition, and precision shifts will develop within a few hundred miles (kilometers).

Only shift from DRIVE to PARK or REVERSE when the accelerator pedal is released and the vehicle is stopped. Be sure to keep your foot on the brake pedal when shifting between these gears.

The transmission shift lever has only PARK, REVERSE, NEUTRAL, and DRIVE shift positions. Manual downshifts can be made using the Electronic Range Select (ERS) shift control (refer to "Electronic Range Select (ERS) Operation" in this section). Pressing the ERS (-/+ ) switches (on the shift lever) while in the DRIVE position will select the highest available transmission gear, and will display that gear in the instrument cluster as 6, 5, 4, 3, 2, 1.

### Gear Ranges

DO NOT race the engine when shifting from PARK or NEUTRAL into another gear range.

**NOTE:** After selecting any gear range, wait a moment to allow the selected gear to engage before accelerating. This is especially important when the engine is cold.

### PARK

This range supplements the parking brake by locking the transmission. The engine can be started in this range. Never attempt to use PARK while the vehicle is in motion. Apply the parking brake when leaving the vehicle in this range.

When parking on a level surface, you may shift the transmission into PARK first, and then apply the parking brake.

When parking on a hill, apply the parking brake before shifting the transmission to PARK, otherwise the load on the transmission locking mechanism may make it difficult to move the shift lever out of PARK. As an added precaution, turn the front wheels toward the curb on a downhill grade and away from the curb on an uphill grade.

On four-wheel drive vehicles be sure that the transfer case is in a drive position.

**WARNING!**

- Never use the PARK position as a substitute for the parking brake. Always apply the parking brake fully when parked to guard against vehicle movement and possible injury or damage.

*(Continued)*

**WARNING! (Continued)**

- Your vehicle could move and injure you and others if it is not completely in PARK. Check by trying to move the shift lever out of PARK with the brake pedal released. Make sure the transmission is in PARK before leaving the vehicle.
- It is dangerous to shift out of PARK or NEUTRAL if the engine speed is higher than idle speed. If your foot is not firmly pressing the brake pedal, the vehicle could accelerate quickly forward or in reverse. You could lose control of the vehicle and hit someone or something. Only shift into gear when the engine is idling normally and your foot is firmly pressing the brake pedal.

*(Continued)*

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**WARNING! (Continued)**

- Unintended movement of a vehicle could injure those in and near the vehicle. As with all vehicles, you should never exit a vehicle while the engine is running. Before exiting a vehicle, always apply the parking brake, shift the transmission into PARK, turn the engine OFF, and remove the key fob. When the ignition is in the OFF position, the transmission is locked in PARK, securing the vehicle against unwanted movement.
- When leaving the vehicle, always remove the key fob and lock your vehicle.

*(Continued)*

**WARNING! (Continued)**

- Never leave children alone in a vehicle, or with access to an unlocked vehicle. Allowing children to be in a vehicle unattended is dangerous for a number of reasons. A child or others could be seriously or fatally injured. Children should be warned not to touch the parking brake, brake pedal or the shift lever. Do not leave the key fob in or near the vehicle (or in a location accessible to children), and do not leave the ignition (in a vehicle equipped with Keyless Enter-N-Go™) in the ACC or ON/RUN position. A child could operate power windows, other controls, or move the vehicle.

**CAUTION!**

- Before moving the shift lever out of PARK, you must turn the ignition switch from the OFF position to the ON/RUN position, and also press the brake pedal. Otherwise, damage to the shift lever could result.
- DO NOT race the engine when shifting from PARK or NEUTRAL into another gear range, as this can damage the drivetrain.

The following indicators should be used to ensure that you have engaged the transmission into the PARK position:

- When shifting into PARK, pull the shift lever toward you and move it all the way counterclockwise until it stops.

- Release the shift lever and make sure it is fully seated in the PARK gate.
- Look at the transmission gear position display and verify that it indicates the PARK position.
- With brake pedal released, verify that the shift lever will not move out of PARK.

**REVERSE**

This range is for moving the vehicle backward. Shift into REVERSE only after the vehicle has come to a complete stop.

**NEUTRAL**

Use this range when the vehicle is standing for prolonged periods with the engine running. The engine may be started in this range. Set the parking brake and shift the transmission into PARK if you must leave the vehicle.

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**WARNING!**

Do not coast in NEUTRAL and never turn off the ignition to coast down a hill. These are unsafe practices that limit your response to changing traffic or road conditions. You might lose control of the vehicle and have a collision.

**CAUTION!**

Towing the vehicle, coasting, or driving for any other reason with the transmission in NEUTRAL can cause severe transmission damage. Refer to "Recreational Towing" in "Starting And Operating" and "Towing A Disabled Vehicle" in "What To Do In Emergencies" for further information.

**DRIVE**

This range should be used for most city and highway driving. It provides the smoothest upshifts and downshifts, and the best fuel economy. The transmission automatically upshifts through underdrive first, second, and third gears, direct fourth gear and overdrive fifth and sixth gears. The DRIVE position provides optimum driving characteristics under all normal operating conditions.

When frequent transmission shifting occurs (such as when operating the vehicle under heavy loading conditions, in hilly terrain, traveling into strong head winds, or while towing heavy trailers), use the Electronic Range Select (ERS) shift control (refer to "Electronic Range Select (ERS) Operation" in this section) to select a lower gear range. Under these conditions, using a lower gear range will improve performance and extend transmission life by reducing excessive shifting and heat buildup.

If the transmission temperature exceeds normal operating limits, the powertrain controller will modify the transmission shift schedule and expand the range of torque converter clutch engagement. This is done to prevent transmission damage due to overheating.

If the transmission becomes extremely hot or is in danger of overheating, the "Transmission Temperature Warning Light" may illuminate and the transmission may operate differently until the transmission cools down.

**NOTE:** Use caution when operating a heavily loaded vehicle at low speeds (such as towing a trailer up a steep grade, or in stop-and-go traffic) during hot weather. In these conditions, torque converter slip can impose a significant additional heat load on the cooling system. Downshifting the transmission to the lowest possible gear (when climbing a grade), or shifting to NEUTRAL (when stopped in heavy traffic) can help to reduce this excess heat generation.

During cold temperatures, transmission operation may be modified depending on engine and transmission temperature as well as vehicle speed. This feature improves warm up time of the engine and transmission to achieve maximum efficiency. Engagement of the torque converter clutch is inhibited until the transmission fluid is warm (see the "Note" under "Torque Converter Clutch" in this section). On Pickup models with 68RFE transmission, top overdrive gear is also inhibited until the transmission fluid is warm, and during extremely cold temperatures (-16°F [-27°C] or below), operation may briefly be limited to first and direct gears only. On trucks with AS69RC transmission, fifth and sixth gears may be inhibited briefly on cold starts below 41°F (5°C), and during very cold temperatures (-4°F [-20°C] or below), operation may briefly be limited to third gear only. During this condition, the ability of the vehicle to accelerate under heavily loaded conditions may be reduced. In all cases, normal operation will resume once the transmission temperature has risen to a suitable level.

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### Transmission Limp Home Mode

Transmission function is monitored electronically for abnormal conditions. If a condition is detected that could result in transmission damage, Transmission Limp Home Mode is activated. In this mode, the transmission remains in fourth gear (for 68RFE transmission) or third gear (for AS69RC transmission) regardless of which forward gear is selected. If an AS69RC-equipped truck enters Limp Home Mode at highway speeds, it will initially engage fifth gear, until the vehicle slows to a speed where third gear can be engaged. PARK, REVERSE, and NEUTRAL will continue to operate. The Malfunction Indicator Light (MIL) may be illuminated. Limp Home Mode allows the vehicle to be driven to an authorized dealer for service without damaging the transmission.

In the event of a momentary problem, the transmission can be reset to regain all forward gears by performing the following steps:

1. Stop the vehicle.
2. Shift the transmission into PARK.
3. Turn the ignition switch to the OFF position.
4. Wait approximately 10 seconds.
5. Restart the engine.
6. Shift into the desired gear range. If the problem is no longer detected, the transmission will return to normal operation.

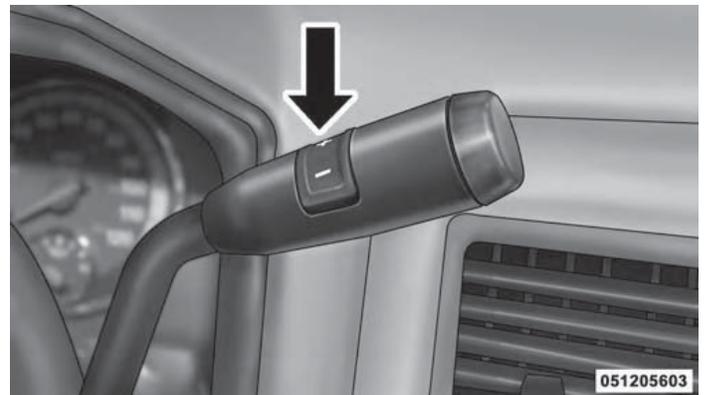
**NOTE:** Even if the transmission can be reset, we recommend that you visit your authorized dealer at your earliest possible convenience. Your authorized dealer has diagnostic equipment to determine if the problem could recur.

If the transmission cannot be reset, authorized dealer service is required.

### Electronic Range Select (ERS) Operation

The Electronic Range Select (ERS) shift control allows the driver to limit the highest available gear when the shift lever is in the DRIVE position. For example, if you shift the transmission into 3 (third gear), the transmission will not shift above third gear, but will shift down into second and first gears normally.

You can switch between DRIVE and ERS mode at any vehicle speed. When the shift lever is in the DRIVE position, the transmission will operate automatically, shifting between all available gears. Tapping the ERS (-) switch will activate ERS mode, display the current gear in the instrument cluster, and maintain that gear as the top available gear. Once in ERS mode, tapping the ERS (-) or (+) switch will change the top available gear.



**Column Shift Lever**

To exit ERS mode, simply press and hold the ERS (+) switch until "D" is once again displayed in the transmission gear position indicator in the instrument cluster.

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**WARNING!**

Do not downshift for additional engine braking on a slippery surface. The drive wheels could lose their grip and the vehicle could skid, causing a collision or personal injury.

**CAUTION!**

When using ERS for engine braking while descending steep grades, be careful not to overspeed the engine. Apply the brakes as needed to prevent engine overspeed.

Screen Display	1	2	3	4	5	6	D
Actual Gear(s) Allowed	1	1-2	1-3	1-4	1-5	1-6	1-6

**NOTE:** To select the proper gear position for maximum deceleration (engine braking), simply press and hold the ERS (-) switch down. The transmission will shift to the range from which the vehicle can best be slowed down.

**Overdrive Operation**

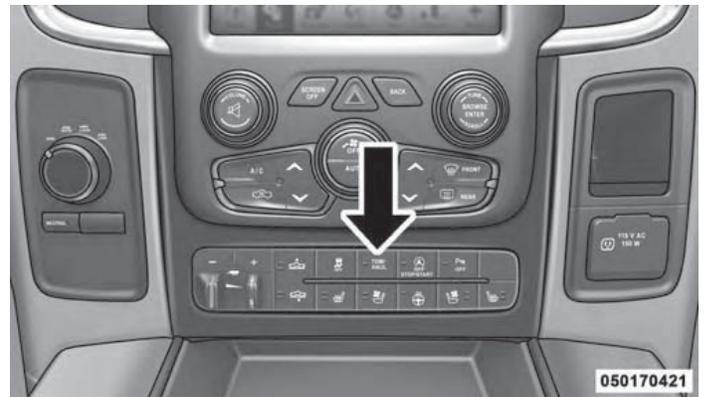
The automatic transmission includes an electronically controlled Overdrive (fifth and sixth gears). The transmission will automatically shift into Overdrive if the following conditions are present:

- the shift lever is in the DRIVE position,
- the transmission fluid has reached an adequate temperature,
- the engine coolant has reached an adequate temperature,

- vehicle speed is sufficiently high, and
- the TOW/HAUL switch has not been activated.

#### When To Use TOW/HAUL Mode

When driving in hilly areas, towing a trailer, carrying a heavy load, etc., and frequent transmission shifting occurs, press the TOW/HAUL switch to activate TOW/HAUL mode. This will improve performance and reduce the potential for transmission overheating or failure due to excessive shifting. When operating in TOW/HAUL mode, transmission upshifts are delayed, and the transmission will automatically downshift (for engine braking) when the throttle is closed and/or during steady braking maneuvers.



**TOW/HAUL Switch**

The “TOW/HAUL Indicator Light” will illuminate in the instrument cluster to indicate that TOW/HAUL mode has been activated. Pressing the switch a second time restores normal operation. Normal operation is always the default at engine start-up. If TOW/HAUL mode is desired, the switch must be pressed each time the engine is started.

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**WARNING!**

Do not use the "TOW/HAUL" feature when driving in icy or slippery conditions. The increased engine braking could cause the rear wheels to slide, and the vehicle to swing around with the possible loss of vehicle control, which could cause an accident possibly resulting in personal injury or death.

**Torque Converter Clutch**

A feature designed to improve fuel economy has been included in the automatic transmission on your vehicle. A clutch within the torque converter engages automatically at calibrated speeds. This may result in a slightly different feeling or response during normal operation in the upper gears. When the vehicle speed drops or during some accelerations, the clutch automatically disengages.

**NOTE:**

- The torque converter clutch will not engage (and 68RFE-equipped trucks will not shift to sixth gear), until the transmission fluid and engine coolant are warm [usually after 1 to 3 miles (2 to 5 km) of driving]. Because the engine speed is higher when the torque converter clutch is not engaged, it may seem as if the transmission is not shifting properly when cold. This is normal. Using the Electronic Range Select (ERS) shift control, when the transmission is sufficiently warm, will demonstrate that the transmission is able to shift into and out of Overdrive.
- If the vehicle has not been driven for several days, the first few seconds of operation after shifting the transmission into gear may seem sluggish. This is due to the fluid partially draining from the torque converter into the transmission. This condition is normal and will not cause damage to the transmission. The torque converter will refill within five seconds after starting the engine.

**MANUAL TRANSMISSION — IF EQUIPPED**

**Shifting**

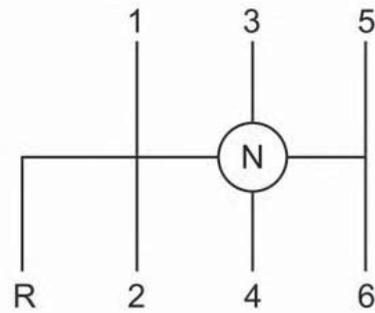
**WARNING!**

You or others could be injured if you leave the vehicle unattended without having the parking brake fully applied. The parking brake should always be applied when the driver is not in the vehicle, especially on an incline.

**CAUTION!**

Never drive with your foot resting on the clutch pedal, or attempt to hold the vehicle on a hill with the clutch pedal partially engaged, as this will cause abnormal wear on the clutch.

**NOTE:** During cold weather, you may experience increased effort in shifting until the transmission fluid warms up. This is normal.



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**Shift Pattern**

Truck models with manual transmission are equipped with a clutch interlocking ignition system. The clutch pedal must be fully pressed to start the vehicle.

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Fully press the clutch pedal before shifting gears. As you release the clutch pedal, lightly press the accelerator pedal.

This transmission has a “creeper” first gear which should be used to start from a standing position when carrying a payload or towing a trailer. Damage to the clutch can result from starting in second or third gear with a loaded vehicle. An unloaded vehicle may be launched in second gear. Use each gear in numerical order – do not skip a gear.

**NOTE:** When loaded, pulling a trailer or on a grade, the truck should always start in first gear and not skip gears.

**Recommended Vehicle Shift Speeds**

To utilize your manual transmission efficiently for both fuel economy and performance, it should be upshifted as listed in recommended shift speed chart. Shift at the vehicle speeds listed for acceleration. When heavily loaded or pulling a trailer these recommended up-shift speeds may not apply.

**Maximum Recommended Up-Shift Speeds**

Gear Selection	1 to 2	2 to 3	3 to 4	4 to 5	5 to 6
Maximum Speed	7 mph (11 km/h)	15 mph (24 km/h)	25 mph (40 km/h)	40 mph (64 km/h)	45 mph (72 km/h)

**Downshifting**

Moving from a high gear down to a lower gear is recommended to preserve brakes when driving down steep hills. In addition, downshifting at the right time provides better acceleration when you desire to resume speed. Downshift progressively. Do not skip gears to avoid overspeeding the engine and clutch.

**WARNING!**

Do not downshift for additional engine braking on a slippery surface. The drive wheels could lose their grip and the vehicle could skid.

**CAUTION!**

When descending a hill, be very careful to downshift one gear at a time to prevent overspeeding the engine which can cause valve damage, and/or clutch disc damage even if the clutch pedal is pressed.

**Maximum Recommended Downshift Speeds**

**CAUTION!**

Failure to follow the recommended downshifting speeds may cause the engine to overspeed and/or damage the clutch disc even if the clutch pedal is pressed.

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**Maximum Recommended Downshifting Speeds**

Gear Selection	6 to 5	5 to 4	4 to 3	3 to 2	2 to 1
Maximum Speed	68 mph (109 km/h)	50 mph (80 km/h)	32 mph (51 km/h)	19 mph (31 km/h)	10 mph ) (16 km/h)

**CAUTION!**

If you skip a gear while downshifting or downshift at too high of a vehicle speed, these conditions may cause the engine to overspeed if too low of a gear is selected and the clutch pedal is released. Damage to the clutch and the transmission can result from skipping a gear while downshifting or downshifting at too high of a vehicle speed even if the clutch pedal is held pressed (i.e., not released).

**Reverse Shifting**

To shift into REVERSE (R), bring the vehicle to a complete stop. Press the clutch and pause briefly to allow the gear train to stop rotating. Beginning from the NEUTRAL (N) position, move the shift lever in one quick smooth motion straight across and into the REVERSE (R) area (the driver will feel a firm “click” as the shifter passes the “knock-over”). Complete the shift by pulling the shift lever into REVERSE (R).

The “knock-over” prevents the driver from accidentally entering the REVERSE (R) shift area and warns the driver that they are about to shift the transmission into REVERSE (R). Due to this feature, a slow shift to REVERSE (R) can be perceived as a high shift effort.

To shift out of REVERSE bring the vehicle to a complete stop and press the clutch. Shifting out of REVERSE prior to a complete stop may cause high shift effort.

**POWER TAKE OFF OPERATION — IF EQUIPPED (CHASSIS CAB ONLY)**

This vehicle when equipped with either the AS69RC automatic six-speed or G-56 manual six-speed transmissions, will allow for an aftermarket upfit with a transmission driven PTO (power take off). The customer will have

the ability to operate the PTO in either a “stationary” or “mobile” mode. The vehicles will be factory set to the “stationary” mode. To select ‘mobile mode’ You will need to enter the commercial vehicle menu on the EVIC screen and select mobile PTO mode. Details of the PTO selection modes and further PTO information is available at the Ram Truck Bodybuilders web site. [www.rambodybuilder.com](http://www.rambodybuilder.com)

**AS69RC Six-Speed Automatic Transmission Only**

The PTO drive gear (part of the AS69RC) operates at torque converter turbine speed. The turbine speed will be less than engine speed when the torque converter clutch is not engaged and will be same as engine speed when the torque converter clutch is engaged.

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### Stationary Mode

To operate the PTO in this mode the vehicle must meet the following conditions:

- Be in PARK position (vehicles equipped with automatic transmission)
- PTO switch has been activated
- Parking brake applied (vehicles equipped with manual transmission)
- Brake pedal must not be applied
- Vehicle engine must be running
- No vehicle, brake or clutch switch faults present
- PTO must be correctly installed using the vehicle provided circuits

The Electronic Vehicle Information Center (EVIC) will display a "PTO On" message for five seconds if the above conditions are met. Otherwise, the EVIC will display a message "To Operate PTO Shift To Park" indicating what operator action should be taken to engage the PTO mode.

The customer has the choice to operate the PTO by utilizing the cruise control switches or by utilizing a remote control (provided by the PTO supplier). To operate the feature using the cruise control switches, the customer must first activate the PTO switch which will turn on the PTO. In order to increase or decrease the engine idle speed, to optimize the PTO function, the "RESUME/ACCEL" and "DECEL" cruise switches can be used respectively. To disengage PTO operation and return to "standard vehicle operation" simply toggle the PTO switch to the OFF position.

The torque converter clutch (TCC) will automatically engage at engine speeds above 1,200 RPM (engine speed) in PTO stationary mode. Once engaged, the TCC will remain applied and will not disengage until the engine speed falls below 1,000 RPM. TCC engagement is desirable for certain types of PTO applications (Automatic Transmission Only).

To operate the PTO via a remote switch, the customer must make sure the above conditions are met. It is vital for proper operation that the PTO and remote have been installed correctly, paying special attention to ensure the vehicle provided wiring has been connected properly. This is the responsibility of the installer of the PTO and switches/remote system. It is the responsibility of the PTO manufacturer to ensure that their electrical (switches and remote) system is compatible with the vehicle's electrical architecture and software functionality.

**NOTE:** Single set speed can be programmed via the PTO menu on the EVIC screen. Further details are available at the Ram Truck Bodybuilders website. [www.rambodybuilder.com](http://www.rambodybuilder.com) [www.ramtrucks.com](http://www.ramtrucks.com).

#### Mobile Mode

To operate the PTO in this mode the vehicle must meet the following conditions:

- Mobile mode is activated via the menu on the EVIC screen.
- (on/off) switch has been activated
- Vehicles with automatic transmission must be in PARK or DRIVE
- Parking brake must not be applied
- Brake pedal must not be applied

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- No vehicle, brake or clutch switch faults present
- Vehicle engine must be running
- PTO must be correctly installed using the vehicle provided circuits

The customer may choose to use the PTO while the vehicle is moving. To do so, the PTO function must be activated prior to taking the vehicle out of PARK. This is accomplished by activating the upfitter-provided PTO on/off switch. At this point, the customer may place the vehicle in a forward or reverse gear and have PTO operation once the vehicle begins to move. To disengage PTO operation and return to “standard vehicle operation” simply toggle the on/off switch to the OFF position.

**NOTE:** For application specific information with respect to PTO and pump requirements and additional vehicle information (wiring schematics, preset idle values, en-

gine speed limits, and vehicle hardware and software requirements) please refer to the Body Builders Guide by accessing [www.rambodybuilder.com](http://www.rambodybuilder.com) and choosing the appropriate links.

### **Power Take Off – Aftermarket Installation**

If you did not order the PTO (Power Take Off) Prep Package from the factory and want to convert your vehicle, refer to the Body Builder’s Guide at [www.rambodybuilder.com](http://www.rambodybuilder.com) or contact the manufacturer directly at (866) 205-4102 (toll free).

### **ENGINE RUNAWAY**

Diesel engine runaway is a rare condition affecting diesel engines, where the engine consumes its own lubrication oil and runs at higher and higher RPM until it overspeeds to a point where it destroys itself due to either mechanical failure or engine seizure through lack of lubrication.

**WARNING!**

In case of engine runaway due to flammable fumes from fuel spills or turbocharger oil leaks being sucked into the engine, do the following to help avoid personal injury and/or vehicle damage:

1. Turn the ignition switch to the OFF position.
2. Using a CO2 or dry chemical type fire extinguisher, direct the spray from the fire extinguisher into the grille on the passenger side so that the spray enters the engine air intake.

The inlet for the engine air intake is located behind the passenger side headlamp and receives air through the grille.

**FUEL REQUIREMENTS**

Use good quality diesel fuel from a reputable supplier in your vehicle. Federal law requires that you must fuel this vehicle with Ultra Low Sulfur Highway Diesel fuel (15 ppm Sulfur maximum) and prohibits the use of Low Sulfur Highway Diesel fuel (500 ppm Sulfur maximum) to avoid damage to the emissions control system. For most year-round service, No. 2 diesel fuel meeting ASTM (formerly known as the American Society for Testing and Materials) specification D-975 Grade S15 will provide good performance. If the vehicle is exposed to extreme cold (below 20°F or -7°C), or is required to operate at colder-than-normal conditions for prolonged periods, use climatized No. 2 diesel fuel or dilute the No. 2 diesel fuel with 50% No. 1 diesel fuel. This will provide better protection from fuel gelling or wax-plugging of the fuel filters.

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**WARNING!**

Do not use alcohol or gasoline as a fuel blending agent. They can be unstable under certain conditions and hazardous or explosive when mixed with diesel fuel.

Diesel fuel is seldom completely free of water. To prevent fuel system trouble, drain the accumulated water from the fuel/water separator using the fuel/water separator drain provided on both fuel filters. If you buy good quality fuel and follow the cold weather advice above, fuel conditioners should not be required in your vehicle. If available in your area, a high cetane "premium" diesel fuel may offer improved cold-starting and warm-up performance.

**CAUTION!**

If the "Water in Fuel Indicator Light" remains on, DO NOT START engine before you drain the water from the fuel filters to avoid engine damage. Refer to "Maintenance Procedures/Draining Fuel/Water Separator Filter" in "Maintaining Your Vehicle" for further information.

**Fuel Specifications**

The Cummins® diesel engine has been developed to take advantage of the high energy content and generally lower cost No. 2 Ultra Low Sulfur diesel fuel or No. 2 Ultra Low Sulfur climatized diesel fuels. Experience has shown that it also operates on No. 1 Ultra Low Sulfur diesel fuels or other fuels within specification.

**NOTE:**

- A maximum blend of 20% biodiesel meeting ASTM specification D-6751 may be used with your Cummins® diesel engine.
- In addition, commercially available fuel additives are not necessary for the proper operation of your Cummins® diesel engine.
- No. 1 Ultra Low Sulfur diesel fuel should only be used where extended arctic conditions (-10°F or -23°C) exist.

**Bio-Diesel Fuel Requirements**

**Chassis Cab Models**

A maximum blend of 5% biodiesel meeting ASTM specification D975 may be used with your Cummins diesel engine. If operation with Biodiesel blends greater than 5% but not greater than 20% (B6 B20) is desired, the truck

must first be reconfigured by an authorized Ram dealer and the provisions in the following section must be adhered to.

**Pickup Models And Chassis Cab Models Ordered With B20 Option**

Your vehicle has been validated and approved for the use of Biodiesel in blends up to 20% (B20) provided that you comply with the requirements outlined below. It is important that you understand and comply with these requirements. Failure to comply with Oil Change requirements for vehicles operating on biodiesel blends up to B20 will result in premature engine wear. Such wear is not covered by the New Vehicle Limited Warranty.

Biodiesel is a fuel produced from renewable resources typically derived from animal fat, rapeseed oil (Rapeseed Methyl Ester (RME) base), or soybean oil (Soy Methyl Ester (SME or SOME) base). Biodiesel fuel has inherent

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limitations which require that you understand and adhere to the following requirements if you use blends of Biodiesel greater than 5% but not greater than 20% (B6-B20). There are no unique restrictions for the use of B5. Use of blends greater than 20% is not approved. Use of blends greater than 20% can result in engine damage. Such damage is not covered by the New Vehicle Limited Warranty.

### **Fuel Quality - Must Comply With ASTM Standards**

The quality of Biodiesel fuel may vary widely. Only fuel produced by a BQ9000 supplier to the following specifications may be blended to meet Biodiesel blend (B6 - B20) fuel meeting ASTM specification D-7467:

- Pretriodiesel fuel meeting ASTM specification D-975 and Biodiesel fuel (B100) meeting ASTM specification D-6751.

### **Fuel Oxidation Stability - Must Use Fuel Within Six Months Of Manufacture**

Biodiesel fuel has poor oxidation stability which can result in long term storage problems. Fuel produced to approved ASTM standards, if stored properly, provides for protection against fuel oxidation for up to six months.

### **Fuel Water Separation - Must Use Mopar/Cummins Approved Fuel Filter Elements**

You must use Mopar/Cummins approved fuel filter elements in both your engine mounted filter and frame mounted filter.

Biodiesel fuel has a natural affinity to water and water accelerates microbial growth. Your Mopar/Cummins filtration system is designed to provide adequate fuel water separation capabilities.

### Bio-Diesel Fuel Properties – Low Ambient Temperatures

Biodiesel fuel may gel or solidify at low ambient temperatures, which may pose problems for both storage and operation. Precautions can be necessary at low ambient temperatures, such as storing the fuel in a heated building or a heated storage tank, or using cold temperature additives.

### Fuel In Oil Dilution - Must Adhere To Required Oil Change Interval

Fuel dilution of lubricating oil has been observed with the use of Biodiesel fuel. Fuel in oil must not exceed 5 percent. To ensure this limit is met your oil change interval must be maintained to the following schedule:

- Ram PickUp 2500/3500 Only –15,000 Miles\*
- Ram 3500/4500/5500 Chassis Cab – 12,500 Miles\*

(\*unless otherwise notified with a oil service message)

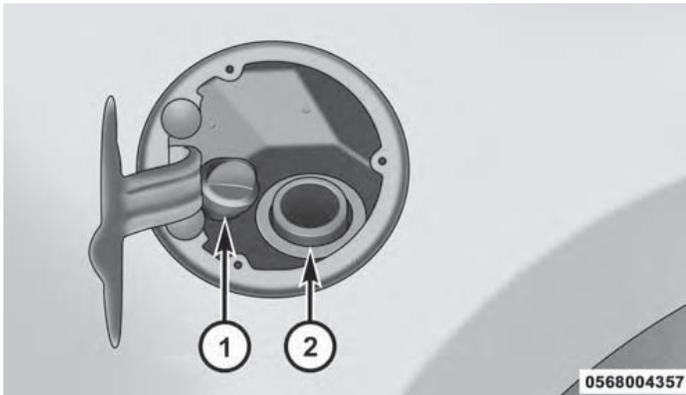
### CAUTION!

- Under no circumstances should oil change intervals exceed 15,000 miles (24 000 km) pickup or 12,500 miles (20 000 km) chassis cab if operation occurs with greater than 5% biodiesel blends. Oil change intervals should not exceed 6 months in either case. Failure to comply with these Oil Change requirements for vehicles operating on biodiesel blends up to B20 may result in premature engine wear. Such wear is not covered by the New Vehicle Limited Warranty.
- B20 Biodiesel capable: The engine may suffer severe damage if operated with concentrations of Biodiesel higher than 20%.

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**ADDING FUEL – 2500/3500 DIESEL MODELS**

1. Open the fuel filler door.



**Fuel and Diesel Exhaust Fluid Fill Location**

1 — Diesel Exhaust Fluid Fill Location

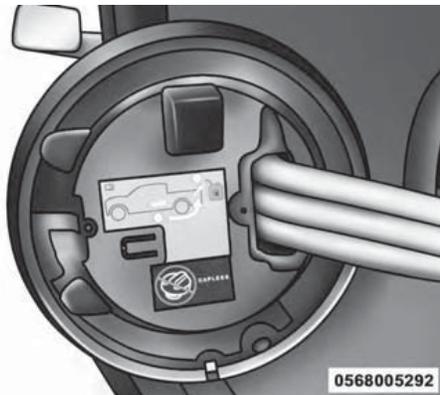
2 — Fuel Fill Location

2. There is no fuel filler cap. A flapper door inside the filler pipe seals the system.
3. Insert the fuel nozzle fully into the filler pipe – the nozzle opens and holds the flapper door while refueling.
4. Fill the vehicle with fuel – when the fuel nozzle “clicks” or shuts off the fuel tank is full.
5. Remove the fuel nozzle and close the fuel door.

### Emergency Fuel Can Refueling

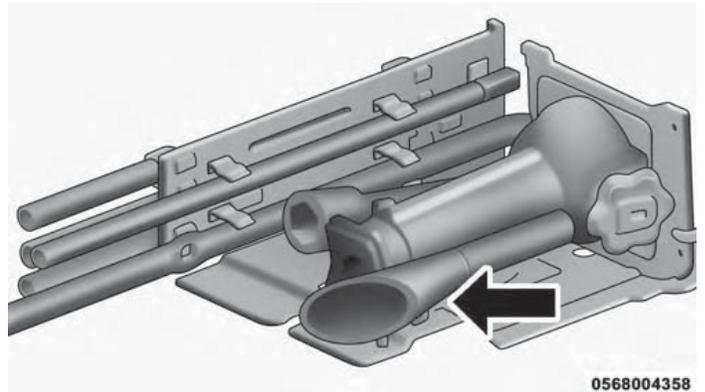
Most fuel cans will not open the flapper door.

A funnel is provided to open the flapper door to allow emergency refueling with a fuel can.



Diesel Fuel and DEF Fluid Filler Door

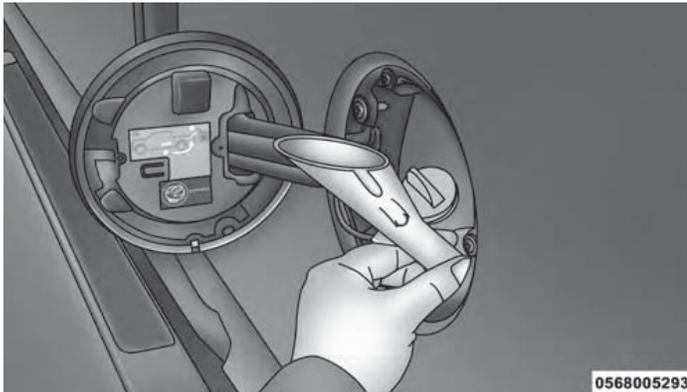
1. Retrieve fuel funnel from the jack kit located under the front passenger seat.



Fuel Fill Funnel Location 2500/3500 Models

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2. Insert funnel into same filler pipe opening as the fuel nozzle.



**Emergency Fuel Fill Location**

3. Ensure funnel is inserted fully to hold flapper door open.

4. Pour fuel into funnel opening.

5. Remove funnel from filler pipe, clean off prior to putting back in the jack kit.

**CAUTION!**

To avoid fuel spillage and overfilling, do not "top off" the fuel tank after filling.

**WARNING!**

- Never have any smoking materials lit in or near the vehicle when the fuel door is open or the tank is being filled.
- Never add fuel when the engine is running. This is in violation of most state and federal fire regulations and may cause the "Malfunction Indicator Light" to turn on.

*(Continued)*

**WARNING! (Continued)**

- A fire may result if fuel is pumped into a portable container that is inside of a vehicle. You could be burned. Always place fuel containers on the ground while filling.

**ADDING FUEL – CHASSIS CAB MODELS**

**CAUTION!**

To avoid fuel spillage and overfilling, do not “top off” the fuel tank after filling.

**NOTE:**

- When the fuel nozzle “clicks” or shuts off, the fuel tank is full.
- Tighten the fuel filler cap until you hear a “clicking” sound. This is an indication that the fuel filler cap is properly tightened.
- Make sure that the fuel filler cap is tightened each time the vehicle is refueled.

**WARNING!**

A fire may result if fuel is pumped into a portable container that is on a truck bed. You could be burned. Always place fuel containers on the ground while filling.

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**Fuel Filler Cap**

If the fuel filler cap is lost or damaged, be sure the replacement cap is for use with this vehicle.

**CAUTION!**

Damage to the fuel system or emission control system could result from using an improper fuel tank filler tube cap. A poorly fitting cap could let impurities into the fuel system.

**WARNING!**

- Never have any smoking materials lit in or near the vehicle when the fuel filler cap is removed or the tank filled.
- Never add fuel to the vehicle when the engine is running.

**Avoid Using Contaminated Fuel**

Fuel that is contaminated by water or dirt can cause severe damage to the engine fuel system. Proper maintenance of the engine fuel filter and fuel tank is essential. Refer to "Maintenance Procedures" in "Maintaining Your Vehicle" for further information.

**Bulk Fuel Storage – Diesel Fuel**

If you store quantities of fuel, good maintenance of the stored fuel is also essential. Fuel contaminated with water will promote the growth of "microbes." These microbes form "slime" that will clog fuel filters and lines. Drain condensation from the supply tank and change the line filter on a regular basis.

**NOTE:** When a diesel engine is allowed to run out of fuel, air is pulled into the fuel system.

If the vehicle will not start, refer to “Maintenance Procedures/Priming If The Engine Has Run Out Of Fuel” in “Maintaining Your Vehicle” for further information.

**WARNING!**

**Do not open the high pressure fuel system with the engine running. Engine operation causes high fuel pressure. High pressure fuel spray can cause serious injury or death.**

**Diesel Exhaust Fluid Storage**

Diesel Exhaust Fluid (DEF) is considered a very stable product with a long shelf life. If DEF is kept in temperatures between 10° to 90°F (-12° to 32°C), it will last a minimum of one year.

DEF is subject to freezing at the lowest temperatures. For example, DEF may freeze at temperatures at or below 12° F (-11° C). The system has been designed to operate in this environment.

**NOTE:** When working with DEF, it is important to know that:

- Any containers or parts that come into contact with DEF must be DEF compatible (plastic or stainless steel). Copper, brass, aluminum, iron or non-stainless steel should be avoided as they are subject to corrosion by DEF.
- If DEF is spilled, it should be wiped up completely.

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### Adding Diesel Exhaust Fluid

The DEF gauge (located on the Electronic Vehicle Information Center (EVIC) display) will display the level of DEF remaining in the tank. Refer to “Electronic Vehicle Information Center (EVIC)” in “Understanding Your Instrument Panel” for further information.

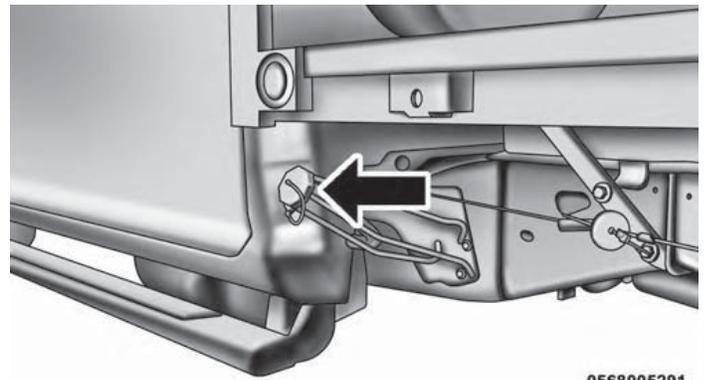
- When the DEF gauge reads 75%, add approximately 2 gallons (7.5 Liters) to fill the DEF tank.
- When the DEF gauge reads 50%, add approximately 4 gallons (15 Liters) to fill the DEF tank.
- When the DEF gauge reads 25%, add approximately 6 gallons (23 Liters) to fill the DEF tank.

**NOTE:** Driving conditions (altitude, vehicle speed, load, etc.) will effect the amount of DEF that is used in your vehicle.

### DEF Fill Procedure

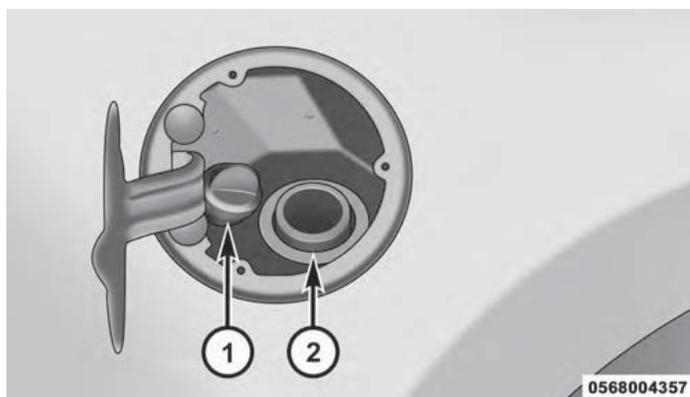
**NOTE:** Refer to “Fluids, Lubricants, and Genuine Parts” in “Maintaining Your Vehicle” for the correct fluid type.

1. Remove cap from DEF tank (located on drivers side of the vehicle or in fuel door).



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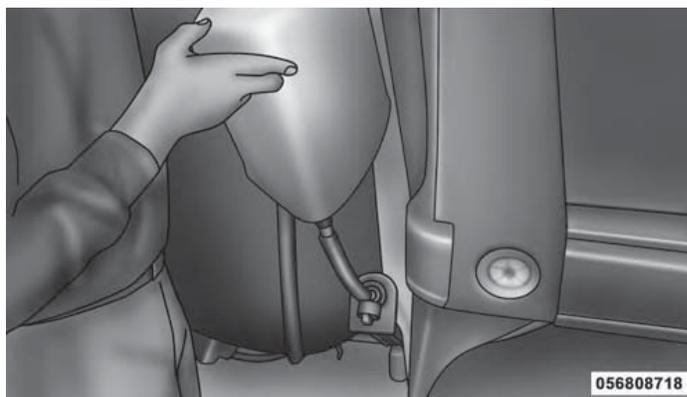
DEF Filler Cap Chassis Cab Models



**DEF Filler Cap and Fuel Fill 2500/3500 Models**

- 1 — Diesel Exhaust Fluid Fill Location
- 2 — Fuel Fill Location

2. Insert DEF fill adapter/nozzle into DEF tank filler neck.



**Filling The DEF Tank**



## DIESEL EXHAUST FLUID

Your vehicle is equipped with a Selective Catalytic Reduction system in order to meet the very stringent diesel emissions standards required by the Environmental Protection Agency. Selective Catalytic Reduction (SCR) is the first and only technology in decades to be as good for the environment as it is good for business and vehicle performance.

The purpose of the SCR system is to reduce levels of NO<sub>x</sub> (oxides of nitrogen emitted from engines) that are harmful to our health and the environment to an almost near-zero level. Small quantities of Diesel Exhaust Fluid (DEF) are injected into the exhaust upstream of a catalyst where, when vaporized, convert smog-forming nitrogen oxides (NO<sub>x</sub>) into harmless nitrogen (N<sub>2</sub>) and water vapor (H<sub>2</sub>O), two natural components of the air we breathe. You can operate with the comfort that your vehicle is contributing to a cleaner, healthier world environment for this and generations to come.

## System Overview

This vehicle is equipped with a Diesel Exhaust Fluid (DEF) injection system and a Selective Catalytic Reduction (SCR) catalyst to meet the emission requirements.

The DEF injection system consists of the following components:

- DEF tank
- DEF pump
- DEF injector
- Electronically-heated DEF lines
- DEF control module
- NO<sub>x</sub> sensors
- NH<sub>3</sub> sensor
- Temperature sensors
- CR catalyst

#### 94 STARTING AND OPERATING

The DEF injection system and SCR catalyst enable the achievement of diesel emissions requirements; while maintaining outstanding fuel economy, drivability, torque and power ratings.

Refer to “Electronic Vehicle Information Center (EVIC)” in “Understanding Your Instrument Panel” for system messages and warnings.

#### NOTE:

- Your vehicle is equipped with a DEF injection system. You may occasionally hear an audible clicking noise. This is normal operation.
- The DEF pump will run for a period of time after engine shutdown to purge the DEF system. This is normal operation.

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## WHAT TO DO IN EMERGENCIES

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**JUMP STARTING**

**WARNING!**

- To prevent personal injury or damage to clothing, do not allow battery fluid to contact eyes, skin or fabrics. Do not lean over a battery when connecting jumper cables or allow cable clamps to touch each other. Keep open flames or sparks away from battery vent holes. Always wear eye protection when working with batteries.
- Do not use a booster battery or any other booster source that has a greater than 12 Volt system, i.e., do not use a 24 Volt power source.

**NOTE:** Replacement batteries should both be of equal size to prevent damage to the vehicle's charging system.

Your vehicle is equipped with two 12 Volt batteries. If it becomes necessary to use a booster battery with jumper cables to start a vehicle's engine because its batteries are discharged, the following procedure should be used:

Set the parking brake and place an automatic transmission in PARK (or NEUTRAL for a manual transmission). Turn off lights, heater and other electrical loads. Observe charge indicator (if equipped) in both batteries. If the indicator (if equipped) is light or yellow on either battery, replace that battery.

**CAUTION!**

Use the jump start procedure only when the charge indicator (if equipped) in both batteries is dark in the center. Do not attempt jump starting when either battery charge indicator (if equipped) is bright or

*(Continued)*

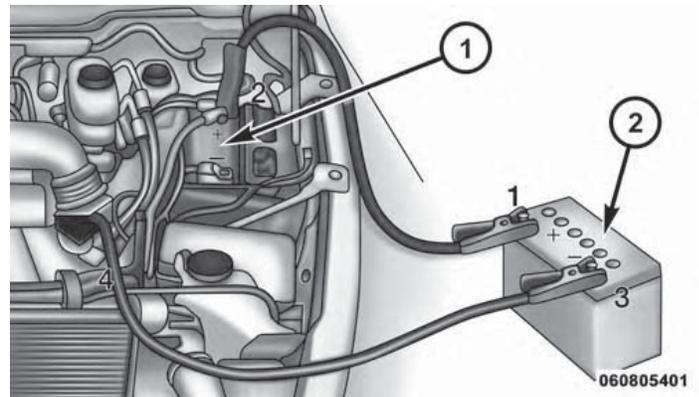
**CAUTION! (Continued)**

yellow. If the charge indicator (if equipped) has a green dot in the center, failure to start is not due to a discharged battery and cranking system should be checked.

1. Attach one jumper cable to the positive terminal of booster battery and the other end of the same cable to the positive terminal of the discharged battery.

**WARNING!**

Do not permit vehicles to touch each other as this could establish a ground connection and personal injury could result.



- 1 — Discharged Battery
- 2 — Booster Battery

2. Connect one end of the other jumper cable to negative (-) post of booster battery. Connect the other end of the jumper cable to a good ground on the engine block of the vehicle with the discharged battery. Make sure a good connection is made, free of dirt and grease.

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**WARNING!**

- Do not connect the cable to the negative post of the discharge battery. The resulting electrical spark could cause the battery to explode.
- During cold weather when temperatures are below freezing point, electrolyte in a discharged battery may freeze. Do not attempt jump starting because the battery could rupture or explode. The battery temperature must be brought up above freezing point before attempting to jump start.

3. Take care that the clamps from one cable do not inadvertently touch clamps from the other cable. Do not lean over the battery when making connection. The negative connection must provide good electrical conductivity and current carrying capacity.

4. After the engine is started or if the engine fails to start, cables must be disconnected in the following order:
- Disconnect the negative cable at the engine ground.
  - Disconnect the negative cable at the negative post on booster battery.
  - Disconnect the cable from the positive post of both batteries.

**WARNING!**

- Any procedure other than above could result in:
- Personal injury caused by electrolyte squirting out the battery vent;
  - Personal injury or property damage due to battery explosion;
  - Damage to charging system of booster vehicle or of immobilized vehicle.

### **With Portable Starting Unit**

There are many types of these units available. Follow the manufacturer's instructions for necessary precautions and operation.

<b>CAUTION!</b>
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<p><b>It is very important that the starting unit operating voltage does not exceed 12 Volts DC or damage to battery, starter motor, alternator, or electrical system may occur.</b></p>
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## MAINTAINING YOUR VEHICLE

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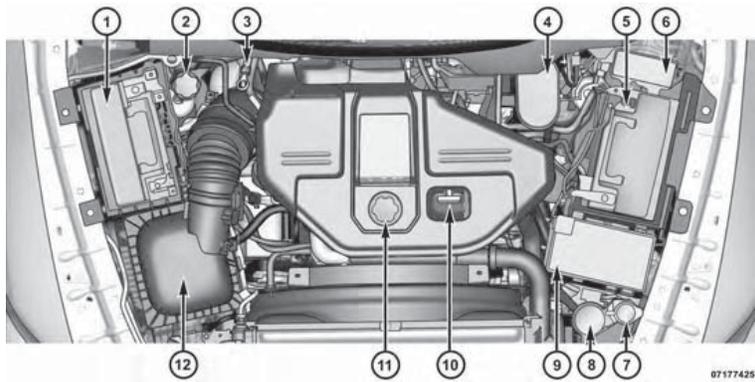
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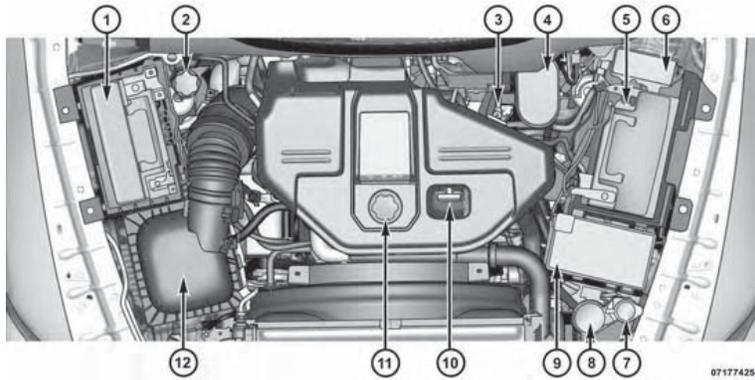
**ENGINE COMPARTMENT — 6.7L DIESEL — SIX-SPEED 68RFE (2500/3500 Models Only)**



- |   |                                    |
|---|------------------------------------|
| 1 — Battery                                       | 7 — Washer Fluid Reservoir         |
| 2 — Engine Coolant Reservoir                      | 8 — Power Steering Fluid Reservoir |
| 3 — Automatic Transmission Dipstick (If Equipped) | 9 — Power Distribution Center      |
| 4 — Brake Fluid Reservoir                         | 10 — Engine Oil Dipstick           |
| 5 — Battery                                       | 11 — Engine Oil Fill               |
| 6 — Aux Power Distribution Center                 | 12 — Air Cleaner Filter            |

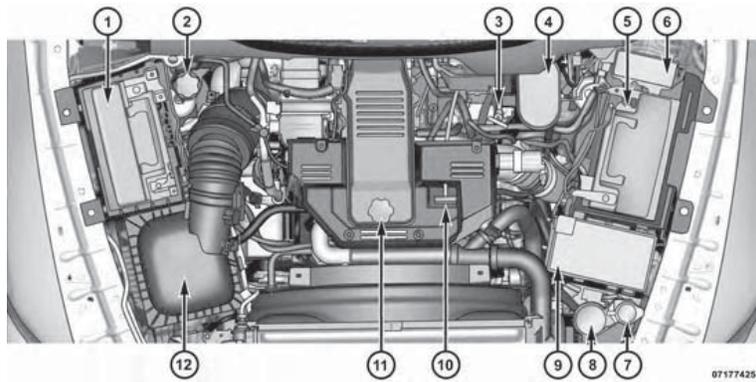
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**ENGINE COMPARTMENT — 6.7L DIESEL — SIX-SPEED AS69RC (3500 Models Only)**



- |   |                                    |
|---|------------------------------------|
| 1 — Battery                                       | 7 — Washer Fluid Reservoir         |
| 2 — Engine Coolant Reservoir                      | 8 — Power Steering Fluid Reservoir |
| 3 — Automatic Transmission Dipstick (If Equipped) | 9 — Power Distribution Center      |
| 4 — Brake Fluid Reservoir                         | 10 — Engine Oil Dipstick           |
| 5 — Battery                                       | 11 — Engine Oil Fill               |
| 6 — Aux Power Distribution Center                 | 12 — Air Cleaner Filter            |
-

**ENGINE COMPARTMENT — 6.7L DIESEL (CHASSIS CAB MODELS ONLY)**



- |   |                                    |
|---|------------------------------------|
| 1 — Battery                                       | 7 — Washer Fluid Reservoir         |
| 2 — Engine Coolant Reservoir                      | 8 — Power Steering Fluid Reservoir |
| 3 — Automatic Transmission Dipstick (If Equipped) | 9 — Power Distribution Center      |
| 4 — Brake Fluid Reservoir                         | 10 — Engine Oil Dipstick           |
| 5 — Battery                                       | 11 — Engine Oil Fill               |
| 6 — Aux Power Distribution Center                 | 12 — Air Cleaner Filter            |

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**MAINTENANCE PROCEDURES**

The pages that follow contain the **required** maintenance services determined by the engineers who designed your vehicle.

Besides those maintenance items specified in the fixed maintenance schedule, there are other components which may require servicing or replacement in the future.

**CAUTION!**

- Failure to properly maintain your vehicle or perform repairs and service when necessary could result in more costly repairs, damage to other components or negatively impact vehicle performance. Immediately have potential malfunctions examined by an authorized Chrysler Group LLC dealership or qualified repair center.

*(Continued)*

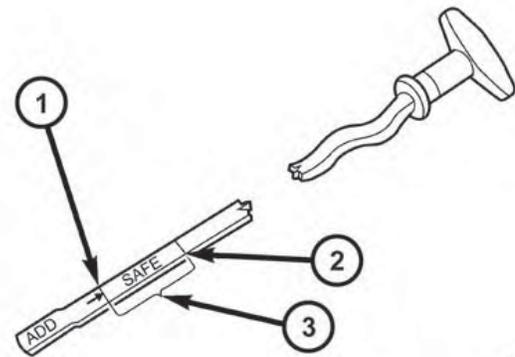
**CAUTION! (Continued)**

- Your vehicle has been built with improved fluids that protect the performance and durability of your vehicle and also allow extended maintenance intervals. Do not use chemical flushes in these components as the chemicals can damage your engine, transmission, power steering or air conditioning. Such damage is not covered by the New Vehicle Limited Warranty. If a flush is needed because of component malfunction, use only the specified fluid for the flushing procedure.

## Engine Oil

### Checking Oil Level

To assure proper lubrication of your vehicle's engine, the engine oil must be maintained at the correct level. Check the oil level at regular intervals. The best time to check the oil level is before starting the engine after it has been parked overnight. When checking oil after operating the engine, first ensure the engine is at full operating temperature, then wait for 30 minutes after engine shutdown to check the oil.



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- 1 — ADD Range
- 2 — Full Mark
- 3 — SAFE Range

Checking the oil while the vehicle is on level ground will improve the accuracy of the oil level readings. Add oil only when the level on the dipstick is below the "ADD"

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mark. The total capacity from the low mark to the high mark is 2 qts (1.9L).

**CAUTION!**  
Overfilling or underfilling the crankcase will cause oil aeration or loss of oil pressure. This could damage your engine.

Never operate the engine with oil level below the "ADD" mark or above the upper "SAFE" mark.

**Change Engine Oil**

Refer to the "Maintenance Schedule" for the proper maintenance intervals.

**Engine Oil Selection**

For best performance and maximum protection under all types of operating conditions, the manufacturer only recommends engine oils that are API CJ-4 certified and meet

the requirements of Chrysler Group LLC. Use MOPAR® or an equivalent oil meeting Chrysler Material Standard MS-10902. Products meeting Cummins® CES 20081 may also be used. The identification of these engine oils are typically located on the back of the oil container.

**American Petroleum Institute (API) Engine Oil Identification Symbol**



This symbol means that the oil has been certified by the American Petroleum Institute (API). The manufacturer only recommends API Certified engine oils.

Oils with a high ash content may produce damaging deposits on cylinder head valves and/or aftertreatment system damage. A maximum sulfated ash content of 1.00 mass % is recommended for all oil used in the engine.

The same oil change interval is to be followed for synthetic oil as for petroleum based oil. Also, synthetic oil must meet the same performance specifications as petroleum oil.

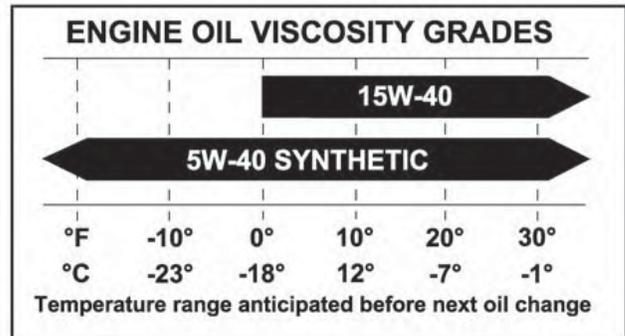
<b>CAUTION!</b>
<b>Do not use chemical flushes in your engine oil as the chemicals can damage your engine. Such damage is not covered by the New Vehicle Limited Warranty.</b>

<b>CAUTION!</b>
<b>Failure to use SAE 5W-40 synthetic engine oil in ambient temperatures below 0°F (-18°C) could result in severe engine damage.</b>

**Engine Oil Viscosity (SAE Grade)**

Use SAE 15W-40 MOPAR® or an equivalent engine oil meeting Chrysler Material Standard MS-10902. Products meeting Cummins CES 20081 may also be used. The identification of these engine oils is typically located on the back of the oil container.

In ambient temperatures below 0°F (-18°C), SAE 5W-40 **synthetic** engine oil that meets Chrysler Materials Standard MS-10902 and the API CJ-4 engine oil category is required.



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## 110 MAINTAINING YOUR VEHICLE

Engine oil not designated by the Chrysler or Cummins® Material Standards and API CJ-4 should not be used, as engine and exhaust system durability may be compromised. The engine oil filler cap also shows the recommended engine oil viscosity for your engine. For information on engine oil filler cap location, refer to “Engine Compartment” in “Maintaining Your Vehicle” for further information.

### Synthetic Engine Oils

You may use synthetic engine oils if the recommended oil quality requirements are met and the recommended maintenance intervals for oil and filter changes are followed.

### Materials Added To Engine Oil

The manufacturer strongly recommends against the addition of any additives (other than leak detection dyes) to

the engine oil. Engine oil is an engineered product and its performance may be impaired by supplemental additives.

### Engine Oil Filter

Refer to “Fluids, Lubricants, and Genuine Parts” in “Maintaining Your Vehicle” for further information. The engine oil filter should be changed at every engine oil change.

### Disposing Of Used Engine Oil And Oil Filters

Care should be taken in disposing of used engine oil and oil filters from your vehicle. Used oil and oil filters, indiscriminately discarded, can present a problem to the environment. Contact your authorized dealer, service station or governmental agency for advice on how and where used oil and oil filters can be safely discarded in your area.

### Engine Air Cleaner Filter

**CAUTION!**

**All air entering the engine intake must be filtered. The abrasive particles in unfiltered air will cause rapid wear to engine components.**

The condition of the air cleaner filter is monitored by the Engine Control Module. The "SERVICE AIR FILTER" message will display in the Electronic Vehicle Information Center (EVIC) when service is required. Refer to "Electronic Vehicle Information Center (EVIC)" in "Understanding Your Instrument Panel" for further information.

The "SERVICE AIR FILTER" message could be displayed periodically. This is because engine air flow requirements change based on driving conditions. As the filter becomes more restrictive and air flow requirements increase the

"SERVICE AIR FILTER" message will be displayed. The message may not be displayed in subsequent drive cycles if the same conditions are not met. The air filter element should be replaced within 250 miles (402 km) from the first time this message is displayed to ensure proper engine operation during all driving conditions.

**CAUTION!**

**Driving with a restricted air filter can cause engine damage. Driving in dusty environments for extended periods will lead to rapid air filter plugging. Action should be taken as soon as the "SERVICE AIR FILTER" message is displayed.**

If the vehicle experiences a sudden loss of engine power while being driven in heavy snow or rain, or when plowing snow, and/or the "SERVICE AIR FILTER" message is displayed on the EVIC along with a chime that

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repeats every 60 seconds, visually inspect the air filter for snow/ice build up or extreme water saturation. If the air filter is not damaged, remove all snow/ice and reinstall air filter. If the air filter is damaged, replace filter element.

**NOTE:** The air filter housing contains a Mass Air Flow sensor. This sensor is critical to proper engine operation and component longevity. Any damage or modification to this sensor could result in major engine and/or exhaust aftertreatment damage. We recommend you use MOPAR® brand parts.

Even though your vehicle is equipped with an Air Filter Monitor, a visual inspection of the air cleaner filter element is recommended every 15,000 miles (24,000km) or 12 months – whichever occurs first. **Under no circumstances should the air cleaner filter element exceed 30,000 miles (48,000 km) or 24 months, whichever comes first.**

### CAUTION!

**Many aftermarket performance air filter elements do not adequately filter the air entering the engine. Use of such filters can severely damage your engine.**

### Draining Fuel/Water Separator Filter

There are two fuel filter assemblies. One is located on the driver's side of the engine. The best access to this water drain valve is from under the hood. The second one is on the under body, located in front of the rear axle above the drive shaft on pick-up models. The Chassis Cab models second filter location is on the frame behind the front axle. The best access to this water drain valve is from under the vehicle.

**CAUTION!**

- Do not drain the fuel/water separator filters when the engine is running.
- Diesel fuel will damage blacktop paving surfaces. Drain the filters into an appropriate container.

If water is detected in the water separator while the engine is running, or while the ignition switch is in the ON position, the "Water In Fuel Indicator Light" will illuminate and an audible chime will be heard five times. At this point you should stop the engine and drain the water from both of the filters.

**CAUTION!**

If the "Water In Fuel Indicator Light" remains on, DO NOT START the engine before you drain water from the fuel filters to avoid engine damage.

If the "Water In Fuel Indicator Light" comes on and a single chime is heard while you are driving, or with the ignition switch in the ON position, there may be a problem with your water separator wiring or sensor. See your authorized dealer for service.

Upon proper draining of the water from both fuel filters, the "Water In Fuel Indicator Light" will remain illuminated for approximately 10 seconds. If the water was drained while the engine was running, the "Water In Fuel Indicator Light" may remain on for approximately three minutes.

**NOTE:** Care should be taken in disposing of used fluids from your vehicle. Used fluids, indiscriminately discarded, can present a problem to the environment. Contact an authorized dealer, service station, or government agency for advice on recycling programs and for where used fluids and filters can be properly disposed of in your area.

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Drain the fuel/water separator filters when the "Water In Fuel Indicator Light" is ON. Within 10 minutes of vehicle shutdown, turn the engine mounted filter drain valve (located on the side of the filters) counterclockwise 1/4 turn, and turn the under body mounted filter drain valve (located on the bottom of the filter) counterclockwise 1 full turn. Then turn the ignition switch to the ON position, and allow any accumulated water to drain. Leave the drain valve open until all water and contaminants have been removed. When clean fuel is visible, close the drain valves by turning them fully clockwise, and turn the ignition switch to OFF.

If more than a couple ounces/milliliters of fuel have been drained, follow the directions for "Priming If The Engine Has Run Out Of Fuel."

### Engine Mounted Fuel Filter Replacement

**NOTE:** Using a fuel filter that does not meet the manufacturer's filtration and water separating requirements can severely impact fuel system life and reliability.

**NOTE:** The engine mounted filter housing is equipped with a No-Filter-No-Run (NFNR) feature. Engine will not run if:

1. No filter is installed.
2. Inferior/Non-approved filter is used. Use of OEM filter is required to ensure vehicle will run.



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1 — Drain Valve

**CAUTION!**

- Diesel fuel will damage blacktop paving surfaces. Drain the filter into an appropriate container.
- Do not prefill the fuel filter when installing a new fuel filter. There is a possibility debris could be introduced into the fuel filter during this action. It is best to install the filter dry and allow the in-tank lift pump to prime the fuel system.

1. Ensure engine is turned off.
2. Place drain pan under the fuel filter drain hose.
3. Open the water drain valve 1/4 turn counterclockwise and completely drain fuel and water into the approved container.
4. Close the water drain valve.

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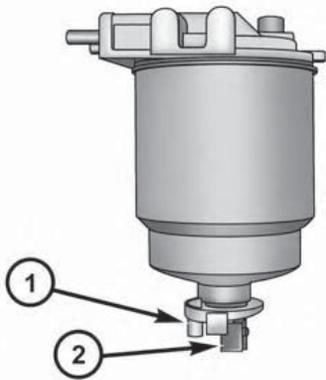
5. Remove lid using a socket or strap wrench. Rotate counterclockwise for removal. Remove used o-ring and discard it.
6. Remove the used filter cartridge from the housing and dispose of according to your local regulations.
7. Wipe clean the sealing surfaces of the lid and housing.
8. Install new o-ring back into ring groove on the filter housing and lubricate with clean engine oil.
9. Remove new filter cartridge from plastic bag and install into housing.  
**NOTE:** Do not remove cartridge from bag until you reach this step in order to keep cartridge clean.
10. Push down on the cartridge to ensure it is properly seated. **Do not pre-fill the filter housing with fuel.**
11. Install lid onto housing and tighten to 22.5 ft lbs (30.5 N.m). Do not overtighten the lid.
12. Prime the engine using the procedure in "Priming If The Engine Has Run Out Of Fuel." Then start the engine and confirm there are no leaks.

### Underbody Mounted Fuel Filter Replacement

**NOTE:** Using a fuel filter that does not meet the manufacturer's filtration and water separating requirements can severely impact fuel system life and reliability.

**NOTE:** The underbody mounted filter housing will cause the engine not to run if:

1. No filter is installed.



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1 — Drain Valve

2 — WIF Sensor

**CAUTION!**

- Diesel fuel will damage blacktop paving surfaces. Drain the filter into an appropriate container.
- Do not prefill the fuel filter when installing a new fuel filter. There is a possibility debris could be introduced into the fuel filter during this action. It is best to install the filter dry and allow the in-tank lift pump to prime the fuel system.

1. Ensure engine is turned off.
2. Place drain pan under the fuel filter drain hose.
3. Open the water drain valve 1 full turn counterclockwise and completely drain fuel and water into the approved container.

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4. Close the water drain valve.
5. Remove lid using a socket or strap wrench. Rotate counterclockwise for removal. Remove used o-ring and discard it.
6. Remove the used filter cartridge from the housing and dispose of according to your local regulations.
7. Wipe clean the sealing surfaces of the lid and housing.
8. Install new o-ring back into ring groove on the filter housing and lubricate with clean engine oil.

**NOTE:** WIF sensor is re-usable. Service kit comes with new o-ring for filter canister and WIF sensor.

**Priming If The Engine Has Run Out Of Fuel**

**WARNING!**

**Do not open the high pressure fuel system with the engine running. Engine operation causes high fuel pressure. High pressure fuel spray can cause serious injury or death.**

1. Add a substantial amount of fuel to the tank, approximately 2 to 5 gal (8L to 19L).
2. Turn ignition switch to the start position to engage starter for one second, return ignition switch to run position. This will activate in tank fuel pump for approximately 15 seconds. Repeat this process twice.
3. Start the engine using the "Normal Starting" procedure. Refer to "Starting Procedures" in "Starting and Operating" for further information.

**CAUTION!**

Do not engage the starter motor for more than 15 seconds at a time. Allow two minutes between the cranking intervals.

**NOTE:** The engine may run rough until the air is forced from all the fuel lines.

**WARNING!**

Do not use alcohol or gasoline as a fuel blending agent. They can be unstable under certain conditions and be hazardous or explosive when mixed with diesel fuel.

**CAUTION!**

Due to lack of lubricants in alcohol or gasoline, the use of these fuels can cause damage to the fuel system.

**NOTE:**

- A maximum blend of 20% biodiesel, meeting ASTM specification D-6751 may be used with your Cummins® diesel engine. Use of biodiesel mixture in excess of 20% can negatively impact the fuel filter's ability to separate water from the fuel, resulting in high pressure fuel system corrosion or damage.
- Ethanol blends are not recommended or approved for use with your Cummins® diesel engine.
- In addition, commercially available fuel additives are not necessary for the proper operation of your Cummins® diesel engine.

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**Intervention Regeneration Strategy – EVIC  
Message Process Flow**

The Cummins® diesel engine meets all EPA Heavy Duty Diesel Engine Emissions Standards, resulting in the lowest emitting diesel engine ever produced.

To achieve these emissions standards, your vehicle is equipped with a state-of-the-art engine and exhaust system. The engine and exhaust after-treatment system work together to achieve the EPA Heavy Duty Diesel Engine Emissions Standards. These systems are seamlessly integrated into your vehicle and managed by the Cummins® Powertrain Control Module (PCM). The PCM manages engine combustion to allow the exhaust system’s catalyst to trap and burn Particulate Matter (PM) pollutants, with no input or interaction on your part.

Additionally, your vehicle has the ability to alert you to additional maintenance required on your truck or engine.

Refer to the following messages that may be displayed on your Electronic Vehicle Information Center (EVIC):

<b>WARNING!</b>
<b>A hot exhaust system can start a fire if you park over materials that can burn. Such materials might be grass or leaves coming into contact with your exhaust system. Do not park or operate your vehicle in areas where your exhaust system can contact anything that can burn.</b>

**Perform Service**

Your vehicle will require emissions maintenance at a set interval. To help remind you when this maintenance is due, the Electronic Vehicle Information Center (EVIC) will display “Perform Service”. When the “Perform Service” message is displayed on the EVIC it is necessary to

have the emissions maintenance performed. Emissions maintenance may include replacing the Closed Crankcase Ventilation (CCV) filter element. The procedure for clearing and resetting the "Perform Service" indicator message is located in the appropriate Service Information.

#### **Exhaust System – Regeneration Required Now**

"Exhaust Filter XX% Full Safely Drive at Highway Speeds to Remedy" will be displayed on the Electronic Vehicle Information Center (EVIC) if the exhaust particulate filter reaches 80% of its maximum storage capacity. Under conditions of exclusive short duration and low speed driving cycles, your Cummins® diesel engine and exhaust after-treatment system may never reach the conditions required to remove the trapped PM. If this occurs, the "Exhaust Filter XX% Full Safely Drive at Highway Speeds to Remedy" message will be displayed in the EVIC. If this message is displayed, you will hear one chime to assist in alerting you of this condition.

By simply driving your vehicle at highway speeds for as little as 45 minutes, you can remedy the condition in the particulate filter system and allow your Cummins® diesel engine and exhaust after-treatment system to remove the trapped PM and restore the system to normal operating condition.

#### **Exhaust System – Regeneration In Process Exhaust Filter XX% Full**

Indicates that the Diesel Particulate Filter (DPF) is self-cleaning. Maintain your current driving condition until regeneration is completed.

#### **Exhaust System – Regeneration Completed**

Indicates that the Diesel Particulate Filter (DPF) self-cleaning is completed. If this message is displayed, you will hear one chime to assist in alerting you of this condition.

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**Exhaust Service Required – See Dealer Now**

Regeneration has been disabled due to a system malfunction. At this point the engine Powertrain Control Module (PCM) will register a fault code, the instrument panel will display a MIL light.

**CAUTION!**

**See your authorized dealer, as damage to the exhaust system could occur soon with continued operation.**

**Exhaust Filter Full – Power Reduced See Dealer**

The PCM derates the engine in order to limit the likelihood of permanent damage to the after-treatment system. If this condition is not corrected and a dealer service is not performed, extensive exhaust after-treatment damage can occur. In order to correct this condition it will be necessary to have your vehicle serviced by your local authorized dealer.

**CAUTION!**

**See your authorized dealer, as damage to the exhaust system could occur soon with continued operation.**

**Diesel Exhaust Fluid**

Diesel Exhaust Fluid (DEF) sometimes known simply by the name of its active component, UREA—is a key component of selective catalytic reduction (SCR) systems, which help diesel vehicles meet stringent emission regulations. DEF is a liquid reducing agent that reacts with engine exhaust in the presence of a catalyst to convert smog-forming nitrogen oxides (NOx) into harmless nitrogen and water vapor.

Refer to “Fluids, Lubricants, and Genuine Parts” in “Maintaining Your Vehicle” for further information.

You can receive assistance in locating DEF in the United States by calling 866-RAM-INFO (866-726-4636). In Canada call 1-800-465-2001 (English) or 1-800-387-9983 (French)

### Maintenance-Free Batteries

The top of the maintenance-free batteries are permanently sealed. You will never have to add water, nor is periodic maintenance required.

**NOTE:** Replacement batteries should both be of equal capacity to prevent damage to the vehicle's charging system.

#### CAUTION!

It is essential when replacing the cables on the battery that the positive cable is attached to the positive post and the negative cable is attached to the

*(Continued)*

#### CAUTION! *(Continued)*

negative post. Battery posts are marked (+) positive and negative (-) and are identified on the battery case. Also, if a "fast charger" is used while the battery is in vehicle, disconnect both vehicle battery cables before connecting the charger to the battery. Do not use a "fast charger" to provide starting voltage.

#### WARNING!

Battery posts, terminals, and related accessories contain lead and lead compounds. Always wash hands after handling the battery.

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### Battery Blanket Usage

A battery loses 60% of its cranking power as the battery temperature decreases to 0°F (-18°). For the same decrease in temperature, the engine requires twice as much power to crank at the same RPM. The use of 120 Volt AC powered battery blankets will greatly increase starting capability at low temperatures. Suitable battery blankets are available from your authorized MOPAR® dealer.

### Cooling System

**WARNING!**

**You or others can be badly burned by hot engine coolant (antifreeze) or steam from your radiator. If you see or hear steam coming from under the hood, do not open the hood until the radiator has had time to cool. Never try to open a cooling system pressure cap when the radiator is hot.**

### Engine Coolant Checks

Check the engine coolant (antifreeze) protection every 12 months (before the onset of freezing weather, where applicable). If the engine coolant (antifreeze) is dirty or rusty in appearance, the system should be drained, flushed and refilled with fresh coolant. Check the front of the A/C condenser (if equipped) or radiator for any accumulation of bugs, leaves, etc. If dirty, clean by gently spraying water from a garden hose vertically down the face of the A/C condenser (if equipped) or the back of the radiator core.

Check the engine cooling system hoses for brittle rubber, cracking, tears, cuts and tightness of the connection at the coolant recovery bottle and radiator. Inspect the entire system for leaks.

With the engine at normal operating temperature (but not running), check the cooling system pressure cap for proper vacuum sealing by draining a small amount of

engine coolant (antifreeze) from the radiator drain cock. The radiator drain cock is located in the lower radiator tank. If the cap is sealing properly, the engine coolant (antifreeze) will begin to drain from the coolant expansion bottle. **DO NOT REMOVE THE COOLANT PRESSURE CAP WHEN THE COOLING SYSTEM IS HOT.**

#### **Cooling System – Drain, Flush, And Refill**

If the engine coolant (antifreeze) is dirty or contains a considerable amount of sediment, clean and flush with a reliable cooling system cleaner. Follow with a thorough rinsing to remove all deposits and chemicals. Properly dispose of old engine coolant (antifreeze).

Refer to the “Maintenance Schedule” for the proper maintenance intervals.

#### **Selection Of Coolant**

Refer to “Fluids, Lubricants, and Genuine Parts” in “Maintaining Your Vehicle” for further information.

#### **CAUTION!**

- **Mixing of engine coolant (antifreeze) other than specified Organic Additive Technology (OAT) engine coolant (antifreeze), may result in engine damage and may decrease corrosion protection. Organic Additive Technology (OAT) engine coolant is different and should not be mixed with Hybrid Organic Additive Technology (HOAT) engine coolant (antifreeze) or any “globally compatible” coolant (antifreeze). If a non-OAT engine coolant (antifreeze) is introduced into the cooling system in an emergency, the cooling system will need to be drained, flushed, and refilled with fresh OAT coolant (conforming to MS-12106), by an authorized dealer as soon as possible.**

*(Continued)*

**CAUTION! (Continued)**

- Do not use water alone or alcohol-based engine coolant (antifreeze) products. Do not use additional rust inhibitors or antirust products, as they may not be compatible with the radiator engine coolant and may plug the radiator.
- This vehicle has not been designed for use with propylene glycol-based engine coolant (antifreeze). Use of propylene glycol-based engine coolant (antifreeze) is not recommended.

**Adding Coolant**

Your vehicle has been built with an improved engine coolant (OAT coolant conforming to MS-12106) that allows extended maintenance intervals. This engine coolant (antifreeze) can be used up to ten years or 150,000 miles (240,000 km) before replacement. To pre-

vent reducing this extended maintenance period, it is important that you use the same engine coolant (OAT coolant conforming to MS-12106) throughout the life of your vehicle.

Please review these recommendations for using Organic Additive Technology (OAT) engine coolant (antifreeze) that meets the requirements of Chrysler Material Standard MS-12106. When adding engine coolant (antifreeze):

- We recommend using MOPAR® Antifreeze/Coolant 10 Year/150,000 Mile Formula OAT (Organic Additive Technology) that meets the requirements of Chrysler Material Standard MS-12106.
- Mix a minimum solution of 50% OAT engine coolant that meets the requirements of Chrysler Material Standard MS-12106 and distilled water. Use higher concentrations (not to exceed 70%) if temperatures below -34° F (-37° C) are anticipated.

- Use only high purity water such as distilled or deionized water when mixing the water/engine coolant (antifreeze) solution. The use of lower quality water will reduce the amount of corrosion protection in the engine cooling system.

Please note that it is the owner's responsibility to maintain the proper level of protection against freezing according to the temperatures occurring in the area where the vehicle is operated.

**NOTE:** Mixing engine coolant (antifreeze) types is not recommended and can result in cooling system damage. If HOAT and OAT coolant are mixed in an emergency, have a authorized dealer drain, flush, and refill with OAT coolant (conforming to MS-12106) as soon as possible.

### Cooling System Pressure Cap

The cap must be fully tightened to prevent loss of engine coolant (antifreeze), and to ensure that the engine coolant (antifreeze) will return to the radiator from the coolant expansion bottle.

The cap should be inspected and cleaned if there is any accumulation of foreign material on the sealing surfaces.

#### WARNING!

- The warning words "DO NOT OPEN HOT" on the cooling system pressure cap are a safety precaution. Never add engine coolant (antifreeze) when the engine is overheated. Do not loosen or remove the cap to cool an overheated engine. Heat causes pressure to build up in the cooling system. To prevent scalding or injury, do not remove the pressure cap while the system is hot or under pressure.

*(Continued)*

**WARNING! (Continued)**

- Do not use a pressure cap other than the one specified for your vehicle. Personal injury or engine damage may result.

**Disposal Of Used Engine Coolant**

Used ethylene glycol-based engine coolant (antifreeze) is a regulated substance requiring proper disposal. Check with your local authorities to determine the disposal rules for your community. To prevent ingestion by animals or children, do not store ethylene glycol-based engine coolant (antifreeze) in open containers or allow it to remain in puddles on the ground. If ingested by a child or pet, seek emergency assistance immediately. Clean up any ground spills immediately.

**Points To Remember**

**NOTE:** When the vehicle is stopped after a few miles/kilometers of operation, you may observe vapor coming from the front of the engine compartment. This is normally a result of moisture from rain, snow, or high humidity accumulating on the radiator and being vaporized when the thermostat opens, allowing hot engine coolant (antifreeze) to enter the radiator.

If an examination of your engine compartment shows no evidence of radiator or hose leaks, the vehicle may be safely driven. The vapor will soon dissipate.

- Do not overfill the coolant expansion bottle.
- Check the coolant freeze point in the radiator and in the coolant expansion bottle. If engine coolant (antifreeze) needs to be added, the contents of the coolant expansion bottle must also be protected against freezing.

- If frequent engine coolant (antifreeze) additions are required, the cooling system should be pressure tested for leaks.
- Maintain engine coolant (antifreeze) concentration at a minimum of 50% OAT coolant (conforming to MS-12106) and distilled water for proper corrosion protection of your engine which contains aluminum components.
- Make sure that the coolant expansion bottle overflow hoses are not kinked or obstructed.
- Keep the front of the radiator clean. If your vehicle is equipped with air conditioning, keep the front of the condenser clean.
- Do not change the thermostat for Summer or Winter operation. If replacement is ever necessary, install ONLY the correct type thermostat. Other designs may result in unsatisfactory engine coolant (antifreeze) performance, poor gas mileage, and increased emissions.

### **Charge Air Cooler – Inter-Cooler**

The charge air cooler is positioned below the radiator and the air conditioner condenser. Air enters the engine through the air cleaner and passes through the turbo-charger, where it is pressurized. This pressurized air rapidly reaches high temperature. The air is then directed through a hose to the charge air cooler and through another hose to the intake manifold of the engine. The air entering the engine has been cooled by about 50° to 100°F (10° to 38°C). This cooling process enables more efficient burning of fuel resulting in fewer emissions.

To guarantee optimum performance of the system, keep the surfaces of the charge air cooler, condenser and radiator clean and free of debris. Periodically check the hoses leading to and from the charge air cooler for cracks or loose clamps resulting in loss of pressure and reduced engine performance.

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**Brake System**

**Brake Master Cylinder – Brake Fluid Level Check**

The fluid level of the master cylinder should be checked when performing under the hood service, or immediately if the “Brake System Warning Light” indicates system failure.

The brake master cylinder has a translucent plastic reservoir. On the outboard side of the reservoir, there is a “MAX” mark and an “MIN” mark. The fluid level must be kept within these two marks. Do not add fluid above the full mark because leakage may occur at the cap.

With disc brakes, the fluid level can be expected to fall as the brake linings wear. However, an unexpected drop in fluid level may be caused by a leak and a system check should be conducted.

Refer to “Fluids, Lubricants, and Genuine Parts” in “Maintaining Your Vehicle” for further information.

<b>WARNING!</b>
<ul style="list-style-type: none"><li>• Use only manufacturer’s recommended brake fluid. Refer to “Fluids, Lubricants, and Genuine Parts” in “Maintaining Your Vehicle” for further information. Using the wrong type of brake fluid can severely damage your brake system and/or impair its performance. The proper type of brake fluid for your vehicle is also identified on the original factory installed hydraulic master cylinder reservoir.</li></ul>

*(Continued)*

**WARNING! (Continued)**

- To avoid contamination from foreign matter or moisture, use only new brake fluid or fluid that has been in a tightly closed container. Keep the master cylinder reservoir cap secured at all times. Brake fluid in an open container absorbs moisture from the air resulting in a lower boiling point. This may cause it to boil unexpectedly during hard or prolonged braking, resulting in sudden brake failure. This could result in an accident.
- Overfilling the brake fluid reservoir can result in spilling brake fluid on hot engine parts, causing the brake fluid to catch fire. Brake fluid can also damage painted and vinyl surfaces, care should be taken to avoid its contact with these surfaces.

**WARNING! (Continued)**

- Do not allow petroleum based fluid to contaminate the brake fluid. Brake seal components could be damaged, causing partial or complete brake failure. This could result in an accident.

**Clutch Hydraulic System**

The clutch hydraulic system is a sealed maintenance-free system. In the event of leakage or other malfunction, the system must be replaced.

**Transfer Case – If Equipped**

**Drain And Refill**

Refer to the “Maintenance Schedule” for the proper maintenance intervals.

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**Selection of Lubricant**

Refer to “Fluids, Lubricants, and Genuine Parts” in “Maintaining Your Vehicle” for fluid specifications.

**Fluid Level Check**

This fluid level can be checked by removing the filler plug. The fluid level should be to the bottom edge of the filler plug hole with the vehicle in a level position.

**Manual Transmission – If Equipped**

**Selection of Lubricant**

Refer to “Fluids, Lubricants, and Genuine Parts” in “Maintaining Your Vehicle” for fluid specifications.

**Fluid Level Check**

The fluid level can be checked by removing the filler plug. If the level of the lubricant is more than 1/2 in (12 mm) below the bottom of the filler hole while the

vehicle is on level ground, enough lubricant should be added to bring the level to 1/4 in (6 mm) below the bottom of the filler hole.

**Automatic Transmission – If Equipped**

**Selection of Lubricant**

It is important to use the proper transmission fluid to ensure optimum transmission performance and life. Use only the manufacturer’s specified transmission fluid. Refer to “Fluids, Lubricants, and Genuine Parts” in this section for fluid specifications. It is important to maintain the transmission fluid at the correct level using the recommended fluid.

No chemical flushes should be used in any transmission; only the approved lubricant should be used.

**CAUTION!**

Recommended fluid may cause deterioration in transmission shift quality, and will require more frequent fluid and filter changes. Refer to "Fluids, Lubricants, and Genuine Parts" in this section for fluid specifications.

**CAUTION!**

Do not use chemical flushes in your transmission as the chemicals can damage your transmission components. Such damage is not covered by the New Vehicle Limited Warranty.

**Special Additives**

The manufacturer strongly recommends against using any special additives in the transmission. Automatic Transmission Fluid (ATF) is an engineered product and its performance may be impaired by supplemental additives. Therefore, do not add any fluid additives to the transmission. The only exception to this policy is the use of special dyes for diagnosing fluid leaks. Avoid using transmission sealers as they may adversely affect seals.

**Fluid Level Check**

It is best to check the fluid level when the transmission is at normal operating temperature (170-180°F / 77-82°C for 68RFE transmission, or 158-176°F / 70-80°C for AS69RC transmission). This normally occurs after at least 15 miles (25 km) of driving. At normal operating temperature the fluid cannot be held comfortably between the fingertips. You can read the transmission sump temperature in the EVIC display (see Electronic Vehicle Information Center [EVIC] for further information).

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Use the following procedure to check the transmission fluid level properly:

1. Monitor the transmission temperature using the EVIC display, and operate the vehicle as required to reach the normal operating temperature.
2. Park the vehicle on level ground.
3. Run the engine at normal idle speed for at least 60 seconds, and leave the engine running for the rest of this procedure.
4. Fully apply the parking brake and press the brake pedal.
5. Place the shift lever momentarily into each gear position (allowing time for the transmission to fully engage in each position), ending with the transmission in PARK.
6. Remove the dipstick, wipe it clean and reinsert it until seated.
7. Remove the dipstick again and note the fluid level on both sides. The fluid level reading is only valid if there is a solid coating of oil on both sides of the dipstick. Note that the holes in the dipstick will be full of fluid if the actual level is at or above the hole. The fluid level should be between the "HOT" (upper) reference holes on the dipstick at normal operating temperature. If the fluid level is low, add fluid through the dipstick tube to bring it to the proper level. **Do not overfill.** Use ONLY the recommended fluid (see "Fluids, Lubricants, and Genuine Parts" for fluid specifications). After adding any quantity of oil through the dipstick tube, wait a minimum of two minutes for the oil to fully drain into the transmission before rechecking the fluid level.

**NOTE:** If it is necessary to check the transmission **below** the operating temperature, the fluid level should be between the two "COLD" (lower) holes on the dipstick with the fluid at 60-70°F / 16-21°C for 68RFE transmission, or 68-86°F / 20-30°C for AS69RC transmission. Only use the COLD region of the dipstick as a rough reference when setting the fluid level after a transmission service or fluid change. Re-check the fluid level, and adjust as required, once the transmission reaches normal operating temperature.

**CAUTION!**

**If the fluid temperature is below 50°F (10°C) it may not register on the dipstick. Do not add fluid until the temperature is elevated enough to produce an accurate reading. Run the engine at idle, in PARK, to warm the fluid.**

8. Check for leaks. Release the parking brake.

**NOTE:** To prevent dirt and water from entering the transmission after checking or replenishing fluid, make sure that the dipstick cap is properly reseated. It is normal for the dipstick cap to spring back slightly from its fully seated position, as long as its seal remains engaged in the dipstick tube.

**Fluid And Filter Change**

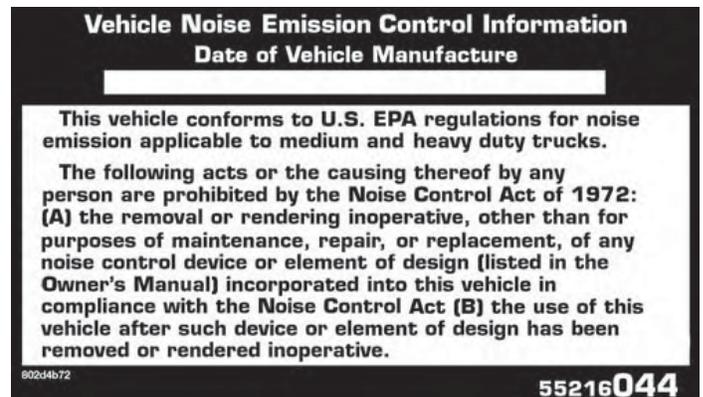
Refer to the "Maintenance Schedule" for the proper maintenance intervals.

In addition, change the fluid and filter(s) if the fluid becomes contaminated (with water, etc.), or if the transmission is disassembled for any reason.

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**Noise Control System Required Maintenance & Warranty**

All vehicles built over 10,000 lbs. (4 535 kg) Gross Vehicle Weight Rating and manufactured for sale and use in the United States are required to comply with the Federal Government's Exterior Noise Regulations. These vehicles can be identified by the Noise Emission Control Label located in the operator's compartment.



**Required Maintenance For Noise Control Systems**

The following maintenance services must be performed every six months or 7,500 miles (12 000 km) whichever comes first, to assure proper operation of the noise control systems. In addition, inspection and service should be performed anytime a malfunction is observed

or suspected. Proper maintenance of the entire vehicle will help the effectiveness of the noise control systems.

### **Exhaust System**

Inspect the entire exhaust system for leaks and damaged parts. Devices such as hangers, clamps, and U-bolts should be tight and in good condition. Damaged components, burned or blown out mufflers, burned or rusted out exhaust pipes should be replaced according to the procedures and specifications outlined in the appropriate service manual.

### **Air Cleaner Assembly**

Inspect air cleaner housing for proper assembly and fit. Make certain that the air cleaner is properly positioned and that the cover is tight. Check all hoses leading to the air cleaner for tightness. The air filter element must also be clean and serviced according to the instructions outlined in the Maintenance Schedule section of this manual.

### **Tampering With Noise Control System Prohibited**

Federal law prohibits the following acts or the causing thereof: (1) the removal or rendering inoperative by any person, other than for purposes of maintenance, repair, or replacement, of any device or element of design incorporated into any new vehicle for the purpose of noise control prior to its sale or delivery to the ultimate purchaser or while it is in use, or (2) the use of the vehicle after such device or element of design has been removed or rendered inoperative by any person.

Among those acts presumed to constitute tampering are the acts listed below.

#### **AIR CLEANER**

- Removal of the air cleaner.
- Removal of the air cleaner filter element from the air cleaner housing.
- Removal of the air ducting.

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**EXHAUST SYSTEM**

- Removal or rendering inoperative exhaust system components including the muffler or tailpipe.

**ENGINE COOLING SYSTEM**

- Removal or rendering inoperative the fan clutch.
- Removal of the fan shroud.

**Noise Emission Warranty**

The manufacturer warrants that this vehicle as manufactured by the manufacturer, was designed, built and equipped to conform at the time it left the manufacturer's control with all applicable U.S. EPA Noise Control Regulations.

This warranty covers this vehicle as designed, built and equipped by the manufacturer, and is not limited to any particular part, component or system of the vehicle manufactured by the manufacturer. Defects in design, assembly or in any part, component or system of the vehicle as manufactured by the manufacturer, which, at the time it left the manufacturer's control, caused noise emissions to exceed Federal standards, are covered by this warranty for the life of the vehicle.

**Maintenance Log and Service Chart (Diesel Engines)**

Noise Systems Maintenance Chart and Service Log — Insert Month, Day, Year under column mileage closest to the mileage at which service was performed.

MILES	7,500	15,000	22,500	30,000	37,500	45,000	52,500	60,000
KILOMETERS	12 000	24 000	36 000	48 000	60 000	72 000	84 000	96 000
Exhaust system-inspect								
Air cleaner assembly-inspect								
ODOMETER READING								
PERFORMED BY								
PERFORMED AT								



**FLUID CAPACITIES**

	<b>U.S.</b>	<b>Metric</b>
<b>Fuel (Approximate)</b>		
2500/3500 Shortbed Models	31 Gallons	129 Liters
2500/3500 Longbed Models	32 Gallons	132 Liters
Standard Rear Tank – Chassis Cab Only	52 Gallons	197 Liters
Optional Midship Tank – Chassis Cab Only	22 Gallons	83 Liters
Diesel Exhaust Fluid Tank (Approximate) – 2500/3500 Models	5.5 Gallons	21 Liters
Diesel Exhaust Fluid Tank (Approximate) – Chassis Cab	9 Gallons	34 Liters
<b>Engine Oil With Filter</b>		
6.7L Turbo Diesel Engine	12 Quarts	11.4 Liters
<b>Cooling System</b>		
6.7L Turbo Diesel Engine (MOPAR® Engine Coolant/ Antifreeze 10 Year/150,000 Mile Formula)	5.7 Gallons	21.4 Liters

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**FLUIDS, LUBRICANTS AND GENUINE PARTS**

**Engine**

Component	Fluid, Lubricant, or Genuine Part
Engine Coolant	We recommend you use MOPAR® Antifreeze/Coolant 10 Year/150,000 Mile Formula OAT (Organic Additive Technology).
Engine Oil	In ambient temperatures below 0°F (-18°C), We recommend you use 5W-40 <b>synthetic</b> engine oil that meets Chrysler Materials Standard MS-10902 and the API CJ-4 engine oil category is required. In ambient temperatures above 0°F (-18°C), We recommend you use 15W-40 engine oil that meets Chrysler Materials Standard MS-10902 and the API CJ-4 engine oil category is required.
Engine Oil Filter	We recommend you use MOPAR® Engine Oil Filters.
Fuel Filters	We recommend you use MOPAR® Fuel Filter. Must meet 3 micron rating. <b>Using a fuel filter that does not meet the manufacturers filtration and water separating requirements can severely impact fuel system life and reliability.</b>

Component	Fluid, Lubricant, or Genuine Part
Crankcase Ventilation Filter	We recommend you use MOPAR® CCV Filter.
Fuel Selection	<p>Use good quality diesel fuel from a reputable supplier in your vehicle. Federal law requires that you must fuel this vehicle with Ultra Low Sulfur Highway Diesel fuel (15 ppm Sulfur maximum) and prohibits the use of Low Sulfur Highway Diesel fuel (500 ppm Sulfur maximum) to avoid damage to the emissions control system. For most year-round service, No. 2 diesel fuel meeting ASTM specification D-975 Grade S15 will provide good performance. If the vehicle is exposed to extreme cold (below 20°F or -7°C), or is required to operate at colder-than-normal conditions for prolonged periods, use climatized No. 2 diesel fuel or dilute the No. 2 diesel fuel with 50% No. 1 diesel fuel. This will provide better protection from fuel gelling or wax-plugging of the fuel filters. <b>This vehicle is fully compatible with biodiesel blends up to 5% biodiesel meeting ASTM specification D-975.</b> Pickup models, and Chassis Cab models configured with optional B20 capability, are additionally compatible with 20% biodiesel meeting ASTM specification D-7467.</p>

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Component	Fluid, Lubricant, or Genuine Part
Diesel Exhaust Fluid	MOPAR® Diesel Exhaust Fluid (API Certified) (DEF) or equivalent that has been API Certified to the ISO 22241 standard. Use of fluids not API Certified to ISO 22241 may result in system damage. You can receive assistance in locating DEF in the United States by calling 866-RAM-INFO (866-726-4636). In Canada call 1-800-465-2001 (English) or 1-800-387-9983 (French)

**Chassis**

Component	Fluid, Lubricant, or Genuine Part
Automatic Transmission – If Equipped (Six-Speed 68RFE) – Pickup models without PTO	We recommend you use MOPAR® ATF+4® Automatic Transmission Fluid or equivalent licensed ATF+4® product. Failure to use ATF+4® fluid may affect the function or performance of your transmission.
Automatic Transmission – If Equipped (Six-Speed AS69RC) – Pickup models with PTO, and all Chassis Cab models	We recommend you use MOPAR® ASRC Automatic Transmission Fluid or equivalent. Failure to use the proper fluid may affect the function or performance of your transmission.

Component	Fluid, Lubricant, or Genuine Part
Transfer Case	We recommend you use MOPAR® BW44-44 Transfer Case Fluid.
Front and Rear Axle Fluid (2500/3500)	We recommend you use Synthetic, GL-5 SAE, 75W-90. Limited-Slip 10.5/11.5 inch Rear Axles Limited slip additive is not required.
Front and Rear Axle Fluid (4500/5500)	We recommend you use GL-5 SAE 75W-90 Synthetic (MS-9763).
Clutch Linkage	We recommend you use MOPAR® Multi-Purpose Grease, NLGI Grade 2 E.P. or equivalent.
Manual Transmission (G-56) – If Equipped	We recommend you use MOPAR® ATF+4® Automatic Transmission Fluid or equivalent licensed ATF+4® product.



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## MAINTENANCE SCHEDULE

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**MAINTENANCE SCHEDULE – DIESEL ENGINE**

<b>CAUTION!</b>
Failure to perform the required maintenance items may result in damage to the vehicle.

**At Each Stop For Fuel**

- Check the engine oil level at least 30 minutes after a fully warmed engine is shut off. Checking the oil level while the vehicle is on level ground will improve the accuracy of the oil level reading. Add oil only when the level is at or below the ADD or MIN mark.

**Once A Month**

- Inspect the batteries, and clean and tighten the terminals as required.
- Check the fluid levels of the coolant reservoir, brake master cylinder, and automatic transmission (if equipped), and add as needed.

**At Each Oil Change**

- Change the engine oil filter.
- Inspect the exhaust system.
- Check the coolant level, hoses, and clamps.
- Lubricate outer tie rod ends.

Inspection and service should also be performed anytime a malfunction is observed or suspected. Retain all receipts.

**Oil Change Indicator System – Cummins® Diesel**

Your vehicle is equipped with an engine oil change indicator system. This system will alert you when it is time to change your engine oil by displaying the words “Oil Change Due” on your Electronic Vehicle Information Center (EVIC). The oil change reminder will remind the owner to change the engine oil every 15,000 miles or 500 hours, whichever comes first, except for the Chassis Cab models that are using B20 biodiesel, which are 12,500

miles or 400 hours, whichever comes first. Failure to change the engine oil per the maintenance schedule can result in internal engine damage.

For information on resetting the Oil Change Indicator message, refer to “Oil Change Due” under “Electronic Vehicle Information Center (EVIC)/EVIC Warning Lights” in “Understanding Your Instrument Panel” for further information.

**Replace the engine oil and oil filter every 15,000 miles (24 000 km) or six months, or sooner if prompted by the oil change indicator system. Under no circumstances should oil change intervals exceed 15,000 miles (24 000 km) or six months, whichever comes first.**

**NOTE:**

- **Under no circumstances should oil change intervals exceed 15,000 miles (24,000 km) or six months or 500 Hours, whichever comes first.**
- Replace the engine oil and oil filter every 12,500 miles (20 000 km) when running B20 fuel (Chassis Cab Only).

If Chassis Cab models are operated with greater than 5% levels of Biodiesel, the oil change interval must not exceed 12,500 miles (20 000 km) under any circumstances. See the Fuel Requirements section for more information regarding operation of Chassis Cab models configured for use with Biodiesel blend(B6-B20) fuel meeting ASTM specification D-7467.

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**Perform Service Indicator – Cummins® Diesel**

Your vehicle will require emissions maintenance at a set interval. To help remind you when this maintenance is due, the Electronic Vehicle Information Center (EVIC) will display “Perform Service”. When the “Perform Service” message is displayed on the EVIC it is necessary to have the emissions maintenance performed. Emissions maintenance may include replacing the Closed Crankcase Ventilation (CCV) filter element. The procedure for clearing and resetting the “Perform Service” indicator message is located in the appropriate Service Information.

**Required Maintenance Intervals**

Refer to the Maintenance Schedules on the following pages for the required maintenance intervals.

**7,500 Miles (12,000 km) or 6 Months Maintenance Service Schedule**

- Check the Diesel Exhaust Fluid (DEF) tank, refill if necessary.
- Rotate tires.
- Lubricate front drive shaft fitting (4x4).
- Lubricate outer tie rod ends.

\_\_\_\_\_  
Odometer Reading Date

\_\_\_\_\_  
Repair Order # Dealer Code

\_\_\_\_\_  
Signature, Authorized Service Center

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**15,000 Miles (24,000 km) or 12 Months Maintenance Service Schedule**

- Check the Diesel Exhaust Fluid (DEF) tank, refill if necessary.
- Rotate tires.
- Replace engine fuel filter element.
- Replace chassis mounted fuel filter element.
- Lubricate front drive shaft fitting (4x4).
- Lubricate outer tie rod ends.
- Inspect the front suspension, tie rod ends and boot seals for cracks or leaks and all parts for damage, wear, improper looseness or end play; replace if necessary.
- Inspect the front and rear axle surfaces. If gear oil leakage is suspected, check the fluid level. If using your vehicle for police, taxi, fleet, off-road or frequent trailer towing change the axle fluid.

\_\_\_\_\_  
Odometer Reading Date

\_\_\_\_\_  
Repair Order # Dealer Code

\_\_\_\_\_  
Signature, Authorized Service Center

**22,500 Miles (36,000 km) or 18 Months Maintenance Service Schedule**

- Check the Diesel Exhaust Fluid (DEF) tank, refill if necessary.
- Rotate tires.
- Inspect drive belt, replace if necessary.
- Lubricate front drive shaft fitting (4x4).
- Lubricate outer tie rod ends.
- Inspect brake linings.
- Inspect and adjust parking brake if necessary.

\_\_\_\_\_  
Odometer Reading Date

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Repair Order # Dealer Code

\_\_\_\_\_  
Signature, Authorized Service Center

154 MAINTENANCE SCHEDULE

**30,000 Miles (48,000 km) or 24 Months Maintenance Service Schedule**

- Check the Diesel Exhaust Fluid (DEF) tank, refill if necessary.
- Rotate tires.
- Replace engine fuel filter element.
- Replace chassis mounted fuel filter element.
- Lubricate front drive shaft fitting (4x4).
- Lubricate outer tie rod ends.
- Inspect the wheel bearings.
- Inspect the front suspension, tie rod ends and boot seals for cracks or leaks and all parts for damage, wear, improper looseness or end play; replace if necessary.
- Inspect the front (4x4) and rear axle fluid, change if using your vehicle for police, taxi, fleet, off-road or frequent trailer towing.
- Check the transfer case fluid (4x4).
- Change automatic transmission fluid (AS69RC transmission only).

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**37,500 Miles (60,000 km) or 30 Months Maintenance Service Schedule**

- Check the Diesel Exhaust Fluid (DEF) tank, refill if necessary.
- Rotate tires.
- Lubricate front drive shaft fitting (4x4).
- Lubricate outer tie rod ends.

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156 MAINTENANCE SCHEDULE

**45,000 Miles (72,000 km) or 36 Months Maintenance Service Schedule**

- Check the Diesel Exhaust Fluid (DEF) tank, refill if necessary.
- Rotate tires.
- Inspect drive belt, replace as necessary.
- Replace engine fuel filter element.
- Replace chassis mounted fuel filter element.
- Lubricate front drive shaft fitting (4x4).
- Lubricate outer tie rod ends.
- Inspect the front suspension, tie rod ends and boot seals for cracks or leaks and all parts for damage, wear, improper looseness or end play; replace if necessary.
- Inspect brake linings.
- Inspect and adjust parking brake if necessary.
- Inspect the front and rear axle surfaces. If gear oil leakage is suspected, check the fluid level. If using your vehicle for police, taxi, fleet, off-road or frequent trailer towing change the axle fluid.

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**52,500 Miles (84,000 km) or 42 Months Maintenance Service Schedule**

- Check the Diesel Exhaust Fluid (DEF) tank, refill if necessary.
- Rotate tires.
- Lubricate front drive shaft fitting (4x4).
- Lubricate outer tie rod ends.

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158 MAINTENANCE SCHEDULE

**60,000 Miles (96,000 km) or 48 Months Maintenance Service Schedule**

- Check the Diesel Exhaust Fluid (DEF) tank, refill if necessary.
- Rotate tires.
- Replace engine fuel filter element.
- Replace chassis mounted fuel filter element.
- Lubricate front drive shaft fitting (4x4).
- Lubricate outer tie rod ends.
- Inspect the wheel bearings.
- Inspect the front suspension, tie rod ends and boot seals for cracks or leaks and all parts for damage, wear, improper looseness or end play; replace if necessary.
- Inspect the front and rear axle surfaces. If gear oil leakage is suspected, check the fluid level. If using your vehicle for police, taxi, fleet, off-road or frequent trailer towing change the axle fluid.
- Change automatic transmission fluid and sump filter (AS69RC transmission only).
- Change automatic transmission fluid and filter(s) if using your vehicle for any of the following: police, fleet, or frequent trailer towing (68RFE transmission only).
- Change the manual transmission fluid if using your vehicle for any of the following: police, fleet, or frequent trailer towing.
- Change the transfer case fluid (4x4).

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160 MAINTENANCE SCHEDULE

**75,000 Miles (120,000 km) or 60 Months Maintenance Service Schedule**

- Check the Diesel Exhaust Fluid (DEF) tank, refill if necessary.
- Rotate tires.
- Replace engine fuel filter element.
- Replace chassis mounted fuel filter element.
- Lubricate front drive shaft fitting (4x4).
- Lubricate outer tie rod ends.
- Inspect the front suspension, tie rod ends and boot seals for cracks or leaks and all parts for damage, wear, improper looseness or end play; replace if necessary.
- Inspect the front and rear axle surfaces. If gear oil leakage is suspected, check the fluid level. If using your vehicle for police, taxi, fleet, off-road or frequent trailer towing change the axle fluid.

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Odometer Reading Date

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**82,500 Miles (132,000 km) or 66 Months Maintenance Service Schedule**

- Check the Diesel Exhaust Fluid (DEF) tank, refill if necessary.
- Rotate tires.
- Lubricate front drive shaft fitting (4x4).
- Lubricate outer tie rod ends.

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162 MAINTENANCE SCHEDULE

**90,000 Miles (144,000 km) or 72 Months Maintenance Service Schedule**

- Check the Diesel Exhaust Fluid (DEF) tank, refill if necessary.
- Rotate tires.
- Inspect drive belt, replace as required.
- Replace engine fuel filter element.
- Replace chassis mounted fuel filter element.
- Lubricate front drive shaft fitting (4x4).
- Lubricate outer tie rod ends.
- Inspect the wheel bearings.
- Inspect the front suspension, tie rod ends and boot seals for cracks or leaks and all parts for damage, wear, improper looseness or end play; replace if necessary.
- Inspect brake linings.
- Inspect and adjust parking brake if necessary.
- Inspect the front and rear axle surfaces. If gear oil leakage is suspected, check the fluid level. If using your vehicle for police, taxi, fleet, off-road or frequent trailer towing change the axle fluid.
- Check the transfer case fluid (4x4).
- Change automatic transmission fluid (AS69RC transmission only).

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**97,500 Miles (157,000 km) or 78 Months Maintenance Service Schedule**

- Check the Diesel Exhaust Fluid (DEF) tank, refill if necessary.
- Rotate tires.
- Lubricate front drive shaft fitting (4x4).
- Lubricate outer tie rod ends.
- Flush and replace power steering fluid.

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164 MAINTENANCE SCHEDULE

**105,000 Miles (168,000 km) or 84 Months Maintenance Service Schedule**

- Check the Diesel Exhaust Fluid (DEF) tank, refill if necessary.
- Rotate tires.
- Replace engine fuel filter element.
- Replace chassis mounted fuel filter element.
- Lubricate front drive shaft fitting (4x4).
- Lubricate outer tie rod ends.
- Inspect the front suspension, tie rod ends and boot seals for cracks or leaks and all parts for damage, wear, improper looseness or end play; replace if necessary.
- Inspect the front and rear axle surfaces. If gear oil leakage is suspected, check the fluid level. If using your vehicle for police, taxi, fleet, off-road or frequent trailer towing change the axle fluid.

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**112,500 Miles (180,000 km) or 90 Months Maintenance Service Schedule**

- Check the Diesel Exhaust Fluid (DEF) tank, refill if necessary.
- Rotate tires.
- Inspect drive belt, replace as required.
- Lubricate front drive shaft fitting (4x4).
- Lubricate outer tie rod ends.
- Inspect brake linings.
- Inspect and adjust parking brake if necessary.

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166 MAINTENANCE SCHEDULE

**120,000 Miles (192,000 km) or 96 Months Maintenance Service Schedule**

- Check the Diesel Exhaust Fluid (DEF) tank, refill if necessary.
- Rotate tires.
- Replace engine fuel filter element.
- Replace chassis mounted fuel filter element.
- Lubricate front drive shaft fitting (4x4).
- Lubricate outer tie rod ends.
- Inspect the wheel bearings.
- Inspect the front suspension, tie rod ends and boot seals for cracks or leaks and all parts for damage, wear, improper looseness or end play; replace if necessary.
- Inspect the front and rear axle surfaces. If gear oil leakage is suspected, check the fluid level. If using your vehicle for police, taxi, fleet, off-road or frequent trailer towing change the axle fluid.
- Change the automatic transmission fluid and filter(s).
- Change the manual transmission fluid if using your vehicle for any of the following: police, fleet, or frequent trailer towing.
- Change the transfer case fluid (4x4).

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**127,500 Miles (204,000 km) or 102 Months Maintenance Service Schedule**

- Check the Diesel Exhaust Fluid (DEF) tank, refill if necessary.
- Rotate tires.
- Lubricate front drive shaft fitting (4x4).
- Lubricate outer tie rod ends.

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168 MAINTENANCE SCHEDULE

**135,000 Miles (216,000 km) or 108 Months Maintenance Service Schedule**

- Check the Diesel Exhaust Fluid (DEF) tank, refill if necessary.
- Rotate tires.
- Inspect drive belt, replace as required.
- Replace engine fuel filter element.
- Replace chassis mounted fuel filter element.
- Lubricate front drive shaft fitting (4x4).
- Lubricate outer tie rod ends.
- Inspect the front suspension, tie rod ends and boot seals for cracks or leaks and all parts for damage, wear, improper looseness or end play; replace if necessary.
- Inspect brake linings.
- Inspect and adjust parking brake if necessary.
- Inspect the front and rear axle surfaces. If gear oil leakage is suspected, check the fluid level. If using your vehicle for police, taxi, fleet, off-road or frequent trailer towing change the axle fluid.
- Replace Crankcase Ventilation Filter (CCV).**

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**142,500 Miles (228,000 km) or 114 Months Maintenance Service Schedule**

- Check the Diesel Exhaust Fluid (DEF) tank, refill if necessary.
- Rotate tires.
- Lubricate front drive shaft fitting (4x4).
- Lubricate outer tie rod ends.

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**170 MAINTENANCE SCHEDULE**

**150,000 Miles (240,000 km) or 120 Months Maintenance Service Schedule**

- Check the Diesel Exhaust Fluid (DEF) tank, refill if necessary.
- Rotate tires.
- Replace engine fuel filter element.
- Replace chassis mounted fuel filter element.
- Adjust valve lash clearance.
- Lubricate front drive shaft fitting (4x4).
- Lubricate outer tie rod ends.
- Inspect the wheel bearings.
- Inspect the front suspension, tie rod ends and boot seals for cracks or leaks and all parts for damage, wear, improper looseness or end play; replace if necessary.
- Flush and replace engine coolant.
- Inspect the front and rear axle surfaces. If gear oil leakage is suspected, check the fluid level. If using your vehicle for police, taxi, fleet, off-road or frequent trailer towing change the axle fluid.
- Check the transfer case fluid (4x4).
- Change automatic transmission fluid (AS69RC transmission only).

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Inspection and service should also be performed anytime a malfunction is observed or suspected. Retain all receipts.

\* This maintenance is not required if belt was previously replaced.

**CAUTION!**

\*\*\*The manufacturer highly recommends that all cooling system service, maintenance, and repairs be performed by your local authorized dealer.

**WARNING!**

- You can be badly injured working on or around a motor vehicle. Do only service work for which you have the knowledge and the right equipment. If you have any doubt about your ability to perform a service job, take your vehicle to a competent mechanic.
- Failure to properly inspect and maintain your vehicle could result in a component malfunction and effect vehicle handling and performance. This could cause an accident.



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### **INSTALLATION OF RADIO TRANSMITTING EQUIPMENT**

Special design considerations are incorporated into this vehicle's electronic system to provide immunity to radio frequency signals. Mobile two-way radios and telephone equipment must be installed properly by trained personnel. The following must be observed during installation.

The positive power connection should be made directly to the battery and fused as close to the battery as possible. The negative power connection should be made to body sheet metal adjacent to the negative battery connection. This connection should not be fused.

Antennas for two-way radios should be mounted on the roof or the rear area of the vehicle. Care should be used in mounting antennas with magnet bases. Magnets may affect the accuracy or operation of the compass on vehicles so equipped.

The antenna cable should be as short as practical and routed away from the vehicle wiring when possible. Use only fully shielded coaxial cable.

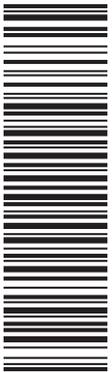
Carefully match the antenna and cable to the radio to ensure a low Standing Wave Ratio (SWR).

Mobile radio equipment with output power greater than normal may require special precautions.

All installations should be checked for possible interference between the communications equipment and the vehicle's electronic systems.



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Second Edition

Printed in U.S.A.

# Exhibit 2



2012 RAM HEAVY DUTY



★ WE EARN BY DOING. ★

**RAM HEAVY DUTY. THESE ARE OUR VALUES AT WORK.** Yes, it's about versatile power and the strength to do the job. Yes, it's about exceptional towing and hauling capability. To be sure, it's about the wide range of available Mopar<sup>®</sup> Accessories that can transform this workhorse into a comfortable, Internet<sup>[1]</sup>\*-connected room. But the overarching factor that defines and separates Ram Heavy Duty is *value*. Like our teamwork with Cummins<sup>®</sup>, whose brilliance gives you a Turbo Diesel<sup>†</sup> with fewer moving parts — translating into the real-world value of reduced maintenance costs. Like our formidable 5.7-liter HEMI<sup>®</sup> V8<sup>‡</sup>, whose legendary performance has served whole eras in automotive and aviation history. Finally, it's about value measured in quality, with the 5-Year/100,000-Mile Powertrain Limited Warranty<sup>[2]</sup> that backs you on every Ram Heavy Duty. These are our values. And time and time again, they work. \*A note about this brochure: All disclaimers and disclosures can be found inside the back cover. †Check with your local dealer for model/engine availability.



**RAM HEAVY DUTY. HANDS DOWN, A BENCHMARK FOR THE CLASS.**

**RAM POWER WAGON:** No other pickup matches the stunning strengths of the long-lauded Ram Power Wagon<sup>®</sup> • The most capable off-road full-size pickup, period • **Class Exclusive<sup>[3]</sup>:** front electronically disconnecting stabilizer bar (or sway bar), allows nine inches of additional articulation • **Class Exclusive<sup>[3]</sup>:** electronically locking front and rear differentials • **Class Exclusive<sup>[3]</sup>:** 12,000-lb capacity front-mounted WARN<sup>®</sup> winch, with 4.6-horsepower series wound motor and 125 feet of 3/8-inch aircraft-grade cable • Super-tough 4.56 axle ratio

**RAM 2500/3500 PICKUPS:** Built for work, designed for recreation, ready to handle what life hands you • Unsurpassed 800 lb-ft of torque<sup>[3]</sup> from the available 6.7-liter Cummins High Output Turbo Diesel • **Class Exclusive<sup>[3]</sup>:** the ingenious and convenient RamBox<sup>®</sup> Cargo Management System (late availability) • **Class Exclusive<sup>[3]</sup>:** versatile rear in-floor storage bins on Crew Cab models • **Class Exclusive<sup>[3]</sup>:** available 6-speed manual transmission • **Best-in-class honors<sup>[3]</sup>:** The mammoth interior volume of Ram Mega Cab<sup>®</sup> • **Class Exclusive<sup>[3]</sup>:** on Cummins Turbo Diesel-equipped models, no need at all for a Diesel Exhaust Fluid (DEF) system — unlike Ford and Chevy diesel-powered models

**RAM 3500 PICKUPS:** These one-ton workhorses feature upgrades that launch them into the realm of extreme capability • Available MAX Tow Package ramps up GCWR and towing • Exceptional GCWR strength that boosts capability up to 30,100 lb<sup>[4]</sup> • Maximum towing capability reaches a stunning 22,750 lb<sup>[4]</sup>

# LOCOMOTIVE OF THE GAS POWERTRAINS.



The hemispherical engine head was designed more than a century ago — a clear indication of the uncontested success of this iconic design. With initial contributions to American history encompassing engine applications that ranged from aircraft and tanks to the iconic American muscle car, today's HEMI® V8 is pure innovation at work, with its dual spark plug technology and unique hemispherical combustion chambers burning fuel with outstanding efficiency.



**383 HP/400 LB-FT**

**ONLY RAM HAS IT.**

**EXCEPTIONALLY FUEL-EFFICIENT OPERATION.**

It comes to work by combining performance with fuel-efficient operation. The 5.7-liter HEMI V8 in Ram 2500 trucks delivers capability.

**A BIG BREATH OF FRESH AIR.** As the standard engine on Ram 2500 Heavy Duty pickups, the 5.7-liter HEMI V8 on Ram Heavy Duty models features a notable advantage: Variable Valve Timing (VVT). By varying the exact timing of each valve, the degree of “engine breathing” increases exponentially. The results are all about doing the work with greater efficiency and strength; torque number rises and fuel-efficient performance increases. It’s exactly the technology needed for a gas engine to provide beyond-competent towing, hauling, and acceleration. In every way, this is a legend at work.



### TRANSMISSIONS

#### 66RFE 6-SPEED AUTOMATIC.

New, and engineered specifically for the 2012 Ram 2500 Heavy Duty pickup, this sophisticated multirange electronically controlled transmission features optimized gear ratios and Electronic Range Select (ERS) for responsive, durable performance. Standard with the 5.7-liter HEMI V8 on 2500 models.

#### 68RFE 6-SPEED AUTOMATIC.

Features Electronic Range Select for premium operation during cruising and towing. Outstanding strength, stamina, and reliability with impressive performance at all rpm levels. Available for Ram 2500 and 3500 pickups equipped with the Cummins® High Output Turbo Diesel.

#### CLASS-EXCLUSIVE<sup>21</sup> 6-SPEED MANUAL.

Here, a high-ratio sixth gear offers ideal lower highway rpm ranges along with the welcome efficiency inherent in manual transmissions. The proven 6-speed manual is the standard drivetrain component for Ram Heavy Duty models powered by the 6.7-liter Cummins Turbo Diesel power plant.

### MAXIMUM PAYLOAD CAPACITIES (WHEN PROPERLY EQUIPPED)

TRANSMISSION	Engine	GVWR	2500										3500															
			Regular Cab		Crew Cab				Mega Cab <sup>19</sup>				Regular Cab		Crew Cab				Mega Cab									
			LB 4x2	LB 4x4	SB 4x2	RB 4x2	LB 4x2	SB 4x4	RB 4x4	LB 4x4	SB 4x2	RB 4x2	SB 4x4	RB 4x4	LB 4x2	LB 4x4	SB 4x2	RB 4x2	LB 4x2	SB 4x4	RB 4x4	LB 4x4	SB 4x2	RB 4x2	SB 4x4	RB 4x4		
AUTOMATIC	5.7L HEMI V8	8,510						1,880	1,690																			
		8,650	3,190	2,700																								
	6.7L Cummins Turbo Diesel I-6	8,800			2,930	2,730	2,830	2,520	2,320	2,360	2,530	2,340	2,090	1,900														
		9,000	2,650	2,180	2,240	2,040	2,110																					
		9,600						2,410	2,220	2,290				2,020	1,830													
		10,100 <sup>21</sup>																	3,300	3,100	3,120	2,880	2,680	2,700	2,950	2,750	2,530	2,330
		10,500 <sup>21</sup>																							3,020	2,600		
		11,500 <sup>21</sup>																				4,160						
		12,000 <sup>21</sup>														5,180												
		12,200 <sup>21</sup>														4,950												
12,300 <sup>21</sup>																								4,550				
MANUAL	6.7L Cummins Turbo Diesel I-6	9,000	2,550	2,090	2,170	1,980	2,050						1,880	1,690														
		9,600						2,340	2,150	2,210			1,960	1,760														
	10,100 <sup>21</sup>																											
	10,500 <sup>21</sup>																											
	11,500 <sup>21</sup>																											
	12,000 <sup>21</sup>																											
	12,200 <sup>21</sup>														5,100						4,110							
	12,300 <sup>21</sup>														4,880													
																									4,490			

Weights given in lb. LB = Long Box SB = Short Box RB = RamBox<sup>®</sup> <sup>19</sup>Single Rear Wheel only. <sup>21</sup>Dual Rear Wheel only.

**5 YEAR/100,000 MILE POWERTRAIN WARRANTY** WARRANTIES AS TOUGH AS THE POWERTRAINS THEY PROTECT. The business of a Ram truck is to deliver quality. All Ram powertrains cover you with a 5-Year/100,000-Mile Powertrain Limited Warranty.<sup>[2]</sup>





*Ram 3500 Crew Cab SLT DRW shown in Bright White. Properly secure all cargo.*

# NO FEAR FROM RAIL TO TRAIL. IT'S ALL ABOUT TOWING.

**RAM HEAVY DUTY IS ALL ABOUT THE REAL WORLD.** Like towing a cabin cruiser or hauling an excavator. Precisely why those Ram 3500 impressive towing figures also contribute to value. Three available advantages — the 6.7-liter Cummins® High Output engine, 6-speed automatic transmission, and the MAX Tow Package — result in the very real “Less Is More” equation: More towing power means less worry. More strength allows fewer trips. More capability reduces expenses for greater profits. That's real Ram value.



**IMPRESSIVELY LARGE BRAKE ROTORS, PADS, AND CALIPERS.**

Leave smaller brakes to the others. Our massive rotors measure over 14 inches in diameter — with huge brake pads to match. It's about capability and control, and Ram Heavy Duty delivers.



**AVAILABLE INTEGRATED TRAILER BRAKE CONTROLLER.**

This panel-mounted display gives you greater control and towing confidence. Customize it to increase or decrease the trailer brake pressure, depending on your load weight.



**NEW ELECTRIC-OVER-HYDRAULIC TRAILER BRAKE CAPABILITY.**

Expand your towing capability. Choose from multiple modes for trailer-specific customization. Handles up to four-axle trailers, including standard and gooseneck. Customer-selectable inputs are visible in the EVIC display.



**FIFTH-WHEEL HITCH.**

Authentic Accessories by Mopar, ramp up towing. This tough Fifth-Wheel Hitch assembly is recommended across the Ram truck line when towing weights exceed 12,000 lb — an assignment easily handled by Ram Heavy Duty.<sup>(4)</sup>

**CHOOSE YOUR RAM. AND GO GET HITCHED.** It's not merely outstanding towing numbers that make the Ram family the pickups of choice for the work site. Convenience is also at work here. This is ideal technology made for people who need to get hitched up.

On every Ram Heavy Duty, integrated 4- and 7-pin trailer connectors are standard. Class-IV hitch, standard. And the available ParkView® Rear Back-Up Camera<sup>(5)</sup> removes the need for a spotter, or the time-consuming in-and-out trips from the cab to properly line up hitch to ball.

Whether powered by the outstanding choices of Cummins Turbo Diesels or the legendary 5.7-liter HEMI® V8, you've got cab sizes and cargo beds custom-made for every job, with the singular Ram Heavy Duty Mega Cab® still offering the largest interior volume in the class.<sup>(3)</sup>



**CONTROL IT, WITH YOUR DIESEL EXHAUST BRAKE. STANDARD WITH EVERY CUMMINS.**

For some trucks, towing with or against gravity is a battle of wills. This indispensable asset on every Cummins Diesel offers exceptional control on grades.



**NO DEF HERE. SAVE MONEY, TIME, AND HASSLES.**

No other heavy-duty pickup in the class<sup>(6)</sup> can make this claim. The Cummins-powered Ram 2500 and 3500 Heavy Duty pickups stand alone, meeting every 50-state emissions standard with no need for a Diesel Exhaust Fluid system.

**CAPABILITY TO EXCEED THE NEED.**

All towing figures: when properly equipped.



3500 REGULAR CAB, 8' BOX  
**22,750-LB**  
MAX TOW CAPACITY



3500 CREW CAB, 6'4" BOX  
**17,050-LB**  
MAX TOW CAPACITY



3500 CREW CAB, 8' BOX  
**20,150-LB**  
MAX TOW CAPACITY



3500 MEGA CAB, 6'4" BOX  
**18,350-LB**  
MAX TOW CAPACITY

# DO THE MATH. STUDY YOUR ANGLES. ★

Look into it and it's clear that Ram has the right numbers. These are heavy-duty trucks with heavy-duty attitude — and dressed with looks to kill. But don't let that sculpted exterior or luxurious interior distract you from the guts of the matter. While Ram's comfortable ride, deft handling, and nimble maneuverability all combine for an impressive drive to the job site, these are serious workhorses built to tow multiple tons and haul thousands of pounds on a daily — and yearly — time frame.

This no-nonsense do-it-all work ethic was born in the arduous process of preproduction testing. Long before they work for you, Ram Heavy Duty prototypes endure conditions unlikely to be encountered in your life — or lifetime. Grueling durability tests, excessive climate testing, road simulation shake trials on tracks that resemble mountainous terrains — it's beyond brutal. We measure every number — and we measure up, backing you with one of the best working warranties<sup>[2]</sup> in the business.



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## **THE 5-YEAR/100,000-MILE POWERTRAIN LIMITED WARRANTY.<sup>[2]</sup>**

So complete, it's transferable. It protects every Ram engine and transmission for 5 years or 100,000 miles, whichever comes first. Includes towing to an authorized dealer. See dealer for details.

## **5YEAR/100,000MILE POWERTRAIN WARRANTY<sup>[2]</sup>**

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**1** The tough hydroformed front structure is designed to be the primary absorber of any impacts. By deflecting the energy from the driver and front passenger, it contributes to enhanced safety and security.

**2** We focus on components that offer phenomenal strength, durability, and reliability. Ram Heavy Duty features supremely durable suspension bushings, outstanding front spring rates, and specially tuned suspensions. All contribute to impressive maneuverability and deft handling under a wide variety of loads and road conditions.

**3** Look for capability up to 5,500 lb<sup>(4)</sup>. High front GAWR figures accommodate large snowplow applications.

**4** We completely seal the interior, giving you a beyond-quiet cabin. Our design effectively manages inside airflow through the cab and out via proprietary air exhausters in the rear of the cab.

**5** Under the C-pillars, special hydraulic mounts enhance comfort and quietness. These unique mounts are literally “tuned” to help eliminate the vibrations of the suspension and frame.

**6** Ram Heavy Duty brakes rank among the best. This multichannel, four-wheel antilock system is electronically operated, with front brakes controlled individually and the rear in tandem. Electronic Variable Brake Proportioning (EVBP) balances front-to-rear properties. The massive rotors exceed 14 inches in diameter, offering uncompromised braking power.

**7** The structural cab strength comes from High Strength Steel (HSS) reinforcements and specialized inserts, which are integrated directly into the cab. Ram Heavy Duty also features superstrong windshield pillars and B-pillars.

# IDEAL IF YOU'RE COMFORTABLE WITH COMPLETE CONTROL.



**INTERIORS YOU CAN LIVE WITH.** Make crosstown traffic bearable — and cross-country tours a spacious journey. Available features like power lumbar seats, heated and ventilated seats, Dual-Zone Temperature Control, and sophisticated electronics that can include the 'Net<sup>[1]</sup> is where we're at. Be part of it: upload your Ram Heavy Duty video to [youtube.com/Ram](http://youtube.com/Ram)

*This is where it all comes together. You're in complete control — from mastering your towing to knowing the operational systems of your 2012 Ram Heavy Duty at a glance. Crisp readouts from the Electronic Vehicle Information Center (EVIC) are augmented by wicked smart design touches — like available woodgrain surfaces. The technology of tomorrow becomes even smarter when you add Authentic Accessories by Mopar<sup>®</sup>, to keep you in touch with it all: people, music, maps, the 'Net.<sup>[1]</sup> Sometimes the impressive power of a Ram Heavy Duty interior even outweighs the experience of enjoying what's under the hood.*



**IN TOUCH, IN TUNE.** Outfit your Ram with Uconnect<sup>®</sup> and you've got a hub for your most important media: cell phone, Internet<sup>[2]</sup> (an available Authentic Accessory by Mopar), SiriusXM<sup>™</sup> Satellite Radio,<sup>[3]</sup> navigation system, and personal devices, such as an iPod<sup>®</sup> or smartphone. Add SiriusXM Advanced Audio,<sup>[4]</sup> and enjoy features like Song Title Save, Song/Artist/Composer information, Game Alerts for sporting events, Traffic Jump, Channel Browsing (without switching stations), Favorite Song Storing — and much more.



**PHONE.** Talking on the phone while driving has never been easier — or more responsible. Uconnect Phone is the in-vehicle, voice-activated communication system that allows you to pair up to seven Bluetooth<sup>™</sup> compatible phones and then talk virtually hands-free. This system is also clever enough to synchronize with your phone's address book<sup>[5]</sup> — up to 1,000 entries — every time you get into your vehicle. The remote USB port lets you charge mobile devices.



**WEB.<sup>[2]</sup>** Put the power of high-speed Internet in your vehicle with the available Uconnect Web.<sup>[1]</sup> Effortlessly connect any WiFi-enabled device to the Internet at 3G broadband speeds, making your Ram a mobile Hotspot within a 150-ft range. Passengers can use multiple devices at the same time. There's no need for cell cards or software with this unique Authentic Accessory by Mopar. It's all wireless.



**VOICE COMMAND.<sup>[7]</sup>** It simplifies driving by letting you keep your eyes on the road and your hands on the wheel. Vocally select AM/FM radio stations, SiriusXM Satellite Radio<sup>[3]</sup> channels, make and receive calls, select navigation destinations, and record voice memos. Utilizing smart technology, the Voice Command<sup>[7]</sup> system can also be trained to better recognize your voice, and can understand commands in English, French, and Spanish.



**MULTIMEDIA.** Manage all of your media. You'll have six ways to access audio, including SiriusXM Satellite Radio<sup>[3]</sup> (your first year of service is included), plus a 40GB hard drive and iPod control with Voice Command<sup>[7]</sup>. Wirelessly stream music through Bluetooth streaming audio. Rear Seat Video can be utilized in multiple ways, including playing your personal DVDs, a variety of compatible multimedia devices, and operating numerous gaming consoles.



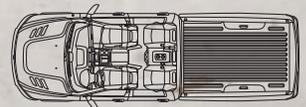
**NAVIGATION SOLUTIONS.** Choose from either Garmin<sup>®</sup>, or the Enhanced GPS Navigation systems. Garmin is easy to use, with numerous features including Lane Guidance. The Enhanced GPS Navigation provides destination entry via Voice Command<sup>[7]</sup> and SiriusXM Traffic<sup>[3]</sup> for real-time traffic info on the go. Add SiriusXM Travel Link<sup>[8]</sup> for local fuel and movie info, even sports results and stock market figures.

ONLY RAM HAS IT.



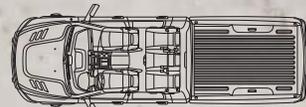
**SOMETIMES BIGGER IS THE BEST.** In the case of the cavernous Ram Mega Cab<sup>®</sup>, there is no contender: this Ram Heavy Duty comes to work with the largest interior volume in the class.<sup>[9]</sup>

CREW CAB



Interior Volume: 125.3 cu ft

MEGA CAB



Interior Volume: 142.65 cu ft



Crew Cab

**The objective was uncompromising:** create an interior that works, day-in and year-out, to deliver outstanding levels of comfort, convenience, storage and capability. From the practical Regular Cab to Laramie Crew Cab and Mega Cab<sup>®</sup>, Ram Heavy Duty delivers it all.

**Laramie Crew Cab**

**1** Command central: the Ram Laramie dashboard and instrumentation leaves no doubt about who's in charge of this work partner. **2** The spacious and backseat-friendly Ram Crew Cab Laramie in Light Pebble Beige with Bark Brown accents, shown with available equipment.

**Laramie Mega Cab**

**3** Nothing says mega like Ram Mega Cab, the class-leading<sup>63</sup> cab for interior volume and comfort, shown here in Dark Slate Gray leather trim. **4** Advantage Ram: the huge Mega Cab rear-seat area transforms into a convenient fold-flat cargo space for transporting large items with small effort. **5** The in-floor storage bins and handy clips for grocery bags in Ram Mega Cab models.



Mega Cab





 **IT'S ALL WORK...** 

**BUILT FOR HEAVY DUTY. ACHIEVES ULTRA DUTY.**

From farm to ranch, from industrial site to boat launch, the aim of every Ram Heavy Duty is to excel. And that's what they do. With no DEF system for Cummins® Turbo Diesel-powered Ram pickups. With impressive towing from Ram 3500 pickups equipped with the available Cummins High Output and MAX Tow Package. With cavernous Ram Mega Cab.® The 2012 Ram Heavy Duty. It just flat-out works.

**SCOFF AT A LIFETIME OF HARD LABOR, WITH RAM 2500/3500.** Why Ram Heavy Duty 2500/3500 rank as pickups of choice for the working world: No Diesel Exhaust Fluid (DEF) system required when powered by any Cummins Turbo Diesel engine ♦ Unsurpassed 800 lb-ft of torque<sup>(3)</sup> with the available Cummins High Output ♦ The new 66RFE 6-speed automatic transmission for HEMI® V8-powered Ram 2500 pickups ♦ Exceptional Power Wagon® off-road capability ♦ Multiple choices for axles and axle ratios for all models ♦ Heavy-duty engine cooling ♦ 180-amp alternator available (standard on Power Wagon) ♦ Available class exclusive<sup>(3)</sup> RamBox® Cargo Management System for 6'4" beds ♦ Available Authentic Accessories by Mopar®. \*Late availability.



**THE INCENTIVES YOU NEED TO HELP YOUR BUSINESS SUCCEED.**

Running a business presents plenty of challenges. Like cutting costs, not corners. The ON THE JOB<sup>SM</sup> commercial incentive program provides enormous assistance in purchasing, customizing, and servicing your business vehicles. See your dealer for specific program rules and details, or call us toll-free at 877-ONTHEJOB (877-668-4356).

Among the most popular ON THE JOB incentives:

- **NO-EXTRA-CHARGE LUBE/OIL/FILTER**  
For all Chrysler, Jeep®, Dodge and Ram vehicles. Includes gas and diesel engines.
- **COMMERCIAL GRAPHICS ALLOWANCES**  
For all vehicles. \$250/\$500/\$1,000 Commercial Graphics Program Allowances.
- **COMMERCIAL EQUIPMENT/UPGRADES**  
\$1,000/\$500 Allowances for Upgrades.  
\$1,000 Snowplow/Factory Box-Off/Field Box-Off Allowances.  
\$500 RamBox Cargo Management System Allowance.



**DESTINATION: SUCCESS AND GROWTH. WELCOME TO BUSINESSLINK.**

If you're in business, BusinessLink has you covered.

- Free Membership
- Extended Service Hours
- A Dedicated BusinessLink staff
- Convenient Shuttle Services
- Commercial Vehicles in Stock
- Next-Buy-Up Preferential Service Treatment
- Free Loaners\* for Selected Vehicles
- And much more

For more information, log on to [chryslerbusinesslink.com](http://chryslerbusinesslink.com) or call us toll-free at 877-2THELINK (877-284-3546).

\*Some restrictions apply. See dealer for details.



1



2

**1 Crew Cab Laramie:** From the first glance, Laramie hints at exceptional design and comfort — and it delivers in every way. To an interior appointed with leather-trimmed seats, subtle touches of chrome on the dash, and woodgrain trim, add navigational radio, and ParkView® Rear Back-Up Camera,<sup>(5)</sup> all standard. **2 Dual Glove Boxes:** Expand comfort and convenience with these intelligently designed storage compartments. **3 Under-the-Seat and In-Floor Storage:** Easy to reach and out of the way on Ram Crew Cabs, these are ideal for small tools and valuables. **4 RamBox® System:** This available cargo management system is now engineered for Ram Heavy Duty models with 6'4" beds. (Late availability.) Two lockable, lit, and drainable compartments on the sides of the bed join cargo rails and a bed extender/divider — with lots of custom RamBox System accessories from Mopar, to boot.

*Properly secure all cargo.*



3



4

*Late availability feature shown.*



*Ram 2500 Crew Cab Outdoorsman shown in two-tone Black and Mineral Gray Metallic with optional equipment. Properly secure all cargo.*



*Ram 2500 Crew Cab Big Horn in Mineral Gray Metallic. Properly secure all cargo.*



...AND KNOWS PLAY.

**READY TO BACK YOUR NEXT ADVENTURE.**

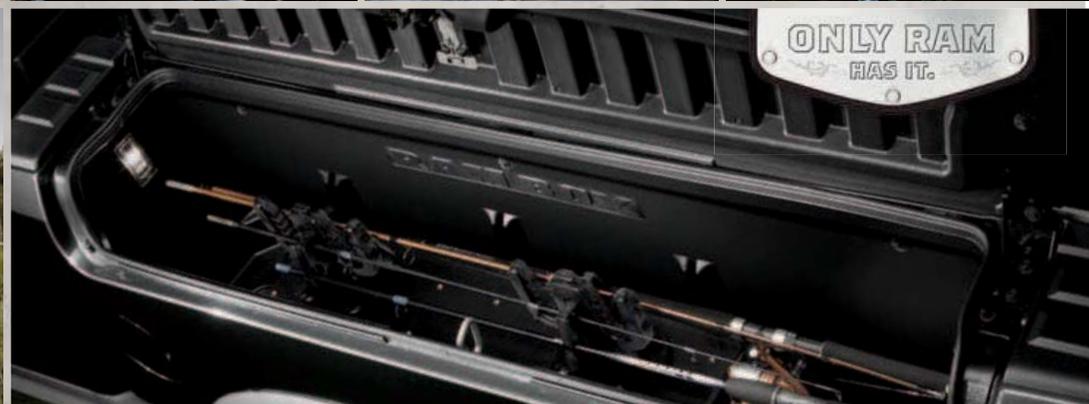
When the angle of a boat launch makes drivers of lesser trucks look on with undisguised envy, count on your Ram Heavy Duty — and try not to smirk. Given tougher-than-nails engines, bulletproof transmissions and transfer cases, and exceptional towing technology, every day can be play time.

**BEST PLAY ON THE BOOKS: RAM 2500/3500 HEAVY DUTY.** Cummins® Turbo Diesel (std. 3500, available 2500), 610 lb-ft of torque; available Cummins High Output, for an unsurpassed 800 lb-ft of torque<sup>3</sup>; standard diesel exhaust brake; available 6-speed automatic transmission with Electronic Range Select (ERS) for optimal gear selection and hands-on control. More: the Tow-Haul Mode, with dashboard-mounted switch, allows reprogramming of the transmission while towing and hauling; standard Class IV trailer hitch; available fully integrated electronic trailer brake controller.



**EVERY VOCATION, EVERY LOCATION: RAM HEAVY DUTY HAS A TRIM LEVEL TO MEET THE NEED.**

**Right, top row:** The most luxurious Ram ever built. Ram Laramie Longhorn features a premium interior with unique Laramie Longhorn Edition badging and seat treatments with distinctive laser-etched designs — or not; that's your call. **Second row:** Ram Power Wagon® distinguishes itself as the most capable pickup for severe off-road conditions; standard components on this exceptional pickup include Bilstein® gas-charged monotube shock absorbers, an electronically disconnecting front stabilizer bar (providing an additional nine inches of articulation), and the 12,000-lb capacity WARN® winch. **Third row:** The name says it all: Ram Outdoorsman, designed and built to take you to the lesser (and possibly never-before) traveled paths of life. Expand the capacity of the available brilliant RamBox® Cargo Management System with additional assets from Mopar®. Shown here is the RamBox Holster, letting you transport long guns, fishing rods with reels, or both. **Bottom row:** Contrast the vintage 1953 Ram Power Wagon military vehicle with a 2012 Ram Heavy Duty Crew Cab Big Horn, and you see history in motion. Ram Heavy Duty serves every purpose, from civic duty to all-around capability. For more, bookmark [ramtrucks.com](http://ramtrucks.com) Properly secure all cargo.





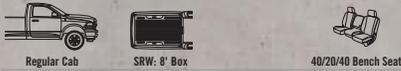
*Ram 3500 Mega Cab® Laramie Longhorn in Deep Cherry Red Pearl with White Gold Metallic lower.*

## RAM HEAVY DUTY TRIM LEVELS



### ST

2500



3500



### STANDARD FEATURES:

#### MECHANICAL

2500: 5.7L HEMI® V8 with heavy-duty cooling and 66RFE 6-speed automatic transmission

3500: 6.7L Cummins® Turbo Diesel with heavy-duty cooling and 6-speed manual transmission • Tow hooks • 7 x 11-inch trailer tow mirrors

2500/3500: Electronic Stability Control System (ESC)<sup>93</sup> (on SRW models only), which includes 4-wheel ABS, Brake Assist, All-Speed Traction Control, Electronic Roll Mitigation, Hill Start Assist, and Trailer Sway Control<sup>93</sup> • Manual part-time transfer case (on 4x4 models) • On short box models: 34-gallon fuel tank • Long box models: 35-gallon fuel tank

#### INTERIOR

Vinyl 40/20/40 front bench seat • Vinyl folding rear bench on Crew Cab models • Vinyl floor covering • Multistage front air bags<sup>100</sup> • Supplemental side-curtain air bags<sup>101</sup> • Tilt steering wheel • Automatic headlamps • Air conditioning • Power windows and door locks (on Crew Cab models) • Media Center radio with CD player and MP3 auxiliary input jack • Electronic Vehicle Information Center (EVIC) located in instrument panel cluster

#### EXTERIOR

Black front and rear bumpers • Black grille surround and inserts • Black fold-in sideview mirrors • Dual-lens headlamps • Bed rail caps • Locking tailgate • 4- and 7-pin trailer wiring harness/connectors • Class IV trailer hitch receiver • 17-inch steel wheels with BSW tires



### SLT

2500



3500



### STANDARD FEATURES:

#### MECHANICAL

2500: 5.7L HEMI V8 with heavy-duty cooling and 66RFE 6-speed automatic transmission

3500: 6.7L Cummins Turbo Diesel with heavy-duty cooling and 6-speed manual transmission • Tow hooks • 7 x 11-inch trailer tow mirrors

2500/3500: Electronic Stability Control System (ESC)<sup>93</sup> (on SRW models only), which includes 4-wheel ABS, Brake Assist, All-Speed Traction Control, Electronic Roll Mitigation, Hill Start Assist, and Trailer Sway Control<sup>93</sup> • Electronic part-time transfer case (on 4x4 models) • Electronic trailer brake controller • Remote keyless entry • On short box models: 34-gallon fuel tank • Long box models: 35-gallon fuel tank

#### INTERIOR

Cloth 40/20/40 front bench seat • Cloth folding rear bench on Crew Cab and Mega Cab models • Carpet floor covering • Multistage front air bags<sup>100</sup> • Supplemental side-curtain air bags<sup>101</sup> • Tilt steering wheel • Automatic headlamps • Air conditioning • Power windows and door locks • Media Center radio with CD player, MP3 auxiliary input jack and SiriusXM™ Satellite Radio<sup>91</sup> • Electronic Vehicle Information Center (EVIC) located in the instrument panel cluster • Overhead console • Power sliding rear window on Crew Cab and Mega Cab models

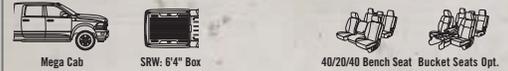
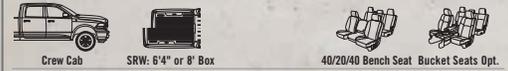
#### EXTERIOR

Chrome front and rear bumpers • Chrome grille surround with Black inserts • Dual-lens headlamps • Chrome door handles • Black, power heated fold-in sideview mirrors • Bed rail caps • Locking tailgate • 4- and 7-pin trailer wiring harness/connectors • Class IV trailer hitch receiver • 17-inch chrome steel wheels with BSW tires



### BIG HORN

2500



3500



### STANDARD FEATURES:

#### MECHANICAL

2500: 5.7L HEMI V8 with heavy-duty cooling and 66RFE 6-speed automatic transmission

3500: 6.7L Cummins Turbo Diesel with heavy-duty cooling and 6-speed manual transmission • Tow hooks • 7 x 11-inch trailer tow mirrors

2500/3500: Electronic Stability Control System (ESC)<sup>93</sup> (on SRW models only), which includes 4-wheel ABS, Brake Assist, All-Speed Traction Control, Electronic Roll Mitigation, Hill Start Assist, and Trailer Sway Control<sup>93</sup> • Electronic part-time transfer case (on 4x4 models) • Electronic trailer brake controller • Remote keyless entry • On short box models: 34-gallon fuel tank • Long box models: 35-gallon fuel tank

#### INTERIOR

Luxury Group • Cloth 40/20/40 front bench seat • Cloth 60/40 split-folding rear bench seat • Carpet floor covering • Multistage front air bags<sup>100</sup> • Supplemental side-curtain air bags<sup>101</sup> • Leather-wrapped tilt steering wheel with audio controls • 115-volt power outlet • Automatic headlamps • Air conditioning • Power windows and door locks • Media Center radio with CD player, MP3 auxiliary input jack and SiriusXM Satellite Radio<sup>91</sup> • Electronic Vehicle Information Center (EVIC) located in the instrument panel cluster • Overhead console • Power sliding rear window

#### EXTERIOR

Quad-lens headlamps • Fog lamps • Chrome front and rear bumpers • Chrome grille surround with chrome billet inserts • Black power heated fold-in sideview mirrors with puddle lamps and supplemental turn signal indicators • Chrome door handles • Bed rail caps • Locking tailgate • 4- and 7-pin trailer wiring harness/connectors • Class IV trailer hitch receiver • 17-inch polished aluminum wheels with BSW tires



## OUTDOORSMAN

*\*Vehicle shown with optional monotone paint.*

2500



Regular Cab



SRW: 8' Box



40/20/40 Bench Seat



Bucket Seats Opt.



Crew Cab



SRW: 6'4" or 8' Box



40/20/40 Bench Seat



Bucket Seats Opt.



Mega Cab®



SRW: 6'4" Box



40/20/40 Bench Seat



Bucket Seats Opt.

3500



Regular Cab



SRW: 6'4" or 8' Box



40/20/40 Bench Seat



Bucket Seats Opt.



Crew Cab



SRW: 6'4"



40/20/40 Bench Seat



Bucket Seats Opt.

### STANDARD FEATURES:

#### MECHANICAL

2500: 5.7L HEMI® V8 with heavy-duty cooling and 66RFE 6-speed automatic transmission

3500 (SRW MODELS ONLY): 6.7L Cummins® Turbo Diesel with heavy-duty cooling and 6-speed manual transmission

2500/3500: Electronic Stability Control System (ESC)<sup>[9]</sup> which includes 4-wheel ABS, Brake Assist, All-Speed Traction Control, Electronic Roll Mitigation, Hill Start Assist, and Trailer Sway Control<sup>[9]</sup> • Remote keyless entry • Electronic part-time transfer case (on 4x4 models) • Electronic trailer brake controller • Tow hooks • Remote start (with automatic transmissions only) and Security Group • On short box models: 34-gallon fuel tank • Long box models: 35-gallon fuel tank

#### INTERIOR

Luxury group • Leather-wrapped tilt steering wheel with audio controls • Premium cloth front 40/20/40 bench seat • Power driver's seat • Cloth 60/40 split-folding rear bench on Crew Cab and Mega Cab models • Carpet floor covering • Rubber all-weather floor mats • Multistage front air bags<sup>[10]</sup> • Supplemental side-curtain air bags<sup>[10]</sup> • Automatic headlamps • Air conditioning • Power windows and door locks • Media Center radio with CD player, MP3 auxiliary input jack, and SiriusXM™ Satellite Radio<sup>[9]</sup> • 115-volt power outlet • Electronic Vehicle Information Center (EVIC) located in instrument panel cluster • Overhead console with Universal Garage Door Opener • Power sliding rear window on Crew Cab and Mega Cab models

#### EXTERIOR

Two-tone paint with Mineral Gray Metallic front bumper, rear bumper, and fender flares • Body-color grille surround with Black inserts • Black door handles • Heated power, fold-in sideview mirrors in Black with puddle lamps and turn signal indicators • Fog lamps • Quad-lens headlamps • Bed rail caps • Locking tailgate • 4- and 7-pin trailer wiring harness/connectors • Class IV trailer hitch receiver • Tow hooks • 7 x 11-inch trailer tow mirrors • 17-inch forged aluminum wheels with LT All-Terrain tires



## POWER WAGON®

2500



Crew Cab



SRW: 6'4"



40/20/40 Bench Seat

### STANDARD FEATURES:

#### MECHANICAL

2500 only: 5.7L HEMI V8 with heavy-duty cooling and 66RFE 6-speed automatic transmission • Tow hooks • Skid plates for the fuel tank and transfer case • Electronic disconnecting front stabilizer (or sway) bar • Front and rear electronic locking differentials • 12,000-lb WARN® winch • 34-gallon fuel tank • Remote keyless entry • Electronic Stability Control System (ESC)<sup>[9]</sup> which includes 4-wheel ABS, Brake Assist, All-Speed Traction Control, Electronic Roll Mitigation, Hill Start Assist, and Trailer Sway Control<sup>[9]</sup> • Manual part-time transfer case • Electronic trailer brake controller

#### INTERIOR

Power driver's seat • Cloth front 40/20/40 bench seat • Cloth 60/40 split-folding rear bench • Tilt steering wheel • Carpet floor covering • Automatic headlamps • Air conditioning • Power windows and door locks • Media Center radio with CD player, MP3 auxiliary input jack and SiriusXM Satellite Radio<sup>[9]</sup> • Electronic Vehicle Information Center (EVIC) located in instrument panel cluster • Multistage front air bags<sup>[10]</sup> • Supplemental side-curtain air bags<sup>[10]</sup> • Power sliding rear window

#### EXTERIOR

Two-tone paint with front and rear chrome bumpers • Black fender flares • Chrome grille surround with Black inserts • Black, power heated fold-in sideview mirrors • Black door handles and Black bed rail caps • Fog lamps • Quad-lens headlamps • Locking tailgate • Class IV trailer hitch receiver • 4- and 7-pin trailer wiring harness/connectors • 17-inch forged aluminum wheels with 33-inch LT All-Terrain tires

## RAM HEAVY DUTY TRIM LEVELS



### LARAMIE

2500



Crew Cab



SRW: 6'4" or 8' Box



40/20/40 Bench Seat



Bucket Seats Opt.



Mega Cab®



SRW: 6'4" Box



40/20/40 Bench Seat



Bucket Seats Opt.

3500



Crew Cab



SRW: 6'4" or 8' Box



DRW: 8' Box



40/20/40 Bench Seat



Bucket Seats Opt.



Mega Cab



SRW: 6'4"



DRW: 6'4" Box



40/20/40 Bench Seat



Bucket Seats Opt.

### STANDARD FEATURES:

#### MECHANICAL

2500: 5.7L HEMI® V8 with heavy-duty cooling and 66RFE 6-speed automatic transmission

3500: 6.7L Cummins® Turbo Diesel with heavy-duty cooling and 6-speed manual transmission • Tow hooks • 7 x 11-inch trailer tow mirrors

2500/3500: Electronic Stability Control System (ESC)<sup>[9]</sup> (on SRW models only), which includes 4-wheel ABS, Brake Assist, All-Speed Traction Control, Electronic Roll Mitigation, Hill Start Assist, and Trailer Sway Control<sup>[9]</sup> • Electronic part-time transfer case (on 4x4 models) • Electronic trailer brake controller • Remote keyless entry • ParkView® Rear Back-Up Camera<sup>[5]</sup> • Security alarm • On short box models: 34-gallon fuel tank • Long box models: 35-gallon fuel tank

#### INTERIOR

Leather-trimmed front 40/20/40 bench seat • Power driver and front-passenger seats • Heated front seats • Leather-trimmed 60/40 split-folding rear bench • Power adjustable pedals with memory • 115-volt power outlet • Carpet floor covering • Multistage front air bags<sup>[10]</sup> • Supplemental side-curtain air bags<sup>[10]</sup> • Heated leather-wrapped tilt steering wheel with audio controls • Automatic headlamps • Automatic temperature control • Power windows and door locks • Media Center 730N touch-screen radio with CD player, navigation, 40GB hard drive, remote USB port, MP3 auxiliary input jack and SiriusXM™ Satellite Radio<sup>[8]</sup> • Premium 10-speaker surround sound audio system • Electronic Vehicle Information Center (EVIC) located in the instrument panel cluster • Overhead console with Universal Garage Door Opener • Power sliding rear window

#### EXTERIOR

Two-tone paint treatment with lower body and fender flares in Bright Silver Metallic • Chrome front and rear bumpers • Chrome door handles • Chrome grille surround with chrome billet inserts • Chrome power heated fold-in sideview mirrors with puddle lamps and turn signal indicators • Quad-lens headlamps • Fog lamps • Bed rail caps • Locking tailgate • 4- and 7-pin trailer wiring harness/connectors • Class IV trailer hitch receiver • 17-inch polished aluminum wheels with BSW tires



### LARAMIE LONGHORN

2500



Crew Cab



SRW: 6'4" or 8' Box



Bucket Seats



Mega Cab



SRW: 6'4" Box



Bucket Seats

3500



Crew Cab



SRW: 6'4" or 8' Box



DRW: 8' Box



Bucket Seats



Mega Cab



SRW: 6'4"



DRW: 6'4" Box



Bucket Seats

### STANDARD FEATURES:

#### MECHANICAL

2500: 5.7L HEMI V8 with heavy-duty cooling and 66RFE 6-speed automatic transmission

3500: 6.7L Cummins High Output Turbo Diesel with heavy-duty cooling and 6-speed automatic transmission • Tow hooks • 7 x 11-inch trailer tow mirrors

2500/3500: Electronic Stability Control System (ESC)<sup>[9]</sup> (on SRW models only), which includes 4-wheel ABS, Brake Assist, All-Speed Traction Control, Electronic Roll Mitigation, Hill Start Assist, and Trailer Sway Control<sup>[9]</sup> • ParkSense® Rear Park Assist<sup>[5]</sup> • ParkView Rear Back-Up Camera<sup>[5]</sup> • Electronic part-time transfer case (on 4x4 models) • Electronic trailer brake controller • Remote keyless entry • Security alarm system • Remote start system • On short box models: 34-gallon fuel tank • Long box models: 35-gallon fuel tank

#### INTERIOR

Premium leather front bucket seats • Power driver and front-passenger seats • Heated and ventilated front seats • Full-floor center console with leather console cover • 115-volt power outlet • Premium leather heated 60/40 split-folding rear bench • Carpet floor covering • Premium floor mats with removable inserts • Multistage front air bags<sup>[10]</sup> • Supplemental side-curtain air bags<sup>[10]</sup> • Heated leather-wrapped tilt steering wheel with audio controls • Automatic headlamps • Automatic temperature control • Power windows and door locks • Media Center 730N touch-screen radio with CD player, navigation, 40GB hard drive, remote USB port, MP3 auxiliary input jack and SiriusXM Satellite Radio<sup>[8]</sup> • Premium 10-speaker surround sound audio system • Premium instrument cluster • Electronic Vehicle Information Center (EVIC) located in instrument panel cluster • Overhead console with Universal Garage Door Opener • Power sliding rear window

#### EXTERIOR

Two-tone paint treatment with lower body, fender flares, front bumper, rear bumper, and running boards in White Gold Metallic • Fog lamps • Chrome grille surround with chrome billet inserts • Chrome power heated fold-in sideview mirrors with puddle lamps and turn signal indicators • Unique Laramie Longhorn badging • Quad-lens headlamps • Chrome door handles • Bed rail caps • Spray-in bedliner • Locking tailgate • 4- and 7-pin trailer wiring harness/connectors • Class IV trailer hitch receiver • 17-inch polished aluminum wheels with BSW tires



# AUTHENTIC RAM ACCESSORIES

**Mopar**. Inspiring truck owners with innovative parts and accessories – all made-to-spec, for your Ram truck. This is what Mopar delivers, along with expert, caring service. Mopar technicians are the masters of your make and model, with access to the authentic tools and diagnostic equipment that help get the job done efficiently and effectively. Choose authentic Mopar parts and service and you'll drive away with peace of mind. Visit [mopar.com](http://mopar.com) or your dealer for more information on the full line of Authentic Ram Accessories.

*Above: Ram 2500 Crew Cab with available Steel Ladder Rack, an Authentic Ram Accessory by Mopar. Properly secure all cargo.*

**1 CAPABILITY.** It's total strength when you need pulling power: tough Gooseneck Hitch attaches to frame crossmembers and delivers outstanding towing capability.

**2 FUNCTIONALITY.** Barrier for others, strongbox for you. Constructed of diamond plate aluminum, the lockable Heavy-Duty Commercial Grade Toolbox is ideal for jobs large and small.

**3 PROTECTION.** Scratches and dents in the truck bed are history when you opt for the dealer-installed Drop-In Bedliner with its cargo-friendly molded surface.

**4 CONNECTIVITY.** Get with it — and stay there. Web access is critical, and the means to stay in touch with it all is this indispensable Accessory from Mopar: the comprehensive Uconnect Web.<sup>(1)</sup>



Ram 1500 shown.

Ram 1500 shown.

# RAM 2500/3500 BUYER'S GUIDE

PACKAGE DESIGNATIONS	ST REG/CREW		SLT REG/CREW/MEGA		BIG HORN CREW/MEGA		OUTDOORSMAN REG/CREW/MEGA		POWER WAGON® CREW (2500 ONLY)		LARAMIE CREW/MEGA		LARAMIE LONGHORN CREW/MEGA	
	A	G	Z	T	P	H	K							
<b>ENGINES AND TRANSMISSIONS</b>														
5.7L HEMI® V8 WITH VVT (E2C)														
6-SPEED AUTOMATIC (D5P) (2500 only)	26A	26G	26Z	26T	26P	26H	26K							
6.7L CUMMINS® TURBO DIESEL I-6 (E7J)														
6-SPEED MANUAL (D5E)	2EA	2EG	2EZ	2ET	N/A	2EH	N/A							
6.7L CUMMINS HIGH OUTPUT TURBO DIESEL I-6 (E7I)														
6-SPEED 68RFE AUTOMATIC (D67)	2FA	2FG	2FZ	2FT	N/A	2FH	2FK							
<b>MECHANICAL FEATURES</b>														
ALTERNATORS — 160-amp (BAB)	•	•	•	•	•	•	•	•	•	•	•	•	•	•
— 180-amp (4x4 models only; included with Heavy-Duty Snowplow Prep Group) (BAD)	P	P	P	P	•	P	P							
<b>AXLES 2500</b>														
— Antisnare rear differential (DSA)	0	0	0	•	•	0	0							
— Tri-Lok® front and rear electronic locking differentials (DSE)														
— 3.42 ratio (standard with Cummins Turbo Diesel only; not available on Outdoorsman 4x4 models) (DMR)	0	0	0	0	•	0	0							
— 3.73 ratio (available with Cummins Turbo Diesel) (DME)	•/0	•/0	•/0	•/0	•/0	•/0	•/0							
— 4.10 ratio (included on Outdoorsman 4x4) (DMF)	0	0	0	0	P	•	0	0						
— 4.56 ratio (DMU)														
— 10.5-inch Single Rear Wheel (2500 HEMI models only) (DRW)	•	•	•	•	•	•	•							
— 10.5-inch Single Rear Wheel (included with 6.7L Cummins engine) (DRQ)	P	P	P	P	•	P	P							
<b>AXLES 3500</b>														
— Antisnare rear differential (DSA)	•	•	•	•	•	•	•							
— 3.42 ratio (DMR)	•	•	•	•	•	•	•							
— 3.73 ratio (DME)	0	0	0	0	0	0	0							
— 4.10 ratio (optional with SRW; included with MAX Tow Group on DRW) (DMF)	0/P	0/P	0/P	0	0	0/P	0/P							
— 11.5-inch Single Rear Wheel (not available on 3500 Regular Cab; standard on 3500 Crew Cab short box models; included with Single Rear Wheel Group) (DRQ)	•/P	•/P	•/P	•	•	•/P	•/P							
— 11.5-inch Dual Rear Wheel (not available on 3500 Crew Cab short box models) (DRX)	•	•	•	•	•	•	•							
<b>BATTERY</b> — 730-amp (BCN)	•	•	•	•	•	•	•							
<b>DIESEL EXHAUST BRAKE</b> — Included with Cummins engines (NEN)	P	P	P	P	•	P	P							
<b>DUAL REAR WHEEL</b> — Includes 11.5-inch DRW axle, box and fender clearance lamps (3500 only; not available on Crew Cab short box models) (WLA)	•	•	•	•	•	•	•							
<b>DUAL TRANSMISSION OIL COOLER</b> — Requires Cummins High Output Diesel (included with 3500 Max Tow Group)	0/P	0/P	0/P	0	0	0/P	0/P							
<b>ENGINE BLOCK HEATER</b> — Included with Cold Weather Group (NWK)	0/P	0/P	0/P	0/P	0	0/P	0/P							
<b>ENGINE COOLING</b> — Heavy-duty (NMC)	•	•	•	•	•	•	•							
<b>FUEL TANK</b> — 34-gallon (standard with 6' 4" boxes) (NFU)	•	•	•	•	•	•	•							
— 35-gallon (standard with 8-ft boxes) (NFV)	•	•	•	•	•	•	•							
<b>SHOCK ABSORBERS</b> — Front, heavy-duty (SFB)	•	•	•	•	•	•	•							
— Rear, heavy-duty (SGB)	•	•	•	•	•	•	•							
<b>SKID PLATES</b> — Fuel tank (4x4 models only) (XEE)	•	•	•	•	•	•	•							
— Transfer case (4x4 models only; included with the Protection and Heavy-Duty Snowplow Prep Groups) (XEF)	P	P	P	P	•	P	P							
<b>STABILIZER BAR</b> — Front (SHA)	•	•	•	•	•	•	•							
— Front, electronic disconnect (SHG)	•	•	•	•	•	•	•							
<b>STEERING</b> — Power, rack-and-pinion (4x2 models only) (SBA)	•	•	•	•	•	•	•							
— Power, recirculating ball (4x4 models only) (SBE)	•	•	•	•	•	•	•							
<b>TOW HOOKS</b> — Included with Protection Group and 6.7L Cummins engine; standard on 3500 (XEA)	0/P	0/P	0/P	•	•	0/P	0/P							
<b>TRAILER HITCH RECEIVER</b> — Class IV; includes 4- and 7-pin trailer wiring harness/connectors (XFH) (XFA)	•	•	•	•	•	•	•							
<b>TRANSFER CASE</b> — Manual shift, part-time (4x4 models only) (DH1)	•	•	•	•	•	•	•							
— Electric shift, part-time (4x4 models only) (DH3)	•	•	•	•	•	•	•							
<b>WINCH</b> — WARN® Front, electric, 12,000-lb capacity (XES)	•	•	•	•	•	•	•							
— Tire carrier (TBM)	•	•	•	•	•	•	•							
<b>EXTERIOR FEATURES</b>														
<b>BADGING</b> — 4x4 (on 4x4 models only)	•	•	•	•	•	•	•							
— Big Horn (MYF)														
— Laramie (MTE)														
— Laramie Longhorn (M1B)														
— Lone Star (Texas only) (MYG)						P								
— Ram's Head (MGA)	•	•	•	•	•	•	•							
— Power Wagon														
— SLT (MTD)	•	•	•	•	•	•	•							
— Outdoorsman														
<b>BEDLINER</b> — Spray-in (XMF)	0	0	0	0	0	0	•							
<b>BUMPERS</b> — Front, Black (MCC)	•	•	•	•	•	•	•							
— Rear, Black (MBZ)	•	•	•	•	•	•	•							
— Front, painted lower body-color														
— Rear, painted lower body-color														
— Front, chrome (included with Chrome Appearance Group) (MCT)	P	•	•	•	•	•	•							
— Rear, chrome (included with Chrome Appearance Group) (MBF)	P	•	•	•	•	•	•							
<b>CHROME TUBULAR SIDE STEPS</b> — Authentic Ram Accessory by Mopar® (MRT)	0	0	0	0	0	0	0							
<b>FASCIA</b> — Front, headlamp filler, Black (included with low-volume paint) (MCC)	P	P	P	P	•	P	P							
— Front, headlamp filler, body-color (MCM)	•	•	•	•	•	•	•							
<b>FOG LAMPS</b> — Included with Popular Equipment Group (LNU)		P	•	•	•	•	•							
<b>GRILLE</b> — Chrome surround, Black insert grille (included with Chrome Appearance Group) (MFD)	•	•	•	•	•	•	•							
— Black (MFF)														

PACKAGE DESIGNATIONS	ST REG/CREW		SLT REG/CREW/MEGA		BIG HORN CREW/MEGA		OUTDOORSMAN REG/CREW/MEGA		POWER WAGON® CREW (2500 ONLY)		LARAMIE CREW/MEGA		LARAMIE LONGHORN CREW/MEGA	
	A	G	Z	T	P	H	K							
<b>PACKAGE DESIGNATIONS</b>														
— Chrome surround, chrome insert (MF1)														
— Body-color surround, Black insert (MFT)														
<b>EXTERIOR FEATURES (continued)</b>														
<b>HEADLAMPS</b> — Automatic (LMG)	•	•	•	•	•	•	•	•	•	•	•	•	•	•
— Halogen (LMA)	•	•	•	•	•	•	•	•	•	•	•	•	•	•
— Quad halogen (LME)														
<b>LAMPS, EXTERIOR</b> — Cab clearance (included with 3500 DRW models; available on 2500/3500 SRW models) (LNC)	P/0	P/0	P/0	0	•	P/0	P/0							
— Box and rear fender clearance (included with 3500 DRW models) (LND)														
<b>MIRRORS 2500; EXTERIOR</b>														
— Manual, Black, Regular Cab only (GPU)	•	•	•	•	•	•	•	•	•	•	•	•	•	•
— Folding trailer tow, manual, Black, Regular Cab only (GPD)	0													
— Power, heated, folding, Black (GTF)	•	•	•	•	•	•	•							
— Power, heated, folding, Black; includes exterior courtesy lamps and supplemental turn signal (included with Luxury Group) (GIK)		P	P	P	P									
— Power trailer tow, heated, manual folding, Black; includes exterior courtesy lamps and supplemental turn signal (GPG) (NA Regular Cab ST)	0	0	0	0	0									
— Power multifunction, heated, folding, chrome; includes position memory, exterior courtesy lamps and supplemental turn signal (GU4)													•	•
— Power multifunction trailer tow, heated, manual folding, chrome; includes position memory, exterior courtesy lamps and supplemental turn signal (GPC)													0	0
<b>MIRRORS 3500; EXTERIOR</b>														
— Folding trailer tow, manual, Black, Regular Cab only (GPD)	•	•	•	•	•	•	•	•	•	•	•	•	•	•
— Power trailer tow, heated, manual folding, Black; includes exterior courtesy lamps and supplemental turn signal (included with Crew Cab) (GPG)	P/•	•	•	•	•	•	•							
— Power multifunction trailer tow, heated, manual folding, chrome; includes position memory, exterior courtesy lamps and supplemental turn signal (GPC)													•	•
<b>PAINT</b> — Monotone (APA)	•	•	•	•	•	•	•	•	•	•	•	•	•	•
— Two-tone, includes accent fender flares (APD)														
<b>RAMBOX® Cargo Management System</b> — Includes pickup box with integrated bins that are weatherproof, lockable and drainable; also includes rails with four adjustable cleats, and a dual-purpose bed divider/extender (for 6'4" box, Single Rear Wheel models only; not available with 8-ft box, 6'4" box late availability) (XB9)	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>TAILGATE</b> — Locking (XJJ)	•	•	•	•	•	•	•	•	•	•	•	•	•	•
<b>TIRES 2500</b>														
— LT245/70R17E BSW All-Season (TWD)	•	•	•	•	•	•	•	•	•	•	•	•	•	•
— LT245/70R17E BSW On-/Off-road (TWE)	0													
— LT265/70R17E BSW All-Season (not available on Mega Cab® 4x4 models) (TT3)								•	•	•	•	•	•	•
— LT265/70R17E BSW On-/Off-road, 4x4 only (standard on Mega Cab 4x4 models) (TXE)								•	•	•	•	•	•	•
— LT285/70R17E BSW All-Terrain (Power Wagon models only) (TXA)														
— LT265/70R17E OWL On-/Off-road (included with Popular Equipment Group) (TT5)		P/0	0	•	•	•	•	•	•	•	•	•	0	0
— Spare, full-size (TBB)	•	•	•	•	•	•	•	•	•	•	•	•	•	•
<b>TIRES 3500</b>														
— LT265/70R17E BSW All-Season (SRW models only) (TT3)	•/P	•/P	•/P	•	•	•/P	•/P							
— LT265/70R17E OWL On-/Off-road (SRW models only) (TT5)	0	0	0	•	•	0	0							
— LT235/80R17E BSW All-Season (DRW models only) (TPY)	•	•	•	•	•	•	•							
— LT235/80R17E OWL On-/Off-road (DRW models only) (TP9)	0	0/P	0	•	•	0	0							
— Spare, full-size (TBB)	•	•	•	•	•	•	•							
<b>WHEELS 2500</b>														
— 17 x 7.5-inch styled steel, painted Argent (WD2)	•	•	•	•	•	•	•	•	•	•	•	•	•	•
— 17 x 8-inch steel, chrome-clad (included with Chrome Appearance Group) (WGS)	P	•	•	•	•	•	•							
— 17 x 8-inch polished aluminum (WBG)		0	•	0	•	•	•							
— 17 x 8-inch polished forged aluminum (WFF)														
— 17 x 8-inch polished cast aluminum (WFK)														
— 17 x 7-inch steel spare (WF1)	•	•	•	•	•	•	•	•	•	•	•	•	•	•
<b>WHEELS 3500</b>														
— 17 x 7.5-inch styled steel, painted Argent (SRW models only) (WD2)	•	•	•	•	•	•	•	•	•	•	•	•	•	•
— 17 x 8-inch steel chrome-clad (included with Chrome Appearance Group; SRW models only) (WGS)	P	•	•	•	•	•	•							
— 17 x 8-inch polished aluminum (SRW models only) (WBG)		0	•	0	•	•	•							
— 17 x 8-inch polished forged aluminum (SRW models only) (WFF)														
— 17 x 8-inch polished cast aluminum (SRW models only) (WFK)														
— 17 x 6-inch Argent steel (DRW models only) (WFU)	•	•	•	•	•	•	•							
— 17 x 6-inch steel chrome finish (included with Chrome Appearance Group; DRW models only) (WD4)	P	•	•	•	•	•	•							
— 17 x 6-inch polished aluminum (DRW models only) (WF7)		0	0	•	•	•	•							
— 17 x 6-inch polished aluminum with Longhorn center cap (DRW models only) (WF9)														
<b>WHEELWELL FLARES</b> — Painted Mineral Gray Metallic (MMU)														
— Black (K50)														
— Color-matched with lower two-tone paint color (MRD)														
— Monotone body-color wheel flares														
<b>WINDSHIELD WIPERS</b> — Variable-intermittent (JHA)	•	•	•	•	•	•	•	•	•	•	•	•	•	•
<b>INTERIOR FEATURES</b>														
<b>AIR CONDITIONING</b> — (HAA)	•	•	•	•	•	•	•	•	•	•	•	•	•	•
— Dual-Zone Temperature Control (HAF)														
<b>ASSIST HANDLE</b> — Driver and passenger-side (CSP)	•	•	•	•	•	•	•	•	•	•	•	•	•	•
<b>BEZEL</b> — Center stack, Black (JBF)	•	•	•	•	•	•	•	•	•	•	•	•	•	•
— Center stack, color-keyed (JBY)														
— Center stack, woodgrain insert (JBB)														
<b>CIGAR LIGHTER</b> — Included with Smoker's Group (JJA)	P	P	P	P	P									

PACKAGE DESIGNATIONS	A	G	Z	T	P	H	K
— Overhead, with Universal Garage Door Opener (included in Luxury Group) (CV2)							
<b>INTERIOR FEATURES (continued)</b>							
<b>DOOR LOCKS</b> — Manual (Regular Cab models only) (JEB)							
— Power (included with Crew Cab) (JPB)							
<b>FLOOR COVERING</b> — Heavy-duty vinyl (CK)							
— Carpet (included with ST Popular Equipment Group) (CKE)							
<b>FLOOR MATS</b> — Front only, carpeted (Regular Cab; included with carpet on ST models) (CLA)							
— Front and rear, carpeted (Crew Cab and Mega Cab models; included with carpet on ST models) (CLE)							
— Front, rubber all-weather (Regular Cab models only) (CLY)							
— Front and rear, rubber all-weather (CLF)							
<b>INSTRUMENT CLUSTER</b> — With display screen for Electronic Vehicle Information Center							
<b>MIRRORS, INTERIOR</b> — Day/night manual (GNA)							
— Auto-dimming rearview day/night (included with Luxury Group and Uconnect® Phone) (GNK)							
— Passenger-side visor with mirror (GNM)							
— Illuminated visor, passenger and driver side (included with Luxury Group) (GNC)							
<b>PEDALS</b> — Power adjustable (requires automatic transmission) (XAP)							
— Power adjustable with memory (requires automatic transmission) (XAM)							
<b>PICKUP BOX DELETE</b> — 2500 Regular Cab and Crew Cab models only (XBC)							
<b>POWER ACCESSORY DELAY</b> — (JKY)							
<b>POWER OUTLETS</b> — Two 12-volt auxiliary (JJJ)							
— 115-volt auxiliary (included with *M9, *M1 seats) (JKV)							
<b>SEAT BELTS</b> — Front, shoulder height adjustable (CCD)							
<b>SEATS</b> — Power 10-way driver (included with *M9 and *M1 seats) (JRT)							
— Power 10-way driver with memory and 6-way power front-passenger (JRF)							
— Heated driver and front-passenger, includes heated steering wheel (CMA)							
— Heated second-row (included with *G1 bucket seats) (JPZ)							
— Vinyl 40/20/40 split-bench front (Crew Cab models include folding rear bench seat trimmed in vinyl) (*TX)							
— Cloth-trimmed 40/20/40 split-bench front with folding center armrest/business console (included with ST Popular Equipment Group; Crew Cab and Mega Cab models include folding rear bench seat trimmed in cloth) (*V9)							
— Premium cloth-trimmed 40/20/40 split-bench front with power 10-way driver, power lumbar adjuster, folding center armrest/business console, 115-volt auxiliary power outlet (included with Popular Equipment Group; Crew Cab and Mega Cab models include 60/40 split-folding rear bench seat) (*M9)							
— Leather-trimmed 40/20/40 split-bench heated front with power 10-way/memory for driver, power 6-way front-passenger, power lumbar adjuster, front center-seat-cushion storage and folding center armrest/business console, 115-volt auxiliary power outlet (Crew Cab and Mega Cab models include 60/40 split-folding rear bench seat trimmed in vinyl) (*V1)							
— Leather-trimmed low-back, ventilated and heated bucket seats, includes power 10-way driver and power 6-way front-passenger, power lumbar adjuster, fixed center console, 115-volt auxiliary power outlet, heated second-row seats on Crew Cab and Mega Cab models (Crew Cab and Mega Cab models include 60/40 split-folding rear bench seat trimmed in vinyl) (*G1)							
— Premium leather low-back, ventilated and heated bucket seats, power 10-way driver and power 6-way front-passenger, power lumbar adjuster, fixed center console, 115-volt auxiliary power outlet, heated second-row seats on Crew Cab and Mega Cab models (Crew Cab and Mega Cab models include 60/40 leather split-folding rear bench seat) (Bark Brown seats include laser etching) (*X)							
— Premium leather-trimmed low-back, ventilated and heated bucket seats, includes power 10-way driver and power 6-way front-passenger, power lumbar adjuster, fixed center console, 115-volt auxiliary power outlet, heated second-row seats on Crew Cab and Mega Cab models (Crew Cab and Mega Cab models include 60/40 split-folding rear bench seat) (Bark Brown only, no laser etching) (*D)							
<b>SPEED CONTROL</b> — (NHM)							
<b>STEERING</b> — Tilt-column (SUA)							
<b>STEERING WHEEL</b> — Four-spoke, urethane-wrapped (SCF)							
— Leather-wrapped with remote audio control buttons (included with Luxury Group) (SCV)							
— Heated (included with heated seats) (NHS)							
<b>STORAGE</b> — Front center-seat-cushion (included with *M9) (CVH)							
— Front, behind seat (Regular Cab models only) (CU3)							
— Rear, behind second-row seat (Mega Cab models only) (CU3)							
— Rear, underseat compartment (Crew Cab models only) (CUE)							
— Rear, in-floor storage bins (Crew Cab models only)							
<b>SUNROOF</b> — Power (Crew Cab and Mega Cab models only) (GWA)							
<b>TURN SIGNALS</b> — Three-blink lane-change signal							
<b>TIP START</b> — Included with automatic transmissions							
<b>VISORS</b> — Front passenger, with mirror (GNM)							
— Driver and front passenger, with illuminated vanity mirrors (included with Luxury Group) (GNC)							
<b>WINDOWS</b> — Manual (Regular Cab models only) (JFB)							
— Power, front with driver-side one-touch down (Regular Cab models only) (JPY)							

PACKAGE DESIGNATIONS	A	G	Z	T	P	H	K
— Power, front and rear with driver-side one-touch down and up (Crew Cab and Mega Cab models only) (JP3)							
<b>INTERIOR FEATURES (continued)</b>							
— Rear backlight, fixed (included with rear defroster on Crew Cab and Mega Cab models) (GJD)							
— Rear defroster (Crew Cab and Mega Cab models only; requires fixed glass rear window) (GFA)							
— Rear backlight, sliding (Regular Cab models only) (GFD)							
— Rear backlight, power sliding (Crew Cab and Mega Cab models only) (GFE)							
<b>UNCONNECT MULTIMEDIA</b>							
<b>MEDIA CENTER 130 RADIO</b> — AM/FM/CD radio with MP3/WMA support, audio jack and Voice Command <sup>SM</sup> (RES)							
<b>MEDIA CENTER 430 RADIO</b> — AM/FM/CD/DVD <sup>SM</sup> radio with MP3/WMA support, 6.5-inch touch screen, 40GB hard drive, SiriusXM <sup>SM</sup> Satellite Radio <sup>SM</sup> audio jack and Voice Command <sup>SM</sup> (RBZ)							
<b>MEDIA CENTER 430N RADIO</b> — AM/FM/CD/DVD <sup>SM</sup> radio with MP3/WMA support, 6.5-inch touch screen, 40GB hard drive, SiriusXM Satellite Radio <sup>SM</sup> audio jack, Voice Command <sup>SM</sup> , GPS Navigation, SiriusXM Traffic <sup>SM</sup> , SiriusXM Travel Link <sup>SM</sup> and Uconnect Phone (RHB)							
<b>MEDIA CENTER 730N RADIO</b> — AM/FM/CD/DVD <sup>SM</sup> radio with MP3/WMA support, 6.5-inch touch screen, 40GB hard drive, SiriusXM Satellite Radio <sup>SM</sup> audio jack, Voice Command <sup>SM</sup> , GPS Navigation, SiriusXM Traffic <sup>SM</sup> , SiriusXM Travel Link <sup>SM</sup> and Uconnect Phone (RHR)							
<b>RADIO CONTROLS</b> — Steering wheel-mounted audio controls (included with leather-wrapped steering wheel) (RDZ)							
<b>REAR SEAT VIDEO SYSTEM</b> — Not available on Regular Cab models (XRV)							
<b>REMOTE USB PORT</b> — Included with Media Center touch-screen radio or Uconnect Phone (RSX)							
<b>SIRIUSXM SATELLITE RADIO<sup>SM</sup></b> — Included with ST Popular Equipment Group (RSC)							
<b>SPEAKER SYSTEM</b> — Six standard (RCG)							
— Six premium speakers (Regular Cab only) (RCK)							
— Ten premium amplified speakers including a subwoofer (included with Technology Group) (RC3)							
<b>UNCONNECT PHONE</b> — Hands-free calling with Address Sync <sup>SM</sup> , Bluetooth <sup>SM</sup> and Voice Command <sup>SM</sup> (included with Media Center touch-screen radios) (RSP)							
<b>UNCONNECT WEB<sup>SM</sup></b> — Internet connection WiFi Hotspot (dealer-installed Authentic Accessory by Mopar <sup>SM</sup> )							
<b>SAFETY AND SECURITY</b>							
<b>AIR BAGS<sup>SM</sup></b> — Multistage front (CG3)							
— Supplemental side-curtain (CGS)							
<b>BRAKES</b> — Power-assisted 4-wheel antilock disc (BRT)							
<b>ELECTRONIC STABILITY CONTROL<sup>SM</sup></b> — ESC (includes ABS, Brake Assist, All-Speed Traction Control, Electronic Roll Mitigation, Hill Start Assist, and Trailer Sway Control <sup>SM</sup> ) (not available on 3500 DRW models) (BRT)							
<b>PARKSENSE<sup>SM</sup></b> — Rear Park Assist System <sup>SM</sup> (included with Technology Group) (XAA)							
<b>PARKVIEW<sup>SM</sup></b> — Rear Back-Up Camera <sup>SM</sup> (requires Media Center touch-screen radio) (XAC)							
<b>REMOTE KEYLESS ENTRY</b> — Controls for power door locks, illuminated entry system, panic alarm; includes 2 transmitters (included with ST Popular Group) (GXM)							
<b>REMOTE START SYSTEM</b> — Requires automatic transmission (XBM)							
<b>SECURITY ALARM</b> — (LSA)							
<b>SENTRY KEY<sup>SM</sup> THEFT DETERRANT</b> — Engine immobilizer (GXX)							
<b>TIRE PRESSURE MONITOR WITH DISPLAY</b> — 2500 models only (XGM)							
<b>TRAILER BRAKE CONTROL</b> — Fully integrated electronic (XHC)							
<b>PACKAGE GROUPS</b>							
<b>CHROME ACCENTS GROUP</b> — Includes chrome exhaust tip, chrome bodyside molding, and chrome tubular side steps (AEE)							
<b>CHROME APPEARANCE GROUP</b> — Includes chrome front and rear bumpers, chrome grille, 17-inch chrome steel wheels (AED)							
<b>CHROME SIDE STEP AND BED RAIL GROUP</b> — Includes chrome tubular side steps, chrome bed rails (ACZ)							
<b>COLD WEATHER GROUP</b> — Includes engine block heater and winter front grille cover (requires Cummins <sup>SM</sup> Turbo Diesel) (ADE)							
<b>HEAVY-DUTY SNOWPLOW PREP GROUP</b> — Includes 180-amp alternator, transfer case skid plate (4x4 models only) (AHD)							
<b>LUXURY GROUP</b> — Includes overhead console, sun visors with illuminated vanity mirrors, auto-dimming rearview mirror, power heated mirrors (on G, Z, and T CPUS only), Universal Garage Door Opener, glove box lamp, underhood lamp, rear dome lamp with on/off switch, and leather-wrapped steering wheel (ADA)							
<b>MAX TOW GROUP</b> — 3500 DRW models only. Includes 4.10 gear ratio and aluminum heat sink differential cover, dual transmission oil cooler (requires Cummins High Output engine and 6-speed automatic transmission) (AHQ)							
<b>POPULAR EQUIPMENT GROUP</b> — Includes premium cloth 40/20/40 bench seat, fog lamps and OWL tires (Regular Cab only) (ALW)							
<b>PROTECTION GROUP</b> — Includes tow hooks and transfer case skid plate (4x4 models only) (ADB)							
<b>SINGLE REAR WHEEL GROUP</b> — 3500 models only (standard on Crew Cab short box; available on Crew Cab long box and Mega Cab models; not available on Regular Cab) (AR9)							
<b>SMOKER'S GROUP</b> — Includes ashtray and cigar lighter (AWS)							
<b>ST POPULAR EQUIPMENT GROUP</b> — Includes cloth 40/20/40 bench seat, carpeted flooring, speed control, RKE on Crew Cab, floor mats and SiriusXM Satellite Radio <sup>SM</sup> (AJV)							
<b>TECHNOLOGY GROUP</b> — Includes premium 10-speaker system and ParkSense Rear Park Assist System <sup>SM</sup> (Crew Cab and Mega Cab models only) (ADG)							

<sup>SM</sup>™-dash DVD capability is not available in all states. See your dealer for details.



17-INCH ARGENT STEEL WHEEL  
(STANDARD ON 2500/3500 ST SRW)



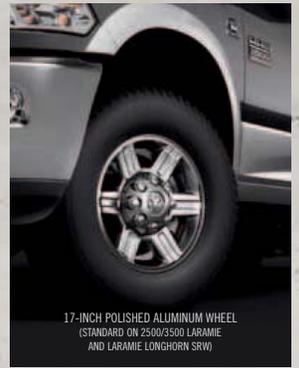
17-INCH CHROME-CLAD STEEL WHEEL  
(STANDARD ON 2500/3500 SLT SRW, AVAILABLE ON ST)



17-INCH POLISHED FORGED ALUMINUM WHEEL  
(STANDARD ON OUTDOORSMAN, POWER WAGON<sup>SM</sup>)



17-INCH POLISHED FORGED ALUMINUM WHEEL  
(STANDARD ON 2500/3500 BIG HORN/LONE STAR SRW,  
AVAILABLE ON SLT, OUTDOORSMAN)



17-INCH POLISHED ALUMINUM WHEEL  
(STANDARD ON 2500/3500 LARAMIE  
AND LARAMIE LONGHORN SRW)

# EXTERIOR APPEARANCE



BLACK



BRIGHT SILVER METALLIC



BRIGHT WHITE



DEEP CHERRY RED PEARL



DEEP MOLTEN RED PEARL



FLAME RED



MINERAL GRAY METALLIC



SADDLE BROWN PEARL



SAGEBRUSH PEARL



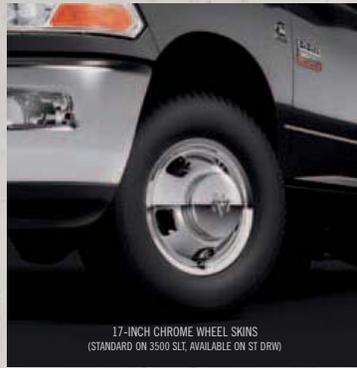
TEQUILA SUNRISE PEARL  
(LATE AVAILABILITY)



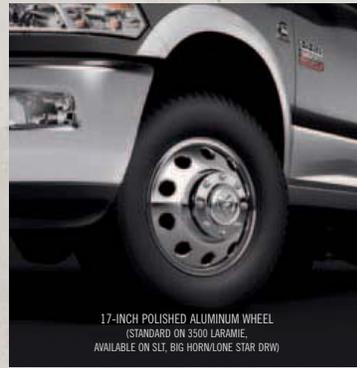
TRUE BLUE PEARL



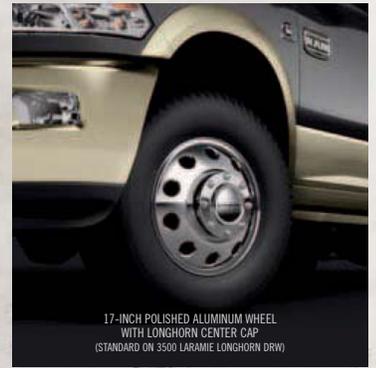
17-INCH ARGENT STEEL WHEEL  
(STANDARD ON 3500 ST DRW)



17-INCH CHROME WHEEL SKINS  
(STANDARD ON 3500 SLT, AVAILABLE ON ST DRW)

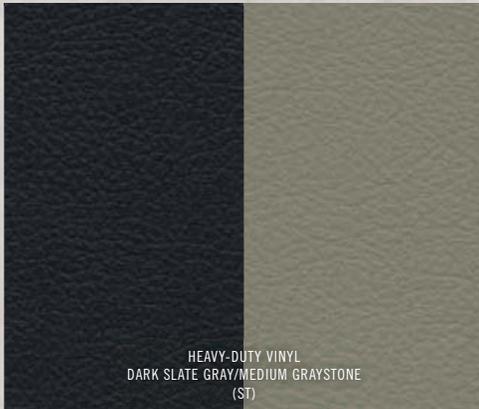


17-INCH POLISHED ALUMINUM WHEEL  
(STANDARD ON 3500 LARAMIE,  
AVAILABLE ON SLT, BIG HORN/LONE STAR DRW)

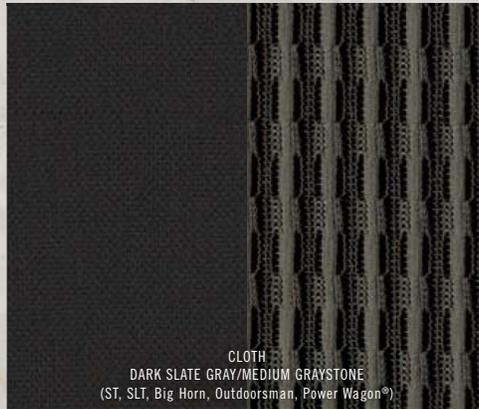


17-INCH POLISHED ALUMINUM WHEEL  
WITH LONGHORN CENTER CAP  
(STANDARD ON 3500 LARAMIE LONGHORN DRW)

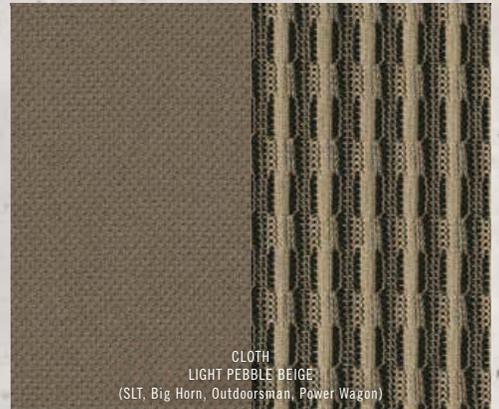
# INTERIOR FABRICS



HEAVY-DUTY VINYL  
DARK SLATE GRAY/MEDIUM GRAYSTONE  
(ST)



CLOTH  
DARK SLATE GRAY/MEDIUM GRAYSTONE  
(ST, SLT, Big Horn, Outdoorsman, Power Wagon®)



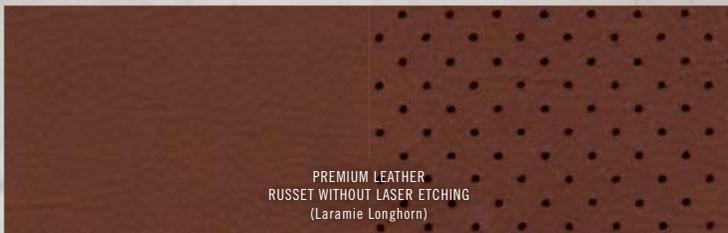
CLOTH  
LIGHT PEBBLE BEIGE  
(SLT, Big Horn, Outdoorsman, Power Wagon)



LEATHER-TRIMMED  
LIGHT PEBBLE BEIGE  
(Laramie)



LEATHER-TRIMMED  
DARK SLATE GRAY  
(Laramie)



PREMIUM LEATHER  
RUSSET WITHOUT LASER ETCHING  
(Laramie Longhorn)



PREMIUM LEATHER  
BARK BROWN WITH LASER ETCHING  
(Available without Laser Etching; refer to Longhorn page  
for Laser Etching reference) (Laramie Longhorn)



<sup>113</sup>Sold separately. Subscription required. Uconnect Web feature is not intended for use by the driver while the vehicle is in motion. Always drive carefully. <sup>112</sup>Transferable. See dealer for complete details and a copy of the 5-Year/100,000-Mile Powertrain Limited Warranty. <sup>111</sup>Based on latest available competitive information. Class based on 250/2500 and 350/3500 pickups. <sup>110</sup>When properly equipped. <sup>109</sup>Always check entire surroundings before backing up. <sup>108</sup>Phone must support Bluetooth Phone Book Access Profile (PBAP). <sup>107</sup>Requires Uconnect Phone. <sup>106</sup>Sirius services require subscriptions, sold separately after 12-month trial included with vehicle purchase. See our Customer Agreement for complete terms at [siriusxm.com](http://siriusxm.com). If you decide to continue your Sirius services at the end of your trial subscription, the plan you choose will automatically renew and bill at then-current rates until you call SiriusXM at 1-866-635-2349 to cancel. Programming subject to change. Sirius satellite service available only to those at least 18 and older in the 48 contiguous U.S., D.C., and PR (with coverage limitations). Traffic information not available in all markets. See [siriusxm.com/traffic](http://siriusxm.com/traffic) for details. Sirius, XM and all related marks and logos are trademarks of Sirius XM Radio Inc. <sup>105</sup>No system, no matter how sophisticated, can repeal the laws of physics or overcome careless driving actions. Performance is limited by available traction, which snow, ice, and other conditions can affect. When the ESC warning lamp flashes, the driver needs to use less throttle and adapt speed and driving behavior to prevailing road conditions. Always drive carefully, consistent with conditions. Always wear your seat belt. <sup>104</sup>The Advanced Front Air Bags in this vehicle are certified to the new U.S. federal regulations for advanced air bags. Children 12 years old and younger should always ride buckled up in a rear seat. Infants in rear-facing child restraints should never ride in the front seat of a vehicle with a passenger front air bag. All occupants should always wear their lap and shoulder belts properly. <sup>103</sup>ON THE JOB is a retail incentive program. See your dealer for official program rules. Inquire about eligibility by calling 877-ONTHEJOB or by logging on to the [chryslerbusinesslink.com/programs\\_incentives.html](http://chryslerbusinesslink.com/programs_incentives.html). The purchaser or lessee must be a qualified commercial customer for more than 30 days prior to the date of vehicle purchase. An official ON THE JOB Customer Acknowledgement Form must be signed by the customer (provided by the dealer).

**5-YEAR/100,000-MILE POWERTRAIN LIMITED WARRANTY.** Transferable. See your dealer for complete details and a copy of the 5-Year/100,000-Mile Powertrain Limited Warranty. **3/36 BASIC LIMITED WARRANTY.** Ram vehicles are covered by a Chrysler Group LLC 3-Year or 36,000-Mile Basic Limited Warranty. See your dealer for a copy of this limited warranty. Excludes normal maintenance and wear items. **BUSINESSLINK.** If your business relies on vehicles, BusinessLink can save you time, money, and hassles. For more, log on to [chryslerbusinesslink.com](http://chryslerbusinesslink.com) or call us toll-free at 877-2THELINK (877-284-3546).

**CHRYSLER SERVICE CONTRACTS.** Chrysler Group LLC has a vested interest in your satisfaction and ownership experience with your new Ram truck. Chrysler Group LLC Service Contracts offer extended service plans to help ensure that you'll enjoy your truck for many years down the road. For more information on comprehensive vehicle coverage, see your Ram dealer, call 800-442-2666, or visit [dodge.com/csc](http://dodge.com/csc). **AUTHENTIC RAM ACCESSORIES BY MOPAR** are designed specifically for your Ram truck for exceptional fit, finish, and performance. Visit your dealership or [mopar.com](http://mopar.com). **UCONNECT.** With Uconnect, you're always connected — to people, places, music, movies, and the Internet. **SIRIUSXM SATELLITE RADIO** delivers over 130 channels, including commercial-free music plus the best sports, news, talk, comedy, and entertainment. Factory-installed SiriusXM Satellite Radio includes a one-year subscription. For more information, go to [siriusxm.com](http://siriusxm.com). **RAM OUTFITTER** is a collection of handpicked items bearing the Ram name — from apparel to tools for work and play. It's all found at [ramtrucks.com/outfitter](http://ramtrucks.com/outfitter). **AUTOMOBILITY.** Chrysler Group LLC's Automobility program provides aftermarket reimbursement incentives on adaptive vehicle uplift equipment in order to help provide safe and reliable vehicle modifications to enhance accessibility for all people. For more information, call 800-255-9877 or visit [chryslerautomobility.com](http://chryslerautomobility.com). **RAM® MASTERCARD®** Earn 3 points on qualifying purchases made at Chrysler Group LLC dealerships, 2 points per \$1 on qualifying travel purchases, and 1 point per \$1 on qualifying purchases everywhere else with the new Ram MasterCard. Points may be redeemed at your local dealership for cash off your new or used vehicle, accessories, parts, or service — including your next oil change. Or choose from hundreds of other rewards, including travel, cash back to your account, merchandise, or gift cards.\* For more information or to apply, visit [RamCard.com](http://RamCard.com). \*Complete details, including restrictions, limitations, and exclusions, will be available when you become a Cardmember. This card is issued by First Bankcard, a division of First National Bank of Omaha, pursuant to a license by MasterCard International Incorporated.

Explore an extensive line of gifts and gear for the Ram enthusiast. From authentic wearables and sports equipment to electronics, all items are as rugged and durable as your Ram vehicle. [ramtrucks.com/outfitter](http://ramtrucks.com/outfitter)

Since the time of printing, some of the information you'll find in this catalog may have been updated. Ask your dealer for details. Some of the equipment shown or described throughout this catalog may be available at extra cost. Specifications, descriptions, illustrative materials, and all competitive comparisons contained herein are as accurate as known at the time this publication was approved for printing. Chrysler Group LLC reserves the right to discontinue models at any time or change specifications without notice or without incurring obligation. All options are required in combination with other options. For the price of the model with the equipment you desire, or verification of specifications contained here, see your Ram dealer. Ram, the Rams Head logo, Big Horn, Chrysler, Dodge, HEMI, Jeep, Laramie, Laramie Longhorn, Mega Cab, Mopar, ParkSense, ParkView, Power Wagon, RamBox, Sentry Key, Tru-Lok and Uconnect are registered trademarks of Chrysler Group LLC. iPod is a registered trademark of Apple Inc. Bluetooth is a registered trademark of Bluetooth SIG, Inc. Sirius, XM and all related marks and logos are trademarks of Sirius XM Radio Inc. Cummins is a registered trademark of Cummins, Inc. WARN is a registered trademark of Warn Industries, Inc. Garmin and the Garmin logo are registered trademarks of Garmin Ltd. or its subsidiaries and are registered in one or more countries, including the U.S. MasterCard is a registered trademark of MasterCard International Incorporated. Bilstein is a registered trademark of August-Bilstein GmbH & Co. Facebook is a registered trademark of Facebook, Inc. The Twitter logo is a service mark of Twitter, Inc. YouTube is a trademark of Google Inc. ©2011 Chrysler Group LLC. All Rights Reserved.



Join fellow RAM enthusiasts and tell your story by posting comments, participating in discussions, and sharing your photos and videos. Join our community on Facebook, follow us on Twitter, and check us out on YouTube.

Shown below: Ram 2500 Crew Cab Power Wagon® in Mineral Gray Metallic with Black lower.



Ram is a registered trademark of Chrysler Group LLC.

# Exhibit 3

## JUSTICE NEWS

### Department of Justice

Office of Public Affairs

FOR IMMEDIATE RELEASE

Tuesday, May 23, 2017

## **United States Files Complaint Against Fiat Chrysler Automobiles for Alleged Clean Air Act Violations**

The Department of Justice, on behalf of the Environmental Protection Agency (EPA), today filed a civil complaint in federal court in Detroit, Michigan, against FCA US LLC, Fiat Chrysler Automobiles N.V., V.M. Motori S.p.A., and V.M. North America, Inc. (collectively referred to as FCA). The complaint alleges that nearly 104,000 light duty diesel vehicles containing 3.0 liter EcoDiesel engines are equipped with software functions that were not disclosed to regulators during the certification application process, and that the vehicles contain defeat devices. The complaint alleges that the undisclosed software functions cause the vehicles' emission control systems to perform differently, and less effectively, during certain normal driving conditions than on federal emission tests, resulting in increased emissions of harmful air pollutants.

The Clean Air Act requires vehicle manufacturers to obtain a certificate of conformity before introducing a vehicle into commerce, by demonstrating to EPA that the vehicle will meet applicable federal emission standards to control air pollution. Manufacturers must disclose in their certification applications all auxiliary emission control devices (e.g. computer software that affects the performance of emission controls based upon operating parameters of the vehicle), justify the presence of any such devices, and explain why those that reduce the effectiveness of emission controls are not "defeat devices." Motor vehicles equipped with defeat devices cannot be certified.

The complaint alleges that FCA equipped nearly 104,000 Ram 1500 and Jeep Grand Cherokee vehicles (Model Years 2014-2016) sold in the United States with at least eight software-based features that were not disclosed in FCA's applications for certificates of conformity and that affect the vehicles' emission control systems. The undisclosed software features lessen the effectiveness of the vehicles' emissions control systems during certain normal driving situations. This results in cars that meet emission standards in the laboratory and during standard EPA testing, but during certain normal on-road driving emit oxides of nitrogen (NOx) that are much higher than the EPA-compliant level. The complaint alleges that each of these vehicles differs materially from the specifications provided to EPA in the certification applications, and thus the cars are uncertified, in violation of the Clean Air Act. These allegations are consistent with those set forth in notice of violation ("NOV") that EPA issued to FCA US LLC and FCA NV on Jan. 12, 2017.

Following the issuance of the NOV, EPA continued its investigation into the operation of the undisclosed software-based features. Based upon this investigation, the complaint alleges that one or more of these undisclosed software features, alone or in combination with the others, renders inoperative, bypasses and/or defeats the vehicles' emission control systems, which were installed to make the vehicles comply with Clean Air Act emission standards. In short, the complaint now alleges that the vehicles contain defeat devices.

NOx pollution contributes to the formation of harmful smog and soot, exposure to which is linked to a number of respiratory- and cardiovascular-related health effects as well as premature death. Children, older adults, people who are active outdoors (including outdoor workers), and people with heart or lung disease are particularly at risk for health effects related to smog or soot exposure. Nitrogen dioxide formed by NOx emissions can aggravate respiratory diseases, particularly asthma, and may also contribute to asthma development in children.

The civil complaint filed today seeks injunctive relief and the assessment of civil penalties. The United States also filed a notice that it will request to transfer its case and fully participate in the pretrial proceedings now initiated in the related multi-district litigation in the Northern District of California.

EPA and the California Air Resources Board are continuing in their discussions with FCA to bring the subject vehicles into compliance with the Clean Air Act and California law. The nature and timing of any resolution of this issue are uncertain.

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**Attachment(s):**

[Download Complaint](#)

**Topic(s):**

Consumer Protection

Environment

**Component(s):**

[Environment and Natural Resources Division](#)

**Press Release Number:**

17-562

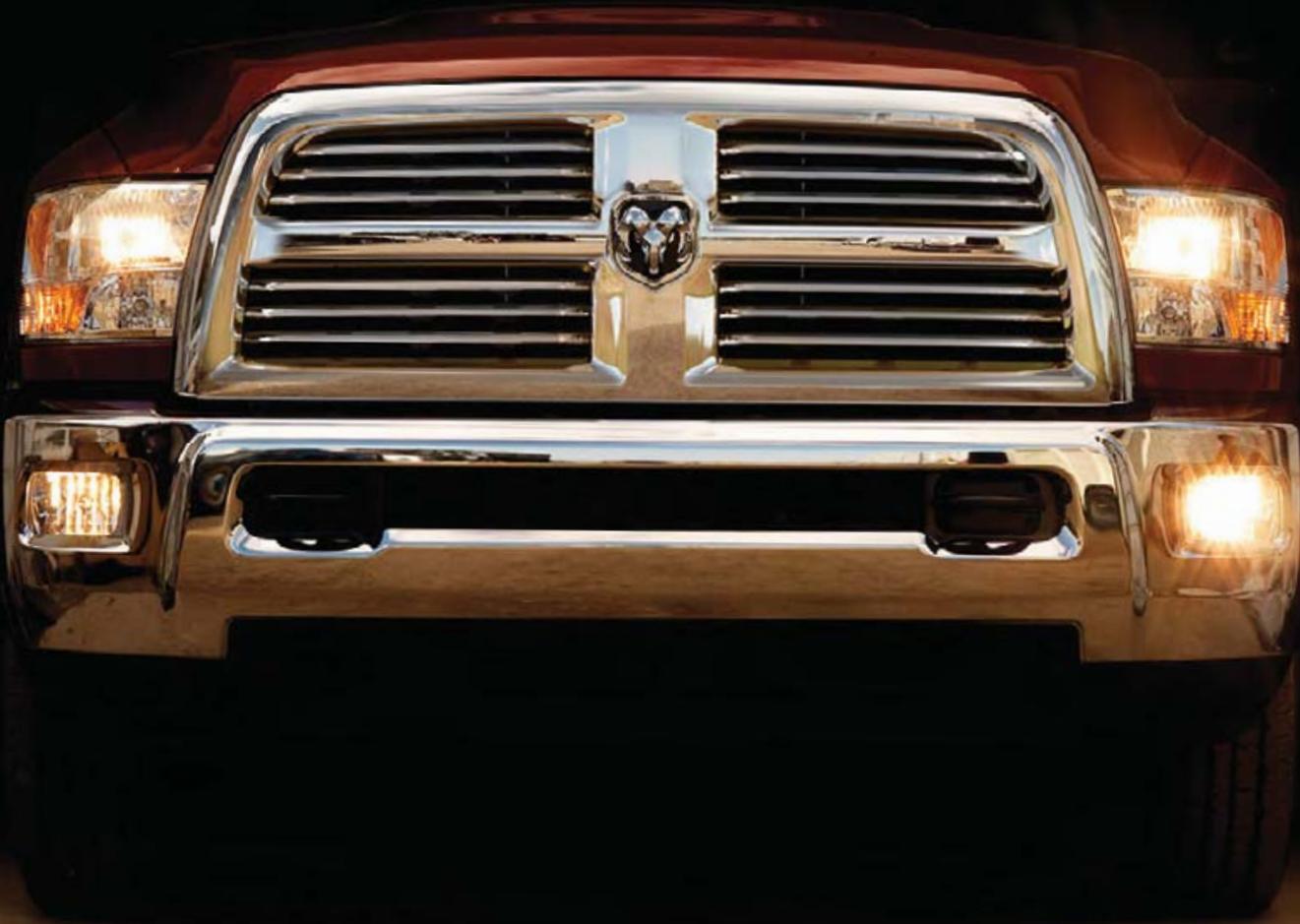
*Updated May 23, 2017*

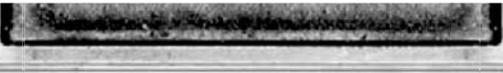
# Exhibit 4



**RAM**

**2013 RAM 2500/3500**





**2013 RAM 2500/3500 HEAVY DUTY**

**T**here's only one way to get it done — and that's doing everything the right way. New 2013 Ram 2500/3500 empower you with fluent ease. For 2013, these tough new Ram Heavy Duty pickups have been transformed into beefier, more capable, and more technologically advanced workers than ever. Even the classic Ram job-rated attitude has evolved — giving you new maximum capability without compromise, and further backed with a raft of best-in-class attributes. The work just got easier — because these workers are the strongest in our history. For more, bookmark [ramtrucks.com](http://ramtrucks.com) and visit often.



- Best-in-class<sup>(1)</sup> max GCWR on Ram 3500 — 37,600 lb<sup>1</sup>
- Best-in-class<sup>(2)</sup> max GCWR on Ram 2500 — 25,000 lb<sup>1</sup>
- Best-in-class<sup>(3)</sup> max towing capability<sup>1</sup> — Ram 3500
- Best-in-class<sup>(2)</sup> max towing capability<sup>1</sup> — Ram 2500
- Best-in-class<sup>(1)</sup> available diesel torque — Ram 3500
- Unsurpassed<sup>(2)</sup> available diesel torque — Ram 2500
- Updated frame, steering, front and rear suspensions, and chassis controls on Ram 3500 models
- Unsurpassed<sup>(2)</sup> max GVWR on Ram 3500 — 14,000 lb<sup>1</sup>
- Unsurpassed<sup>(2)</sup> max GVWR on Ram 2500 — 10,000 lb<sup>1</sup>
- New 5.7L HEMI<sup>®</sup> V8 gas power — standard for Ram 3500 SRW
- New available AISIN<sup>®</sup> six-speed automatic transmission — Ram 3500
- Class-exclusive<sup>(1)</sup> available six-speed manual transmission — Ram 2500/3500
- New "smart" diesel exhaust brake and electronics
- New standard Electronic Stability Control (ESC)<sup>(4)</sup>
- Unsurpassed<sup>(2)</sup> 5-Year/100,000-Mile Powertrain Limited Warranty<sup>(5)</sup>

\*Note: all disclaimers and disclosures can be found at the back of this brochure. <sup>1</sup>When properly equipped.





Ram 2500 Crew Cab Big Horn with available 6.7L Cummins® Turbo Diesel shown in Deep Cherry Red Crystal Pearl.  
Properly secure all cargo.

**6.7L CUMMINS® DIESEL ENGINES**

**MAXIMUM LOADED TRAILER WEIGHTS**  
(WHEN PROPERLY EQUIPPED)

2500 AUTOMATIC TRANSMISSION													
		REGULAR CAB		CREW CAB				MEGA CAB®					
		8' BOX		6'4" BOX		6'4" RAMBOX®		8' BOX		6'4" BOX		6'4" RAMBOX	
6.7L CUMMINS TURBO DIESEL I-6 / 68RFE 6-SPEED	AXLE RATIO												
	GCWR	4x2	4x4	4x2	4x4	4x2	4x4	4x2	4x4	4x2	4x4	4x2	4x4
	3.42	25,000	<b>18,350</b>	17,880	17,950	17,480	17,780	17,270	17,750	17,300	17,570	17,100	17,400

2500 MANUAL TRANSMISSION													
		REGULAR CAB		CREW CAB				MEGA CAB					
		8' BOX		6'4" BOX		6'4" RAMBOX®		8' BOX		6'4" BOX		6'4" RAMBOX	
6.7L CUMMINS TURBO DIESEL I-6 / 656 6-SPEED	AXLE RATIO												
	GCWR	4x2	4x4	4x2	4x4	4x2	4x4	4x2	4x4	4x2	4x4	4x2	4x4
	3.42	24,000	17,250	16,800	16,890	16,410	16,720	16,200	16,680	16,230	16,500	16,030	16,330

WEIGHTS GIVEN IN LB. NUMBERS IN BOLD REFLECT NEW MAX RATINGS.

**MAXIMUM PAYLOAD CAPACITIES**  
(WHEN PROPERLY EQUIPPED)

2500 AUTOMATIC TRANSMISSION													
		REGULAR CAB		CREW CAB				MEGA CAB					
		8' BOX		6'4" BOX		6'4" RAMBOX®		8' BOX		6'4" BOX		6'4" RAMBOX	
6.7L CUMMINS TURBO DIESEL I-6 / 68RFE 6-SPEED	GVWR	4x2	4x4	4x2	4x4	4x2	4x4	4x2	4x4	4x2	4x4	4x2	4x4
	9,000	2,520	2,050							2,920	2,470	2,740	2,270
	10,000			<b>3,120</b>	2,650	2,950	2,500						

2500 MANUAL TRANSMISSION													
		REGULAR CAB		CREW CAB				MEGA CAB					
		8' BOX		6'4" BOX		6'4" RAMBOX®		8' BOX		6'4" BOX		6'4" RAMBOX	
6.7L CUMMINS TURBO DIESEL I-6 / 656 6-SPEED	GVWR	4x2	4x4	4x2	4x4	4x2	4x4	4x2	4x4	4x2	4x4	4x2	4x4
	9,000	2,420	1,970										
	10,000			<b>3,060</b>	2,580	2,890	2,440	2,850	2,400	2,670	2,200	2,500	2,050

WEIGHTS GIVEN IN LB. NUMBERS IN BOLD REFLECT NEW MAX RATINGS.

3500 AUTOMATIC TRANSMISSION																
		REGULAR CAB				CREW CAB				MEGA CAB						
		8' BOX		8' BOX DRW		6'4" BOX		6'4" RAMBOX		8' BOX		8' BOX DRW		6'4" BOX DRW		
6.7L CUMMINS TURBO DIESEL I-6 / 68RFE 6-SPEED	AXLE RATIO															
	GCWR	4x2	4x4	4x2	4x4	4x2	4x4	4x2	4x4	4x2	4x4	4x2	4x4	4x2	4x4	
	3.42	25,000	17,940	17,690	17,560	17,360	17,540	17,220	17,410	17,160	17,410	17,160	17,020	16,790	17,270	17,080
	3.73	27,000			19,560	19,360							19,020	18,790		18,860
6.7L CUMMINS HIGH OUTPUT TURBO DIESEL I-6 / AISIN® 6-SPEED	AXLE RATIO															
	GCWR	4x2	4x4	4x2	4x4	4x2	4x4	4x2	4x4	4x2	4x4	4x2	4x4	4x2	4x4	
	3.42	25,000	17,790	17,540			17,390	17,160	17,260	17,000	17,250	17,000			17,120	16,930
	3.73	29,000			21,410	21,200					20,870	20,630				20,710
6.7L CUMMINS HIGH OUTPUT TURBO DIESEL I-6 / AISIN® 6-SPEED	AXLE RATIO															
	GCWR	4x2	4x4	4x2	4x4	4x2	4x4	4x2	4x4	4x2	4x4	4x2	4x4	4x2	4x4	
	3.42	24,000	16,890	16,640	16,520	16,310	16,500	16,270	16,370	16,110	16,360	16,110	15,980	15,740	16,220	16,030
	3.73	26,000			18,520	18,310					17,960	17,740				17,810

DRW = DUAL REAR WHEEL. WEIGHTS GIVEN IN LB. NUMBERS IN BOLD REFLECT NEW MAX RATINGS.

3500 AUTOMATIC TRANSMISSION																
		REGULAR CAB				CREW CAB				MEGA CAB						
		8' BOX		8' BOX DRW		6'4" BOX		6'4" RAMBOX		8' BOX		8' BOX DRW		6'4" BOX DRW		
6.7L CUMMINS TURBO DIESEL I-6 / 68RFE 6-SPEED	GVWR	4x2	4x4	4x2	4x4	4x2	4x4	4x2	4x4	4x2	4x4	4x2	4x4	4x2	4x4	
	11,100	4,210														
	11,500		4,360			4,210	4,080							4,040	3,920	
	11,600															
	11,700						4,190	4,030								
	12,000								4,580							
	12,300									4,630						
	12,400													4,650	4,500	
	14,000		<b>6,700</b>	6,530							6,190	5,960			6,030	5,840
	11,100	4,060														
6.7L CUMMINS HIGH OUTPUT TURBO DIESEL I-6 / AISIN 6-SPEED	GVWR	4x2	4x4	4x2	4x4	4x2	4x4	4x2	4x4	4x2	4x4	4x2	4x4	4x2	4x4	
	11,500	4,210				4,060	3,930									
	11,600												3,890	3,790		
	11,700						4,020	3,870								
	12,000								4,420							
	12,300									4,470						
	12,400													4,490	4,350	
	14,000		6,580	6,370							6,040	5,800			5,880	5,680

3500 MANUAL TRANSMISSION																
		REGULAR CAB				CREW CAB				MEGA CAB						
		8' BOX		8' BOX DRW		6'4" BOX		6'4" RAMBOX		8' BOX		8' BOX DRW		6'4" BOX DRW		
6.7L CUMMINS TURBO DIESEL I-6 / 656 6-SPEED	GVWR	4x2	4x4	4x2	4x4	4x2	4x4	4x2	4x4	4x2	4x4	4x2	4x4	4x2	4x4	
	11,100	4,160														
	11,500		4,310				4,170	4,040								
	11,600													3,990	3,870	
	11,700							4,140	3,980							
	12,000									4,530						
	12,300										4,580					
	12,400													4,600	4,450	
	14,000		6,600	6,480							6,150	5,910			5,980	5,790

DRW = DUAL REAR WHEEL. WEIGHTS GIVEN IN LB. NUMBERS IN BOLD REFLECT NEW MAX RATINGS.

# TURBO-PROVEN.

**THE FORMIDABLE 6.7L CUMMINS® TURBO DIESEL. AVAILABLE AND SOLIDLY PROVEN IN OVER 2 MILLION RAM HEAVY DUTY APPLICATIONS.**

You're pulling your boat with your new Ram 2500, or a massive trailer with your new Ram 3500. The superiority of impressive diesel torque from the long-proven available 6.7-liter Cummins Turbo Diesel keeps you in the comfort zone. The facts speak decisively: with over two million applications of a Cummins Turbo Diesel in a Ram truck, the history of this exceptional powertrain delivers capability and reliability second to none.

For 2013, Cummins improves the classic Turbo Diesel in Ram Heavy Duty models with a Next-Generation Diesel Exhaust Fluid (DEF)/Select Catalytic Reduction (SCR) system that's fully compliant with recent federal mandates. A new diesel cooling system dissipates heat 25 percent more efficiently — and now incorporates an improved, 11-blade fan. Superior capability comes in the form of the available Cummins High Output Turbo Diesel achieving a best-in-class<sup>(1)</sup> 850 lb-ft of torque for Ram 3500 pickups.

When you're measuring capability, powertrain combinations count big. Credit our colleagues at AISIN® who designed the impressive new available AISIN AS69RC six-speed automatic to handle the available Cummins High Output ratings, higher vehicle weight ratings, and related axle ratios. The fully electronically controlled AISIN transmission makes the grade with tough internal components, a more aggressive Tow/Haul Mode, and a compact gear train. This is outstanding capability, reliability, and quality.

Improvements also apply to Ram's available class-exclusive<sup>(3)</sup> G56 six-speed manual transmission, now modified to handle the increased torque of 660 lb-ft; its hard-finished gear system aims to reduce noise levels. The available 68RFE six-speed automatic transmission is mated to the 370 hp/800 lb-ft of torque Cummins version. Transfer cases boast robust strength. Established BorgWarner BW 44-46 and BW 44-47 cases — with electronic shift-on-the-fly or manually actuated capability, respectively — have long proven themselves, with long-life engineering, exceptional capability, and minimal noise, vibration, and harshness (NVH).



Think heavyweight champion — with paid scholarships to schools of engineering and economics. That's Cummins at work in Ram Heavy Duty, offering improved power and capability, decreased maintenance schedules, and state-of-the-art technology — like the new "smart" diesel exhaust brake — to help improve NVH and vehicle control.

**+ Class-exclusive<sup>(3)</sup> six-speed manual — and more power than ever.** New calibrations from Cummins give you three engine outputs for enormous latitude. The 350 hp/660 lb-ft of torque version is mated to the standard G56 six-speed manual; available for Ram 2500 and 3500.

**+ Unsurpassed<sup>(2)</sup> torque for Ram 2500.** The Cummins rated at 370 hp delivers an incredible 800 lb-ft of torque for Ram 2500. It's mated to the proven 68RFE six-speed automatic transmission, and is also available for Ram 3500 models.

**+ Best-in-class<sup>(1)</sup> torque for Ram 3500.** Newly available for 2013 Ram 3500 is the Cummins High Output Turbo Diesel, paired only with the tough new AISIN six-speed automatic transmission. Best-in-class<sup>(1)</sup> available torque is 850 lb-ft, backed with 385 horsepower; available for 3500 only.

**+ For ideal performance, all-new Ram Active Air technology** switches the air intake path, ensuring optimal power and torque under all grades, climates, and load/towing conditions. Exclusive to diesel-powered Rams.

**+ Bringing operating temperatures to ideal ranges** is a new diesel cooling system. The engineering encompasses a "low-slung" positioned charge air cooler, faster-sequenced water pumps, an efficient new 11-blade fan (instead of eight) and a unique, series-designed dual radiator system. Total heat reduction with the new design is significantly improved — some 25 percent over 2012 models.

**+ The new Cummins "smart" diesel exhaust brake** is standard on every Cummins. Think cruise-control efficiency; the brake offers greater towing control and improves load management, irrespective of the terrain.

**+ For optimum fuel filtration and water separation,** Cummins now utilizes a new top-access engine-mounted fuel filter and a second frame-mounted pre-filter to ensure enhanced contamination protection.

**+ Low cost of ownership and operation** is part of the Cummins process; oil change intervals with the Cummins are a time- and money-saving 15,000-mile interval under normal operating conditions.

**+ Biodiesel compatibility is built in.** All Cummins Turbo Diesels for Ram Heavy Duty pickups are B20-compatible.



All Cummins engines are backed by an unsurpassed<sup>(1)</sup> 5-Year/100,000-Mile Powertrain Limited Warranty.<sup>(5)</sup>



Ram 2500 Mega Cab® Laramie with available class-exclusive<sup>21</sup> RamBox<sup>®</sup> Cargo Management System and available 6.7L Cummins<sup>®</sup> Turbo Diesel. Shown in Black with Bright Silver Metallic lower. Properly secure all cargo.

**5.7L HEMI® V8 ENGINE.**

Some histories repeat themselves; others build on success. The hemispherical combustion chamber is a design that has proven itself to endure high-compression ratios with near-zero fatigue. For 2013, the distinguished HEMI V8 powerplant offers:

- + **Exceptional power and torque** for 2013 Ram 2500 and 3500 SRW models — 383 hp @ 5,600 rpm and 400 lb-ft of torque @ 4,000 rpm.
- + **Interactive Deceleration Fuel Shut-Off (iDFS)**, to seamlessly turn off fuel flow during deceleration for increased fuel efficiency.
- + **A sophisticated electronic throttle control system**, to deliver exact amounts of fuel for premium performance and efficiency.
- + **Variable Valve Timing (VVT)**, to perfect engine breathing through precise valve control — and increase torque over a large rpm range.
- + **Dual spark plugs** — two for each cylinder — to help increase peak power and torque, increase fuel efficiency, burn ancillary exhaust emissions with greater efficiency, and smooth the idle.
- + **An ultra-high compression ratio of 10.5:1** along with dual knock sensors, for stellar performance and fuel efficiency.

The HEMI V8 backs you with one of the best warranties out there: our unsurpassed<sup>[3]</sup> and fully transferable **5-Year/100,000-Mile Powertrain Limited Warranty**.<sup>[5]</sup>



**MAXIMUM PAYLOAD CAPACITIES (WHEN PROPERLY EQUIPPED)**

		2500 AUTOMATIC TRANSMISSION											
		REGULAR CAB		CREW CAB				MEGA CAB®					
		8' BOX		6'4" BOX		6'4" RAMBOX®		8' BOX		6'4" BOX		6'4" RAMBOX	
5.7L HEMI V8 CNG / 66RFE 6-SPEED	GVWR	4x2	4x4	4x2	4x4	4x2	4x4	4x2	4x4	4x2	4x4	4x2	4x4
	8,800								1,620				
5.7L HEMI V8 / 66RFE 6-SPEED	8,510			1,910		1,750							
	8,650	<b>3,170</b>	2,710										
	8,800			2,930	2,500	2,770	2,350	2,770	2,310	2,580	2,110	2,410	1,940

WEIGHTS GIVEN IN LB. NUMBERS IN BOLD REFLECT NEW MAX RATINGS.

		3500 AUTOMATIC TRANSMISSION											
		REGULAR CAB		CREW CAB				MEGA CAB					
		8' BOX		6'4" BOX		6'4" RAMBOX		8' BOX		6'4" BOX		6'4" RAMBOX	
5.7L HEMI V8 / 66RFE 6-SPEED	GVWR	4x2	4x4	4x2	4x4	4x2	4x4	4x2	4x4	4x2	4x4	4x2	4x4
	10,050			3,710		3,580							
	10,100	4,130											
	10,300		4,130										
	10,700			4,240		4,090							
	11,000						4,500			4,430		4,300	
	11,300						<b>4,640</b>			4,550		4,410	

WEIGHTS GIVEN IN LB. NUMBERS IN BOLD REFLECT NEW MAX RATINGS.

# A LEGEND AT WORK.

## THE 5.7-LITER HEMI® V8: IMPRESSIVE PERFORMANCE, HEAVY-DUTY CAPABILITY, AND EXCEPTIONAL DURABILITY.

The résumé of this world-famous engine includes propelling WWII Thunderbolt airplanes, helping define the distinctive Muscle Car Era, and vaulting new 2013 Ram Heavy Duty pickups to first-place consideration for the toughest jobs you face — whether hauling iron from the factory, or climbing that mountain with your camper.

The manifold advantages of the unstoppable hemispherical design of the 5.7-liter HEMI V8, along with VVT, are detailed at left. Now add robust transmissions and transfer cases to expand capability; all components utilize technologies and engineering protocols created specifically for heavy-duty use and long-term durability. And in this economy, improving performance and increasing fuel efficiency are bottom-line specific, for today, it's all about doing business better — and that includes HEMI V8 performance. With its hemispherical heads and VVT-engineering that improves engine breathing for increased response and torque — HEMI V8 performance makes it the natural standard powerplant for Ram 2500 and 3500 SRW models.

Powertrain partners to the HEMI V8 add strength. Mated to the Ram Heavy Duty 5.7-liter HEMI V8 is the sophisticated 66RFE six-speed automatic transmission, a component that exceeds typical demands for anticipated towing and hauling. The transmission offers driver-adaptive shifting, with three multiple clutch packs and a dual-stage hydraulic pump, all contributing to superb road manners and impressive hauling dynamics. The addition of dual filters on the dual-stage pump helps protect the pump and other components, with an independent lubrication cooler ensuring ample pressure under all conditions.

The transfer cases mated to the 5.7-liter HEMI V8 are the same as those utilized by the Cummins® Turbo Diesel — applications that prove unquestionable strength. The BorgWarner BW 44-46 transfer case features responsive electronic shift-on-the-fly engineering, with three operating ranges, plus Neutral. The manually actuated BW 44-47 case features three operating ranges, plus Neutral. Both units offer a low range reduction ratio of 2.64:1 — ideal for slow rock crawling or steep grades. When it comes to off-road capability or on-the-job performance, Ram Heavy Duty is designed to excel.



### MAXIMUM LOADED TRAILER WEIGHTS (WHEN PROPERLY EQUIPPED)

		2500 AUTOMATIC TRANSMISSION												
		REGULAR CAB		CREW CAB				MEGA CAB®						
		8' BOX		6'4" BOX		6'4" RAMBOX®		8' BOX		6'4" BOX		6'4" RAMBOX		
5.7L HEMI V8 CNG / 66RFE 6-SPEED	AXLE RATIO	GCWR												
	3.73	15,000							7,650					
5.7L HEMI V8 / 66RFE 6-SPEED	3.73	18,000	12,350	11,890	11,960	11,530	11,800	11,380	11,800	11,340	11,610	11,140	11,440	10,970
	4.10	20,000	<b>14,350</b>	13,890	13,960	13,530	13,800	13,380	13,800	13,340	13,610	13,140	13,440	12,970
	4.56	18,000				11,230								

WEIGHTS GIVEN IN LB. NUMBERS IN BOLD REFLECT NEW MAX RATINGS.

		3500 AUTOMATIC TRANSMISSION												
		REGULAR CAB		CREW CAB				MEGA CAB						
		8' BOX		6'4" BOX		6'4" RAMBOX		8' BOX		6'4" BOX		6'4" RAMBOX		
5.7L HEMI V8 / 66RFE 6-SPEED	AXLE RATIO	GCWR	4x2	4x4	4x2	4x4	4x2	4x4	4x2	4x4	4x2	4x4	4x2	4x4
	3.73	18,000	11,860	11,660	11,490	11,370	11,360	11,220	11,330	11,170	11,260	11,080	11,130	10,940
5.7L HEMI V8 / 66RFE 6-SPEED	4.10	20,000	<b>13,860</b>	13,660	13,490	13,370	13,360	13,220	13,330	13,170	13,260	13,080	13,130	12,940

WEIGHTS GIVEN IN LB. NUMBERS IN BOLD REFLECT NEW MAX RATINGS.

**6,730-lb**  
**MAXIMUM PAYLOAD\***



## NEW MAX CAPABILITY GETS THE JOB DONE.

Ram Heavy Duty pickups dominated in the task-specific ratings that defined *job-rated capability*. Now they have the boldness to advance that concept into 21<sup>st</sup>-century thinking. New maximum ratings boost long-established strengths to new levels, delivering bigger payloads and tougher towing numbers.

The newly increased GVWRs (Gross Vehicle Weight Ratings) are helped by the indomitable Cummins® powerplants. New 2013 Ram 2500 with the available 6.7L Cummins Turbo Diesel vaults maximum GVWR up to 10,000 lb\* — serious muscle to meet recreational needs and commercial assignments. On new Ram 3500 dually, the new maximum GVWR jumps to 14,000 lb\* — a heavy-duty ideal for all push/pull/haul/do requirements.

It gets better. On new Ram 3500 Heavy Duty, a higher front axle weight rating joins a beefed-up frame, with steel now rated at 50 ksi. Maximum capability in front is ideal for snowplows or hydraulic front-mounted machinery. When it comes to meeting the need, the new max capability figures show that we're ready for it all. New Ram Heavy Duty 2500 and 3500 pickups.

\*When properly equipped. Properly secure all cargo.



# REST EASY. RAM DOES ALL THE WORK.

## NEW RAM BENCHMARKS PERFORMANCE, OFFERING THE FIRST-EVER HEAVY DUTY DUALY WITH STANDARD ELECTRONIC STABILITY CONTROL (ESC).<sup>(4)</sup>

It's obvious that Ram ripples with the biceps and backbone to conquer heavy-duty demands with ease. What's less obvious to the eye are the brains — technology to make these workhorses work better. For 2013, towing, hauling, maneuvering, and handling are all impacted by the new ESC<sup>(4)</sup> system — now standard on all 2013 Ram Heavy Duty 2500/3500 models. The 2013 Ram 3500 dually achieves a new benchmark, with a class-exclusive<sup>(1)</sup> application of the comprehensive ESC<sup>(4)</sup> system in a DRW configuration.

Designed to master maneuverability and control, ESC<sup>(4)</sup> is calibrated to each model's horsepower and torque. The system contains (but isn't limited to) the four-channel **Antilock Brake System (ABS)**, **Electronic Brake Force Distribution**, **Rain Brake Support**, **Brake Assist**, **Ready Alert Braking (RAB)**, **Hydraulic Boost Compensation**, **Trailer Sway Control**,<sup>(4)</sup> **Hill Start Assist**, and a full-function, controllable, and on-demand **All-Speed Traction Control System**. Searching for a heavy-duty pickup with control technology far beyond the competition? New Ram Heavy Duty is the working solution.



**CAPABLE EFFICIENCY PUTS RAM IN FRONT.** Extensive front axle developments in new Ram 3500 4x4 pickups start with a new front axle disconnect for increased efficiency. Front axles have also been enhanced for greater capability with new maximum front GAWRs; they're increased by 500 lb, raising maximum FGAWR to 6,000 lb.\* Further advantages include engineering that reduces parasitic losses and new lower viscosity lube that reduces resistance, both helping to enhance fuel efficiency.

\*When properly equipped.

**+ A NEW FULLY-INTEGRATED REAR FRAME STRUCTURAL CROSSMEMBER** WITH PROVISIONS FOR A FIFTH-WHEEL OR GOOSENECK HITCH HELPS RAMP UP TOWING CAPABILITY\* FOR NEW 2013 RAM 3500 MODELS. THESE ARE TRUCKS WITH BACKBONE, DESIGNED AND BUILT FOR THE TOUGHEST TOWING.

**+ UPDATED ENGINE, TRANSMISSION, AND BODY MOUNTS**, INCLUDING PIONEERING "HYDRO-MOUNTS" AT THE C-PILLAR, GIVE NEW RAM 3500 HEAVY DUTY PICKUPS OUTSTANDING CONTROL OVER NOISE, VIBRATION, AND HARSHNESS (NVH) — DESPITE THE TRUCK'S ENGINEERED-IN APPETITE FOR HEAVIER PAYLOADS.

**+ A NEW THREE-LINK FRONT SUSPENSION** ON 2013 RAM 3500 HEAVY DUTY PICKUPS ENSURES APPROPRIATE ROLL STIFFNESS THAT MATCHES THE VEHICLE'S NEW HIGHER GVWRs — WITH NO SACRIFICE OF RIDE, HANDLING, AND MANEUVERABILITY, IRRESPECTIVE OF CARGO OR PAYLOAD.

**+ MODIFIED REAR AXLES HELP ACHIEVE NEW MAXIMUM CAPABILITY.** ON RAM 3500 HEAVY DUTY MODELS, THE RECONFIGURED HOTCHKISS (LEAF) SUSPENSION LETS YOU LOAD RAM TO GROANING PAYLOADS — WITH NO COMPROMISES IN HANDLING OR ROLL DYNAMICS.

**+ A NEW PREMIUM RECIPROCATING BALL STEERING GEAR** WITH REDESIGNED STEERING KNUCKLES AND BALL JOINTS AND A MORE ROBUST STEERING LINKAGE ON RAM 3500 MODELS ENHANCE STEERING AND CONTROL WITH A MORE PRECISE ON-CENTER FEEL — AND THEY DIRECTLY CONTRIBUTE TO RAM'S IMPRESSIVE HIGHER GVWRs AND PAYLOAD/TOWING FIGURES.†

**+ THE NEW CUMMINS® HIGH OUTPUT TURBO DIESEL MATED TO THE NEW AISIN® SIX-SPEED AUTOMATIC** PROVIDES AN AVAILABLE POWERTRAIN DESIGNED FOR THE RIGORS OF COMMERCIAL-GRADE ASSIGNMENTS. THIS LEVEL OF POWER WARRANTS A BOOST IN BACK. PUT IT INTO A NEW RAM 3500 DUALY, ADD THAT NEW, **LARGER 11.8-INCH REAR RING GEAR**, AND YOU'VE GOT CLASS-LEADING<sup>‡</sup> MAX GVWRs\* AND OUTSTANDING TOWING FIGURES.†



**+ NEW 18- AND 20-INCH<sup>†</sup> WHEELS.** AVAILABLE FOR RAM 3500 SINGLE-REAR-WHEEL MODELS, THEY ADD AUTHORITY TO THE NEW SCULPTED, FLOWING AERODYNAMIC EXTERIOR TOUCHES.

**+ THE REVISED LADDER FRAME WITH EIGHT TOUGH CROSSMEMBERS AND WIDER RAILS ON NEW RAM 3500** LETS YOU TACKLE THE MOST CHALLENGING PAYLOADS WITH ASSURED CAPABILITY AND UNQUESTIONED STRENGTH.

**+ A MORE REFINED AND PRECISE FRONT AXLE GEAR SET** ON NEW RAM 3500 4x4 APPLICATIONS IMPROVE AXLE PERFORMANCE AND HELP BOOST FUEL EFFICIENCY. THESE IMPROVEMENTS COME FROM SUPERFINE PRECISION CUTS IN THE GEARS, WITH ADVANTAGES THAT INCLUDE REDUCED GEAR WHINE, LESS PERCEIVED HARSHNESS, LESS GEAR PLAY, AND TIGHTER CONTACT, ESPECIALLY DURING ACCELERATION.

**+ FRAME STRENGTH MEASURES UP — AT AN INCREDIBLE 50 KSI.** THE HIGH-STRENGTH STEEL ON RAM 3500 MODELS CARRIES THE SAME STANDARD USED TO BUILD BRIDGES AND SUBMARINE HULLS. THIS IS FRAME STRENGTH BUILT TO WORK.

**+ A NEW FRONT AXLE LUBRICANT ON RAM 4x4 MODELS** ALSO PLAYS A ROLE, PROVIDING ULTRA-LOW RESISTANCE — AN ENABLER THAT HELPS ENHANCE FUEL EFFICIENCY.

\*When properly equipped.  
†Late availability.

# RAM HEAVY DUTY. TOTALLY ENGINEERED TO FLOW WITH THE TOW.



New 2013 Ram 3500 Regular Cab Tradesman dually with Chrome Appearance Group and available Cummins High Output Turbo Diesel shown in Bright White, applying new maximum towing to a gooseneck trailer. Properly secure all cargo.

Now, backing up to that hitch in your 2013 Ram Heavy Duty moves you forward at the speed of ingenuity. Count on state-of-the-art innovations that let you master towing in all terrains and conditions, because this is all about straight-from-the-factory towing capability. Assets abound, starting with class-leading<sup>(1)</sup> available torque from the Cummins® High Output on Ram 3500. All Cummins engines feature the new "smart" diesel exhaust brake — indispensable on up- and downhill grades — and new Ram Active Air, offering outstanding air intake for superb performance. All Ram models come with the new, standard Electronic Stability Control (ESC)<sup>(4)</sup> system, comprehensive technology that augments the invaluable standard Tow/Haul Mode.

Towing is really about unparalleled strength. Significant frame and component enhancements culminate in an all-new, fully-integrated rear frame structural crossmember for 2013 Ram 3500, along with a new factory-installed trailer tow connector; it's conveniently located in the bed, and comes with the available Fifth-Wheel/Gooseneck Tow Prep Package — engineering to improve the heaviest trailering requirements. Inside, the available rear-mounted camera<sup>(5)</sup> displays all-new Active Grid Lines on the available new 8.4-inch full-color touch screen on select models, vastly simplifying trailer/hitch alignment for easy one-person operation. No matter what's behind you, this is the truck you want in front. The new 2013 Ram Heavy Duty.



The new, large available 8.4-inch touch-screen radio in select new 2013 Ram Heavy Duty models now offers full-color displays, including three-dimensional imaging of landmarks and city modeling. New Active Grid Lines in the display are another Ram advantage — they're invaluable when backing up, changing with each steering wheel movement. Now you can easily and accurately align your hitch to the trailer, with no need to hop out to double-check, or bother with a spotter.



All-new for 2013: the Integrated Switch Bank. Conveniently mounted in the dashboard, it offers fingertip management of the standard ESC<sup>(4)</sup> system, the available Trailer Brake Controller (if equipped), and the Tow/Haul Mode, with controls for other available features — such as heated/ventilated seats, heated steering wheel, etc.

NEAR RIGHT: AVAILABLE NEW FIFTH-WHEEL/GOOSENECK TOW PREP PACKAGE INCLUDES FACTORY-INSTALLED TRAILER TOW CONNECTING TECHNOLOGY, WITH THE 7-PIN IN-BED CONNECTOR NOW PACKAGED WITH THE SYSTEM FOR INSTANT ACCESS AND SIMPLE OPERATION.

CENTER: RAM HEAVY DUTY 3500 PICKUPS OFFER CRITICAL FRAME IMPROVEMENTS FOR FIFTH-WHEEL TOWING NEEDS: COUNT ON 50 KSI STEEL THROUGHOUT; NEW WIDER FRAME RAILS; AND INCREASED STRENGTH FROM TWO MORE CROSSMEMBERS, INCLUDING A NEW REAR FRAME STRUCTURAL CROSSMEMBER. SHOWN: FIFTH-WHEEL HITCH WITH GLIDER, AN AUTHENTIC ACCESSORY BY MOPAR®.

FAR RIGHT: THE MANY MODIFICATIONS TO THE FRAME OF THE NEW 3500 PICKUP, DETAILED EARLIER, SMARTLY ADDRESS GOOSENECK HAULING. NATURALLY, THE BALL EASILY REMOVES WHEN YOU NEED THE ENTIRE FLAT FLOOR OF YOUR CARGO BED. SHOWN WITH GOOSENECK BALL, AN AUTHENTIC ACCESSORY BY MOPAR.



# NEW RAM: ACHIEVEMENT MEASURED BY BRILLIANCE.

+ **TRIPLE-SEALED DOORS WITH WEATHER STRIPPING.** IT'S ALL ABOUT ISOLATING THE INTERIOR OF NEW RAM, AND IT WORKS. THE PROCESS KEEPS MOISTURE AND DUST OUT, AND ALLOWS MINIMAL INTRUSION OF NOISE, VIBRATION, AND HARSHNESS (NVH).

+ **WIPER BLADES HAVE BEEN REPOSITIONED.** THE DESIGN TUCKS THE BLADES BENEATH THE HOOD COWL, REDUCING GLARE, EXTENDING AERODYNAMIC EFFICIENCY, AND AUGMENTING THE CLEAN, STREAMLINED APPEARANCE OF NEW 2013 RAM HEAVY DUTY.



+ **KEY FOBBS ARE MORE ADVANCED THAN EVER. THE NEW, AVAILABLE ALL-SECURE™ LOCKING SYSTEM** CONTROLS THE DOORS, THE TAILGATE, AND, IF EQUIPPED, BOTH AVAILABLE RAMBOX® SYSTEM BINS. THE FOBBS ALSO CONTROL THE AVAILABLE PASSIVE ENTRY/KEYLESS ENTER 'N GO. APPROACH YOUR RAM WITH FOB, ENTER, AND MOVE. IT'S SIMPLER THAN EVER.

+ **AN AVAILABLE NEW REAR CENTER HIGH-MOUNTED STOP LAMP (CHMSL) CAMERA<sup>SM</sup>** FOR THE 2013 RAM HEAVY DUTY PORTFOLIO ENSURES INVALUABLE VIEWS OF THE CARGO BED. IT'S IDEAL FOR A LAST-MINUTE CHECK OF YOUR PAYLOAD, OR WHEN HOOKING UP A BED-MOUNTED GOOSENECK OR FIFTH-WHEEL TRAILER HITCH.



+ **THE SLEEK NEW EXTERIOR STYLING OFFERS NUMEROUS IMPROVEMENTS,** INCLUDING NEW UNIQUE GRILLE TEXTURES, NEW ONE-PIECE OUTER PANELS, AND A SUPER-TOUGH HYDROFORMED INNER STRUCTURE FOR THE ENGINE COMPARTMENT.

+ **HUGE 7 x 11-INCH TRAILER TOW MIRRORS OFFER MULTIPLE-PERSPECTIVE REAR VIEWS,** WITH A SCULPTED AERODYNAMIC DESIGN THAT HELPS IMPROVE FUEL EFFICIENCY.

**DUAL FUNCTIONALITY IS BY DESIGN:** WHEN VERTICAL, THEY'RE IDEAL FOR TOWING. FOR EVERYDAY DRIVING CONVENIENCE, FLIP THEM OVER TO HORIZONTAL. (STANDARD, 3500; AVAILABLE, 2500)



+ **NEW, IMPROVED AVAILABLE SIDE STEPS HAVE BEEN LENGTHENED.** A WHEEL-TO-WHEEL DESIGN EASES ACCESS TO THE CARGO BED AND IMPROVES AIR FLOW. THE REDUCTION OF WIND RESISTANCE IMPROVES AERODYNAMICS AND HELPS ACHIEVE MORE FUEL-EFFICIENT PERFORMANCE.



+ **THE AVAILABLE CLASS-EXCLUSIVE<sup>®</sup> RAMBOX<sup>®</sup> CARGO MANAGEMENT SYSTEM** PROVES AS POPULAR AS EVER. NEW RAM 2500/3500 CREW CAB AND MEGA CAB<sup>®</sup> MODELS ADD CAPABILITY TO THEIR 6-FOOT 4-INCH BEDS. THE SYSTEM COMPRISES TWO HUGE, DRAINABLE AND ILLUMINATED SIDE BINS — AND THEY'RE NOW LOCKABLE WITH THE NEW ALL-SECURE™ LOCKING SYSTEM. INCLUDED WITH THE RAMBOX SYSTEM IS A CARGO BED EXTENDER/DIVIDER (STORED NEATLY IN FRONT OF THE BED WHEN NOT IN USE), CARGO RAILS, AND FOUR ADJUSTABLE CLEATS.



+ **LOOK FOR MULTIFUNCTIONAL TECHNOLOGY EVERYWHERE — EVEN THE TAILGATE HANDLE.** IT HOUSES AN AVAILABLE BACK-UP CAMERA<sup>®</sup> WITH NEW HIGHER DEFINITION AND ALL-NEW DYNAMIC GRID LINE IMAGING. IT ALL APPEARS IN THE NEW AVAILABLE FULL-COLOR CENTER-STACK DISPLAY.



+ **EVEN THE NEW AVAILABLE LED TAILLAMPS ARE MORE EFFICIENT,** USING LESS ENERGY THAN THE TYPICAL INCANDESCENT BULB — AN EDGE CONTRIBUTING TO FUEL EFFICIENCY. THE LED TAILLAMP ELEMENTS ARE NOW INDIRECTLY LIT, FOR IMPROVED VISIBILITY IN TWILIGHT HOURS.



+ **NEW HEADLAMPS ON SELECT RAM HEAVY DUTY** MODELS ARE MODEL-SPECIFIC. QUAD LENS HALOGEN LAMPS ARE STANDARD. ON HIGH-END RAM MODELS, ALL-NEW AVAILABLE PROJECTOR-BEAM BIFUNCTIONAL HEADLAMPS OFFER OUTSTANDING LUMINOSITY, AND ARE AUGMENTED BY SUPPLEMENTAL LED LAMPS.



# RIPPED MUSCLE, FLAWLESS SKIN.

A completely new approach to this design gives you exactly what a work truck should be: exceptional power, the capability to pull off heavy-duty assignments with confidence, and head-turning good looks.

Here, new exterior styling comes to work with impressive aerodynamic efficiency — and an on-road stance that boasts a muscular, athletic profile. In front, new grille treatments now offer model-specific identities, with an overall greater use of chrome and defining highlights. Quad lens headlamps are now standard, with all-new projector-beam headlamps available on upscale Ram Heavy Duty models, offering a sharp new look and vastly improved forward and peripheral lighting. New, intelligently designed touches in the side lenses give you a subtle Ram's Head logo for those in the know.

From the revised side badging that distinguishes models and powertrains to the available new wheels, new 2013 Ram Heavy Duty 2500/3500 pickups visually convey no-nonsense capability with unmistakable Ram style. Add it all up: new exterior design elements. Five new exterior colors. Sharp two-tone paint treatments for select models. Everywhere you look, this is Ram Heavy Duty like never before.



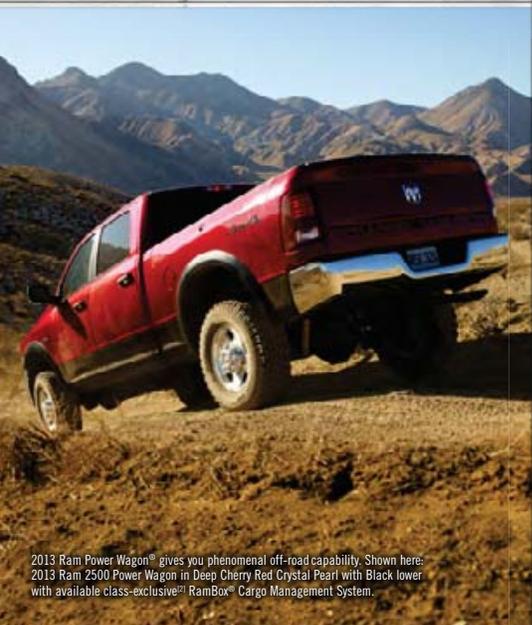
Properly secure all cargo.



New 2013 Ram 2500 Crew Cab Tradesman with available class-exclusive<sup>21</sup> RamBox<sup>®</sup> Cargo Management System and available 6.7L Cummins<sup>®</sup> Turbo Diesel shown in Bright White. Properly secure all cargo.



Properly secure all cargo.



2013 Ram Power Wagon® gives you phenomenal off-road capability. Shown here:  
2013 Ram 2500 Power Wagon in Deep Cherry Red Crystal Pearl with Black lower  
with available class-exclusive® RamBox® Cargo Management System.



2013 Ram 3500 Crew Cab Laramie Longhorn DRW shown in Western  
Brown Pearl with White Gold Metallic lower. Properly secure all cargo.



Ram Laramie Longhorn interior shown in Cattle Tan/Black.

# THIS ARCHITECTURE REACHES NEW HEIGHTS.

These interiors are unparalleled in our history. The all-new Ram PowerNet electrical architecture provides a high-speed network to connect all systems. New Sapphire Blue ambient lighting in select models joins Sapphire Blue backlighting in all models. Step inside new Ram Heavy Duty, and step up to technology and comfort that rise to the top.



### NEW INSTRUMENTATION RUNS RINGS AROUND CONVENTION.

Select trim levels offer high-end electronics with a degree of sophistication never seen in Ram trucks. Assets include an available all-new six-ring instrument cluster with a 7-inch, full-color Multi-View Display with dozens of visual cues (telltales) for real-time information on truck functions, communications, and the radio. It's all operated through steering wheel-mounted cursors for instant menu access.



### ALL-NEW SWITCH BANK OFFERS SUPREME CONTROL.

All Ram models let you control the new standard Electronic Stability Control (ESC)<sup>41</sup> or the available heated and ventilated seats and heated steering wheel with a new instrument panel-mounted Integrated Switch Bank that puts full functionality at your fingertips.

New for Ram Heavy Duty is an available Uppfitter Interface Module, now enhanced with 53 inputs/outputs — one of the most upfitter-friendly designs for any pickup, and a first for Ram Heavy Duty.

TOP RIGHT: RAM LARAMIE LONGHORN INTERIOR SHOWN IN CANYON BROWN/LIGHT BEIGE.  
LOWER RIGHT: RAM MEGA CAB® LARAMIE INTERIOR SHOWN IN BLACK.



The 2013 Ram Mega Cab offers the most interior volume of any full-size heavy-duty pickup.<sup>41</sup>



DYNAMIC NEW FULL-COLOR INSTRUMENTATION. THIS IS HOW MAN MERGES WITH HIS MACHINE.



**A NOD TO THE PAST — AND TO THE TECHNOLOGY OF THE FUTURE.** For the 2013 Ram 2500/3500, each trim level now reflects a bold new look for the instrument panel and EVIC (Electronic Vehicle Information Center) display. For towing, hauling, and vehicle operation data, this is a full-function information center with an interface that leaves no doubt who's in control. It's pure Ram, all the way.

**THE NEXT LEVEL OF EVIC.** This is *so* not your uncle's truck. Vibrant, full-color graphics from the available new 7-inch Multi-View Display use stunning Thin Film Transistor (TFT) technology. Scroll through roller-type interfaces with instant vehicle information, including graphics for 34 menu options. The level of information is astonishing.

**ALL-NEW POWERNET ELECTRICAL ARCHITECTURE.** It's the equivalent of a high-speed Internet connection in your Ram, conveying information about virtually every facet of vehicle operation through multiple "smart" modules located throughout the vehicle.

**THE UPSHOT: KNOWLEDGE.** Leave the intuitive, state-of-the-art technology aside for a moment. In the final analysis, you've got a wealth of info right at your fingertips, with steering wheel-mounted cursors that take you through dozens of different pieces of real-time information — everything from trailer data to critical pressures and powertrain operating temperatures. This is technology driving to be the best.



THE UCONNECT® WORLD: STAY IN CONSTANT TOUCH. AND DO IT HANDS-FREE.



**UCONNECT 3.0.** With four-line full LCD display; AM/FM with remote USB; iPod® integration. Available: SiriusXM Satellite Radio,<sup>71</sup> remote CD player.

**UCONNECT 5.0.** With 5-inch full-color touch-screen display; AM/FM with remote USB; iPod integration; Bluetooth® connectivity for hands-free phone, streaming audio, Voice Command,<sup>81</sup> text message reader; rearview camera<sup>61</sup>-ready; SiriusXM Satellite Radio.<sup>71</sup> Available: remote CD player.

**SIRIUSXM PREMIER: OVER 160 CHANNELS.**

Enjoy every available satellite radio channel: commercial-free music, sports, news, talk, and entertainment, including Howard Stern, every NFL® MLB® and NHL® game, every NASCAR® race, and more. Includes SiriusXM Latino — more than 20 channels dedicated to Spanish language programming.

**UCONNECT 8.4A.** With 8.4-inch full-color touch-screen display; AM/FM with remote USB/SD; iPod integration; Bluetooth connectivity for hands-free phone, streaming audio, Voice Command,<sup>81</sup> text message reader; also includes customer- or dealer-activated navigation; HVAC control integration; smartphone connectivity; available 3G WiFi Hotspot;<sup>91</sup> rearview camera<sup>61</sup>-ready; SiriusXM Satellite Radio.<sup>71</sup> Available: remote CD player.

**UCONNECT 8.4AN.** All features of all previous descriptions, plus premium navigation with one-step voice destination entry; 3-D city modeling and landmarks; digital terrain modeling; 911/assist calling; HD radio; SiriusXM Satellite Radio;<sup>71</sup> SiriusXM Travel Link;<sup>71</sup> SiriusXM Traffic.<sup>71</sup> Available: remote CD player.



## AUTHENTIC RAM ACCESSORIES

**WITH YOU EVERY MILE.** Mopar® is with you the moment you get your new keys and for every mile thereafter. Mopar helps you maintain and make your ride your own with parts and accessories of every kind — all original equipment designed by the same engineers of your vehicle — specifically for your model. There's no guesswork, just get-it-right-the-first-time satisfaction with seamless fit and function, exact color matches, and high-quality materials that have been thoroughly tested for the long haul.

Mopar also assures you with expert technicians who know your make and model best, Mopar Vehicle Protection™ plans, Express Lane Service, and with our online Mopar Owner Connect™ Web site (register at [owners.ramtrucks.com](http://owners.ramtrucks.com)). In short, Mopar support is ongoing — to keep your Ram truck at its best. Mopar, with you every mile. For more information, visit us at [mopar.com](http://mopar.com)

Properly secure all cargo.

Above: Ram 2500 Crew Cab Tradesman in Bright White shown with Wheel Flares, Stainless Steel Tubular Side Steps, RamBox® Cargo Organizer, Sliding Toolbox, and Bed Step.



Commercial-Grade Toolbox



Fifth-Wheel Hitch with Glider



Aluminum Ladder Rack



SPECIFICATIONS

**RAM 2500/3500 TRIM LEVELS AND STANDARD FEATURES**



**TRADESMAN**

**2500**



**3500**



**STANDARD FEATURES  
MECHANICAL**

- 2500:** 5.7L HEMI® V8 with heavy-duty cooling and 66RFE 6-speed automatic transmission
- 3500 SRW:** 5.7L HEMI V8 with heavy-duty cooling and 66RFE 6-speed automatic transmission • 7 x 11-inch trailer tow mirrors • Tow hooks
- 3500 DRW:** 6.7L Cummins® Turbo Diesel with heavy-duty cooling and 6-speed manual transmission • 7 x 11-inch trailer tow mirrors • Tow hooks
- 2500/3500:** Electronic Stability Control (ESC)<sup>(1)</sup> system, which includes 4-wheel ABS, Brake Assist, Rain Brake Support, ReadyAlert Braking, All-Speed Traction Control, Electronic Roll Mitigation, Hill Start Assist, and Trailer Sway Control<sup>(1)</sup> • Manual part-time transfer case (on 4x4 models) • 6-foot 4-inch box models: 31-gallon fuel tank • 8-foot box models: 32-gallon fuel tank

**INTERIOR**

- Vinyl 40/20/40 front bench seat • Vinyl folding rear bench on Crew Cab models • Vinyl floor covering • Multistage front air bags<sup>(1)(2)</sup> • Supplemental side-curtain air bags<sup>(1)(2)</sup> • Supplemental front-seat side-mounted air bags<sup>(1)(2)</sup> • Tilt steering wheel • Automatic headlamp control • Air conditioning • Power windows and door locks (on Crew Cab models) • Uconnect® 3.0 AM/FM radio • Media hub with MP3 auxiliary jack and 1.5-amp USB port • 3.5-inch Electronic Vehicle Information Center (EVIC) located in instrument panel cluster

**EXTERIOR**

- Black front and rear bumpers • Black grille surround and inserts • Black fold-in sideview mirrors • Quad lens halogen headlamps • Bed rail caps • Locking tailgate (Regular Cab) • Power locking tailgate (Crew Cab) • 4- and 7-pin trailer wiring harness/connectors • Class V trailer hitch receiver • 17-inch steel wheels (2500/3500 DRW) • 18-inch steel wheels (3500 SRW)



**POWER WAGON® TRADESMAN**

**2500**



**STANDARD FEATURES  
MECHANICAL**

- 2500 Crew Cab 4x4 only:** 5.7L HEMI V8 with heavy-duty cooling and 66RFE 6-speed automatic transmission • 180-amp alternator • Tow hooks • Skid plates for the fuel tank and transfer case • Electronic disconnecting front stabilizer (or sway) bar • Front and rear electronic locking differentials • 4.56:1 axle ratio • 12,000-lb WARN® winch • ESC<sup>(1)</sup> system • Manual part-time transfer case • 31-gallon fuel tank

**INTERIOR**

- Vinyl 40/20/40 front bench seat • Vinyl folding rear bench • Vinyl floor covering • Multistage front air bags<sup>(1)(2)</sup> • Supplemental side-curtain air bags<sup>(1)(2)</sup> • Supplemental front-seat side-mounted air bags<sup>(1)(2)</sup> • Tilt steering wheel • Automatic headlamp control • Air conditioning • Power windows and door locks • Uconnect 3.0 AM/FM radio • Media hub with MP3 auxiliary jack and 1.5-amp USB port • 3.5-inch EVIC located in instrument panel cluster

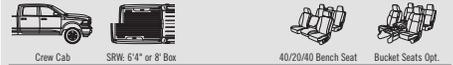
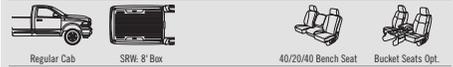
**EXTERIOR**

- Chrome front and rear bumpers • Fog lamps • Black grille surround and inserts • Black headlamp filler panel • Black wheel flares • Black fold-in sideview mirrors • Quad lens halogen headlamps • Bed rail caps • Power locking tailgate • Power Wagon tailgate decal • 4- and 7-pin trailer wiring harness/connectors • Class V trailer hitch receiver • 17-inch forged aluminum wheels with 33-inch LT All-Terrain tires

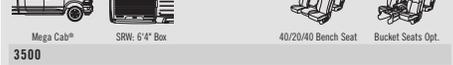


**SLT**

**2500**



**3500**



**STANDARD FEATURES  
MECHANICAL**

- 2500:** 5.7L HEMI V8 with heavy-duty cooling and 66RFE 6-speed automatic transmission • 7 x 11-inch trailer tow mirrors • Tow hooks
- 3500 SRW:** 5.7L HEMI V8 with heavy-duty cooling and 66RFE 6-speed automatic transmission • 7 x 11-inch trailer tow mirrors • Tow hooks
- 3500 DRW:** 6.7L Cummins Turbo Diesel with heavy-duty cooling and 6-speed manual transmission • 7 x 11-inch trailer tow mirrors • Tow hooks
- 2500/3500:** ESC<sup>(1)</sup> system • Electronic part-time transfer case (on 4x4 models) • Electronic trailer brake controller • Remote keyless entry • 6-foot 4-inch box models: 31-gallon fuel tank • 8-foot box models: 32-gallon fuel tank

**INTERIOR**

- Cloth 40/20/40 front bench seat • Cloth folding rear bench on Crew Cab and Mega Cab models • Carpet floor covering • Multistage front air bags<sup>(1)(2)</sup> • Supplemental side-curtain air bags<sup>(1)(2)</sup> • Supplemental front-seat side-mounted air bags<sup>(1)(2)</sup> • Tilt steering wheel • Automatic headlamp control • Air conditioning • Power windows and door locks • Uconnect 3.0 AM/FM/SAT radio • Media hub with MP3 auxiliary jack and 1.5-amp USB port • 3.5-inch EVIC located in instrument panel cluster • Overhead console • Power sliding rear window on Crew Cab and Mega Cab models

**EXTERIOR**

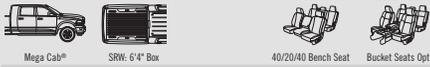
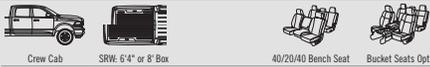
- Chrome front and rear bumpers • Chrome grille surround with Black inserts • Quad lens halogen headlamps • Chrome door handles • Black, power heated fold-in sideview mirrors • Bed rail caps • Power locking tailgate • 4- and 7-pin trailer wiring harness/connectors • Class V trailer hitch receiver • 17-inch chrome steel wheels (2500/3500 DRW) • 18-inch chrome steel wheels (3500 SRW)

**RAM 2500/3500 TRIM LEVELS AND STANDARD FEATURES**



**BIG HORN/LONE STAR**

2500



3500



**STANDARD FEATURES**

**MECHANICAL**

- 2500:** 5.7L HEMI® V8 with heavy-duty cooling and 66RFE 6-speed automatic transmission
- 3500 SRW:** 5.7L HEMI V8 with heavy-duty cooling and 66RFE 6-speed automatic transmission • 7 x 11-inch trailer tow mirrors • Tow hooks
- 3500 DRW:** 6.7L Cummins® Turbo Diesel with heavy-duty cooling and 6-speed manual transmission • 7 x 11-inch trailer tow mirrors • Tow hooks
- 2500/3500:** Electronic Stability Control (ESC)<sup>(1)</sup> system, which includes 4-wheel ABS, Brake Assist, Rain Brake Support, Ready Alert Braking, All-Speed Traction Control, Electronic Roll Mitigation, Hill Start Assist, and Trailer Sway Control<sup>(1)</sup> • Electronic part-time transfer case (on 4x4 models) • Electronic trailer brake controller • Remote keyless entry • Remote start (requires automatic transmission) • 6-foot 4-inch box models: 31-gallon fuel tank • 8-foot box models: 32-gallon fuel tank

**INTERIOR**

- Premium cloth 40/20/40 front bench seat • Cloth 60/40 split-folding rear bench seat
- Carpet floor covering • Multistage front air bags<sup>(10)</sup> • Supplemental side-curtain air bags<sup>(10)</sup>
- Supplemental front-seat side-mounted air bags<sup>(10)</sup> • Leather-wrapped tilt steering wheel with audio controls • 115-volt power outlet • Automatic headlamp control • Air conditioning • Power windows and door locks • Uconnect® 5.0 AM/FM/SAT/BT touch-screen radio • Media hub with MP3 auxiliary jack, 1.5-amp and 2.5-amp USB ports • 3.5-inch Electronic Vehicle Information Center (EVIC) located in instrument panel cluster • Overhead console • Power sliding rear window

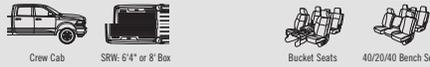
**EXTERIOR**

- Quad lens halogen headlamps • Fog lamps • Chrome front and rear bumpers • Chrome grille surround with chrome billet inserts • Black, power heated fold-in sideview mirrors • Chrome door handles • Bed rail caps • Power locking tailgate • 4- and 7-pin trailer wiring harness/connectors • Class V trailer hitch receiver • 17-inch polished aluminum wheels with OWL tires (2500) • 17-inch chrome steel wheels (3500 DRW) • 18-inch polished aluminum wheels (3500 SRW)



**OUTDOORSMAN**

2500



**STANDARD FEATURES**

**MECHANICAL**

- 2500 Crew Cab 4x4 only:** 5.7L HEMI V8 with heavy-duty cooling and 66RFE 6-speed automatic transmission • ESC<sup>(1)</sup> system • Remote keyless entry • Electronic part-time transfer case
- Electronic trailer brake controller • Transfer case skid plate • Remote start (requires automatic transmission) • Security alarm • 6-foot 4-inch box models: 31-gallon fuel tank • 8-foot box models: 32-gallon fuel tank

**INTERIOR**

- Luxury Group • Leather-wrapped tilt steering wheel with audio controls • Premium cloth front bucket seats with center console • Power driver's seat • Cloth 60/40 split-folding rear bench
- Carpet floor covering • Rubber all-weather floor mats • Multistage front air bags<sup>(10)</sup>
- Supplemental side-curtain air bags<sup>(10)</sup> • Supplemental front-seat side-mounted air bags<sup>(10)</sup>
- Automatic headlamp control • Air conditioning • Power windows and door locks • Uconnect 8.4A AM/FM/SAT/BT/ACCESS touch-screen radio • Media hub with MP3 auxiliary jack, 1.5-amp and 2.5-amp USB ports, and SD card slot • 115-volt power outlet • Premium six-ring cluster with full-color 7-inch Multi-View Display • Overhead console with Universal Garage Door Opener • Power sliding rear window

**EXTERIOR**

- Two-tone paint with Mineral Gray Metallic front bumper, rear bumper, and fender flares
- Body-color grille surround with Black inserts • Black door handles • Black, power heated fold-in sideview mirrors with puddle lamps and turn signal indicators • Fog lamps • Quad lens halogen headlamps • Bed rail caps • Power locking tailgate • 4- and 7-pin trailer wiring harness/connectors • Class V trailer hitch receiver • Tow hooks • 17-inch forged aluminum wheels



**POWER WAGON®**

2500



**STANDARD FEATURES**

**MECHANICAL**

- 2500 Crew Cab 4x4 only:** 5.7L HEMI V8 with heavy-duty cooling and 66RFE 6-speed automatic transmission • 180-amp alternator • Tow hooks • Skid plates for the fuel tank and transfer case • Electronic disconnecting front stabilizer (or sway) bar • Front and rear electronic locking differentials • 4.56:1 axle ratio • 12,000-lb WARN® winch • 31-gallon fuel tank • Remote keyless entry • ESC<sup>(1)</sup> system • Manual part-time transfer case • Electronic trailer brake controller

**INTERIOR**

- Cloth front 40/20/40 bench seat • Cloth folding rear bench • Tilt steering wheel • Carpet floor covering • Multistage front air bags<sup>(10)</sup> • Supplemental side-curtain air bags<sup>(10)</sup> • Supplemental front-seat side-mounted air bags<sup>(10)</sup> • Automatic headlamp control • Air conditioning • Power windows and door locks • Uconnect 5.0 AM/FM/SAT/BT touch-screen radio • Media hub with MP3 auxiliary jack, 1.5-amp and 2.5-amp USB ports • 3.5-inch EVIC located in instrument panel cluster • Overhead console • Power sliding rear window

**EXTERIOR**

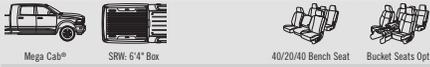
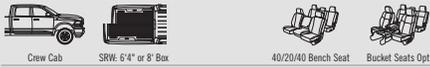
- Two-tone paint with front and rear chrome bumpers • Black wheel flares • Chrome grille surround with chrome billet inserts • Black, power heated fold-in sideview mirrors • Black door handles • Black bed rail caps • Fog lamps • Premium 70-mm projector headlamps • Premium LED taillamps • Power locking tailgate • Power Wagon Decal Package • Class V trailer hitch receiver • 4- and 7-pin trailer wiring harness/connectors • 17-inch forged aluminum wheels with 33-inch LT All-Terrain tires

**RAM 2500/3500 TRIM LEVELS AND STANDARD FEATURES**



**LARAMIE**

**2500**



**3500**



**STANDARD FEATURES**

**MECHANICAL**

- 2500:** 5.7L HEMI® V8 with heavy-duty cooling and 66RFE 6-speed automatic transmission
- 3500 SRW:** 5.7L HEMI V8 with heavy-duty cooling and 66RFE 6-speed automatic transmission • 7 x 11-inch trailer tow mirrors • Tow hooks
- 3500 DRW:** 6.7L Cummins® Turbo Diesel with heavy-duty cooling and 6-speed manual transmission • 7 x 11-inch trailer tow mirrors • Tow hooks
- 2500/3500:** Electronic Stability Control (ESC)<sup>(1)</sup> system, which includes 4-wheel ABS, Brake Assist, Rain Brake Support, Ready Alert Braking, All-Speed Traction Control, Electronic Roll Mitigation, Hill Start Assist, and Trailer Sway Control<sup>(4)</sup> • Electronic part-time transfer case (on 4x4 models) • Electronic trailer brake controller • Remote keyless entry • ParkView® Rear Back-Up Camera<sup>(6)</sup> • Security alarm • 6-foot 4-inch box models: 31-gallon fuel tank • 8-foot box models: 32-gallon fuel tank

**INTERIOR**

- Leather-trimmed heated and ventilated front 40/20/40 bench seat • Power driver and front-passenger seats • Leather-trimmed 60/40 split-folding rear bench • 115-volt power outlet • Carpet floor covering • Multistage front air bags<sup>(10)</sup> • Supplemental side-curtain air bags<sup>(10)</sup> • Supplemental front-seat side-mounted air bags<sup>(10)</sup> • Heated leather-wrapped tilt steering wheel with audio controls • Automatic headlamp control • Automatic Temperature Control • Power windows and door locks • Uconnect® 8.4A AM/FM/SAT/BI/ACCESS touch-screen radio • Media hub with MP3 auxiliary jack, 1.5-amp and 2.5-amp USB ports, and SD card slot • Premium 10-speaker surround sound audio system • Premium six-ring cluster with full-color 7-inch Multi-View Display • Overhead console with Universal Garage Door Opener • Power sliding rear window

**EXTERIOR**

- Two-tone paint treatment with lower body and wheel flares in Bright Silver Metallic • Chrome front and rear bumpers • Chrome door handles • Chrome grille surround with chrome wave inserts • Chrome, power heated fold-in sideview mirrors with puddle lamps and turn signal indicators • Premium 70-mm projector headlamps • Premium LED taillamps • Fog lamps • Bed rail caps • Power locking tailgate • 4- and 7-pin trailer wiring harness/connectors • Class V trailer hitch receiver • 17-inch polished aluminum wheels (2500/3500 DRW) • 18-inch polished aluminum wheels (3500 SRW)



**POWER WAGON® LARAMIE**

**2500**



**STANDARD FEATURES**

**MECHANICAL**

- 2500 Crew Cab 4x4 only:** 5.7L HEMI V8 with heavy-duty cooling and 66RFE 6-speed automatic transmission • 180-amp alternator • Tow hooks • Skid plates for the fuel tank and transfer case • Electronic disconnecting front stabilizer (or sway) bar • Front and rear electronic locking differentials • 4.56:1 axle ratio • 12,000-lb WARN® winch • 31-gallon fuel tank • Remote keyless entry • ESC<sup>(1)</sup> system • Manual part-time transfer case • Electronic trailer brake controller • ParkView Rear Back-Up Camera<sup>(6)</sup> • Security alarm

**INTERIOR**

- Leather-trimmed heated and ventilated front 40/20/40 bench seat • Power driver and front-passenger seats • Leather-trimmed 60/40 split-folding rear bench • 115-volt power outlet • Carpet floor covering • Multistage front air bags<sup>(10)</sup> • Supplemental side-curtain air bags<sup>(10)</sup> • Supplemental front-seat side-mounted air bags<sup>(10)</sup> • Heated leather-wrapped tilt steering wheel with audio controls • Automatic headlamp control • Automatic Temperature Control • Power windows and door locks • Uconnect 8.4A AM/FM/SAT/BI/ACCESS touch-screen radio • Media hub with MP3 auxiliary jack, 1.5-amp and 2.5-amp USB ports, and SD card slot • Premium 10-speaker surround sound audio system • Premium six-ring cluster with full-color 7-inch Multi-View Display • Overhead console with Universal Garage Door Opener • Power sliding rear window

**EXTERIOR**

- Monotone paint treatment with body-color wheel flares • Chrome front and rear bumpers • Chrome door handles • Chrome grille surround with chrome wave inserts • Chrome, power heated fold-in sideview mirrors with puddle lamps and turn signal indicators • Premium 70-mm projector headlamps • Premium LED taillamps • Fog lamps • Bed rail caps • Power locking tailgate • Power Wagon tailgate badge • 4- and 7-pin trailer wiring harness/connectors • Class V trailer hitch receiver • 17-inch forged aluminum wheels with 33-inch LT All-Terrain tires



**LARAMIE LONGHORN**

**2500**



**3500**



**STANDARD FEATURES**

**MECHANICAL**

- 2500:** 5.7L HEMI V8 with heavy-duty cooling and 66RFE 6-speed automatic transmission
- 3500 SRW:** 5.7L HEMI V8 with heavy-duty cooling and 66RFE 6-speed automatic transmission • 7 x 11-inch trailer tow mirrors
- 3500 DRW:** 6.7L Cummins Turbo Diesel with heavy-duty cooling and 68RFE 6-speed automatic transmission • 7 x 11-inch trailer tow mirrors
- 2500/3500:** Tow hooks • ESC<sup>(1)</sup> system • ParkSense® Rear Park Assist<sup>(6)</sup> • ParkView Rear Back-Up Camera<sup>(6)</sup> • Electronic part-time transfer case (on 4x4 models) • Electronic trailer brake controller • Remote keyless entry • Security alarm • Remote start (requires automatic transmission) • 6-foot 4-inch box models: 31-gallon fuel tank • 8-foot box models: 32-gallon fuel tank

**INTERIOR**

- Premium leather front bucket seats • Power driver and front-passenger seats • Heated and ventilated front seats • Full-floor center console with leather console cover • 115-volt power outlet • Premium leather heated 60/40 split-folding rear bench • Carpet floor covering • Premium floor mats with removable inserts • Multistage front air bags<sup>(10)</sup> • Supplemental side-curtain air bags<sup>(10)</sup> • Supplemental front-seat side-mounted air bags<sup>(10)</sup> • Heated leather-wrapped tilt steering wheel with wood accent and audio controls • Automatic headlamp control • Automatic Temperature Control • Power windows and door locks • Uconnect 8.4A AM/FM/SAT/BI/NAV/ACCESS touch-screen radio • Media hub with MP3 auxiliary jack, 1.5-amp and 2.5-amp USB ports, and SD card slot • Premium 10-speaker surround sound audio system • Premium six-ring cluster with full-color 7-inch Multi-View Display • Overhead console with Universal Garage Door Opener • Power sliding rear window

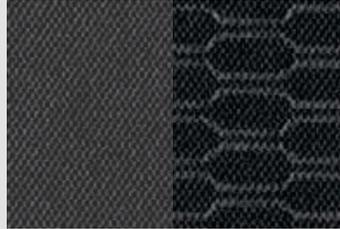
**EXTERIOR**

- Two-tone paint treatment with lower body, wheel flares, front bumper, rear bumper, and running boards in White Gold Metallic • Premium 70-mm projector headlamps • Premium LED taillamps • Fog lamps • Chrome grille surround with chrome wave mesh inserts • Chrome, power heated fold-in sideview mirrors with puddle lamps and turn signal indicators • Unique Laramie Longhorn badging • Chrome door handles • Black bed rail caps • Spray-in bedliner • Power locking tailgate • 4- and 7-pin trailer wiring harness/connectors • Class V trailer hitch receiver • 17-inch polished aluminum wheels (2500/3500 DRW) • 18-inch polished aluminum wheels (3500 SRW)

RAM 2500/3500 INTERIOR FABRICS



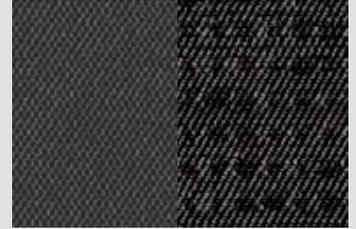
**Bristol Vinyl  
Diesel Gray**  
Tradesman and Power Wagon® Tradesman



**Sedoso/Embossed Alloy II on Sedoso Cloth  
Diesel Gray**  
Tradesman, Power Wagon Tradesman, SLT, and Power Wagon



**Sedoso/Embossed Alloy II on Sedoso Cloth  
Canyon Brown**  
SLT and Power Wagon



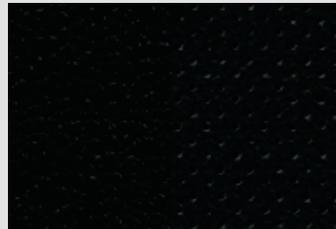
**Sedoso/Carbide Cloth  
Diesel Gray**  
SLT, Big Horn/Lone Star, Outdoorsman, and Power Wagon



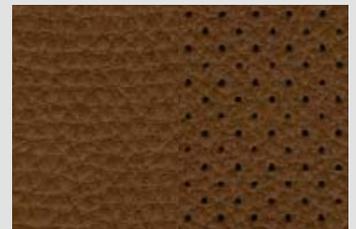
**Sedoso/Carbide Cloth  
Canyon Brown**  
SLT, Big Horn/Lone Star, Outdoorsman, and Power Wagon



**Bristol/Bristol Axis II Perforated Leather Trim  
Light Frost Beige**  
Laramie and Power Wagon Laramie



**Bristol/Bristol Axis II Perforated Leather Trim  
Black**  
Laramie and Power Wagon Laramie



**Natura Plus without Laser Etching/  
Natura Plus Axis II Perforated Leather  
Cattle Tan**  
Laramie Longhorn



**Natura Plus without Laser Etching/  
Natura Plus Axis II Perforated Leather  
Canyon Brown**  
Laramie Longhorn



**Natura Plus with Laser Etching/  
Natura Plus Axis II Perforated Leather  
Canyon Brown**  
Laramie Longhorn

RAM 2500/3500 EXTERIOR COLORS



BLACK



BLACK GOLD PEARL



BRIGHT SILVER METALLIC



BRIGHT WHITE



COPPERHEAD PEARL



DEEP CHERRY RED CRYSTAL PEARL



FLAME RED



MAXIMUM STEEL METALLIC



MINERAL GRAY METALLIC



PRAIRIE PEARL



TRUE BLUE PEARL



WESTERN BROWN PEARL

**RAM 2500/3500 WHEELS**

New exterior, new interior, new technology — all matched by a stunning selection of new wheels for 2013 Ram Heavy Duty 2500/3500 models.

Notable here are wheels that contribute to performance and help with fuel efficiency: the 17-inch wheels for 2500 and 3500 DRW, the 18-inch wheels standard for 3500 SRW, and the huge 20-inch wheels (late availability for 3500 SRW models).

**3500 DRW WHEELS**



17 x 6-inch Steel, Argent Painted Finish  
Standard on Tradesman (WFU)



17 x 6-inch Steel, Chrome Finish  
Standard on SLT, Big Horn/Lone Star  
Available on Tradesman (WD4)



17 x 6-inch Aluminum Polished  
Standard on Laramie  
Available on SLT, Big Horn/Lone Star (WF7)



17 x 6-inch Aluminum Polished,  
with Unique Longhorn Center Cap  
Standard on Laramie Longhorn (WF9)

**3500 SRW WHEELS**



18 x 8-inch Full-Face Steel, Argent Painted Finish  
Standard on Tradesman (WBN)



18 x 8-inch Full-Face Steel, Chrome-Clad  
Standard on SLT, Available on Tradesman (WBH)



18 x 8-inch Forged Aluminum, Polished  
Standard on Big Horn/Lone Star  
Available on SLT (WBJ)



18 x 8-inch Cast Aluminum, Polished and Painted  
Standard on Laramie (WBL)



20 x 8-inch Cast Aluminum, Silver Inserts  
Late availability for SLT, Big Horn/Lone Star,  
Outdoorsman, Laramie (WRJ)



18 x 8-inch Forged Aluminum  
Polished and Painted, White Gold Painted Pockets  
Standard on Laramie Longhorn with  
Two-Tone Exterior Paint (WBM)



18 x 8-inch Forged Aluminum  
Polished and Painted, Silver Painted Pockets  
Standard on Laramie Longhorn with Available  
Monotone Exterior Paint (WBA)



20 x 8-inch Forged Aluminum  
Polished and Painted, White Gold Painted Pockets  
Late availability for Laramie Longhorn with  
Two-Tone Exterior Paint (WRK)



20 x 8-inch Forged Aluminum  
Polished and Painted, Silver Painted Pockets  
Late availability for Laramie Longhorn with  
Available Monotone Exterior Paint (WRA)

**2500 WHEELS**



17 x 7.5-inch Steel, Argent Painted Finish  
Standard on Tradesman (WD2)



17 x 8-inch Full-Face Steel, Chrome-Clad  
Standard on SLT, Available on Tradesman (WGS)



17 x 8-inch Forged Aluminum, Polished  
Standard on Big Horn/Lone Star, Available on SLT,  
Outdoorsman (WBG)



17 x 8-inch Forged Aluminum, Polished  
Standard on Power Wagon<sup>®</sup> Outdoorsman (WFF)



17 x 8-inch Forged Aluminum, Polished  
Standard on Laramie, Laramie Longhorn (WFA)







2013 Ram 2500 Crew Cab Big Horn with available Cummins® Turbo Diesel shown in Deep Cherry Red Crystal Pearl. Properly secure all cargo.



[1] Class based on 350/3500 full-size pickups. [2] Class based on 250/2500 full-size pickups. [3] Class based on 250/2500 and 350/3500 full-size pickups. [4] No system, no matter how sophisticated, can repeal the laws of physics or overcome careless driving actions. Performance is limited by available traction, which snow, ice, and other conditions can affect. When the ESC warning lamp flashes, the driver needs to use less throttle and adapt speed and driving behavior to prevailing road conditions. Always drive carefully, consistent with conditions. Always wear your seat belt. [5] Transferable. See dealer for complete details and a copy of the 5-Year/100,000-Mile Powertrain Limited Warranty. [6] Always look before proceeding. Electronic drive aid is not a substitute for conscientious driving, always be aware of your surroundings. [7] SiriusXM services require subscriptions, sold separately after the 12-month trial included with the new vehicle purchase. If you decide to continue your service at the end of your trial subscription, the plan you choose will automatically renew and bill at then-current rates until you call SiriusXM at 1-866-635-2349 to cancel. See SiriusXM Customer Agreement for complete terms at [www.siriusxm.com](http://www.siriusxm.com). All fees and programming subject to change. Our satellite service is available only to those at least 18 and older in the 48 contiguous USA and D.C. Our Sirius satellite service is also available in PR (with coverage limitations). Our Internet radio service is available throughout our satellite service area and in AK and HI. © 2013 Sirius XM Radio Inc. Sirius, XM and all related marks and logos are trademarks of Sirius XM Radio Inc. [8] Requires Uconnect Phone. [9] Sold separately. Subscription required. Uconnect Web feature is not intended for use by the driver while the vehicle is in motion. Always drive carefully. [10] The Advanced Front Air Bags in this vehicle are certified to the new U.S. federal regulations for advanced air bags. Children 12 years old and younger should always ride buckled up in a rear seat. Infants in rear-facing child restraints should never ride in the front seat of a vehicle with a passenger front air bag. All occupants should always wear their lap and shoulder belts properly. [11] Always sit properly with the head restraint properly adjusted. Never place anything in front of the head restraint.

About this catalog. Since the time of printing, some of the information you'll find in this catalog may have been updated. Ask your dealer for details. Some of the equipment shown or described throughout this catalog may be available at extra cost. Specifications, descriptions, illustrative materials, and all competitive comparisons contained herein are as accurate as known at the time this publication was approved for printing. Chrysler Group LLC reserves the right to discontinue models at any time or change specifications without notice or without incurring obligation. All options are required in combination with other options. For the price of the model with the equipment you desire, or verification of specifications contained here, see your Ram dealer. AISIN is a registered trademark of Aisin Seiki Co., Ltd. Cummins is a registered trademark of Cummins, Inc. WARN is a registered trademark of Warn Industries, Inc. iPod, iPad, and iTunes are registered trademarks of Apple Inc. Bluetooth is a registered trademark of Bluetooth SIG, Inc. Bilstein is a registered trademark of August-Bilstein GmbH & Co. Sirius, XM and all related marks and logos are trademarks of Sirius XM Radio Inc. Facebook and logo are trademarks of Facebook, Inc. The Twitter logo is a service mark of Twitter, Inc. The YouTube logo is a trademark of Google Inc. NFL is a registered trademark of the National Football League. NHL is a registered trademark of the National Hockey League. MLB is a registered trademark of Major League Baseball. NASCAR is a registered trademark of the National Association for Stock Car Auto Racing, Inc. CNH, Case IH and New Holland are registered trademarks of CNH America LLC. Chrysler, Jeep, Ram, the Ram's Head logo, Big Horn, HEMI, Laramie, Laramie Longhorn, Mega Cab, Mopar, Mopar Outdoorsman, ParkSense, ParkView, Power Wagon, RamBox, Sentry Key, Tradesman, and Uconnect are registered trademarks and All-Secure, Mopar Owner Connect, and Mopar Vehicle Protection are trademarks of Chrysler Group LLC. © 2013 Chrysler Group LLC. All rights reserved.



Join fellow Ram enthusiasts and tell your story by posting comments, participating in discussions, and sharing your photos and videos. Join our community on Facebook, follow us on Twitter, and check us out on YouTube.



**GO MOBILE.** Take a multimedia tour of your vehicle on your mobile device. Visit the Chrysler Group LLC page in iTunes® from your smartphone or iPad® to download the most up-to-date vehicle apps. Log on to the [ramtrucks.com](http://ramtrucks.com) mobile site for an at-a-glance review of what you need to know about your Ram truck. Experience visual and interactive demonstrations while gaining access to product information at your fingertips, wherever you go.

**THE RAM OUTFITTER.**

Owning a new 2013 Ram 2500/3500 opens up a world of new apparel, tools, and a variety of equipment for work and play. The one place to find it all is the Ram Outfitter site.

This is the online shopping center for gear and gifts for the Ram enthusiast. With the Ram identity prominently featured, you can choose from authentic wear, sports equipment, electronics, and attire. Log on. It's all at [ramtrucks.com/outfitter](http://ramtrucks.com/outfitter)





**RAM**

**RAMTRUCKS.COM**

# Exhibit 5



**RAM**

2014

OWNER'S MANUAL

Ram Truck

Diesel Supplement

## VEHICLES SOLD IN CANADA

With respect to any Vehicles Sold in Canada, the name Chrysler Group LLC shall be deemed to be deleted and the name Chrysler Canada Inc. used in substitution therefore.

## DRIVING AND ALCOHOL

Drunken driving is one of the most frequent causes of accidents.

Your driving ability can be seriously impaired with blood alcohol levels far below the legal minimum. If you are drinking, don't drive. Ride with a designated non-drinking driver, call a cab, a friend, or use public transportation.

WARNING!
<p><b>Driving after drinking can lead to an accident. Your perceptions are less sharp, your reflexes are slower, and your judgment is impaired when you have been drinking. Never drink and then drive.</b></p>

This manual illustrates and describes the operation of features and equipment that are either standard or optional on this vehicle. This manual may also include a description of features and equipment that are no longer available or were not ordered on this vehicle. Please disregard any features and equipment described in this manual that are not on this vehicle.

Chrysler Group LLC reserves the right to make changes in design and specifications, and/or make additions to or improvements to its products without imposing any obligation upon itself to install them on products previously manufactured.

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## RAM DIESEL SUPPLEMENT

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**RAM 1500**



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# INTRODUCTION

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■ A MESSAGE FROM CHRYSLER GROUP LLC . . . .8

## 8 INTRODUCTION

### A MESSAGE FROM CHRYSLER GROUP LLC

Chrysler Group LLC welcomes you as a turbocharged diesel-powered truck owner. Your diesel truck will sound, feel, drive, and operate differently from a gasoline-powered truck. It is important that you read and understand this manual.

Almost 100% of the heavy trucks in the United States and Canada are diesel-powered because of the fuel economy, rugged durability, and high torque which permits pulling heavy loads.

You may find that some of the starting, operating, and maintenance procedures are different. However, they are simple to follow and careful adherence to them will ensure that you take full advantage of the features of this engine.

**NOTE:** Some aftermarket products may cause severe engine/transmission and/or exhaust system damage. Your vehicle's Powertrain Control Systems can detect and store information about vehicle modifications that increase horsepower and torque output such as whether or not performance-enhancing powertrain components, commonly referred to as downloaders, power boxes, or performance chips have been used.

This information cannot be erased and will stay in the system's memory even if the modification is removed. This information can be retrieved by Chrysler Group LLC, and service and repair facilities, when servicing your vehicle. This information may be used to determine if repair will be covered by New Vehicle Limited Warranty.

There is a probability that the use of a "performance chip" will prohibit the engine from starting. In this instance, the vehicle will need to be serviced by a authorized dealer in order to return the vehicle to it's factory settings.

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# THINGS TO KNOW BEFORE STARTING YOUR VEHICLE

## CONTENTS

■ REMOTE STARTING SYSTEM . . . . .	10	■ ENGINE BREAK-IN RECOMMENDATIONS . . . . .	11
□ How To Use Remote Start . . . . .	10		

## 10 THINGS TO KNOW BEFORE STARTING YOUR VEHICLE

### REMOTE STARTING SYSTEM



This system uses the Remote Keyless Entry (RKE) transmitter to start the engine conveniently from outside the vehicle while still maintaining security. The system has a range of approximately 300 ft (91 m).

#### NOTE:

- The vehicle must be equipped with an automatic transmission to be equipped with Remote Start.
- The Remote Start system will wait for the “Wait To Start” amber telltale to extinguish before cranking the engine. This allows time for the engine pre-heat cycle to pre-heat the cylinder air, and is normal in cold weather. Refer to “Electronic Vehicle Information Center/EVIC Warning Lights” in “Understanding Your Instrument Panel” for further information on the “Wait To Start” amber telltale and the pre-heat cycle.

### How To Use Remote Start

All of the following conditions must be met before the engine will remote start:

- Shift lever in PARK
- Doors closed
- Hood closed
- HAZARD switch off
- BRAKE switch inactive (brake pedal not pressed)
- Battery at an acceptable charge level
- RKE PANIC button not pressed
- Fuel meets minimum requirement
- Water In Fuel Indicator Light is not illuminated
- “Wait To Start” telltale is not illuminated

**WARNING!**

- Do not start or run an engine in a closed garage or confined area. Exhaust gas contains Carbon Monoxide (CO) which is odorless and colorless. Carbon Monoxide is poisonous and can cause serious injury or death when inhaled.
- Keep Remote Keyless Entry (RKE) transmitters away from children. Operation of the Remote Start System, windows, door locks or other controls could cause serious injury or death.

**ENGINE BREAK-IN RECOMMENDATIONS**

The diesel engine does not require a break-in period due to its construction. Normal operation is allowed, providing the following recommendations are followed:

- Warm up the engine before placing it under load.
- Do not operate the engine at idle for prolonged periods.
- Use the appropriate transmission gear to prevent engine lugging.
- Observe vehicle oil pressure and temperature indicators.
- Check the coolant and oil levels frequently.
- Vary throttle position at highway speeds when carrying or towing significant weight.

## 12 THINGS TO KNOW BEFORE STARTING YOUR VEHICLE

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**NOTE:** Light duty operation such as light trailer towing or no load operation will extend the time before the engine is at full efficiency. Reduced fuel economy and power may be seen at this time.

The engine oil installed in the engine at the factory is a high-quality energy conserving type lubricant. Oil changes should be consistent with anticipated climate conditions under which vehicle operations will occur. The recommended viscosity and quality grades are shown under "Fluids, Lubricants and Genuine Parts", under "Maintaining Your Vehicle" in this manual. NON-DETERGENT OR STRAIGHT MINERAL OILS MUST NEVER BE USED.

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## UNDERSTANDING YOUR INSTRUMENT PANEL

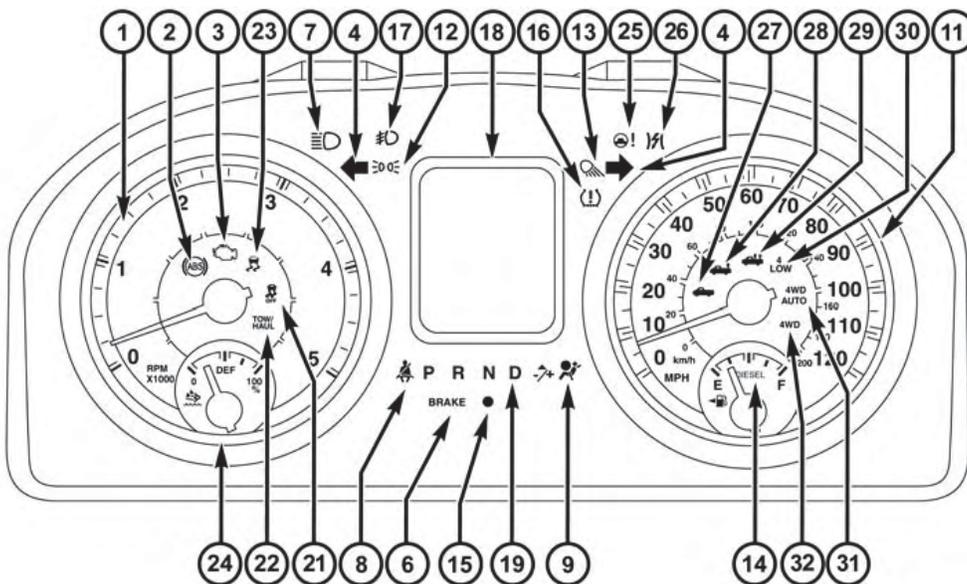
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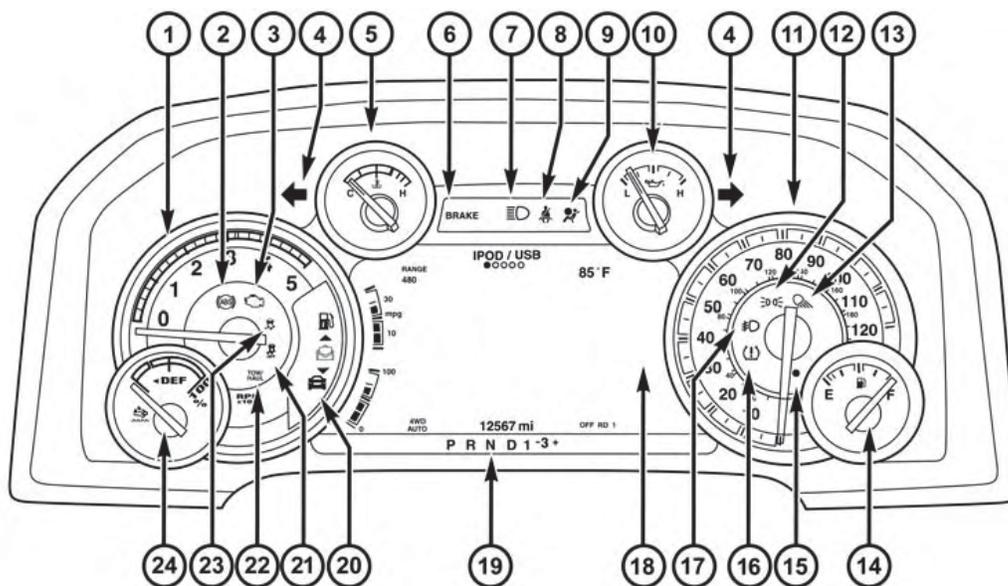
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INSTRUMENT CLUSTER



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INSTRUMENT CLUSTER



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16 UNDERSTANDING YOUR INSTRUMENT PANEL

**INSTRUMENT CLUSTER DESCRIPTIONS**

**1. Tachometer**

The tachometer indicates engine speed in Revolutions Per Minute (RPM x 1000).

**CAUTION!**

**Do not operate the engine with the tachometer pointer at high RPM for extended periods. Engine operation over 3200 RPM (Redline) can result in significant damage that will not be covered under warranty.**

**2. Anti-Lock Brake (ABS) Light**



This light monitors the Anti-lock Brake System (ABS). The light will turn on when the ignition switch is turned to the ON/RUN position and may stay on for as long as four seconds.

If the ABS light remains on or turns on while driving, it indicates that the anti-lock portion of the brake system is not functioning and that service is required. However, the conventional brake system will continue to operate normally if the BRAKE warning light is not on.

If the ABS light is on, the brake system should be serviced as soon as possible to restore the benefits of anti-lock brakes. If the ABS light does not turn on when the ignition switch is turned to the ON/RUN position, have the light inspected by an authorized dealer.

**3. Malfunction Indicator Light (MIL)**



The Malfunction Indicator Light (MIL) is part of an Onboard Diagnostic (OBDII) system which monitors the emissions and engine control system. If the vehicle is ready for emissions testing, the light will come on when the ignition is first turned on and remain on, as a bulb check, until the engine is started. If the vehicle is not ready for emissions

testing the light will come on when the ignition is first turned on and remain on for 15 seconds, then blink for 5 seconds, and remain on until the vehicle is started. If the bulb does not come on during starting, have the condition investigated promptly.

If this light comes on and remains on while driving, it suggests a potential engine control problem and the need for system service.

Although your vehicle will usually be drivable and not need towing, see your authorized dealer for service as soon as possible.

<b>CAUTION!</b>
<b>Prolonged driving with the Malfunction Indicator Light (MIL) on could cause damage to the engine control system. It also could affect fuel economy and driveability. If the MIL is flashing, severe catalytic</b>

*(Continued)*

<b>CAUTION! (Continued)</b>
<b>converter damage and power loss will soon occur. Immediate service is required.</b>

<b>WARNING!</b>
<b>A malfunctioning catalytic converter, as referenced above, can reach higher temperatures than in normal operating conditions. This can cause a fire if you drive slowly or park over flammable substances such as dry plants, wood, cardboard, etc. This could result in death or serious injury to the driver, occupants or others.</b>

**3**

*4. Turn Signal Indicators*



The arrow will flash with the exterior turn signal when the turn signal lever is operated.

**18 UNDERSTANDING YOUR INSTRUMENT PANEL**

**NOTE:**

- A continuous chime will sound if the vehicle is driven more than 1 mile (1.6 km) with either turn signal on.
- Check for an inoperative outside light bulb if either indicator remains on and does not flash, or flashes at a rapid rate.

**5. Engine Coolant Temperature**

This gauge shows the engine coolant temperature. The gauge pointer will likely show higher temperatures when driving in hot weather, up mountain grades, or in heavy stop and go traffic. If the red Warning Light turns on while driving, safely bring the vehicle to a stop, and turn off the engine. DO NOT operate the vehicle until the cause is corrected.

**CAUTION!**

Driving with a hot engine cooling system could damage your vehicle. If the temperature gauge reads "H" pull over and stop the vehicle. Idle the vehicle with the air conditioner turned off until the pointer drops back into the normal range. If the pointer remains on the "H" and you hear continuous chimes, turn the engine off immediately and call an authorized dealer for service.

**WARNING!**

A hot engine cooling system is dangerous. You or others could be badly burned by steam or boiling coolant. You may want to call an authorized dealer for service if your vehicle overheats. If you decide to look under the hood yourself, see "Maintaining Your

*(Continued)*

**WARNING! (Continued)**

Vehicle." Follow the warnings under the "Cooling System Pressure Cap" paragraph.

**6. Brake Warning Light**

**BRAKE**

This light monitors various brake functions, including brake fluid level and parking brake application. If the brake light turns on it may indicate that the parking brake is applied, that the brake fluid level is low, or that there is a problem with the Anti-lock Brake System reservoir.

If the light remains on when the parking brake has been disengaged, and the fluid level is at the full mark on the master cylinder reservoir, it indicates a possible brake hydraulic system malfunction or that a problem with the Brake Booster has been detected by the Anti-Lock Brake System (ABS)/Electronic Stability Control (ESC) system.

In this case, the light will remain on until the condition has been corrected. If the problem is related to the brake booster, the ABS pump will run when applying the brake and a brake pedal pulsation may be felt during each stop.

The dual brake system provides a reserve braking capacity in the event of a failure to a portion of the hydraulic system. A leak in either half of the dual brake system is indicated by the Brake Warning Light, which will turn on when the brake fluid level in the master cylinder has dropped below a specified level.

The light will remain on until the cause is corrected.

**NOTE:** The light may flash momentarily during sharp cornering maneuvers, which change fluid level conditions. The vehicle should have service performed, and the brake fluid level checked.

If brake failure is indicated, immediate repair is necessary.

20 UNDERSTANDING YOUR INSTRUMENT PANEL

**WARNING!**

**Driving a vehicle with the red brake light on is dangerous. Part of the brake system may have failed. It will take longer to stop the vehicle. You could have a collision. Have the vehicle checked immediately.**

Vehicles equipped with the ABS, are also equipped with Electronic Brake Force Distribution (EBD). In the event of an EBD failure, the Brake Warning Light will turn on along with the ABS Light. Immediate repair to the ABS system is required.

Operation of the Brake Warning Light can be checked by turning the ignition switch from the OFF position to the ON/RUN position. The light should illuminate for approximately two seconds. The light should then turn off unless the parking brake is applied or a brake fault is detected. If the light does not illuminate, have the light inspected by an authorized dealer.

The light also will turn on when the parking brake is applied with the ignition switch in the ON/RUN position.

**NOTE:** This light shows only that the parking brake is applied. It does not show the degree of brake application.

**7. High Beam Indicator**



This indicator shows that headlights are on high beam. Push the multifunction lever forward to switch the headlights to high beam, and pull toward yourself (normal position) to return to low beam.

**8. Seat Belt Reminder Light**



When the ignition switch is first turned to ON/RUN, this light will turn on for four to eight seconds as a bulb check. During the bulb check, if the driver's seat belt is unbuckled, a chime will sound. After the bulb check or when driving,

if the driver's seat belt remains unbuckled, the seat belt reminder light will flash or remain on continuously. Refer to "Occupant Restraints" in "Things To Know Before Starting Your Vehicle" for further information.

**9. Air Bag Warning Light**



This light will turn on for four to eight seconds as a bulb check when the ignition switch is first turned to ON/RUN. If the light is either not on during starting, stays on, or turns on while driving, have the system inspected at an authorized dealer as soon as possible. Refer to "Occupant Restraints" in "Things To Know Before Starting Your Vehicle" for further information.

**10. Engine Oil Pressure**

The pointer should always indicate some oil pressure when the engine is running. A continuous high or low reading under normal driving conditions may indicate a

lubrication system malfunction. Immediate service should be obtained from an authorized dealer.

If the gauge pointer moves to either extreme of the gauge, the Check Gauges indicator will illuminate and a single chime will sound.

**11. Speedometer**

The speedometer shows the vehicle speed in miles per hour and/or kilometers per hour (mph/km/h).

**12. Park/Headlight ON Indicator — If Equipped**



This indicator will illuminate when the park lights or headlights are turned on.

**13. Cargo Light**



The cargo light will illuminate when the cargo light is activated by pressing the cargo light button on the headlight switch.

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### 14. Fuel Gauge

Shows level of fuel in tank when ignition switch is in the ON/RUN position.

### 15. Vehicle Security Light — If Equipped



This light will flash at a fast rate for approximately 15 seconds, when the vehicle security alarm is arming, and then will flash slowly until the vehicle is disarmed.

### 16. Tire Pressure Monitoring Telltale Light



Each tire, including the spare (if provided), should be checked monthly when cold and inflated to the inflation pressure recommended by the vehicle manufacturer on the vehicle placard or tire inflation pressure label. (If your vehicle has tires of a different size than the size indicated on the vehicle placard or tire inflation pressure label, you should determine the proper tire inflation pressure for those tires.)

As an added safety feature, your vehicle has been equipped with a Tire Pressure Monitoring System (TPMS) that illuminates a low tire pressure telltale when one or more of your tires is significantly under-inflated. Accordingly, when the low tire pressure telltale illuminates, you should stop and check your tires as soon as possible, and inflate them to the proper pressure. Driving on a significantly under-inflated tire causes the tire to overheat and can lead to tire failure. Under-inflation also reduces fuel efficiency and tire tread life, and may affect the vehicle's handling and stopping ability.

Please note that the TPMS is not a substitute for proper tire maintenance, and it is the driver's responsibility to maintain correct tire pressure, even if under-inflation has not reached the level to trigger illumination of the TPMS low tire pressure telltale.

Your vehicle has also been equipped with a TPMS malfunction indicator to indicate when the system is not operating properly. The TPMS malfunction indicator is

combined with the low tire pressure telltale. When the system detects a malfunction, the telltale will flash for approximately one minute and then remain continuously illuminated. This sequence will continue upon subsequent vehicle start-ups as long as the malfunction exists. When the malfunction indicator is illuminated, the system may not be able to detect or signal low tire pressure as intended. TPMS malfunctions may occur for a variety of reasons, including the installation of replacement or alternate tires or wheels on the vehicle that prevent the TPMS from functioning properly. Always check the TPMS malfunction telltale after replacing one or more tires or wheels on your vehicle, to ensure that the replacement or alternate tires and wheels allow the TPMS to continue to function properly.

**CAUTION!**

**The TPMS has been optimized for the original equipment tires and wheels. TPMS pressures and warning have been established for the tire size equipped on your vehicle. Undesirable system operation or sensor damage may result when using replacement equipment that is not of the same size, type, and/or style. Aftermarket wheels can cause sensor damage. Do not use tire sealant from a can or balance beads if your vehicle is equipped with a TPMS, as damage to the sensors may result.**

**NOTE:** The TPMS telltale is also accompanied by a “Low Tire” message in the odometer (Base Cluster), or in the Electronic Vehicle Information Center (EVIC) screen indicating “Low Tire” for EVIC enabled clusters.

## 24 UNDERSTANDING YOUR INSTRUMENT PANEL

### 17. Front Fog Light Indicator — If Equipped



This indicator will illuminate when the front fog lights are on.

### 18. Electronic Vehicle Information Center (EVIC)

The Electronic Vehicle Information Center (EVIC) features a driver-interactive display that is located in the instrument cluster. For further information, refer to “Electronic Vehicle Information Center (EVIC)”.

### 19. Transmission Gear Position Indicator

The Transmission Gear Position Indicator is self-contained within the instrument cluster. It displays the gear range of the automatic transmission.

**NOTE:** The highest available transmission gear is displayed in the lower right corner of the Electronic Vehicle Information Center (EVIC) whenever the Electronic Range Select (ERS) feature is active. Use the +/- selector on the shift lever to activate ERS. Refer to “Automatic Transmission” in “Starting And Operating” for further information.

### 20. Electronic Vehicle Information Center (EVIC) Menu

The Electronic Vehicle Information Center (EVIC) features a driver-interactive display that is located in the instrument cluster. For further information, refer to “Electronic Vehicle Information Center (EVIC)”.

### 21. Electronic Stability Control (ESC) OFF Indicator Light — If Equipped



This light indicates that the Electronic Stability Control (ESC) is in Partial Off or Full Off mode.

## 22. TOW/HAUL



The TOW HAUL button is located on the center stack upper switch bank. This light will illuminate when TOW HAUL mode is selected.

## 23. Electronic Stability Control (ESC) Activation/ Malfunction Indicator Light — If Equipped



The “ESC Activation/Malfunction Indicator Light” in the instrument cluster will come on when the ignition switch is turned to the ON/RUN position. It should go out with the engine running. If the “ESC Activation/Malfunction Indicator Light” comes on continuously with the engine running, a malfunction has been detected in the ESC system. If this light remains on after several ignition cycles, and the vehicle has been driven several miles (kilometers) at speeds greater than 30 mph (48 km/h), see your authorized dealer as soon as possible to have the problem diagnosed and corrected.

### NOTE:

- The “ESC Off Indicator Light” and the “ESC Activation/ Malfunction Indicator Light” come on momentarily each time the ignition switch is turned to ON/RUN.
- Each time the ignition is turned to ON/RUN, the ESC system will be ON, even if it was turned off previously.
- The ESC system will make buzzing or clicking sounds when it is active. This is normal; the sounds will stop when ESC becomes inactive following the maneuver that caused the ESC activation.

## 24. DEF Gauge

The DEF Gauge displays the actual level of Diesel Exhaust Fluid in the DEF tank. Diesel Exhaust Fluid (DEF) is required to maintain normal vehicle operation and emissions compliance. More information is available in the Electronic Vehicle Information (EVIC) section under the heading of Diesel Exhaust Fluid (DEF) Warning Messages.

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### 25. *Electric Power Steering Malfunction Warning Light*



This telltale is on when the Electric Power Steering is not operating and needs service.

### 26. *Electronic Throttle Control (ETC) Light*



This light informs you of a problem with the Electronic Throttle Control (ETC) system. The light will come on when the ignition is first turned ON and remain on briefly as a bulb check. If the light does not come on during starting, have the system checked by an authorized dealer.

If a problem is detected, the light will come on while the engine is running. Cycle the ignition key when the vehicle has completely stopped and the shift lever is placed in the PARK position. The light should turn off.

If the light remains lit with the engine running, your vehicle will usually be drivable. However, see an authorized dealer for service as soon as possible. If the light is flashing when the engine is running, immediate service is required. You may experience reduced performance, an elevated/rough idle or engine stall and your vehicle may require towing.

### 27. *Air Suspension Normal Ride Height Indicator Lamp — If Equipped*

This light will illuminate when the air suspension system is set to the Normal Ride Height setting. For further information, refer to “Air Suspension System” in “Starting And Operating”.

### 28. *Air Suspension Off-Road 1 Indicator Lamp — If Equipped*

This light will illuminate when the air suspension system is set to the Off-Road 1 setting. For further information, refer to “Air Suspension System” in “Starting And Operating”.

**29. Air Suspension Off-Road 2 Indicator Lamp — If Equipped**

This light will illuminate when the air suspension system is set to the Off-Road 2 setting. For further information, refer to “Air Suspension System” in “Starting And Operating”.

**30. 4 LOW**



This light alerts the driver that the vehicle is in the four-wheel drive LOW mode. The front and rear driveshafts are mechanically locked together forcing the front and rear wheels to rotate at the same speed. Low range provides a greater gear reduction ratio to provide increased torque at the wheels.

For further information on four-wheel drive operation and proper use, refer to “Four-Wheel Drive Operation — If Equipped” in “Starting And Operating”.

**31. 4WD AUTO Indicator Light — If Equipped**



This light alerts the driver that the vehicle is in the four-wheel drive auto mode, and the front axle is engaged, but the vehicle’s power is sent to the rear wheels. Four-wheel drive will be automatically engaged when the vehicle senses a loss of traction.

For further information on four-wheel drive operation and proper use, refer to “Four-Wheel Drive Operation — If Equipped” in “Starting And Operating”.

**32. 4WD Indicator Light — If Equipped**



This light alerts the driver that the vehicle is in the four-wheel drive mode, and the front and rear driveshafts are mechanically locked together forcing the front and rear wheels to rotate at the same speed.

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For further information on four-wheel drive operation and proper use, refer to “Four-Wheel Drive Operation — If Equipped” in “Starting And Operating”.

**ELECTRONIC VEHICLE INFORMATION CENTER (EVIC)**

The Electronic Vehicle Information Center (EVIC) features a driver-interactive display that is located in the instrument cluster.



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**Electronic Vehicle Information Center (EVIC)**

This system conveniently allows the driver to select a variety of useful information by pressing the switches mounted on the steering wheel.

Refer to “Electronic Vehicle Information Center – If Equipped” in the Owner’s Manual for further information.

### EVIC Displays

When the appropriate conditions exist, the EVIC displays the following messages:

- System Setup Unavailable – Vehicle Not in Park
- System Setup Unavailable – Vehicle in Motion
- Exhaust Filter Full Safely Drive at Highway Speeds To Remedy
- Exhaust Filter XX% Full – Power Reduced See Dealer
- Exhaust Service Required – See Dealer Now
- Exhaust System – Filter XX% Full Service Required See Dealer
- Exhaust System – Regeneration In Process Exhaust Filter XX% Full
- Exhaust System – Regeneration Completed
- Engine Will Not Restart in XXXX mi DEF Low Refill Soon
- Engine Will Not Restart in XXXX mi Refill DEF
- Engine Will Not Restart Refill DEF
- Service DEF System See Dealer
- Incorrect DEF Detected See Dealer
- Engine Will Not Restart in XXX mi Service DEF See Dealer
- Engine Will Not Restart Service DEF System See Dealer

30 UNDERSTANDING YOUR INSTRUMENT PANEL

**Vehicle Information (Customer Information Features)**

Press and release the UP  $\triangle$  arrow or DOWN  $\nabla$  arrow button until "Vehicle Info" displays in the EVIC. Press the RIGHT  $\triangleright$  arrow or LEFT  $\triangleleft$  arrow button to scroll through the available Vehicle Information sub menu(s) to display anyone of the following choices.



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EVIC Steering Wheels Buttons

**Vehicle Information Sub Menus**

- *Battery Voltage*

Displays the actual battery voltage.

- *Coolant Temp*

Displays the actual coolant temperature.

- *Trans Temperature*

Displays the actual transmission sump temperature.

- *Tire Pressure Monitor System*

Displays the actual tire pressure.

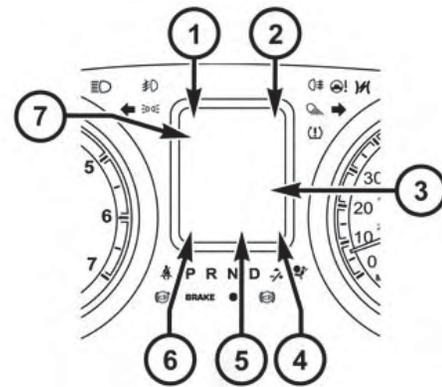
- *Oil Life*

Displays the actual oil life.

- *Engine Hours*

Displays the actual engine hours.

**Electronic Vehicle Information Center (EVIC)  
Displays — 3.5" Display**



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The EVIC displays are located in the center portion of the cluster and consists of seven sections:

### 1. *Compass Display*

Displays the current direction. For further information, refer to “Compass Settings” under “Customer Programmable Features — Uconnect® 5.0/8.4 Settings”.

### 2. *Temperature Display*

Displays the temperature in degrees Celsius or degrees Fahrenheit.

### 3. *Main Screen*

Displays main menu, sub-menus, settings.

### 4. *EVIC White Telltales*

- *Electronic Speed Control Ready*



This light will turn on when the electronic speed control is ON. For further information, refer to “Electronic Speed Control” in “Understanding The Features Of Your Vehicle.”

- *Electronic Speed Control SET*



This light will turn on when the electronic speed control is SET. For further information, refer to “Electronic Speed Control” in “Understanding The Features Of Your Vehicle.”

- *Shift Lever Status*

The highest available transmission gear is displayed in the lower right corner of the Electronic Vehicle Information Center (EVIC) whenever the Electronic Range Select (ERS) feature is active. Use the +/- selector on the shift lever to activate ERS. Refer to “Automatic Transmission” in “Starting And Operating” for further information.

5. EVIC Amber Telltales

• *Low Fuel Telltale*



When the fuel level reaches approximately 3.0 gal (11.0 L) this light will turn on, and remain on until fuel is added.

• *Windshield Washer Fluid Low Indicator*



This telltale will turn on to indicate the windshield washer fluid is low.

• *Low Coolant Level Indicator*



This telltale will turn on to indicate the vehicle coolant level is low.

• *Transmission Temperature Warning Telltale*



This telltale indicates that the transmission fluid temperature is running hot. This may occur with severe usage, such as trailer towing.

If this telltale turns on, safely pull over and stop the vehicle. Then, shift the transmission into NEUTRAL and run the engine at idle or faster until the light turns off.

<b>CAUTION!</b>
<b>Continuous driving with the Transmission Temperature Warning Light illuminated will eventually cause severe transmission damage or transmission failure.</b>

<b>WARNING!</b>
<b>If you continue operating the vehicle when the Transmission Temperature Warning Light is illuminated you could cause the fluid to boil over, come in contact with hot engine or exhaust components and cause a fire.</b>

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- ***Air Suspension Payload Protection Telltale — If Equipped***



This telltale will turn on to indicate that the maximum payload may have been exceeded or load leveling cannot be achieved at its current ride height.

Protection Mode will automatically be selected in order to “protect” the air suspension system, air suspension adjustment is limited due to payload.

- ***Water In Fuel Indicator Light — Diesel Only***



The “Water In Fuel Indicator Light” will illuminate when there is water detected in the fuel filters. If this light remains on, DO NOT start the vehicle before you drain the water from the fuel

filters to prevent engine damage. Refer to “Maintenance Procedures/Draining Fuel/Water Separator Filters” in “Maintaining Your Vehicle” for further information.

- ***Wait To Start Light***



The “Wait To Start” telltale will illuminate for approximately two seconds when the ignition is turned to the RUN position. It’s duration may be longer based on colder operating conditions. Vehicle will not initiate start until telltale is out. Refer to “Starting Procedures” in “Starting And Operating” for further information.

**NOTE:** The “Wait To Start” telltale may not illuminate if the intake manifold temperature is warm enough.

- ***Low Diesel Exhaust Fluid Light***



This telltale will turn on to indicate the Diesel Exhaust Fluid (DEF) is low.

## 6. EVIC Red Telltales

- *Door Ajar*



This light will turn on to indicate that one or more doors may be ajar.

- *Oil Pressure Warning Light*



This telltale indicates low engine oil pressure. If the light turns on while driving, stop the vehicle and shut off the engine as soon as possible. A chime will sound when this light turns on.

Do not operate the vehicle until the cause is corrected. This light does not show how much oil is in the engine. The engine oil level must be checked under the hood.

- *Oil Temperature Warning Light*



This telltale indicates engine oil temperature is high. If the light turns on while driving, stop the vehicle and shut off the engine as soon as possible.

- *Charging System Light*



This light shows the status of the electrical charging system. If the light stays on or comes on while driving, turn off some of the vehicle's non-essential electrical devices or increase engine speed (if at idle). If the charging system light remains on, it means that the vehicle is experiencing a problem with the charging system. Obtain SERVICE IMMEDIATELY. See an authorized dealer.

If jump starting is required, refer to "Jump Starting Procedures" in "What To Do In Emergencies".

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- *Electronic Throttle Control (ETC) Light*



This light informs you of a problem with the Electronic Throttle Control (ETC) system. The light will come on when the ignition is first turned ON and remain on briefly as a bulb check. If the light does not come on during starting, have the system checked by an authorized dealer.

If a problem is detected, the light will come on while the engine is running. Cycle the ignition key when the vehicle has completely stopped and the shift lever is placed in the PARK position. The light should turn off.

If the light remains lit with the engine running, your vehicle will usually be drivable. However, see an authorized dealer for service as soon as possible. If the light is flashing when the engine is running, immediate service is required. You may experience reduced performance, an elevated/rough idle or engine stall and your vehicle may require towing.

- *Engine Temperature Warning Light*



This light warns of an overheated engine condition. As temperatures rise and the gauge approaches **H**, this indicator will illuminate and a single chime will sound after reaching a set threshold. Further overheating will cause the temperature gauge to pass **H**, a continuous chime will occur until the engine is allowed to cool.

If the light turns on while driving, safely pull over and stop the vehicle. If the A/C system is on, turn it off. Also, shift the transmission into NEUTRAL and idle the vehicle. If the temperature reading does not return to normal, turn the engine off immediately and call for service. Refer to “If Your Engine Overheats” in “What To Do In Emergencies” for further information.

- **Electric Power Steering Malfunction Warning Light**



This telltale is on when the Electric Power Steering is not operating and needs service.

- **Trailer Brake Disconnected Warning Light**



This telltale is on when the Trailer Brake has been disconnected.

### 7. **Audi/Phone Information And Sub-menu Information**

Whenever there are sub-menus available, the position within the sub-menu is shown here.

The main display area will normally display the main menu or the screens of a selected feature of the main menu. The main display area also displays “pop up” messages that consist of approximately 60 possible warning or information messages. These pop up messages fall into several categories:

- **Five Second Stored Messages**

When the appropriate conditions occur, this type of message takes control of the main display area for five seconds and then returns to the previous screen. Most of the messages of this type are then stored (as long as the condition that activated it remains active) and can be reviewed from the “Messages” main menu item. As long as there is a stored message, an “i” will be displayed in the EVIC’s compass/outside temp line. Examples of this message type are “Right Front Turn Signal Lamp Out” and “Low Tire Pressure”.

- **Unstored Messages**

This message type is displayed indefinitely or until the condition that activated the message is cleared. Examples of this message type are “Turn Signal On” (if a turn signal is left on) and “Lights On” (if driver leaves the vehicle).

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- *Unstored Messages Until RUN*

These messages deal primarily with the Remote Start feature. This message type is displayed until the ignition is in the RUN state. Examples of this message type are “Remote Start Aborted - Door Ajar” and “Press Brake Pedal and Push Button to Start”.

- *Five Second Unstored Messages*

When the appropriate conditions occur, this type of message takes control of the main display area for five seconds and then returns to the previous screen. An example of this message type is “Automatic High Beams On”.

#### EVIC Amber Telltales

This area will show reconfigurable amber caution telltales. These telltales include:

#### Water In Fuel Indicator Light



The “Water In Fuel Indicator Light” will illuminate when there is water detected in the fuel filters. If this light remains on, DO NOT start the vehicle before you drain the water from the fuel filters to prevent engine damage. Refer to “Maintenance Procedures/Draining Fuel/Water Separator Filters” in “Maintaining Your Vehicle” for further information.

#### Wait To Start Light



The “Wait To Start” telltale will illuminate for approximately two seconds when the ignition is turned to the RUN position. It’s duration may be longer based on

colder operating conditions. Vehicle will not initiate start until telltale is out. Refer to “Starting Procedures” in “Starting And Operating” for further information.

**NOTE:** The “Wait To Start” telltale may not illuminate if the intake manifold temperature is warm enough.

#### Low Diesel Exhaust Fluid Light



This telltale will turn on to indicate the Diesel Exhaust Fluid (DEF) is low.

#### Diesel Particulate Filter (DPF) Messages

This engine meets all required diesel engine emissions standards. To achieve these emissions standards, your vehicle is equipped with a state-of-the-art engine and exhaust system. These systems are seamlessly integrated into your vehicle and managed by the Powertrain Control Module (PCM). The PCM manages engine combustion to allow the exhaust system’s catalyst to trap and

burn Particulate Matter (PM) pollutants, with no input or interaction on your part.

#### WARNING!

**A hot exhaust system can start a fire if you park over materials that can burn. Such materials might be grass or leaves coming into contact with your exhaust system. Do not park or operate your vehicle in areas where your exhaust system can contact anything that can burn.**

3

Your vehicle has the ability to alert you to additional maintenance required on your vehicle or engine. Refer to the following messages that may be displayed on your Electronic Vehicle Information Center (EVIC):

- **Exhaust Filter XX% Full Safely Drive at Highway Speeds to Remedy** — This message will be displayed on the Electronic Vehicle Information Center (EVIC) if

#### 40 UNDERSTANDING YOUR INSTRUMENT PANEL

the exhaust particulate filter reaches 80% of its maximum storage capacity. Under conditions of exclusive short duration and low speed driving cycles, your diesel engine and exhaust after-treatment system may never reach the conditions required to cleanse the filter to remove the trapped PM. If this occurs, the “Exhaust Filter XX% Full Safely Drive at Highway Speeds to Remedy” message will be displayed in the EVIC. If this message is displayed, you will hear one chime to assist in alerting you of this condition. By simply driving your vehicle at highway speeds for up to 20 minutes, you can remedy the condition in the particulate filter system and allow your diesel engine and exhaust after-treatment system to cleanse the filter to remove the trapped PM and restore the system to normal operating condition.

- **Exhaust System — Regeneration In Process Exhaust Filter XX% Full** — This message indicates that the Diesel Particulate Filter (DPF) is self-cleaning. Maintain your current driving condition until regeneration is completed.
- **Exhaust System — Regeneration Completed** — This message indicates that the Diesel Particulate Filter (DPF) self-cleaning is completed. If this message is displayed, you will hear one chime to assist in alerting you of this condition.
- **Exhaust Service Required — See Dealer Now** — This message indicates regeneration has been disabled due to a system malfunction. At this point the engine Powertrain Control Module (PCM) will register a fault code, the instrument panel will display a MIL light.

**CAUTION!**

See your authorized dealer, as damage to the exhaust system could occur soon with continued operation.

- **Exhaust Filter Full — Power Reduced See Dealer** — This message indicates the PCM has derated the engine to limit the likelihood of permanent damage to the after-treatment system. If this condition is not corrected and a dealer service is not performed, extensive exhaust after-treatment damage can occur. To correct this condition it will be necessary to have your vehicle serviced by your local authorized dealer.

**CAUTION!**

See your authorized dealer, as damage to the exhaust system could occur soon with continued operation.

**Diesel Exhaust Fluid (DEF) Warning Messages**

Your vehicle will begin displaying warning messages when the DEF level reaches a driving range of approximately 500 miles (800 km). If the following warning message sequence is ignored, your vehicle may not restart unless DEF is added within the displayed mileage shown in the EVIC message.

- **Engine Will Not Restart in XXXX mi DEF Low Refill Soon** — This message will display when DEF driving range is less than 500 miles, DEF fluid top off is required within the displayed mileage. The message will be displayed in the EVIC during vehicle start up with the current allowed mileage and accompanied by a single chime. The remaining mileage can be pulled up anytime by way of the “Messages” list within the EVIC
- **Engine Will Not Restart in XXXX mi Refill DEF** — This message will display when DEF driving range is less than 200 miles. It is also displayed at 150 miles and

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100 miles. DEF fluid top off is required with in the displayed mileage. The message will be displayed in the EVIC during vehicle start up with an updated distance mileage, and it will be accompanied by a single chime. Stating at 100 miles, remaining range will be continuously displayed while operating the vehicle. Chimes will also accompany the 75, 50 and 25 mile remaining distances. The DEF Low telltale will be on continuously until DEF fluid is topped off.

- **Engine Will Not Restart Refill DEF** — This message will display when the DEF driving range is less than 1 mile, DEF fluid top off is required or the engine will not restart. The message will be displayed in the EVIC during vehicle start up, and it will be accompanied by a single chime. The DEF Low telltale will be illuminated continuously until DEF fluid tank is filled with a minimum of two gallons of DEF.

### **Diesel Exhaust Fluid (DEF) Fault Warning Messages**

There are different messages which are displayed if the vehicle detects that the DEF system has been filled with a fluid other than DEF, has experienced component failures, or when tampering has been detected.

When the DEF system needs to be serviced the following warnings will display:

- **Service DEF System See Dealer** — This message will display when the fault is initially detected and each time the vehicle is started. The message will be accompanied by a single chime and the Malfunction Indicator Light. We recommend you drive to your nearest authorized dealer and have your vehicle serviced immediately. If not corrected in 50 miles, vehicle will enter the “Engine Will not restart in XXXmi Service DEF See dealer” warning stage and message.

- **Incorrect DEF Detected See Dealer** — This message will display if the DEF system has detected the incorrect fluid has been introduced to the DEF tank. The message will be accompanied by a single chime. We recommend you drive to your nearest authorized dealer and have your vehicle serviced immediately. If not corrected in 50 miles, vehicle will enter the Engine Will not restart in XXX mi Service DEF See dealer warning stage and message.
- **Engine Will Not Restart in XXX mi Service DEF See Dealer** — This message is first displayed if the fault detected is not serviced after 50 miles of operation. It is also displayed at 150 miles 125 miles and 100 miles. System service is required within the displayed mileage. The message will be displayed in the EVIC during vehicle start up with an updated distance mileage, and it will be accompanied by a single chime. Starting at 100 miles, remaining range will be continuously displayed while operating the vehicle. Chimes will also accompany the 75, 50 and 25 mile remaining distances. We recommend you drive to your nearest authorized dealer and have your vehicle serviced immediately.
- **Engine Will Not Restart Service DEF System See Dealer** — This message will display if DEF system issue detected is not serviced during the allowed period. Your engine will not restart unless your vehicle is serviced by your authorized dealer. This message will be displayed when under 1 mile until engine will not start and each time the vehicle is started, and will be continuously displayed. The message will be accompanied by a single chime. Your Malfunction Indicator Light will be continuously illuminated. We highly recommend you drive to your nearest authorized dealer if the message appears while engine is running.
- **Engine Will Not Start Service DEF System See Dealer** — This message will display when the fault detected is not serviced after the Engine will not restart

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Service DEF System See Dealer message is displayed on the next subsequent restart. Your engine will not start unless you vehicle is serviced by your authorized dealer. The message will be accompanied by a single chime. Your Malfunction Indicator Light will be continuously illuminated. If the message appears and you can not start the engine, we recommend you have your vehicle towed to your nearest authorized dealer immediately.

##### Oil Life Reset

Your vehicle is equipped with an engine oil change indicator system. The "Oil Change Required" message will flash in the EVIC display for approximately 10 seconds after a single chime has sounded, to indicate the next scheduled oil change interval. The engine oil change indicator system is duty cycle based, which means the engine oil change interval may fluctuate, dependent upon your personal driving style.

**NOTE:** Use the steering wheel EVIC controls for the following procedure(s)

##### Vehicles Equipped With Passive Entry

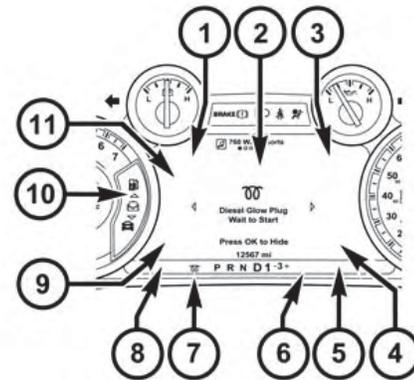
1. Without pressing the brake pedal, press the ENGINE START/STOP button and cycle the ignition to the ON/RUN position (do not start the engine.)
2. Press and release the **DOWN** arrow button to scroll downward through the main menu to "Vehicle Info".
3. Press and release the **RIGHT** arrow button to access the "Oil Life" screen.
4. Press and release the **DOWN** arrow button to select "Reset", then press and release the **Right** arrow button to select reset of the Oil Life to 100%.
5. Press and release the **Up** arrow button to exit the EVIC screen.

### Vehicles Not Equipped With Passive Entry

1. Without pressing the brake pedal, press the ENGINE START/STOP button and cycle the ignition to the ON/RUN position (do not start the engine.)
2. Press and release the **DOWN** arrow button to scroll downward through the main menu to "Vehicle Info".
3. Press and release the **RIGHT** arrow button to access the "Oil Life" screen.
4. Press and release the **DOWN** arrow button to select "Reset", then press and release the **Right** arrow button to select reset of the Oil Life to 100%.
5. Press and release the **Up** arrow button to exit the EVIC screen.

**NOTE:** If the indicator message illuminates when you start the vehicle, the oil change indicator system did not reset. If necessary, repeat this procedure.

### Electronic Vehicle Information Center (EVIC) Displays — 7" Display



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The EVIC displays are located in the center portion of the cluster and consists of eight sections:

1. Main Screen — The inner ring of the display will illuminate in grey under normal conditions, yellow for non critical warnings, red for critical warnings and white for on demand information.
2. Audio/Phone Information and Sub-menu Information — Whenever there are sub-menus available, the position within the sub-menus is shown here.
3. Selectable Information (Compass, Temp, Range to Empty, Trip A, Trip B, Average MPG, Trailer Trip (distance only), Trailer Brake Gain).
4. Telltales/Indicators
5. Shift Lever Status (PRNDL)
6. Selectable Menu Icons
7. Air Suspension Status – If Equipped

8. 4WD Status
9. Selectable Gauge 2
10. Selectable Gauge 1
11. Selectable Gauge 1

The main display area will normally display the main menu or the screens of a selected feature of the main menu. The main display area also displays “pop up” messages that consist of approximately 60 possible warning or information messages. These pop up messages fall into several categories:

- ***Five Second Stored Messages***

When the appropriate conditions occur, this type of message takes control of the main display area for five seconds and then returns to the previous screen. Most of the messages of this type are then stored (as long as the condition that activated it remains active) and can be reviewed from the “Messages” main menu item. As long

as there is a stored message, an “i” will be displayed in the EVIC’s compass/outside temp line. Examples of this message type are “Right Front Turn Signal Lamp Out” and “Low Tire Pressure”.

- **Unstored Messages**

This message type is displayed indefinitely or until the condition that activated the message is cleared. Examples of this message type are “Turn Signal On” (if a turn signal is left on) and “Lights On” (if driver leaves the vehicle).

- **Unstored Messages Until RUN**

These messages deal primarily with the Remote Start feature. This message type is displayed until the ignition is in the RUN state. Examples of this message type are “Remote Start Aborted - Door Ajar” and “Press Brake Pedal and Push Button to Start”.

- **Five Second Unstored Messages**

When the appropriate conditions occur, this type of message takes control of the main display area for five seconds and then returns to the previous screen. An example of this message type is “Automatic High Beams On”.

### **EVIC Amber Telltales**

This area will show reconfigurable amber caution telltales. These telltales include:

#### **Water In Fuel Indicator Light**



The “Water In Fuel Indicator Light” will illuminate when there is water detected in the fuel filters. If this light remains on, DO NOT start the vehicle before you drain the water from the fuel filters to prevent engine damage. Refer to “Maintenance Procedures/Draining Fuel/Water Separator Filters” in “Maintaining Your Vehicle” for further information.

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**Wait To Start Light**

 The “Wait To Start” telltale will illuminate for approximately two seconds when the ignition is turned to the RUN position. It’s duration may be longer based on colder operating conditions. Vehicle will not initiate start until telltale is out. Refer to “Starting Procedures” in “Starting And Operating” for further information.

**NOTE:** The “Wait To Start” telltale may not illuminate if the intake manifold temperature is warm enough.

**Low Diesel Exhaust Fluid Light**

 This telltale will turn on to indicate the Diesel Exhaust Fluid (DEF) is low.

**Diesel Particulate Filter (DPF) Messages**

This engine meets all required diesel engine emissions standards. To achieve these emissions standards, your vehicle is equipped with a state-of-the-art engine and exhaust system. These systems are seamlessly integrated into your vehicle and managed by the Powertrain Control Module (PCM). The PCM manages engine combustion to allow the exhaust system’s catalyst to trap and burn Particulate Matter (PM) pollutants, with no input or interaction on your part.

<b>WARNING!</b>
<b>A hot exhaust system can start a fire if you park over materials that can burn. Such materials might be grass or leaves coming into contact with your exhaust system. Do not park or operate your vehicle in areas where your exhaust system can contact anything that can burn.</b>

Your vehicle has the ability to alert you to additional maintenance required on your vehicle or engine. Refer to the following messages that may be displayed on your Electronic Vehicle Information Center (EVIC):

- **Exhaust Filter XX% Full Safely Drive at Highway Speeds to Remedy** — This message will be displayed on the Electronic Vehicle Information Center (EVIC) if the exhaust particulate filter reaches 80% of its maximum storage capacity. Under conditions of exclusive short duration and low speed driving cycles, your diesel engine and exhaust after-treatment system may never reach the conditions required to cleanse the filter to remove the trapped PM. If this occurs, the “Exhaust Filter XX% Full Safely Drive at Highway Speeds to Remedy” message will be displayed in the EVIC. If this message is displayed, you will hear one chime to assist in alerting you of this condition. By simply driving your vehicle at highway speeds for up to 20 minutes, you can remedy the condition in the particulate filter system and allow your diesel engine and exhaust after-treatment system to cleanse the filter to remove the trapped PM and restore the system to normal operating condition.
- **Exhaust System — Regeneration In Process Exhaust Filter XX% Full** — This message indicates that the Diesel Particulate Filter (DPF) is self-cleaning. Maintain your current driving condition until regeneration is completed.
- **Exhaust System — Regeneration Completed** — This message indicates that the Diesel Particulate Filter (DPF) self-cleaning is completed. If this message is displayed, you will hear one chime to assist in alerting you of this condition.
- **Exhaust Service Required — See Dealer Now** — This message indicates regeneration has been disabled due to a system malfunction. At this point the engine

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Powertrain Control Module (PCM) will register a fault code, the instrument panel will display a MIL light.

**CAUTION!**

See your authorized dealer, as damage to the exhaust system could occur soon with continued operation.

**CAUTION!**

See your authorized dealer, as damage to the exhaust system could occur soon with continued operation.

- **Exhaust Filter Full — Power Reduced See Dealer** — This message indicates the PCM has derated the engine to limit the likelihood of permanent damage to the after-treatment system. If this condition is not corrected and a dealer service is not performed, extensive exhaust after-treatment damage can occur. To correct this condition it will be necessary to have your vehicle serviced by your local authorized dealer.

**Diesel Exhaust Fluid (DEF) Warning Messages**

Your vehicle will begin displaying warning messages when the DEF level reaches a driving range of approximately 500 miles (800 km). If the following warning message sequence is ignored, your vehicle may not restart unless DEF is added within the displayed mileage shown in the EVIC message.

- **Engine Will Not Restart in XXXX mi DEF Low Refill Soon** — This message will display when DEF driving range is less than 500 miles, DEF fluid top off is required within the displayed mileage. The message will be displayed in the EVIC during vehicle start up with the current allowed mileage and accompanied by

a single chime. The remaining mileage can be pulled up anytime by way of the “Messages” list within the EVIC

- **Engine Will Not Restart in XXXX mi Refill DEF** — This message will display when DEF driving range is less than 200 miles. It is also displayed at 150 miles and 100 miles. DEF fluid top off is required with in the displayed mileage. The message will be displayed in the EVIC during vehicle start up with an updated distance mileage, and it will be accompanied by a single chime. Stating at 100 miles, remaining range will be continuously displayed while operating the vehicle. Chimes will also accompany the 75, 50 and 25 mile remaining distances. The DEF Low telltale will be on continuously until DEF fluid is topped off.
- **Engine Will Not Restart Refill DEF** — This message will display when the DEF driving range is less than 1 mile, DEF fluid top off is required or the engine will not restart. The message will be displayed in the EVIC

during vehicle start up, and it will be accompanied by a single chime. The DEF Low telltale will be illuminated continuously until DEF fluid tank is filled with a minimum of two gallons of DEF.

### Diesel Exhaust Fluid (DEF) Fault Warning Messages

There are different messages which are displayed if the vehicle detects that the DEF system has been filled with a fluid other than DEF, has experienced component failures, or when tampering has been detected.

When the DEF system needs to be serviced the following warnings will display:

- **Service DEF System See Dealer** — This message will display when the fault is initially detected and each time the vehicle is started. The message will be accompanied by a single chime and the Malfunction Indicator Light. We recommend you drive to your nearest

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authorized dealer and have your vehicle serviced immediately. If not corrected in 50 miles, vehicle will enter the “Engine Will not restart in XXXmi Service DEF See dealer” warning stage and message.

- **Incorrect DEF Detected See Dealer** — This message will display if the DEF system has detected the incorrect fluid has been introduced to the DEF tank. The message will be accompanied by a single chime. We recommend you drive to your nearest authorized dealer and have your vehicle serviced immediately. If not corrected in 50 miles, vehicle will enter the Engine Will not restart in XXX mi Service DEF See dealer warning stage and message.
- **Engine Will Not Restart in XXX mi Service DEF See Dealer** — This message is first displayed if the fault detected is not serviced after 50 miles of operation. It is also displayed at 150 miles 125 miles and 100 miles. System service is required within the displayed mileage. The message will be displayed in the EVIC during

vehicle start up with an updated distance mileage, and it will be accompanied by a single chime. Starting at 100 miles, remaining range will be continuously displayed while operating the vehicle. Chimes will also accompany the 75, 50 and 25 mile remaining distances. We recommend you drive to your nearest authorized dealer and have your vehicle serviced immediately.

- **Engine Will Not Restart Service DEF System See Dealer** — This message will display if DEF system issue detected is not serviced during the allowed period. Your engine will not restart unless your vehicle is serviced by your authorized dealer. This message will be displayed when under 1 mile until engine will not start and each time the vehicle is started, and will be continuously displayed. The message will be accompanied by a single chime. Your Malfunction Indicator Light will be continuously illuminated. We highly recommend you drive to your nearest authorized dealer if the message appears while engine is running.

- **Engine Will Not Start Service DEF System See Dealer** — This message will display when the fault detected is not serviced after the Engine will not restart Service DEF System See Dealer message is displayed on the next subsequent restart. Your engine will not start unless your vehicle is serviced by your authorized dealer. The message will be accompanied by a single chime. Your Malfunction Indicator Light will be continuously illuminated. If the message appears and you can not start the engine, we recommend you have your vehicle towed to your nearest authorized dealer immediately.

#### Oil Life Reset

Your vehicle is equipped with an engine oil change indicator system. The "Oil Change Required" message will flash in the EVIC display for approximately 10 seconds after a single chime has sounded, to indicate the next scheduled oil change interval. The engine oil change

indicator system is duty cycle based, which means the engine oil change interval may fluctuate, dependent upon your personal driving style.

**NOTE:** Use the steering wheel EVIC controls for the following procedure(s)

#### Vehicles Equipped With Passive Entry

1. Without pressing the brake pedal, press the ENGINE START/STOP button and cycle the ignition to the ON/RUN position (do not start the engine.)
2. Press and release the **DOWN** arrow button to scroll downward through the main menu to "Vehicle Info".
3. Press and release the **RIGHT** arrow button to access the "Oil Life" screen.
4. Press and hold the **RIGHT** arrow button for one second to access the "Oil Life Reset" screen.

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5. Press and release the **DOWN** arrow button to select "Yes", then press and release the Right arrow button to select reset of the Oil Life.
6. Press and release the **Up** arrow button to exit the EVIC screen.
5. Press and release the **DOWN** arrow button to select "Yes", then press and release the Right arrow button to select reset of the Oil Life.
6. Press and release the **Up** arrow button to exit the EVIC screen.

#### Vehicles Not Equipped With Passive Entry

1. Without pressing the brake pedal, cycle the ignition to the ON/RUN position (do not start the engine.)
2. Press and release the **DOWN** arrow button to scroll downward through the main menu to " **Vehicle Info**".
3. Press and release the **RIGHT** arrow button to access the " **Oil Life**" screen.
4. Press and hold the **RIGHT** arrow button for one second to access the " **Oil Life Reset**" screen.

**NOTE:** If the indicator message illuminates when you start the vehicle, the oil change indicator system did not reset. If necessary, repeat this procedure.

# STARTING AND OPERATING

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**STARTING PROCEDURES**

Before starting your vehicle, adjust your seat, both inside and outside mirrors, and fasten your seat belts.

The starter is allowed to crank for up to 30-second intervals. Waiting a few minutes between such intervals will protect the starter from overheating.

<b>WARNING!</b>
<ul style="list-style-type: none"> <li>• When leaving the vehicle, always make sure the ignition is in the OFF position, remove the Key Fob from the vehicle, and lock the vehicle.</li> </ul>

*(Continued)*

<b>WARNING! (Continued)</b>
<ul style="list-style-type: none"> <li>• Never leave children alone in a vehicle, or with access to an unlocked vehicle. Leaving children in a vehicle unattended is dangerous for a number of reasons. A child or others could be seriously or fatally injured. Children should be warned not to touch the parking brake, brake pedal or the transmission gear selector.</li> <li>• Do not leave the Key Fob in or near the vehicle (or in a location accessible to children), and do not leave the ignition (of a vehicle equipped with Keyless Enter-N-Go™) in the ACC or ON/RUN mode. A child could operate power windows, other controls, or move the vehicle.</li> </ul>

**NOTE:** Engine start up in very low ambient temperature could result in evident white smoke. This condition will disappear as the engine warms up.

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**CAUTION!**

- The engine is allowed to crank as long as 30 seconds. If the engine fails to start during this period, please wait at least two minutes for the starter to cool before repeating start procedure.
- If the “Water in Fuel Indicator Light” remains on, DO NOT START engine before you drain the water from the fuel filters to avoid engine damage. Refer to “Maintenance Procedures/Draining Fuel/Water Separator Filter” in “Maintaining Your Vehicle” for further information.

**Normal Starting**

Normal starting of either a warm or cold engine is obtained without pumping or pressing the accelerator pedal. Turn the key fob to the START position and release

when the engine starts. If the engine fails to start, turn the key fob to the OFF position, wait five seconds, then repeat the “Normal Starting” procedure.

**Automatic Transmission**

Start the engine with the transmission gear selector in the PARK position. Apply the brake before shifting to any driving range.

**Tip Start Feature**

Do not press the accelerator. Cycle the ignition switch briefly to the START position and release it. The starter motor will continue to run but will automatically disengage when the engine is running.

### Keyless Enter-N-Go™



This feature allows the driver to operate the ignition switch with the push of a button, as long as the Remote Start/Keyless Enter-N-Go™ Key Fob is in the passenger compartment.

### Normal Starting Procedure — Keyless Enter-N-Go™

Observe the instrument panel cluster lights when starting the engine.

**NOTE:** Normal starting of either a cold or a warm engine is obtained without pumping or pressing the accelerator pedal

1. Always apply the parking brake.

2. Press and hold the brake pedal while pressing the ENGINE START/STOP button once.

**NOTE:** A delay of the start of up to five seconds is possible under very cold conditions. The "Wait to Start" telltale will be illuminated during the pre-heat process. When the engine Wait To Start light goes off the engine will automatically crank.

### CAUTION!

If the "Water in Fuel Indicator Light" remains on, **DO NOT START** the engine before you drain the water from the fuel filters to avoid engine damage. Refer to "Maintenance Procedures/Draining Fuel/Water Separator Filter" in "Maintaining Your Vehicle" for further information.

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3. The system will automatically engage the starter to crank the engine. If the vehicle fails to start, the starter will disengage automatically after 30 seconds.
4. If you wish to stop the cranking of the engine prior to the engine starting, press the button again.
5. Check that the oil pressure warning light has turned off.
6. Release the parking brake.

### Extreme Cold Weather

The engine block heater is a resistance heater installed in the water jacket of the engine. It requires a 110–115 Volt AC electrical outlet with a grounded, three-wire extension cord. Its use is recommended for environments that routinely fall below -10°F (-23°C). It should be used when the vehicle has not been running overnight or longer

periods and should be plugged in two hours prior to start. Its use is required for cold starts with temperatures under -20°F (-28°C).

**NOTE: The engine block heater cord is a factory installed option. If your vehicle is not equipped, heater cords are available from your authorized MOPAR® dealer.**

- A 12 Volt heater built into the fuel filter housing aids in preventing fuel gelling. It is controlled by a built-in thermostat.
- A Diesel Pre-Heat system both improves engine starting and reduces the amount of white smoke generated by a warming engine.

**Starting Fluids**

The engine is equipped with a glow plug preheating system. If the instructions in this manual are followed, the engine should start in all conditions and no type of starting fluid should be used.

**WARNING!**

- Do not leave children or animals inside parked vehicles in hot weather. Interior heat build up may cause serious injury or death.
- When leaving the vehicle, always make sure the ignition is in the OFF position, remove the key fob from the vehicle, and lock the vehicle.

*(Continued)*

**WARNING! (Continued)**

- Never leave children alone in a vehicle, or with access to an unlocked vehicle. Allowing children to be in a vehicle unattended is dangerous for a number of reasons. A child or others could be seriously or fatally injured. Children should be warned not to touch the parking brake, brake pedal or the transmission gear selector. Do not leave the key fob in or near the vehicle (or in a location accessible to children), and do not leave the ignition (of a vehicle equipped with Keyless Enter-N-Go™) in the ACC or ON/RUN mode. A child could operate power windows, other controls, or move the vehicle.

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**NORMAL OPERATION**

Observe the following when the diesel engine is operating.

- All message center lights are off.
- Malfunction Indicator Light (MIL) is off.
- Engine Oil Pressure telltale is not illuminated.
- Voltmeter operation:

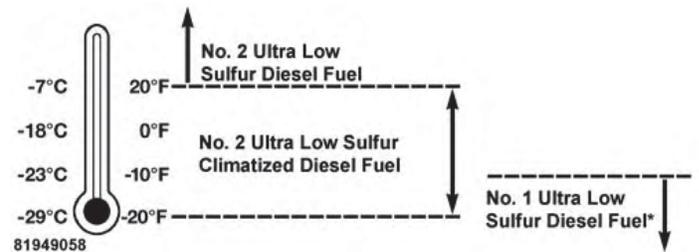
The voltmeter may show a gauge fluctuation at various engine temperatures. This is caused by the glow plug heating system. The number of cycles and the length of the cycling operation is controlled by the engine control module. Glow plug heater operation can run for several minutes, once the heater operation is complete the voltmeter needle will stabilize.

**Cold Weather Precautions**

Operation in ambient temperature below 32°F (0°C) may require special considerations. The following charts suggest these options:

**Fuel Operating Range**

**NOTE:** Use "Ultra Low Sulfur Diesel Fuels" **ONLY**.



**Fuel Operating Range Chart**

\*No. 1 Ultra Low Sulfur Diesel Fuel should only be used where extended arctic conditions (-10°F/-23°C) exist.

**NOTE:**

- Use of Climatized Ultra Low Sulfur Diesel Fuel or Number 1 Ultra Low Sulfur Diesel Fuel results in a noticeable decrease in fuel economy.
- Climatized Ultra Low Sulfur Diesel Fuel is a blend of Number 2 Ultra Low Sulfur and Number 1 Ultra Low Sulfur Diesel Fuels which reduces the temperature at which wax crystals form in fuel.
- The fuel grade should be clearly marked on the pump at the fuel station.
- The engine requires the use of **“Ultra Low Sulfur Diesel Fuel”**. Use of incorrect fuel could result in engine and exhaust system damage. Refer to “Fuel Requirements” in “Starting And Operating” for further information.

**Engine Oil Usage**

Refer to “Maintenance Procedures” in “Maintaining Your Vehicle” for the correct engine oil viscosity.

**Engine Warm-Up**

Avoid full throttle operation when the engine is cold. When starting a cold engine, bring the engine up to operating speed slowly to allow the oil pressure to stabilize as the engine warms up.

If temperatures are below 32°F (0°C), operate the engine at moderate speeds for five minutes before full loads are applied.

**Engine Idling**

Avoid prolonged idling, long periods of idling may be harmful to your engine because combustion chamber temperatures can drop so low that the fuel may not burn completely. Incomplete combustion allows carbon and varnish to form on piston rings, cylinder head valves, and injector nozzles. Also, the unburned fuel can enter the crankcase, diluting the oil and causing rapid wear to the engine.

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**Stopping The Engine**

After full load operation, idle the engine for a few minutes before shutting it down. This idle period will allow the lubricating oil and coolant to carry excess heat away from the turbocharger.

**NOTE:** Refer to the following chart for proper engine shutdown.

Driving Condition	Load	Turbocharger Temperature	Idle Time (min.) Before Engine Shutdown
Stop and Go	Empty	Cool	None
Stop and Go	Medium		0.5
Highway Speeds	Medium	Warm	1.0
City Traffic	Maximum GCWR		1.5
Highway Speeds	Maximum GCWR		2.0
Uphill Grade	Maximum GCWR	Hot	2.5

**NOTE:** Under certain conditions the engine fan will run after the engine is turned off. These conditions are under high load and high temperature conditions.

### Cooling System Tips — Automatic Transmission

To reduce the potential for engine and transmission overheating in high ambient temperature conditions, take the following actions:

- City Driving — When stopped, shift the transmission into NEUTRAL and increase engine idle speed.
- Highway Driving — Reduce your speed.
- Up Steep Hills — Select a lower transmission gear.
- Air Conditioning — Turn it off temporarily.

**NOTE:** If the coolant temperature is too high the A/C will automatically turn off.

### Do Not Operate The Engine With Low Oil Pressure

If the low oil pressure warning light turns on while driving, stop the vehicle and shut down the engine as soon as possible. A chime will sound when the light turns on.

**NOTE:** Do not operate the vehicle until the cause is corrected. This light does not show how much oil is in the engine. The engine oil level must be checked under the hood.

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#### CAUTION!

**If oil pressure falls to less than normal readings, shut the engine off immediately. Failure to do so could result in immediate and severe engine damage.**

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**Do Not Operate The Engine With Failed Parts**

All engine failures give some warning before the parts fail. Be on the alert for changes in performance, sounds, and visual evidence that the engine requires service. Some important clues are:

- engine misfiring or vibrating severely
- sudden loss of power
- unusual engine noises
- fuel, oil or coolant leaks
- sudden change, outside the normal operating range, in the engine operating temperature
- excessive smoke
- oil pressure drop

**ENGINE BLOCK HEATER – IF EQUIPPED**

The engine block heater warms engine coolant and permits quicker starts in cold weather. Connect the heater cord to a ground-fault interrupter protected 110–115 Volt AC electrical outlet with a grounded, three-wire extension cord.

Its use is recommended for environments that routinely fall below -10°F (-23°C). It should be used when the vehicle has not been running for long periods of time and should be plugged in two hours prior to start. Its use is required for cold starts with temperatures under -20°F (-28°C).

To ensure reliable starting at these temperatures, use of an externally powered electric engine block heater (available from your authorized dealer) is recommended.

**WARNING!**

**Remember to disconnect the cord before driving. Damage to the 110–115 Volt electrical cord could cause electrocution.**

**NOTE:** The block heater will require 110 Volts AC and 6.5 Amps to activate the heater element.

**FUEL REQUIREMENTS**

Use good quality diesel fuel from a reputable supplier in your vehicle. Federal law requires that you must fuel this vehicle with Ultra Low Sulfur Highway Diesel fuel (15 ppm Sulfur maximum) and prohibits the use of Low Sulfur Highway Diesel fuel (500 ppm Sulfur maximum) to avoid damage to the emissions control system.

For most year-round service, No. 2 diesel fuel meeting ASTM (formerly known as the American Society for Testing and Materials) specification D-975 Grade S15 will

provide good performance. If the vehicle is exposed to extreme cold (below 20°F or -7°C), or is required to operate at colder-than-normal conditions for prolonged periods, use climatized No. 2 diesel fuel or dilute the No. 2 diesel fuel with 50% No. 1 diesel fuel. This will provide better protection from fuel gelling or wax-plugging of the fuel filters.

**WARNING!**

**Do not use alcohol or gasoline as a fuel blending agent. They can be unstable under certain conditions and hazardous or explosive when mixed with diesel fuel.**

Diesel fuel is seldom completely free of water. To prevent fuel system trouble, drain the accumulated water from the fuel/water separator using the fuel/water separator drain provided on the fuel filter housing. If you buy good quality fuel and follow the cold weather advice above,

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fuel conditioners should not be required in your vehicle. If available in your area, a high cetane “premium” diesel fuel may offer improved cold-starting and warm-up performance.

**CAUTION!**

**If the “Water in Fuel Indicator Light” remains on, DO NOT START engine before you drain the water from the fuel filter(s) to avoid engine damage. Refer to “Maintenance Procedures/Draining Fuel/Water Separator Filter” in “Maintaining Your Vehicle” for further information.**

**Fuel Specifications**

This diesel engine has been developed to take advantage of the high energy content and generally lower cost No. 2 Ultra Low Sulfur diesel fuel or No. 2 Ultra Low Sulfur climatized diesel fuels.

**NOTE:**

- If you accidentally fill the fuel tank with gasoline on your diesel vehicle, do not start the engine. Damage to the engine and fuel system could occur. Please call your authorized dealer for service.
- A maximum blend of 5% biodiesel meeting ASTM specification D-975 may be used with your diesel engine without any adjustments to regular service schedules.
- Commercially available fuel additives are not necessary for the proper operation of your diesel engine.
- No. 1 Ultra Low Sulfur diesel fuel should only be used where extended arctic conditions (-10°F or -23°C) exist.

### Biodiesel Fuel Requirements

A maximum blend of 5% biodiesel meeting ASTM specification D975 is recommended for use with your diesel engine. If frequent operation with Biodiesel blends that are between 6% and 20% (B6–B20) is desired, the maintenance schedule is subject to shorter intervals.

The oil and filter change along with fuel filter replacement is subject to shorter intervals when operating your engine on biodiesel greater than 5%. Do not use biodiesel greater than 20%.

For regular use of biodiesel blends between 6% and 20% (B6–B20) it is important that you understand and comply with these requirements. Refer to the “Maintenance Chart” in the “Maintenance Schedules” section for further direction.

**CAUTION!**

**Failure to comply with Oil Change requirements for vehicles operating on biodiesel blends between 6% and 20% (B6–B20) will result in premature engine wear. Such wear is not covered by the New Vehicle Limited Warranty.**

Biodiesel is a fuel produced from renewable resources typically derived from animal fat, rapeseed oil (Rapeseed Methyl Ester (RME) base), or soybean oil (Soy Methyl Ester (SME or SOME) base).

Biodiesel fuel has inherent limitations which require that you understand and adhere to the following requirements if you use blends of Biodiesel between 6% and 20% (B6–B20). There are no unique restrictions for the use of B5.

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**CAUTION!**

Use of blends greater than 20% is not approved. Use of blends greater than 20% can result in engine damage. Such damage is not covered by the New Vehicle Limited Warranty.

**Biodiesel Fuel Properties — Low Ambient Temperatures**

Biodiesel fuel may gel or solidify at low ambient temperatures, which may pose problems for both storage and operation. Precautions can be necessary at low ambient temperatures, such as storing the fuel in a heated building or a heated storage tank, or using cold temperature additives.

**Fuel Quality — Must Comply With ASTM Standards**

The quality of Biodiesel fuel may vary widely. Only fuel produced by a BQ9000 supplier to the following specifications may be blended to meet Biodiesel blend B6 – B20 fuel meeting ASTM specification D-7467:

- Petrodiesel fuel meeting ASTM specification D-975 and Biodiesel fuel (B100) meeting ASTM specification D-6751

**Fuel Oxidation Stability — Must Use Fuel Within Six Months Of Manufacture**

Biodiesel fuel has poor oxidation stability which can result in long term storage problems. Fuel produced to approved ASTM standards, if stored properly, provides for protection against fuel oxidation for up to six months.

### **Fuel Water Separation — Must Use Mopar Approved Fuel Filter Elements**

Biodiesel fuel has a natural affinity to water and water accelerates microbial growth. Your Mopar filtration system is designed to provide adequate fuel water separation capabilities.

### **Fuel In Oil Dilution — Must Adhere To Required Oil Change Interval**

Fuel dilution of lubricating oil has been observed with the use of Biodiesel fuel. Fuel in oil must not exceed 5%. To ensure this limit is met your oil change interval must be maintained with in the suggested schedule. The regular use of biodiesel between 6% and 20% requires intervals shorter than the outlined 10,000 miles and must not exceed the suggested schedule. When routinely operating on biodiesel between 6% and 20%, oil and filter replacement intervals must not exceed 8,000 Miles or 6 months, which ever comes first.

### **Biodiesel Fuel Filter Change Intervals**

The use of biodiese requires intervals shorter than the outlined 30,000 miles (48 280 km) and must not exceed the suggested schedule. When operating on biodiesel between 6% and 20%, fuel filter replacement intervals must not exceed 20,000 Miles (40 233 km).

**NOTE:** Under no circumstances should oil change intervals exceed 8,000 miles (12 875 km) or 6 months, if regular operation occurs with 6% - 20% biodiesel blends. Under no circumstances should fuel filter intervals exceed 20,000 miles (40 233 km), if regular operation occurs with 6% - 20% biodiesel blends. Failure to comply with these Oil Change and fuel filter requirements for vehicles operating on biodiesel blends up to B20 may result in premature engine wear. Such wear is not covered by the New Vehicle Limited Warranty. The engine may suffer severe damage if operated with concentrations of biodiesel higher than 20%.

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### TRAILER TOWING

In this section you will find safety tips and information on limits to the type of towing you can reasonably do with your vehicle. Before towing a trailer, carefully review this information to tow your load as efficiently and safely as possible.

To maintain the New Vehicle Limited Warranty coverage, follow the requirements and recommendations in this manual concerning vehicles used for trailer towing.

#### Common Towing Definitions

The following trailer towing related definitions will assist you in understanding the following information:

#### Gross Vehicle Weight Rating (GVWR)

The GVWR is the total allowable weight of your vehicle. This includes driver, passengers, cargo and tongue weight. The total load must be limited so that you do not

exceed the GVWR. Refer to "Vehicle Loading/Vehicle Certification Label" in "Starting and Operating" for further information.

#### Gross Trailer Weight (GTW)

The GTW is the weight of the trailer plus the weight of all cargo, consumables and equipment (permanent or temporary) loaded in or on the trailer in its "loaded and ready for operation" condition. The recommended way to measure GTW is to put your fully loaded trailer on a vehicle scale. The entire weight of the trailer must be supported by the scale.

#### Gross Combination Weight Rating (GCWR)

The GCWR is the total permissible weight of your vehicle and trailer when weighed in combination.

#### Gross Axle Weight Rating (GAWR)

The GAWR is the maximum capacity of the front and rear axles. Distribute the load over the front and rear axles

evenly. Make sure that you do not exceed either front or rear GAWR. Refer to “Vehicle Loading/Vehicle Certification Label” in “Starting and Operating” for further information.

**WARNING!**

**It is important that you do not exceed the maximum front or rear GAWR. A dangerous driving condition can result if either rating is exceeded. You could lose control of the vehicle and have an accident.**

**Tongue Weight (TW)**

The tongue weight is the downward force exerted on the hitch ball by the trailer. In most cases it should not be less than 10% of the trailer load. You must consider this as part of the load on your vehicle.

**Frontal Area**

The frontal area is the maximum height multiplied by the maximum width of the front of a trailer.

**Trailer Sway Control**

The trailer sway control can be a mechanical telescoping link that can be installed between the hitch receiver and the trailer tongue that typically provides adjustable friction associated with the telescoping motion to dampen any unwanted trailer swaying motions while traveling.

If equipped, the electronic Trailer Sway Control (TSC) recognizes a swaying trailer and automatically applies individual wheel brakes and/or reduces engine power to attempt to eliminate the trailer sway.

**Weight-Carrying Hitch**

A weight-carrying hitch supports the trailer tongue weight, just as if it were luggage located at a hitch ball or some other connecting point of the vehicle. These kinds

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of hitches are the most popular on the market today and they are commonly used to tow small and medium sized trailers.

### Weight-Distributing Hitch

A weight-distributing system works by applying leverage through spring (load) bars. They are typically used for heavier loads to distribute trailer tongue weight to the tow vehicle's front axle and the trailer axle(s). When used in accordance with the manufacturer's directions, it provides for a more level ride, offering more consistent steering and brake control thereby enhancing towing safety. The addition of a friction/hydraulic sway control also dampens sway caused by traffic and crosswinds and contributes positively to tow vehicle and trailer stability. Trailer sway control and a weight distributing (load equalizing) hitch are recommended for heavier Tongue Weights (TW) and may be required depending on vehicle and trailer configuration/loading to comply with Gross Axle Weight Rating (GAWR) requirements.

### WARNING!

- An improperly adjusted Weight Distributing Hitch system may reduce handling, stability, braking performance, and could result in a collision.
- Weight Distributing Systems may not be compatible with Surge Brake Couplers. Consult with your hitch and trailer manufacturer or a reputable Recreational Vehicle dealer for additional information.

### Fifth-Wheel Hitch

The fifth-wheel hitch is a special high platform with a coupling that mounts over the rear axle of the tow vehicle in the truck bed. It connects a vehicle and fifth-wheel trailer with a coupling king pin.

**Gooseneck Hitch**

The gooseneck hitch employs a pivoted coupling arm which attaches to a ball mounted in the bed of a pickup truck. The coupling arm connects to the hitch mounted over the rear axle in the truck bed.

**Trailer Hitch Classification**

The following chart provides the industry standard for the maximum trailer weight a given trailer hitch class can tow and should be used to assist you in selecting the correct trailer hitch for your intended towing condition.

<b>Trailer Hitch Classification Definitions</b>	
<b>Class</b>	<b>Max. Trailer Hitch Industry Standards</b>
Class I - Light Duty	2,000 lbs (907 kg)
Class II - Medium Duty	3,500 lbs (1 587 kg)
Class III - Heavy Duty	5,000 lbs (2 268 kg)
Class IV - Extra Heavy Duty	10,000 lbs (4 540 kg)
Fifth Wheel/Gooseneck	Greater than 10,000 lbs (4 540 kg)
Refer to the "Trailer Towing Weights (Maximum Trailer Weight Ratings)" for the Maximum Gross Trailer Weight (GTW) towable for your given drive-train.	
All trailer hitches should be professionally installed on your vehicle.	

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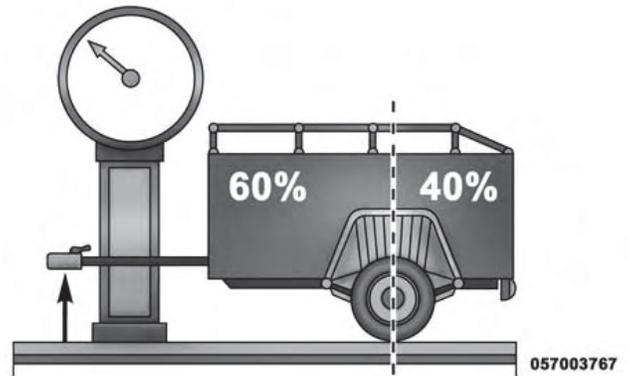
### Trailer Towing Weights (Maximum Trailer Weight Ratings)

**NOTE:** For additional trailer towing information (maximum trailer weight ratings) refer to the following website addresses:

- [ramtrucks.com/en/towing\\_guide/](http://ramtrucks.com/en/towing_guide/)
- [ramtruck.ca](http://ramtruck.ca) (Canada)
- [rambodybuilder.com](http://rambodybuilder.com)

### Trailer And Tongue Weight

Always load a trailer with 60% of the weight in the front of the trailer. This places 10% of the GTW on the tow hitch of your vehicle. Loads balanced over the wheels or heavier in the rear can cause the trailer to sway **severely** side to side which will cause loss of control of the vehicle and trailer. Failure to load trailers heavier in front is the cause of many trailer collisions. Never exceed the maximum tongue weight stamped on your trailer hitch.



Consider the following items when computing the weight on the rear axle of the vehicle:

- The tongue weight of the trailer
- The weight of any other type of cargo or equipment put in or on your vehicle
- The weight of the driver and all passengers

**NOTE:** Remember that everything put into or on the trailer adds to the load on your vehicle. Also, additional factory-installed options or dealer-installed options must be considered as part of the total load on your vehicle. Refer to “Tire Safety Information/Tire and Loading Information Placard” in “Starting and Operating” for further information.

### **Towing Requirements**

To promote proper break-in of your new vehicle drive-train components the following guidelines are recommended:

#### **CAUTION!**

- **Do not tow a trailer at all during the first 500 miles (805 km) the new vehicle is driven. The engine, axle or other parts could be damaged.**
- **Then, during the first 500 miles (805 km) that a trailer is towed, do not drive over 50 mph (80 km/h) and do not make starts at full throttle. This helps the engine and other parts of the vehicle wear in at the heavier loads.**

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**WARNING!**

Improper towing can lead to a collision. Follow these guidelines to make your trailer towing as safe as possible:

- Make certain that the load is secured in the trailer and will not shift during travel. When trailering cargo that is not fully secured, dynamic load shifts can occur that may be difficult for the driver to control. You could lose control of your vehicle and have a collision.
- When hauling cargo or towing a trailer, do not overload your vehicle or trailer. Overloading can cause a loss of control, poor performance or damage to brakes, axle, engine, transmission, steering, suspension, chassis structure or tires.

*(Continued)*

**WARNING! *(Continued)***

- Safety chains must always be used between your vehicle and trailer. Always connect the chains to the hook retainers of the vehicle hitch. Cross the chains under the trailer tongue and allow enough slack for turning corners.
- Vehicles with trailers should not be parked on a grade. When parking, apply the parking brake on the tow vehicle. Put the tow vehicle transmission in PARK. For four-wheel drive vehicles, make sure the transfer case is not in NEUTRAL. Always, block or "chock" the trailer wheels.
- GCWR must not be exceeded.

*(Continued)*

**WARNING! (Continued)**

- Total weight must be distributed between the tow vehicle and the trailer such that the following four ratings are not exceeded:
  1. GVWR
  2. GTW
  3. GAWR
  4. Tongue weight rating for the trailer hitch utilized.

**Towing Requirements — Tires**

- Do not attempt to tow a trailer while using a compact spare tire.

- Proper tire inflation pressures are essential to the safe and satisfactory operation of your vehicle. Refer to “Tires – General Information” in “Starting and Operating” for proper tire inflation procedures.
- Check the trailer tires for proper tire inflation pressures before trailer usage.
- Check for signs of tire wear or visible tire damage before towing a trailer. Refer to “Tires – General Information” in “Starting and Operating” for the proper inspection procedure.
- When replacing tires, refer to “Tires – General Information” in “Starting and Operating” for proper tire replacement procedures. Replacing tires with a higher load carrying capacity will not increase the vehicle’s GVWR and GAWR limits.

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Towing Requirements — Trailer Brakes

**WARNING!**

- Do not connect trailer brakes to your vehicle's hydraulic brake lines. It can overload your brake system and cause it to fail. You might not have brakes when you need them and could have an accident.
- Towing any trailer will increase your stopping distance. When towing you should allow for additional space between your vehicle and the vehicle in front of you. Failure to do so could result in an accident.

**CAUTION!**

If the trailer weighs more than 1,000 lbs (454 kg) loaded, it should have its own brakes and they should be of adequate capacity. Failure to do this could lead to accelerated brake lining wear, higher brake pedal effort, and longer stopping distances.

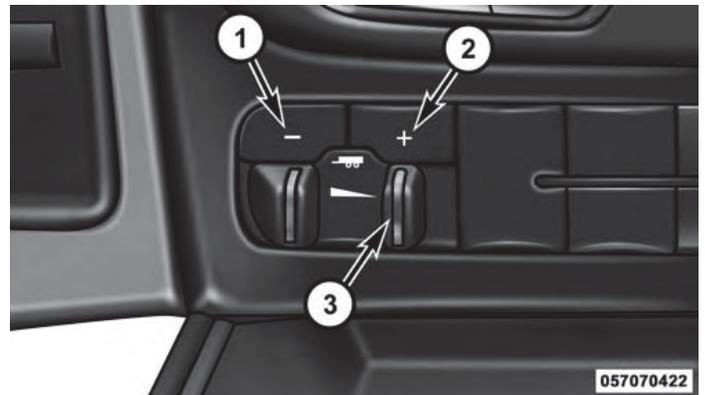
- Do **not** interconnect the hydraulic brake system or vacuum system of your vehicle with that of the trailer. This could cause inadequate braking and possible personal injury.
- An electronically actuated trailer brake controller is required when towing a trailer with electronically actuated brakes. When towing a trailer equipped with a hydraulic surge actuated brake system, an electronic brake controller is not required.

- Trailer brakes are recommended for trailers over 1,000 lbs (454 kg) and required for trailers in excess of 1,653 lbs (750 kg).

#### Integrated Trailer Brake Module — If Equipped

Your vehicle may have an Integrated Trailer Brake Module (ITBM) for Electric and Electric Over Hydraulic (EOH) trailer brakes.

**NOTE:** This module has been designed and verified with electric trailer brakes and new electric over hydraulic systems. Some previous EOH systems may not be compatible with ITBM.



Integrated Trailer Brake Module (ITBM)

- 1 — GAIN Adjustment Button
- 2 — GAIN Adjustment Button
- 3 — Manual Brake Control Lever

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The user interface consists of the following:

### **Manual Brake Control Lever**

Slide the manual brake control lever to the right to activate power to the trailer's electric brakes independent of the tow vehicle's brakes. If the manual brake control lever is activated while the brake is also applied, the greater of the two inputs determines the power sent to the trailer brakes.

The trailer and the vehicle's brake lamps will come on when either vehicle braking or manual trailer brakes are applied.

### **Trailer Brake Status Indicator Light**

This light indicates the trailer electrical connection status.

If no electrical connection is detected after the ignition is turned on, pressing the GAIN adjustment button or sliding the manual brake control lever will display the GAIN setting for 10 seconds and the "Trailer Brake Status Indicator Light" will not be displayed.

If a fault is detected in the trailer wiring or the Integrated Trailer Brake Module (ITBM), the "Trailer Brake Status Indicator Light" will flash.

### **GAIN Adjustment Buttons (+/-)**

Pressing these buttons will adjust the brake control power output to the trailer brakes in 0.5 increments. The GAIN setting can be increased to a maximum of 10 or decreased to a minimum of 0 (no trailer braking).

### **GAIN**

The GAIN setting is used to set the trailer brake control for the specific towing condition and should be changed as towing conditions change. Changes to towing conditions include trailer load, vehicle load, road conditions and weather.

### Adjusting GAIN

**NOTE:** This should only be performed in a traffic free environment at speeds of approximately 20–25 mph (30–40 km/h).

1. Make sure the trailer brakes are in good working condition, functioning normally and properly adjusted. See your trailer dealer if necessary.
2. Hook up the trailer and make the electrical connections according to the trailer manufacturer’s instructions.
3. When a trailer with electric/EOH brakes is plugged in, the trailer connected message should appear in the EVIC (if the connection is not recognized by the ITBM, braking functions will not be available), the GAIN setting will illuminate and the correct type of trailer must be selected from the EVIC options.

4. Press the UP or DOWN button on the steering wheel until “TRAILER TOW” appears on the screen.
5. Press the RIGHT arrow on the steering wheel to enter “TRAILER TOW”.
6. Press the UP or DOWN buttons until Trailer Brake Type appears on the screen.

**NOTE: 1500 Models Only** — Light Electric and Heavy Electric will only be available due to the tow capacities of the vehicle.

7. Press the RIGHT arrow and then press the UP or DOWN buttons until the proper Trailer Brake Type appears on the screen.
8. In a traffic-free environment, tow the trailer on a dry, level surface at a speed of 20–25 mph (30–40 km/h) and squeeze the manual brake control lever completely.

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9. If the trailer wheels lockup (indicated by squealing tires), reduce the GAIN setting; if the trailer wheels turn freely, increase the GAIN setting. Repeat steps 8 and 9 until the GAIN setting is at a point just below trailer wheel lockup. If towing a heavier trailer, trailer wheel lockup may not be attainable even with the maximum GAIN setting of 10.

	<b>Light Electric</b>	<b>Heavy Electric</b>	<b>Light EOH</b>	<b>Heavy EOH</b>
Type of Trailer Brakes	Electric Trailer Brakes	Electric Trailer Brakes	Electric over Hydraulic Trailer Brakes	Electric over Hydraulic Trailer Brakes
Load	*Under 10,000 lbs	*Above 10,000 lbs	*Under 10,000 lbs	*Above 10,000 lbs

\* The suggested selection depends and may change depending on the customer preferences for braking performance. Condition of the trailer brakes, driving and road state may also affect the selection.

**EVIC Display Messages**

The trailer brake control interacts with the Electronic Vehicle Information Center (EVIC). Display messages, along with a single chime, will be displayed when a malfunction is determined in the trailer connection, trailer brake control, or on the trailer. Refer to “Electronic Vehicle Information Center” in “Understanding Your Instrument Panel” for further information.

**CAUTION!**

Connecting a trailer that is not compatible with the ITBM system may result in reduced or complete loss of trailer braking. There may be a increase in stopping distance or trailer instability which could result in damage to your vehicle, trailer, or other property.

**WARNING!**

Connecting a trailer that is not compatible with the ITBM system may result in reduced or complete loss of trailer braking. There may be a increase in stopping distance or trailer instability which could result in personal injury.

**NOTE:**

- An aftermarket controller may be available for use with trailers with air or electric-over-hydraulic trailer brake systems. To determine the type of brakes on your trailer and the availability of controllers, check with your trailer manufacturer or dealer.
- Removal of the ITBM will cause errors and it may cause damage to the electrical system and electronic modules of the vehicle. See your authorized dealer if an aftermarket module is to be installed.

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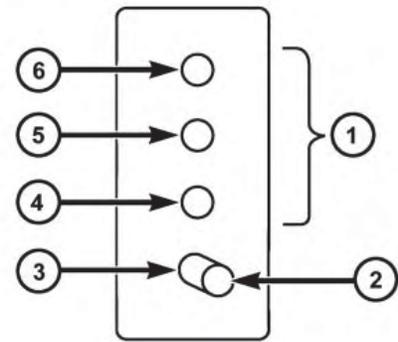
**Towing Requirements — Trailer Lights And Wiring**

Whenever you pull a trailer, regardless of the trailer size, stoplights and turn signals on the trailer are required for motoring safety.

The Trailer Tow Package may include a four- and seven-pin wiring harness. Use a factory approved trailer harness and connector.

**NOTE:** Do not cut or splice wiring into the vehicles wiring harness.

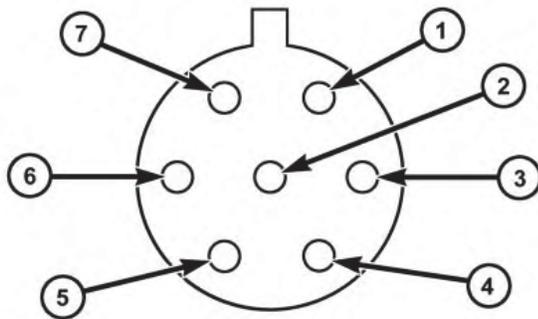
The electrical connections are all complete to the vehicle but you must mate the harness to a trailer connector. Refer to the following illustrations.



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**Four-Pin Connector**

- |                 |                     |
|-----------------|---------------------|
| 1 — Female Pins | 4 — Park            |
| 2 — Male Pin    | 5 — Left Stop/Turn  |
| 3 — Ground      | 6 — Right Stop/Turn |



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Seven-Pin Connector

- |                     |                    |
|---------------------|--------------------|
| 1 — Battery         | 5 — Ground         |
| 2 — Backup Lamps    | 6 — Left Stop/Turn |
| 3 — Right Stop/Turn | 7 — Running Lamps  |
| 4 — Electric Brakes |                    |

### Towing Tips

Before setting out on a trip, practice turning, stopping and backing the trailer up in an area away from heavy traffic.

### Automatic Transmission

The DRIVE range can be selected when towing. The transmission controls include a drive strategy to avoid frequent shifting when towing. However, if frequent shifting does occur while in DRIVE, select TOW/HAUL mode or select a lower gear range (using the Electronic Range Select (ERS) shift control).

**NOTE:** Using TOW/HAUL mode or selecting a lower gear range (using the ERS shift control) while operating the vehicle under heavy loading conditions will improve performance and extend transmission life by reducing excessive shifting and heat build up. This action will also provide better engine braking.

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When towing a loaded trailer up steep grades at low speeds (20 mph [32 km/h] or below), holding your vehicle in first gear (using the ERS shift control) can help to avoid transmission overheating.

### **Tow/Haul Mode**

To reduce potential for automatic transmission overheating, activate TOW/HAUL mode when driving in hilly areas, or select a lower gear range (using the Electronic Range Select (ERS) shift control) on more severe grades.

### **Electronic Speed Control — If Equipped**

- Do not use in hilly terrain or with heavy loads.
- When using the speed control, if you experience speed drops greater than 10 mph (16 km/h), disengage until you can get back to cruising speed.
- Use speed control in flat terrain and with light loads to maximize fuel efficiency.

### **Cooling System**

To reduce potential for engine and transmission overheating, take the following actions:

#### **City Driving**

When stopped for short periods of time, shift the transmission into NEUTRAL and increase engine idle speed.

#### **Highway Driving**

Reduce speed.

#### **Air Conditioning**

Turn off temporarily.

#### **Air Suspension System**

To aid in attaching/detaching the trailer from the vehicle, the air suspension system can be used. Refer to “Air Suspension System” in “Starting And Operating” for further information.

**NOTE:** The vehicle must remain in the engine running position while attaching a trailer for proper leveling of the air suspension system.

### **DIESEL EXHAUST FLUID**

Your vehicle is equipped with a Selective Catalytic Reduction system to meet the very stringent diesel emissions standards required by the Environmental Protection Agency.

The purpose of the SCR system is to reduce levels of NO<sub>x</sub> (oxides of nitrogen emitted from engines) that are harmful to our health and the environment to a near-zero level. Small quantities of Diesel Exhaust Fluid (DEF) is injected into the exhaust upstream of a catalyst where, when vaporized, it converts smog-forming nitrogen oxides (NO<sub>x</sub>) into harmless nitrogen (N<sub>2</sub>) and water vapor (H<sub>2</sub>O), two natural components of the air we breathe. You can operate with the comfort that your vehicle is contributing to a cleaner, healthier world environment for this and generations to come.

### **System Overview**

This vehicle is equipped with a Diesel Exhaust Fluid (DEF) injection system and a Selective Catalytic Reduction (SCR) catalyst to meet the emission requirements.

The DEF injection system consists of the following components:

- DEF tank
- DEF pump
- DEF injector
- Electronically-heated DEF lines
- NO<sub>x</sub> sensors
- Temperature sensors
- SCR catalyst

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The DEF injection system and SCR catalyst enable the achievement of diesel emissions requirements; while maintaining outstanding fuel economy, drivability, torque and power ratings.

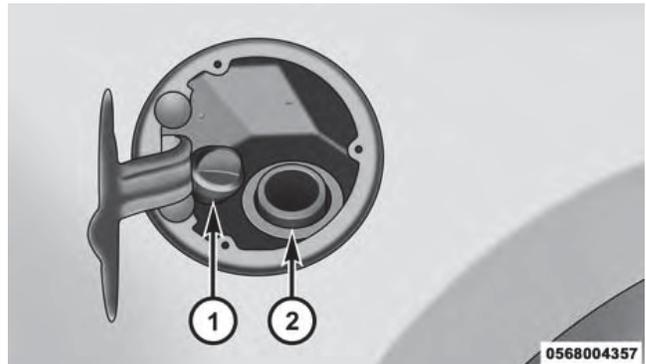
Refer to “Electronic Vehicle Information Center (EVIC)” in “Understanding Your Instrument Panel” for system messages and warnings.

### NOTE:

- Your vehicle is equipped with a DEF injection system. You may occasionally hear an audible clicking noise from under the vehicle at a stop. This is normal operation.
- The DEF pump will run for a period of time after engine shutdown to purge the DEF system. This is normal operation and may be audible from the rear of the vehicle.

## ADDING FUEL — 1500 DIESEL MODELS

1. Open the fuel filler door.



**Diesel Fuel And Diesel Exhaust Fluid Fill Location**

- 1 — Diesel Exhaust Fluid Fill Location
- 2 — Diesel Fuel Fill Location

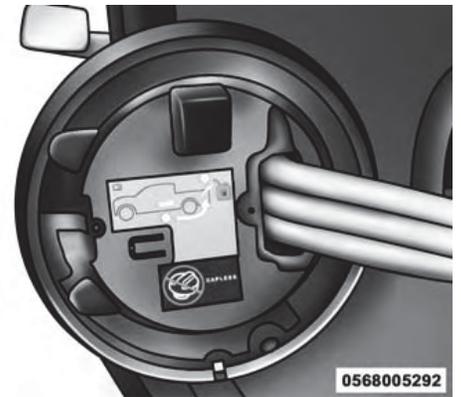
**NOTE:** There is no fuel filler cap. A flapper door inside the filler pipe seals the system.

2. Insert the fuel nozzle fully into the filler pipe – the nozzle opens and holds the flapper door while refueling.
3. Fill the vehicle with fuel – when the fuel nozzle “clicks” or shuts off the fuel tank is full.
4. Remove the fuel nozzle and close the fuel door.

#### **Emergency Fuel Can Refueling**

Most fuel cans will not open the flapper door.

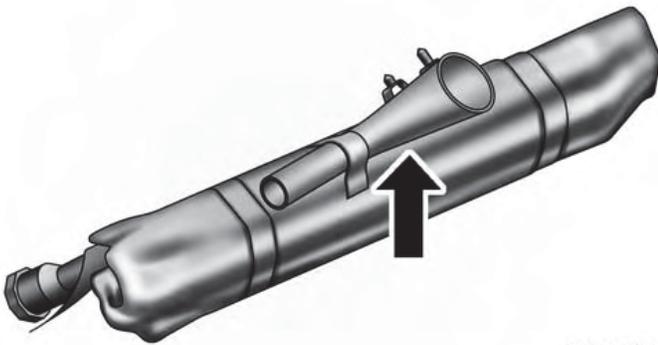
A funnel is provided to open the flapper door to allow emergency refueling with a fuel can.



#### **Diesel Fuel And DEF Fluid Filler Door**

1. Retrieve fuel funnel from the jack kit located under the front passenger seat.

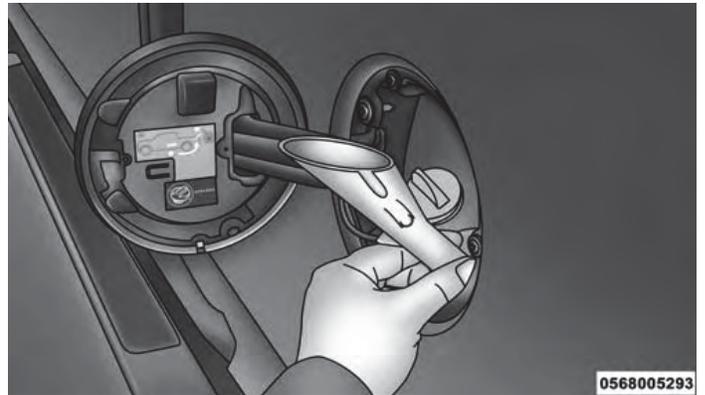
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**Fuel Fill Funnel Location 1500 Models**

2. Insert funnel into same filler pipe opening as the fuel nozzle.



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**Emergency Fuel Fill Location**

**NOTE:** Ensure funnel is inserted fully to hold flapper door open.

3. Pour fuel into funnel opening.
4. Remove funnel from filler pipe, clean off prior to putting back in the jack kit.

**CAUTION!**

To avoid fuel spillage and overfilling, do not “top off” the fuel tank after filling.

**WARNING!**

- Never have any smoking materials lit in or near the vehicle when the fuel door is open or the tank is being filled.
- Never add fuel when the engine is running. This is in violation of most state and federal fire regulations and may cause the “Malfunction Indicator Light” to turn on.
- A fire may result if fuel is pumped into a portable container that is inside of a vehicle. You could be burned. Always place fuel containers on the ground while filling.

**Avoid Using Contaminated Fuel**

Fuel that is contaminated by water or dirt can cause severe damage to the engine fuel system. Proper maintenance of the engine fuel filter and fuel tank is essential. Refer to “Maintenance Procedures” in “Maintaining Your Vehicle” for further information.

**Bulk Fuel Storage — Diesel Fuel**

If you store quantities of fuel, good maintenance of the stored fuel is also essential. Fuel contaminated with water will promote the growth of “microbes.” These microbes form “slime” that will clog the fuel filtration system and lines. Drain condensation from the supply tank and change the line filter on a regular basis.

**NOTE:** When a diesel engine is allowed to run out of fuel, air is pulled into the fuel system.

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If the vehicle will not start, refer to “Maintenance Procedures/Priming If The Engine Has Run Out Of Fuel” in “Maintaining Your Vehicle” for further information.

### WARNING!

**Do not open the high pressure fuel system with the engine running. Engine operation causes high fuel pressure. High pressure fuel spray can cause serious injury or death.**

### Diesel Exhaust Fluid Storage

Diesel Exhaust Fluid (DEF) is considered a very stable product with a long shelf life. If DEF is kept in temperatures between 10° and 90°F (-12° and 32°C), it will last a minimum of one year.

DEF is subject to freezing at the lowest temperatures. For example, DEF may freeze at temperatures at or below 12° F (-11° C). The system has been designed to operate in this environment.

**NOTE:** When working with DEF, it is important to know that:

- Any containers or parts that come into contact with DEF must be DEF compatible (plastic or stainless steel). Copper, brass, aluminum, iron or non-stainless steel should be avoided as they are subject to corrosion by DEF.
- If DEF is spilled, it should be wiped up completely.

### Adding Diesel Exhaust Fluid

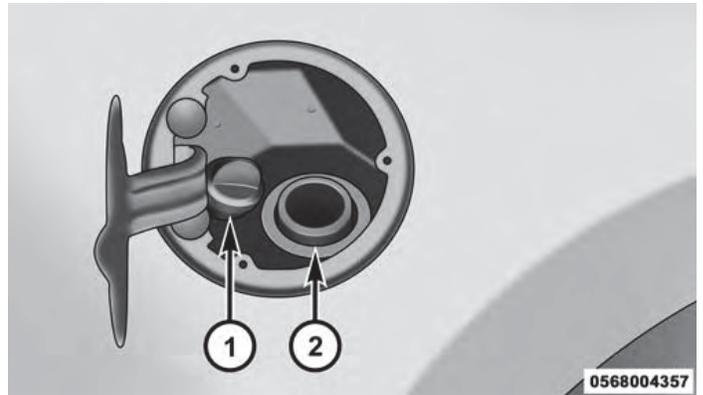
The DEF gauge (located on the instrument cluster) will display the level of DEF remaining in the tank. Refer to “Instrument Cluster” and “Instrument Cluster Descriptions” in “Understanding Your Instrument Panel” for further information.

**NOTE:** Driving conditions (altitude, vehicle speed, load, etc.) will effect the amount of DEF that is used in your vehicle.

**DEF Fill Procedure**

**NOTE:** Refer to “Fluids, Lubricants, and Genuine Parts” in “Maintaining Your Vehicle” for the correct fluid type.

1. Remove cap from DEF tank (located on drivers side of the vehicle or in fuel door).



**DEF Filler Cap And Fuel Fill 1500/2500/3500 Models**

1 — Diesel Exhaust Fluid Fill Location

2 — Fuel Fill Location

2. Insert DEF fill adapter/nozzle into DEF tank filler neck.

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NOTE:

- The DEF gauge may take up to five seconds to update after adding a gallon or more of Diesel Exhaust Fluid (DEF) to the DEF tank. If you have a fault related to the DEF system, the gauge may not update to the new level. See your authorized dealer for service.
- The DEF gauge may also not immediately update after a refill if the temperature of the DEF fluid is below 12F (-11C). The DEF line heater will possibly warm up the DEF fluid and allow the gauge to update after a period of run time. Under very cold conditions, it is possible that the gauge may not reflect the new fill level for several drives.

**CAUTION!**

- To avoid DEF spillage, and possible damage to the DEF tank from overfilling, do not "top off" the DEF tank after filling.
- **DO NOT OVERFILL.** DEF will freeze below 12°F (-11°C). The DEF system is designed to work in temperatures below the DEF freezing point, however, if the tank is overfilled and freezes, the system could be damaged.
- When DEF is spilled, clean the area immediately with water and use an absorbent material to soak up the spills on the ground.
- Do not attempt to start your engine if DEF is accidentally added to the diesel fuel tank as it can result in severe damage to your engine, including but not limited to failure of the fuel pump and injectors.

3. Stop filling the DEF tank immediately when any of the following happen: DEF stops flowing from the fill bottle into the DEF tank, DEF splashes out the filler neck, or a DEF pump nozzle automatically shuts off.
  4. Reinstall cap onto DEF tank.
- Extra care should be taken when filling with portable containers to avoid overfilling. Note the level of the DEF gauge in your instrument cluster. On pickup applications, you may safely add a maximum of 2 gallons of DEF from portable containers when your DEF gauge is reading ½ full.

#### **Filling The Def Tank In Cold Climates**

Since DEF will begin to freeze at 12°F (-11°C), your vehicle is equipped with an automatic DEF heating system. This allows the DEF injection system to operate properly at temperatures below 12°F (-11°C). If your vehicle is not in operation for an extended period of time with temperatures below 12°F (-11°C), the DEF in the tank may freeze. If the tank is overfilled and freezes, it could be damaged. Therefore, do not overfill the DEF tank.



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## MAINTAINING YOUR VEHICLE

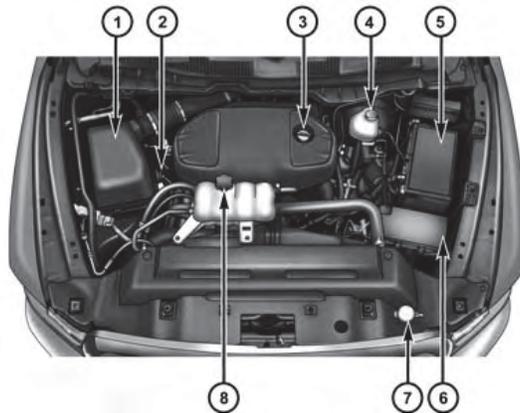
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100 MAINTAINING YOUR VEHICLE

**ENGINE COMPARTMENT — 3.0L DIESEL**



0707005439

- 1 — Air Cleaner Filter
- 2 — Engine Oil Dipstick
- 3 — Engine Oil Fill
- 4 — Brake Fluid Reservoir

- 5 — Battery
  - 6 — Power Distribution Center (PDC)
  - 7 — Washer Fluid Reservoir
  - 8 — Engine Coolant
-

## MAINTENANCE PROCEDURES

The pages that follow contain the **required** maintenance services determined by the engineers who designed your vehicle.

Besides those maintenance items specified in the fixed maintenance schedule, there are other components which may require servicing or replacement in the future.

### CAUTION!

- Failure to properly maintain your vehicle or perform repairs and service when necessary could result in more costly repairs, damage to other components or negatively impact vehicle performance. Immediately have potential malfunctions examined by an authorized Chrysler Group LLC dealership or qualified repair center.

*(Continued)*

### CAUTION! *(Continued)*

- Your vehicle has been built with improved fluids that protect the performance and durability of your vehicle and also allow extended maintenance intervals. Do not use chemical flushes in these components as the chemicals can damage your engine, transmission, power steering or air conditioning. Such damage is not covered by the New Vehicle Limited Warranty. If a flush is needed because of component malfunction, use only the specified fluid for the flushing procedure.

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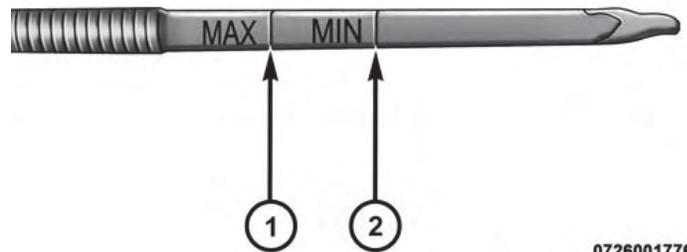
## Engine Oil

### Engine Oil Selection

For best performance and maximum protection under all types of operating conditions, the manufacturer recommends engine oils that meet the requirements of Chrysler Material Standard MS-11106, and that are approved to ACEA C3.

### Checking Oil Level

To assure proper lubrication of your vehicle's engine, the engine oil must be maintained at the correct level. Check the oil level at regular intervals. The best time to check the oil level is before starting the engine after it has been parked overnight. When checking oil after operating the engine, first ensure the engine is at full operating temperature, then wait for five minutes after engine shut-down to check the oil.



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Engine Oil Dipstick

- 1 — MAX Mark
- 2 — MIN Mark

Checking the oil while the vehicle is on level ground will improve the accuracy of the oil level readings. Add oil only when the level on the dipstick is below the "MIN"

mark. The total capacity from the MIN mark to the MAX mark is 1.3 qts (1.2 L).

**CAUTION!**

**Overfilling or underfilling the crankcase will cause oil aeration or loss of oil pressure. This could damage your engine.**

**NOTE:** It is possible for your oil level to be slightly higher than a previous check. This would be due to diesel fuel that may temporarily be in the crankcase due to operation of the diesel particulate filter regeneration strategy. This fuel will evaporate out under normal operation.

Never operate the engine with oil level below the "MIN" mark or above the upper "MAX" mark.

**Change Engine Oil**

Refer to the "Maintenance Schedule" for the proper maintenance intervals.

**Engine Oil Viscosity (SAE Grade)**

**CAUTION!**

**Your vehicle is equipped with an advanced technology Diesel Engine and an emission device designed to limit Diesel Particulate Emissions from being released into the atmosphere. The durability of your engine and life expectancy of this diesel particulate filter emission device is highly dependent on the use of the correct engine oil.**

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Only use ACEA C3 SAE 5W-30 Synthetic Low Ash engine oil meeting Chrysler material standard MS-11106 or Pennzoil Ultra Euro L full synthetic 5W-30 motor oil, which is recommended for all operating temperatures. This engine oil improves low temperature starting and vehicle fuel economy.

### Materials Added To Engine Oil

The manufacturer strongly recommends against the addition of any additives (other than leak detection dyes) to the engine oil. Engine oil is an engineered product and its performance may be impaired by supplemental additives.

### Engine Oil Filter

Refer to "Fluids, Lubricants, and Genuine Parts" in "Maintaining Your Vehicle" for further information. The engine oil filter should be changed at every engine oil change.

### Disposing Of Used Engine Oil And Oil Filters

Care should be taken in disposing of used engine oil and oil filters from your vehicle. Used oil and oil filters, indiscriminately discarded, can present a problem to the environment. Contact your authorized dealer, service station or governmental agency for advice on how and where used oil and oil filters can be safely discarded in your area.

### Engine Air Cleaner Filter

Refer to the "Maintenance Schedule" for the proper maintenance intervals.

<b>CAUTION!</b>
<b>All air entering the engine intake must be filtered. The abrasive particles in unfiltered air will cause rapid wear to engine components.</b>

**WARNING!**

The air induction system (air cleaner, hoses, etc.) provides a measure of protection. Do not remove the air induction system (air cleaner, hoses, etc.) unless such removal is necessary for repair or maintenance. Make sure that no one is near the engine compartment before starting the vehicle with the air induction system (air cleaner, hoses, etc.) removed. Failure to do so can result in serious personal injury.

**CAUTION!**

Many aftermarket performance air filter elements do not adequately filter the air entering the engine. Use of such filters can severely damage your engine.

**Engine Air Cleaner Filter Selection**

The quality of replacement engine air cleaner filters varies considerably. Only high quality filters should be used to assure most efficient service. MOPAR® engine air cleaner filters are a high quality filter and are recommended.

**Draining Fuel/Water Separator Filter**

The fuel filter/water separator filter housing is located above the rear axle next to the fuel tank. The best access to this water drain valve is from under the vehicle.

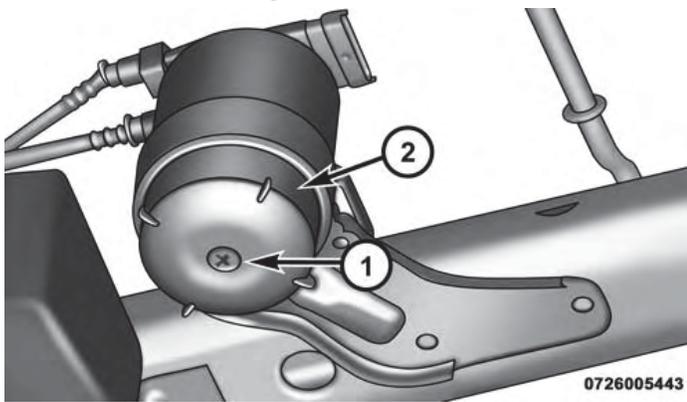
**CAUTION!**

- Do not drain the fuel/water separator filters when the engine is running.
- Diesel fuel will damage blacktop paving surfaces. Drain the filters into an appropriate container.

If water is detected in the water separator while the engine is running, or while the ignition switch is in the

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ON position, the "Water In Fuel Indicator Light" will illuminate and an audible chime will be heard. At this point you should stop the engine and drain the water from the filter housing.



Fuel Filter Assembly

- 1 — Water in Fuel Drain
- 2 — Fuel Filter Access

**CAUTION!**

**If the "Water In Fuel Indicator Light" remains on, DO NOT START the engine before you drain water from the fuel filters to avoid engine damage.**

If the "Water In Fuel Indicator Light" comes on and a single chime is heard while you are driving, or with the ignition in the ON position, there may be a problem with your water separator wiring or sensor. See your authorized dealer for service.

Upon proper draining of the water from the fuel filter, the "Water In Fuel Indicator Light" will remain illuminated for approximately 10 seconds. If the water was drained while the engine was running, the "Water In Fuel Indicator Light" may remain on for approximately three minutes.

**NOTE:** Care should be taken in disposing of used fluids from your vehicle. Used fluids, indiscriminately discarded, can present a problem to the environment. Contact an authorized dealer, service station, or government agency for advice on recycling programs and for where used fluids and filters can be properly disposed of in your area.

Drain the fuel/water separator filter when the "Water In Fuel Indicator Light" is ON. Within 10 minutes of vehicle shutdown, turn the filter drain valve (located on the bottom of the filter housing) counterclockwise to drain fuel/water, then turn the ignition switch to the ON position, and allow any accumulated water to drain. Leave the drain valve open until all water and contaminants have been removed. When clean fuel is visible, close the drain valve by turning it clockwise, and turn the ignition switch to OFF.

If more than two ounces or 60 milliliters of fuel have been drained, follow the directions for "Priming If The Engine Has Run Out Of Fuel."

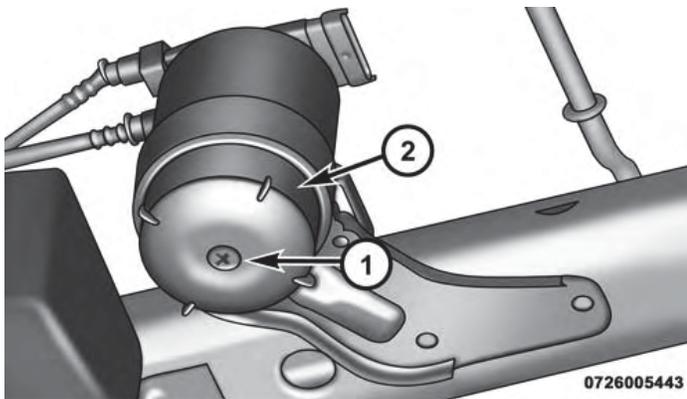
### Underbody Mounted Fuel Filter Replacement

**NOTE:** Using a fuel filter that does not meet the manufacturer's filtration and water separating requirements can severely impact fuel system life and reliability.

#### CAUTION!

- Diesel fuel will damage blacktop paving surfaces. Drain the filter into an appropriate container.
- Do not prefill the fuel filter when installing a new fuel filter. There is a possibility debris could be introduced into the fuel filter during this action. It is best to install the filter dry and allow the in-tank lift pump to prime the fuel system.

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Fuel Filter Assembly

- 1 — Water in Fuel Drain
- 2 — Fuel Filter Access

1. Turn engine off.
2. Place a drain pan under the fuel filter assembly.

3. Open the water drain valve, and let any accumulated water drain.
4. Close the water drain valve.
5. Remove bottom cover using a strap wrench. Rotate counterclockwise for removal. Remove the used o-ring and discard it.
6. Remove the used filter cartridge from the housing and dispose of it according to your local regulations.
7. Wipe the sealing surfaces of the lid and housing clean.
8. Install a new o-ring into the ring groove on the filter housing and lubricate with clean engine oil.

**NOTE:** WIF (Water In Fuel) sensor is re-usable. Service kit comes with new o-ring for filter canister and WIF sensor.

### Priming If The Engine Has Run Out Of Fuel

#### WARNING!

Do not open the high pressure fuel system with the engine running. Engine operation causes high fuel pressure. High pressure fuel spray can cause serious injury or death.

1. Add a substantial amount of fuel to the tank, approximately 2 to 5 gal (8L to 19L).
2. Press ignition switch twice without your foot on brake to put vehicle in Run position. This will activate the in tank fuel pump for approximately 30 seconds. Repeat this process twice.
3. Start the engine using the "Normal Starting" procedure. Refer to "Starting Procedures" in "Starting and Operating" for further information.

#### CAUTION!

The starter motor will engage for approximately 30 seconds at a time. Allow two minutes between cranking intervals.

NOTE: The engine may run rough until the air is forced from all the fuel lines.

#### WARNING!

Do not use alcohol or gasoline as a fuel blending agent. They can be unstable under certain conditions and be hazardous or explosive when mixed with diesel fuel.

**CAUTION!**

Due to lack of lubricants in alcohol or gasoline, the use of these fuels can cause damage to the fuel system.

**NOTE:**

- We recommend you use a blend of up to 5% biodiesel, that meets ASTM specification D-975 with your diesel engine. Use of biodiesel mixture in excess of 20% can negatively impact the fuel filter's ability to separate water from the fuel, resulting in high pressure fuel system corrosion or damage.
- In addition, commercially available fuel additives are not necessary for the proper operation of your diesel engine.

**Intervention Regeneration Strategy – EVIC Message Process Flow**

This engine meets all required diesel engine emissions standards. To achieve these emissions standards, your vehicle is equipped with a state-of-the-art engine and exhaust system. These systems are seamlessly integrated into your vehicle and managed by the Powertrain Control Module (PCM). The PCM manages engine combustion to allow the exhaust system's catalyst to trap and burn Particulate Matter (PM) pollutants, with no input or interaction on your part.

Additionally, your vehicle has the ability to alert you to additional maintenance required on your vehicle or engine.

Refer to "Electronic Vehicle Information Center (EVIC)" in "Understanding Your Instrument Panel" for further information.

**WARNING!**

A hot exhaust system can start a fire if you park over materials that can burn. Such materials might be grass or leaves coming into contact with your exhaust system. Do not park or operate your vehicle in areas where your exhaust system can contact anything that can burn.

**Maintenance-Free Batteries**

Your vehicle is equipped with a maintenance-free battery. The top of the maintenance-free battery is permanently sealed. You will never have to add water, nor is periodic maintenance required.

**CAUTION!**

It is essential when replacing the cables on the battery that the positive cable is attached to the positive post and the negative cable is attached to the negative post. Battery posts are marked (+) positive and negative (-) and are identified on the battery case. Also, if a "fast charger" is used while the battery is in vehicle, disconnect both vehicle battery cables before connecting the charger to the battery. Do not use a "fast charger" to provide starting voltage.

**WARNING!**

Battery posts, terminals, and related accessories contain lead and lead compounds. Always wash hands after handling the battery.

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**Cooling System**

**WARNING!**

**You or others can be badly burned by hot engine coolant (antifreeze) or steam from your radiator. If you see or hear steam coming from under the hood, do not open the hood until the radiator has had time to cool. Never try to open a cooling system pressure cap when the radiator is hot.**

**Engine Coolant Checks**

Check the engine coolant (antifreeze) protection every 12 months (before the onset of freezing weather, where applicable). If the engine coolant (antifreeze) is dirty or rusty in appearance, the system should be drained, flushed and refilled with fresh coolant. Check the front of the A/C condenser (if equipped) or radiator for any accumulation of bugs, leaves, etc. If dirty, clean by gently

spraying water from a garden hose vertically down the face of the A/C condenser (if equipped) or the back of the radiator core.

Check the engine cooling system hoses for brittle rubber, cracking, tears, cuts and tightness of the connection at the coolant recovery bottle and radiator. Inspect the entire system for leaks.

With the engine at normal operating temperature (but not running), check the cooling system pressure cap for proper vacuum sealing by draining a small amount of engine coolant (antifreeze) from the radiator drain cock. The radiator drain cock is located in the lower radiator tank. If the cap is sealing properly, the engine coolant (antifreeze) will begin to drain from the coolant expansion bottle. **DO NOT REMOVE THE COOLANT PRESSURE CAP WHEN THE COOLING SYSTEM IS HOT.**

**Cooling System — Drain Flush And Refill**

If the engine coolant (antifreeze) is dirty or contains a considerable amount of sediment, clean and flush with a reliable cooling system cleaner. Follow with a thorough rinsing to remove all deposits and chemicals. Properly dispose of old engine coolant (antifreeze).

Refer to the "Maintenance Schedule" for the proper maintenance intervals.

**Selection Of Coolant**

Refer to "Fluids, Lubricants, and Genuine Parts" in "Maintaining Your Vehicle" for further information.

<b>CAUTION!</b>
<ul style="list-style-type: none"> <li>• <b>Mixing of engine coolant (antifreeze) other than specified Organic Additive Technology (OAT) engine coolant (antifreeze), may result in engine damage and may decrease corrosion protection. Organic Additive Technology (OAT) engine coolant is different and should not be mixed with Hybrid Organic Additive Technology (HOAT) engine coolant (antifreeze) or any "globally compatible" coolant (antifreeze). If a non-OAT engine coolant (antifreeze) is introduced into the cooling system in an emergency, the cooling system will need to be drained, flushed, and refilled with fresh OAT coolant (conforming to MS-12106), by an authorized dealer as soon as possible.</b></li> </ul>

*(Continued)*

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**CAUTION! (Continued)**

- Do not use water alone or alcohol-based engine coolant (antifreeze) products. Do not use additional rust inhibitors or antirust products, as they may not be compatible with the radiator engine coolant and may plug the radiator.
- This vehicle has not been designed for use with propylene glycol-based engine coolant (antifreeze). Use of propylene glycol-based engine coolant (antifreeze) is not recommended.

**Adding Coolant**

Your vehicle has been built with an improved engine coolant (OAT coolant conforming to MS-12106) that allows extended maintenance intervals. This engine coolant (antifreeze) can be used up to ten years or 150,000 miles (240,000 km) before replacement. To prevent reducing this extended maintenance period, it is

important that you use the same engine coolant (OAT coolant conforming to MS-12106) throughout the life of your vehicle.

Please review these recommendations for using Organic Additive Technology (OAT) engine coolant (antifreeze) that meets the requirements of Chrysler Material Standard MS-12106. When adding engine coolant (antifreeze):

- We recommend using MOPAR® Antifreeze/Coolant 10 Year/150,000 Mile Formula OAT (Organic Additive Technology) that meets the requirements of Chrysler Material Standard MS-12106.
- Mix a minimum solution of 50% OAT engine coolant that meets the requirements of Chrysler Material Standard MS-12106 and distilled water. Use higher concentrations (not to exceed 70%) if temperatures below -34° F (-37° C) are anticipated.

- Use only high purity water such as distilled or deionized water when mixing the water/engine coolant (antifreeze) solution. The use of lower quality water will reduce the amount of corrosion protection in the engine cooling system.
- Mixing engine coolant (antifreeze) types is not recommended and can result in cooling system damage. If HOAT and OAT coolant are mixed in an emergency, have a authorized dealer drain, flush, and refill with OAT coolant (conforming to MS-12106) as soon as possible.

Please note that it is the owner's responsibility to maintain the proper level of protection against freezing according to the temperatures occurring in the area where the vehicle is operated.

**NOTE:**

- Some vehicles require special tools to add coolant properly. Failure to fill these systems properly could lead to severe internal engine damage. If any coolant is needed to be added to the system please contact your local authorized dealer.

**Cooling System Pressure Cap**

The cap must be fully tightened to prevent loss of engine coolant (antifreeze), and to ensure that the engine coolant (antifreeze) will return to the radiator from the coolant expansion bottle.

The cap should be inspected and cleaned if there is any accumulation of foreign material on the sealing surfaces.

**WARNING!**

- Do not open hot engine cooling system. Never add engine coolant (antifreeze) when the engine is overheated. Do not loosen or remove the cap to cool an overheated engine. Heat causes pressure to build up in the cooling system. To prevent scalding or injury, do not remove the pressure cap while the system is hot or under pressure.
- Do not use a pressure cap other than the one specified for your vehicle. Personal injury or engine damage may result.

**Disposal Of Used Engine Coolant**

Used ethylene glycol-based engine coolant (antifreeze) is a regulated substance requiring proper disposal. Check with your local authorities to determine the disposal rules for your community. To prevent ingestion by animals or children, do not store ethylene glycol-based engine coolant (antifreeze) in open containers or allow it to remain in puddles on the ground. If ingested by a child or pet, seek emergency assistance immediately. Clean up any ground spills immediately.

**Points To Remember**

**NOTE:** When the vehicle is stopped after a few miles/kilometers of operation, you may observe vapor coming from the front of the engine compartment. This is normally a result of moisture from rain, snow, or high humidity accumulating on the radiator and being vaporized when the thermostat opens, allowing hot engine coolant (antifreeze) to enter the radiator.

If an examination of your engine compartment shows no evidence of radiator or hose leaks, the vehicle may be safely driven. The vapor will soon dissipate.

- Do not overfill the coolant expansion bottle.
- Check the coolant freeze point in the radiator and in the coolant expansion bottle. If engine coolant (antifreeze) needs to be added, the contents of the coolant expansion bottle must also be protected against freezing.
- If frequent engine coolant (antifreeze) additions are required, the cooling system should be pressure tested for leaks.
- Maintain engine coolant (antifreeze) concentration at a minimum of 50% OAT coolant (conforming to MS-12106) and distilled water for proper corrosion protection of your engine which contains aluminum components.
- Make sure that the coolant expansion bottle overflow hoses are not kinked or obstructed.

- Keep the front of the radiator clean. If your vehicle is equipped with air conditioning, keep the front of the condenser clean.
- Do not change the thermostat for Summer or Winter operation. If replacement is ever necessary, install ONLY the correct type thermostat. Other designs may result in unsatisfactory engine coolant (antifreeze) performance, poor gas mileage, and increased emissions.

#### **Charge Air Cooler — Inter-Cooler**

The charge air cooler is positioned in front of the radiator and the air conditioner condenser. Air enters the engine through the air cleaner and passes through the turbo-charger, where it is pressurized. This pressurized air rapidly reaches high temperature. The air is then directed through a hose to the charge air cooler and through another hose to the intake manifold of the engine. This cooling process enables more efficient burning of fuel resulting in fewer emissions.

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To guarantee optimum performance of the system, keep the surfaces of the charge air cooler, condenser and radiator clean and free of debris. Periodically check the hoses leading to and from the charge air cooler for cracks or loose clamps resulting in loss of pressure and reduced engine performance.

**Brake System**

**Brake Master Cylinder — Brake Fluid Level Check**

The fluid level of the master cylinder should be checked when performing under the hood service, or immediately if the “Brake System Warning Light” indicates system failure.

The brake master cylinder has a translucent plastic reservoir. On the outboard side of the reservoir, there is a “MAX” mark and a “MIN” mark. The fluid level must be kept within these two marks. Do not add fluid above the full mark because leakage may occur at the cap.

With disc brakes, the fluid level can be expected to fall as the brake linings wear. However, an unexpected drop in fluid level may be caused by a leak and a system check should be conducted.

Refer to “Fluids, Lubricants, and Genuine Parts” in “Maintaining Your Vehicle” for further information.

<b>WARNING!</b>
<ul style="list-style-type: none"><li>• Use only manufacturer’s recommended brake fluid. Refer to “Fluids, Lubricants, and Genuine Parts” in “Maintaining Your Vehicle” for further information. Using the wrong type of brake fluid can severely damage your brake system and/or impair its performance. The proper type of brake fluid for your vehicle is also identified on the original factory installed hydraulic master cylinder reservoir.</li></ul>

*(Continued)*

**WARNING! (Continued)**

- To avoid contamination from foreign matter or moisture, use only new brake fluid or fluid that has been in a tightly closed container. Keep the master cylinder reservoir cap secured at all times. Brake fluid in an open container absorbs moisture from the air resulting in a lower boiling point. This may cause it to boil unexpectedly during hard or prolonged braking, resulting in sudden brake failure. This could result in an accident.
- Overfilling the brake fluid reservoir can result in spilling brake fluid on hot engine parts, causing the brake fluid to catch fire. Brake fluid can also damage painted and vinyl surfaces, care should be taken to avoid its contact with these surfaces.

*(Continued)*

**WARNING! (Continued)**

- Do not allow petroleum based fluid to contaminate the brake fluid. Brake seal components could be damaged, causing partial or complete brake failure. This could result in an accident.

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**FLUID CAPACITIES**

	U.S.	Metric
<b>Fuel (Approximate)</b>		
3.0L Diesel Engine	26 Gallons	98.5 Liters
Diesel Exhaust Fluid Tank	8 Gallons	30.3 Liters
<b>Engine Oil With Filter</b>		
3.0 Liter Diesel Engine (SAE 5W-30 Synthetic, API Certified Low Ash)	10.5 Quarts	10 Liters
<b>Cooling System</b>		
3.0L Turbo Diesel Engine (MOPAR® Engine Coolant/Antifreeze 10 Year/150,000 Mile Formula OAT (Organic Additive Technology))	11.6 Quarts	11 Liters

**FLUIDS, LUBRICANTS AND GENUINE PARTS**

**Engine**

Component	Fluid, Lubricant, or Genuine Part
Engine Coolant	We recommend you use MOPAR® Antifreeze/Coolant 10 Year/150,000 Mile Formula OAT (Organic Additive Technology).
Engine Oil	Only use ACEA C3 5W-30 Synthetic Low Ash engine oil meeting Chrysler material standard MS-11106 or Pennzoil Ultra Euro L full synthetic 5W-30 motor oil.
Engine Oil Filter	We recommend you use MOPAR® Engine Oil Filters.
Fuel Filters	We recommend you use MOPAR® Fuel Filter. Must meet 3 micron rating. <b>Using a fuel filter that does not meet the manufacturers filtration and water separating requirements can severely impact fuel system life and reliability.</b>

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Component	Fluid, Lubricant, or Genuine Part
Fuel Selection	Use good quality diesel fuel from a reputable supplier in your vehicle. Federal law requires that you must fuel this vehicle with Ultra Low Sulfur Highway Diesel fuel (15 ppm Sulfur maximum) and prohibits the use of Low Sulfur Highway Diesel fuel (500 ppm Sulfur maximum) to avoid damage to the emissions control system. For most year-round service, No. 2 diesel fuel meeting ASTM specification D-975 Grade S15 will provide good performance. We recommend you use a blend of up to 5% biodiesel, meeting ASTM specification D-975 with your diesel engine. <b>This vehicle is compatible with biodiesel blends greater than 5% but no greater than 20% biodiesel meeting ASTM specification D-7467 provided the shortened maintenance intervals are followed as directed.</b>
Diesel Exhaust Fluid	MOPAR® Diesel Exhaust Fluid (API Certified) (DEF) or equivalent that has been API Certified to the ISO 22241 standard. Use of fluids not API Certified to ISO 22241 may result in system damage.

**NOTE:** If the vehicle is exposed to extreme cold (below 20°F or -7°C), or is required to operate at colder-than-normal conditions for prolonged periods, use climatized No. 2 diesel fuel or dilute the No. 2 diesel fuel with 50% No. 1 diesel fuel. This will provide better protection from fuel gelling or wax-plugging of the fuel filter.

**CAUTION!**

- Mixing of engine coolant (antifreeze) other than specified Organic Additive Technology (OAT) engine coolant (antifreeze), may result in engine damage and may decrease corrosion protection. Organic Additive Technology (OAT) engine coolant is different and should not be mixed with Hybrid Organic Additive Technology (HOAT) engine coolant (antifreeze) or any “globally compatible” coolant (antifreeze). If a non-OAT engine coolant (antifreeze) is introduced into the cooling system in an emergency, the cooling system will need to be drained, flushed, and refilled with fresh OAT coolant (conforming to MS-12106), by an authorized dealer as soon as possible.

*(Continued)*

**CAUTION! (Continued)**

- Do not use water alone or alcohol-based engine coolant (antifreeze) products. Do not use additional rust inhibitors or antirust products, as they may not be compatible with the radiator engine coolant and may plug the radiator.
- This vehicle has not been designed for use with propylene glycol-based engine coolant (antifreeze). Use of propylene glycol-based engine coolant (antifreeze) is not recommended.

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**Chassis**

Component	Fluid, Lubricant, or Genuine Part
Automatic Transmission	Only use Mopar® ZF 8&9 Speed ATF™ Automatic Transmission Fluid or equivalent. Failure to use the correct fluid may affect the function or performance of your transmission.
Transfer Case	We recommend you use MOPAR® BW44-44 Transfer Case Fluid.
Front Axle – 1500 Four-Wheel Drive Models	We recommend you use MOPAR® GL-5 Synthetic Axle Lubricant SAE 75W-85.
Rear Axle	We recommend you use MOPAR® Synthetic Gear Lubricant SAE 75W-140 (MS-8985). Limited-Slip Rear Axles require the addition of 5 oz. (148 ml) MOPAR® Limited Slip Additive (MS-10111).
Brake Master Cylinder	We recommend you use MOPAR® DOT 3 Brake Fluid, SAE J1703 should be used. If DOT 3, SAE J1703 brake fluid is not available, then DOT 4 is acceptable.

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## MAINTENANCE SCHEDULE

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126 MAINTENANCE SCHEDULE

### MAINTENANCE SCHEDULE

Your vehicle is equipped with an automatic oil change indicator system. The oil change indicator system will remind you that it is time to take your vehicle in for scheduled maintenance.

Based on engine operation conditions, the oil change indicator message will illuminate. This means that service is required for your vehicle. Operating conditions such as frequent short-trips, trailer tow, extremely hot or cold ambient temperatures will influence when the "Oil Change Required" message is displayed. Severe Operating Conditions can cause the change oil message to illuminate as early as 3,500 miles (5,600 km) since last reset. Have your vehicle serviced as soon as possible, within the next 500 miles (805 km).

Your authorized dealer will reset the oil change indicator message after completing the scheduled oil change. If a scheduled oil change is performed by someone other

than your authorized dealer, the message can be reset by referring to the steps described under "Electronic Vehicle Information Center (EVIC)" in "Understanding Your Instrument Panel" for further information.

**NOTE:** Under no circumstances should oil change intervals exceed 10,000 miles (16,000 km) or twelve months, whichever comes first.

#### Once A Month Or Before A Long Trip:

- Check engine oil level
- Check windshield washer fluid level
- Check the tire inflation pressures and look for unusual wear or damage
- Check the fluid levels of the coolant reservoir, brake master cylinder, power steering and transmission as needed
- Check function of all interior and exterior lights

### Required Maintenance

Refer to the Maintenance Schedules on the following pages for required maintenance.

At Every Oil Change Interval As Indicated By Oil Change Indicator System:
• Change oil and filter.
• Completely fill the Diesel Exhaust Fluid tank.
• Rotate the tires. <b>Rotate at the first sign of irregular wear, even if it occurs before the oil indicator system turns on.</b>
• Inspect battery and clean and tighten terminals as required.
• Inspect automatic transmission fluid if equipped with dipstick.
• Inspect brake pads, shoes, rotors, drums, hoses and park brake.

At Every Oil Change Interval As Indicated By Oil Change Indicator System:
• Inspect engine cooling system protection and hoses.
• Inspect exhaust system.
• Inspect engine air cleaner if using in dusty or off-road conditions.



**MAINTENANCE SCHEDULE 129**

Mileage or time passed (whichever comes first)	10,000	20,000	30,000	40,000	50,000	60,000	70,000	80,000	90,000	100,000	110,000	120,000	130,000	140,000	150,000
Or Years:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Or Kilometers:	16,000	32,000	48,000	64,000	80,000	96,000	112,000	128,000	144,000	160,000	176,000	192,000	208,000	224,000	240,000
Inspect transfer case fluid.			X			X			X						X
<b>Additional Maintenance</b>															
Replace fuel filter and drain water from the fuel filter assembly.			X			X			X			X			X
Replace engine air filter.			X			X			X			X			X
Replace the air conditioning filter.		X		X		X		X		X		X		X	
Flush and replace the engine coolant at 10 years or 150,000 miles (240,000 km) whichever comes first.										X					X
Replace accessory drive belt(s).										X					
Change transfer case fluid.												X			

130 MAINTENANCE SCHEDULE

**WARNING!**

- You can be badly injured working on or around a motor vehicle. Do only service work for which you have the knowledge and the right equipment. If you have any doubt about your ability to perform a service job, take your vehicle to a competent mechanic.
- Failure to properly inspect and maintain your vehicle could result in a component malfunction and effect vehicle handling and performance. This could cause an accident.

**ADDITIONAL MAINTENANCE — B6 TO B20 BIODIESEL**

**NOTE:**

- Under no circumstances should oil change intervals exceed 8,000 miles (12 875 km) or six months, whichever comes first when using Biodiesel blends greater than 5% (B5).
- The owner is required to monitor mileage for B6-B20 biodiesel, the automatic oil change indicator system does not reflect the use of biofuels.

Additional Maintenance Chart — B6 to B20 Biodiesel

Mileage or time passed (whichever comes first)	10,000	20,000	30,000	40,000	50,000	60,000	70,000	80,000	90,000	100,000	110,000	120,000	130,000	140,000	150,000
Or Years:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Or Kilometers:	16,000	32,000	48,000	64,000	80,000	96,000	112,000	128,000	144,000	160,000	176,000	192,000	208,000	224,000	240,000
<b>Additional B6 to B20 Maintenance</b>															
Replace fuel filter and drain water from the fuel filter assembly.		X		X		X		X		X		X		X	

132 MAINTENANCE SCHEDULE

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**WARNING!**

- You can be badly injured working on or around a motor vehicle. Do only service work for which you have the knowledge and the right equipment. If you have any doubt about your ability to perform a service job, take your vehicle to a competent mechanic.
- Failure to properly inspect and maintain your vehicle could result in a component malfunction and effect vehicle handling and performance. This could cause an accident.

**RAM 2500 / 3500 / 4500 / 5500**



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# INTRODUCTION

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138 INTRODUCTION

**A MESSAGE FROM CHRYSLER GROUP LLC**

Chrysler Group LLC and Cummins® welcome you as a Cummins® turbocharged diesel-powered truck owner. Your diesel truck will sound, feel, drive, and operate differently from a gasoline-powered truck. It is important that you read and understand this manual.

Almost 100% of the heavy duty trucks in the United States and Canada are diesel-powered because of the fuel economy, rugged durability, and high torque which permits pulling heavy loads. Cummins® engines power well over half of these trucks. Now this same technology and proven performance is yours in your truck equipped with the Cummins® turbocharged diesel engine.

You may find that some of the starting, operating, and maintenance procedures are different. However, they are simple to follow and careful adherence to them will ensure that you take full advantage of the features of this engine.

**NOTE:** Some aftermarket products may cause severe engine/transmission and/or exhaust system damage. Your vehicle's Powertrain Control Systems can detect and store information about vehicle modifications that increase horsepower and torque output such as whether or not performance-enhancing powertrain components, commonly referred to as downloaders, power boxes, or performance chips have been used.

This information cannot be erased and will stay in the system's memory even if the modification is removed. This information can be retrieved by Chrysler Group LLC, and service and repair facilities, when servicing your vehicle. This information may be used to determine if repair will be covered by the New Vehicle Limited Warranty.

There is a probability that the use of a "performance chip" will prohibit the engine from starting. In this instance, the vehicle will need to be serviced by a authorized dealer in order to return the vehicle to it's factory settings.

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# THINGS TO KNOW BEFORE STARTING YOUR VEHICLE

## CONTENTS

■ REMOTE STARTING SYSTEM —	■ ENGINE BREAK-IN RECOMMENDATIONS . . .	143
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## 140 THINGS TO KNOW BEFORE STARTING YOUR VEHICLE

### REMOTE STARTING SYSTEM — IF EQUIPPED



This system uses the Remote Keyless Entry (RKE) transmitter to start the engine conveniently from outside the vehicle while still maintaining security. The system has a range of approximately 300 ft (91 m).

#### NOTE:

- The vehicle must be equipped with an automatic transmission to be equipped with Remote Start.
- The remote start system will wait for the “Wait To Start” telltale to extinguish before cranking the engine. This allows time for the intake heater to pre-heat the incoming air, and is normal operation in cold weather. Refer to “Electronic Vehicle Information Center/EVIC Warning Lights” in “Understanding Your Instrument Panel” for further information on and “Wait To Start” telltale and pre-heat cycle.

### How To Use Remote Start

All of the following conditions must be met before the engine will remote start:

- Shift lever in PARK
- Doors closed
- Hood closed
- HAZARD switch off
- BRAKE switch inactive (brake pedal not pressed)
- Ignition key removed from ignition switch
- Battery at an acceptable charge level
- RKE PANIC button not pressed
- Fuel meets minimum requirement
- Water In Fuel Indicator Light is not illuminated
- Wait To Start Light is not illuminated

**THINGS TO KNOW BEFORE STARTING YOUR VEHICLE 141**

**WARNING!**

- Do not start or run an engine in a closed garage or confined area. Exhaust gas contains Carbon Monoxide (CO) which is odorless and colorless. Carbon Monoxide is poisonous and can cause serious injury or death when inhaled.
- Keep Remote Keyless Entry (RKE) transmitters away from children. Operation of the Remote Start System, windows, door locks or other controls could cause serious injury or death.

**Remote Start Abort Message On Electronic Vehicle Information Center (EVIC) — If Equipped**

The following messages will display in the EVIC if the vehicle fails to remote start or exits remote start prematurely:

- Remote Start Aborted - Door Ajar

- Remote Start Aborted - Hood Ajar
- Remote Start Aborted - Fuel Low
- Remote Start Aborted - System Fault

The EVIC message stays active until the ignition is turned to the ON/RUN position.

**To Enter Remote Start Mode**



Press and release the REMOTE START button on the RKE transmitter twice, within five seconds. The parking lights will flash and the horn will chirp twice (if programmed). In cold ambient temperature conditions, the diesel vehicle may delay crank up to 30 seconds for the fuel and grid heater. Once the vehicle has started, the engine will run for 15 minutes.

## 142 THINGS TO KNOW BEFORE STARTING YOUR VEHICLE

### NOTE:

- The park lamps will turn on and remain on during Remote Start mode.
- For security, power window and power sunroof operation (if equipped) are disabled when the vehicle is in the Remote Start mode.
- The engine can be started two consecutive times (two 15-minute cycles) with the RKE transmitter. However, the ignition switch must be cycled to the ON position before you can repeat the start sequence for a third cycle.

### To Exit Remote Start Mode Without Driving The Vehicle

Press and release the REMOTE START button one time or allow the engine to run for the entire fifteen minute cycle.

**NOTE:** To avoid unintentional shut downs, the system will disable the one time press of the REMOTE START

button for two seconds after receiving a valid Remote Start request.

### To Exit Remote Start Mode And Drive The Vehicle

To exit Remote start Mode and Drive the vehicle Before the end of the 15-minute cycle, press and release the unlock button on the RKE transmitter to unlock the door and disarm the Vehicle Security Alarm System (if equipped). Then prior to the end of the 15 minute cycle, insert the Key Fob (if equipped) and rotate to RUN.

### NOTE:

- The ignition switch must be in the ON/RUN position in order to drive the vehicle.
- For vehicles equipped with the Electronic Vehicle Information Center (EVIC), the message "Insert Key/ Turn To On" will flash in the EVIC until you insert the Key Fob into the ignition switch. Once inserted, the message "Turn To On" will flash in the EVIC until you turn the ignition switch to the ON/RUN position.

### Remote Start Comfort Systems — If Equipped

When remote start is activated, the heated steering wheel, and driver heated seat features will automatically turn on in cold weather. In warm weather, the driver vented seat feature will automatically turn on when the remote start is activated. These features will stay on through the duration of remote start or until the ignition switch is turned to the ON position.

The Remote Start Comfort System can be activated and deactivated through the Electronic Vehicle Information Center (EVIC). For more information on Remote Start Comfort System operation refer to “Electronic Vehicle Information Center (EVIC)/Customer-Programmable Features (System Setup)” in “Understanding Your Instrument Panel”.

### ENGINE BREAK-IN RECOMMENDATIONS

The Cummins® turbocharged diesel engine does not require a break-in period due to its construction. Normal operation is allowed, providing the following recommendations are followed:

- Warm up the engine before placing it under load.
- Do not operate the engine at idle for prolonged periods.
- Use the appropriate transmission gear to prevent engine lugging.
- Observe vehicle oil pressure and temperature indicators.
- Check the coolant and oil levels frequently.
- Vary throttle position at highway speeds when carrying or towing significant weight.

#### 144 THINGS TO KNOW BEFORE STARTING YOUR VEHICLE

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**NOTE:** Light duty operation such as light trailer towing or no load operation will extend the time before the engine is at full efficiency. Reduced fuel economy and power may be seen at this time.

For additional vehicle break-in requirements, refer to "Trailer Towing" in "Starting And Operating" of the Owners Manual.

Because of the construction of the Cummins® turbo-charged diesel engine, engine run-in is enhanced by loaded operating conditions which allow the engine parts to achieve final finish and fit during the first 6,000 miles (10 000 km).

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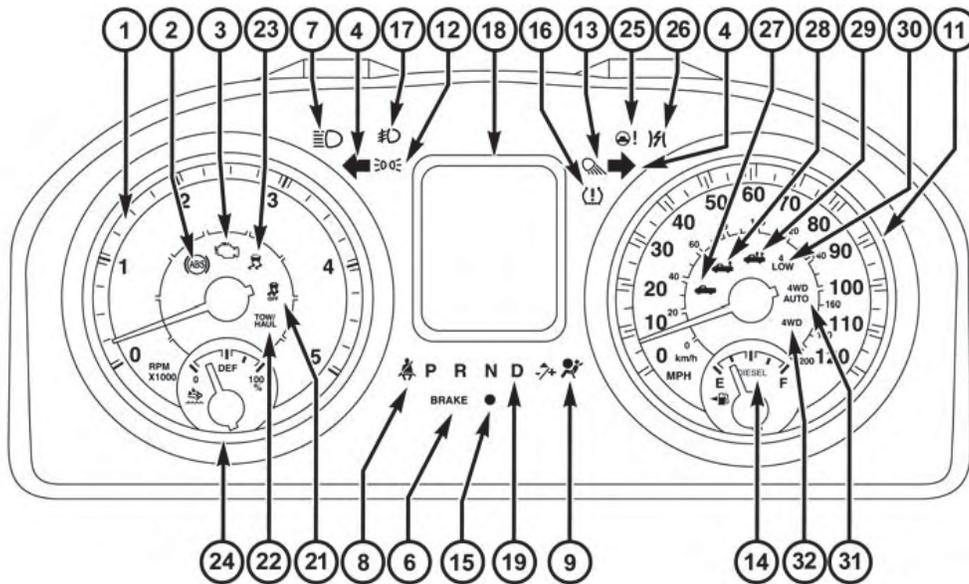
## UNDERSTANDING YOUR INSTRUMENT PANEL

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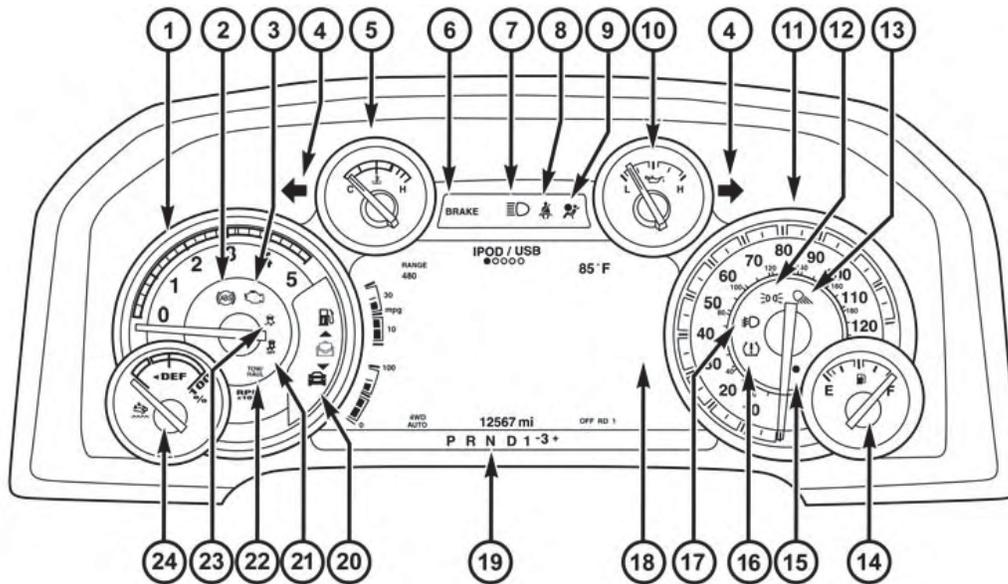
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146 UNDERSTANDING YOUR INSTRUMENT PANEL  
INSTRUMENT CLUSTER



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**INSTRUMENT CLUSTER**



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148 UNDERSTANDING YOUR INSTRUMENT PANEL

**INSTRUMENT CLUSTER DESCRIPTIONS**

**1. Tachometer**

The tachometer indicates engine speed in Revolutions Per Minute (RPM x 1000).

<b>CAUTION!</b>
<b>Do not operate the engine with the tachometer pointer at high RPM for extended periods. Engine operation over 3200 RPM (Redline) can result in significant damage that will not be covered under warranty.</b>

**2. Anti-Lock Brake (ABS) Light**



This light monitors the Anti-lock Brake System (ABS). The light will turn on when the ignition switch is turned to the ON/RUN position and may stay on for as long as four seconds.

If the ABS light remains on or turns on while driving, it indicates that the anti-lock portion of the brake system is not functioning and that service is required. However, the conventional brake system will continue to operate normally if the BRAKE warning light is not on.

If the ABS light is on, the brake system should be serviced as soon as possible to restore the benefits of anti-lock brakes. If the ABS light does not turn on when the ignition switch is turned to the ON/RUN position, have the light inspected by an authorized dealer.

**3. Malfunction Indicator Light (MIL)**



The Malfunction Indicator Light (MIL) is part of an Onboard Diagnostic (OBDII) system which monitors the emissions and engine control system. If the vehicle is ready for emissions testing, the light will come on when the ignition is first turned on and remain on, as a bulb check, until the engine is started. If the vehicle is not ready for emissions

testing the light will come on when the ignition is first turned on and remain on for 15 seconds, then blink for 5 seconds, and remain on until the vehicle is started. If the bulb does not come on during starting, have the condition investigated promptly.

If this light comes on and remains on while driving, it suggests a potential engine control problem and the need for system service.

Although your vehicle will usually be drivable and not need towing, see your authorized dealer for service as soon as possible.

**CAUTION!**

**Prolonged driving with the Malfunction Indicator Light (MIL) on could cause damage to the engine control system. It also could affect fuel economy and driveability. If the MIL is flashing, severe catalytic**

*(Continued)*

**CAUTION! (Continued)**

**converter damage and power loss will soon occur. Immediate service is required.**

**WARNING!**

**A malfunctioning catalytic converter, as referenced above, can reach higher temperatures than in normal operating conditions. This can cause a fire if you drive slowly or park over flammable substances such as dry plants, wood, cardboard, etc. This could result in death or serious injury to the driver, occupants or others.**

**3**

**4. Turn Signal Indicators**



The arrow will flash with the exterior turn signal when the turn signal lever is operated.

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NOTE:

- A continuous chime will sound if the vehicle is driven more than 1 mile (1.6 km) with either turn signal on.
- Check for an inoperative outside light bulb if either indicator remains on and does not flash, or flashes at a rapid rate.

5. *Engine Coolant Temperature*

This gauge shows the engine coolant temperature. The gauge pointer will likely show higher temperatures when driving in hot weather, up mountain grades, or in heavy stop and go traffic. If the red Warning Light turns on while driving, safely bring the vehicle to a stop, and turn off the engine. DO NOT operate the vehicle until the cause is corrected.

**CAUTION!**

Driving with a hot engine cooling system could damage your vehicle. If the temperature gauge reads "H" pull over and stop the vehicle. Idle the vehicle with the air conditioner turned off until the pointer drops back into the normal range. If the pointer remains on the "H" and you hear continuous chimes, turn the engine off immediately and call an authorized dealer for service.

**WARNING!**

A hot engine cooling system is dangerous. You or others could be badly burned by steam or boiling coolant. You may want to call an authorized dealer for service if your vehicle overheats. If you decide to look under the hood yourself, see "Maintaining Your

(Continued)

**WARNING! (Continued)**

Vehicle." Follow the warnings under the "Cooling System Pressure Cap" paragraph.

**6. Brake Warning Light**

**BRAKE**

This light monitors various brake functions, including brake fluid level and parking brake application. If the brake light turns on it may indicate that the parking brake is applied, that the brake fluid level is low, or that there is a problem with the Anti-lock Brake System reservoir.

If the light remains on when the parking brake has been disengaged, and the fluid level is at the full mark on the master cylinder reservoir, it indicates a possible brake hydraulic system malfunction or that a problem with the Brake Booster has been detected by the Anti-Lock Brake System (ABS)/Electronic Stability Control (ESC) system.

In this case, the light will remain on until the condition has been corrected. If the problem is related to the brake booster, the ABS pump will run when applying the brake and a brake pedal pulsation may be felt during each stop.

The dual brake system provides a reserve braking capacity in the event of a failure to a portion of the hydraulic system. A leak in either half of the dual brake system is indicated by the Brake Warning Light, which will turn on when the brake fluid level in the master cylinder has dropped below a specified level.

The light will remain on until the cause is corrected.

**NOTE:** The light may flash momentarily during sharp cornering maneuvers, which change fluid level conditions. The vehicle should have service performed, and the brake fluid level checked.

If brake failure is indicated, immediate repair is necessary.

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**WARNING!**

**Driving a vehicle with the red brake light on is dangerous. Part of the brake system may have failed. It will take longer to stop the vehicle. You could have a collision. Have the vehicle checked immediately.**

Vehicles equipped with the ABS, are also equipped with Electronic Brake Force Distribution (EBD). In the event of an EBD failure, the Brake Warning Light will turn on along with the ABS Light. Immediate repair to the ABS system is required.

Operation of the Brake Warning Light can be checked by turning the ignition switch from the OFF position to the ON/RUN position. The light should illuminate for approximately two seconds. The light should then turn off unless the parking brake is applied or a brake fault is detected. If the light does not illuminate, have the light inspected by an authorized dealer.

The light also will turn on when the parking brake is applied with the ignition switch in the ON/RUN position.

**NOTE:** This light shows only that the parking brake is applied. It does not show the degree of brake application.

**7. High Beam Indicator**



This indicator shows that headlights are on high beam. Push the multifunction lever forward to switch the headlights to high beam, and pull toward yourself (normal position) to return to low beam.

**8. Seat Belt Reminder Light**



When the ignition switch is first turned to ON/RUN, this light will turn on for four to eight seconds as a bulb check. During the bulb check, if the driver's seat belt is unbuckled, a chime will sound. After the bulb check or when driving,

if the driver's seat belt remains unbuckled, the seat belt reminder light will flash or remain on continuously. Refer to "Occupant Restraints" in "Things To Know Before Starting Your Vehicle" for further information.

**9. Air Bag Warning Light**



This light will turn on for four to eight seconds as a bulb check when the ignition switch is first turned to ON/RUN. If the light is either not on during starting, stays on, or turns on while driving, have the system inspected at an authorized dealer as soon as possible. Refer to "Occupant Restraints" in "Things To Know Before Starting Your Vehicle" for further information.

**10. Engine Oil Pressure**

The pointer should always indicate some oil pressure when the engine is running. A continuous high or low reading under normal driving conditions may indicate a

lubrication system malfunction. Immediate service should be obtained from an authorized dealer.

If the gauge pointer moves to either extreme of the gauge, the Check Gauges indicator will illuminate and a single chime will sound.

**11. Speedometer**

The speedometer shows the vehicle speed in miles per hour and/or kilometers per hour (mph/km/h).

**12. Park/Headlight ON Indicator — If Equipped**



This indicator will illuminate when the park lights or headlights are turned on.

**13. Cargo Light**



The cargo light will illuminate when the cargo light is activated by pressing the cargo light button on the headlight switch.

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### 14. Fuel Gauge

Shows level of fuel in tank when ignition switch is in the ON/RUN position.

### 15. Vehicle Security Light — If Equipped



This light will flash at a fast rate for approximately 15 seconds, when the vehicle security alarm is arming, and then will flash slowly until the vehicle is disarmed.

### 16. Tire Pressure Monitoring Telltale Light



Each tire, including the spare (if provided), should be checked monthly when cold and inflated to the inflation pressure recommended by the vehicle manufacturer on the vehicle placard or tire inflation pressure label. (If your vehicle has tires of a different size than the size indicated on the vehicle placard or tire inflation pressure label, you should determine the proper tire inflation pressure for those tires.)

As an added safety feature, your vehicle has been equipped with a Tire Pressure Monitoring System (TPMS) that illuminates a low tire pressure telltale when one or more of your tires is significantly under-inflated. Accordingly, when the low tire pressure telltale illuminates, you should stop and check your tires as soon as possible, and inflate them to the proper pressure. Driving on a significantly under-inflated tire causes the tire to overheat and can lead to tire failure. Under-inflation also reduces fuel efficiency and tire tread life, and may affect the vehicle's handling and stopping ability.

Please note that the TPMS is not a substitute for proper tire maintenance, and it is the driver's responsibility to maintain correct tire pressure, even if under-inflation has not reached the level to trigger illumination of the TPMS low tire pressure telltale.

Your vehicle has also been equipped with a TPMS malfunction indicator to indicate when the system is not operating properly. The TPMS malfunction indicator is

combined with the low tire pressure telltale. When the system detects a malfunction, the telltale will flash for approximately one minute and then remain continuously illuminated. This sequence will continue upon subsequent vehicle start-ups as long as the malfunction exists. When the malfunction indicator is illuminated, the system may not be able to detect or signal low tire pressure as intended. TPMS malfunctions may occur for a variety of reasons, including the installation of replacement or alternate tires or wheels on the vehicle that prevent the TPMS from functioning properly. Always check the TPMS malfunction telltale after replacing one or more tires or wheels on your vehicle, to ensure that the replacement or alternate tires and wheels allow the TPMS to continue to function properly.

**CAUTION!**

**The TPMS has been optimized for the original equipment tires and wheels. TPMS pressures and warning have been established for the tire size equipped on your vehicle. Undesirable system operation or sensor damage may result when using replacement equipment that is not of the same size, type, and/or style. Aftermarket wheels can cause sensor damage. Do not use tire sealant from a can or balance beads if your vehicle is equipped with a TPMS, as damage to the sensors may result.**

**NOTE:** The TPMS telltale is also accompanied by a “Low Tire” message in the odometer (Base Cluster), or in the Electronic Vehicle Information Center (EVIC) screen indicating “Low Tire” for EVIC enabled clusters.

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**17. Front Fog Light Indicator — If Equipped**



This indicator will illuminate when the front fog lights are on.

**18. Electronic Vehicle Information Center (EVIC)**

The Electronic Vehicle Information Center (EVIC) features a driver-interactive display that is located in the instrument cluster. For further information, refer to “Electronic Vehicle Information Center (EVIC)”.

**19. Transmission Gear Position Indicator**

The Transmission Gear Position Indicator is self-contained within the instrument cluster. It displays the gear range of the automatic transmission.

**NOTE:** The highest available transmission gear is displayed in the lower right corner of the Electronic Vehicle Information Center (EVIC) whenever the Electronic

Range Select (ERS) feature is active. Use the +/- selector on the shift lever to activate ERS. Refer to “Automatic Transmission” in “Starting And Operating” for further information.

**20. Electronic Vehicle Information Center (EVIC) Menu**

The Electronic Vehicle Information Center (EVIC) features a driver-interactive display that is located in the instrument cluster. For further information, refer to “Electronic Vehicle Information Center (EVIC)”.

**21. Electronic Stability Control (ESC) OFF Indicator Light — If Equipped**



This light indicates that the Electronic Stability Control (ESC) is in Partial Off or Full Off mode.

## 22. TOW/HAUL



The TOW HAUL button is located on the center stack upper switch bank. This light will illuminate when TOW HAUL mode is selected.

## 23. Electronic Stability Control (ESC) Activation/ Malfunction Indicator Light — If Equipped



The “ESC Activation/Malfunction Indicator Light” in the instrument cluster will come on when the ignition switch is turned to the ON/RUN position. It should go out with the engine running. If the “ESC Activation/Malfunction Indicator Light” comes on continuously with the engine running, a malfunction has been detected in the ESC system. If this light remains on after several ignition cycles, and the vehicle has been driven several miles (kilometers) at speeds greater than 30 mph (48 km/h), see your authorized dealer as soon as possible to have the problem diagnosed and corrected.

### NOTE:

- The “ESC Off Indicator Light” and the “ESC Activation/Malfunction Indicator Light” come on momentarily each time the ignition switch is turned to ON/RUN.
- Each time the ignition is turned to ON/RUN, the ESC system will be ON, even if it was turned off previously.
- The ESC system will make buzzing or clicking sounds when it is active. This is normal; the sounds will stop when ESC becomes inactive following the maneuver that caused the ESC activation.

## 24. DEF Gauge

The DEF Gauge displays the actual level of Diesel Exhaust Fluid in the DEF tank. Diesel Exhaust Fluid (DEF) is required to maintain normal vehicle operation and emissions compliance. More information is available

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in the Electronic Vehicle Information (EVIC) section under the heading of Diesel Exhaust Fluid (DEF) Warning Messages.

### 25. *Electric Power Steering Malfunction Warning Light*



This telltale is on when the Electric Power Steering is not operating and needs service.

### 26. *Electronic Throttle Control (ETC) Light*



This light informs you of a problem with the Electronic Throttle Control (ETC) system. The light will come on when the ignition is first turned ON and remain on briefly as a bulb check. If the light does not come on during starting, have the system checked by an authorized dealer.

If a problem is detected, the light will come on while the engine is running. Cycle the ignition key when the vehicle has completely stopped and the shift lever is placed in the PARK position. The light should turn off.

If the light remains lit with the engine running, your vehicle will usually be drivable. However, see an authorized dealer for service as soon as possible. If the light is flashing when the engine is running, immediate service is required. You may experience reduced performance, an elevated/rough idle or engine stall and your vehicle may require towing.

### 27. *Air Suspension Normal Ride Height Indicator Lamp — If Equipped*

This light will illuminate when the air suspension system is set to the Normal Ride Height setting. For further information, refer to “Air Suspension System” in “Starting And Operating”.

**28. Air Suspension Off-Road 1 Indicator Lamp — If Equipped**

This light will illuminate when the air suspension system is set to the Off-Road 1 setting. For further information, refer to “Air Suspension System” in “Starting And Operating”.

**29. Air Suspension Off-Road 2 Indicator Lamp — If Equipped**

This light will illuminate when the air suspension system is set to the Off-Road 2 setting. For further information, refer to “Air Suspension System” in “Starting And Operating”.

**30. 4 LOW**



This light alerts the driver that the vehicle is in the four-wheel drive LOW mode. The front and rear driveshafts are mechanically locked together forcing the front and rear wheels to

rotate at the same speed. Low range provides a greater gear reduction ratio to provide increased torque at the wheels.

For further information on four-wheel drive operation and proper use, refer to “Four-Wheel Drive Operation — If Equipped” in “Starting And Operating”.

**31. 4WD AUTO Indicator Light — If Equipped**



This light alerts the driver that the vehicle is in the four-wheel drive auto mode, and the front axle is engaged, but the vehicle’s power is sent to the rear wheels. Four-wheel drive will be automatically engaged when the vehicle senses a loss of traction.

For further information on four-wheel drive operation and proper use, refer to “Four-Wheel Drive Operation — If Equipped” in “Starting And Operating”.

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32. 4WD Indicator Light — If Equipped

**4WD**

This light alerts the driver that the vehicle is in the four-wheel drive mode, and the front and rear driveshafts are mechanically locked together forcing the front and rear wheels to rotate at the same speed.

For further information on four-wheel drive operation and proper use, refer to “Four-Wheel Drive Operation — If Equipped” in “Starting And Operating”.

**ELECTRONIC VEHICLE INFORMATION CENTER (EVIC)**

The Electronic Vehicle Information Center (EVIC) features a driver-interactive display that is located in the instrument cluster.



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**Electronic Vehicle Information Center (EVIC)**

This system conveniently allows the driver to select a variety of useful information by pressing the switches mounted on the steering wheel.

Refer to “Electronic Vehicle Information Center – If Equipped” in the Owner’s Manual for further information.

### Electronic Vehicle Information Center (EVIC) Displays

When the appropriate conditions exist, the Electronic Vehicle Information Center (EVIC) Displays the following messages:

- System Setup Unavailable – Vehicle Not in Park
- System Setup Unavailable – Vehicle in Motion
- Service Air Filter
- Perform Service
- Exhaust Filter XX% Full Safely Drive at Highway Speeds To Remedy — If Equipped
- Exhaust Filter Full – Power Reduced See Dealer — If Equipped
- Exhaust Service Required – See Dealer Now — If Equipped
- Exhaust System – Filter XX% Full Service Required See Dealer — If Equipped
- Exhaust System – Regeneration In Process Exhaust Filter XX% Full — If Equipped
- Exhaust System – Regeneration Completed — If Equipped
- DEF Low Refill Soon
- Speed Limited to 5 MPH in XXX mi Refill DEF
- 5 MPH Max Speed on Restart, Long Idle or Refuel Refill DEF
- 5 MPH Max Speed Refill DEF
- Service DEF System See Dealer
- 5 MPH Max Speed in XXX mi Service DEF System See Dealer

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- 5 MPH Max Speed on Restart, Long Idle or Refuel Service DEF See Dealer
- 5 MPH Max Speed Service DEF System See Dealer
- Coolant Low
- Engine Power Reduced During Warmup
- Engine Power Reduced up to 30-sec During Warmup
- Engine Power Reduced up to 2-min During Warmup
- Active Airbox Service Required See Dealer

### Vehicle Information (Customer Information Features)

Press and release the UP  arrow or DOWN  arrow button until "Vehicle Info" displays in the EVIC. Press the RIGHT  arrow or LEFT  arrow button to scroll through the available Vehicle Information sub menu(s) to display anyone of the following choices.



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### EVIC Steering Wheels Buttons Vehicle Information Sub Menus

- *Battery Voltage*  
Displays the actual battery voltage.

**NOTE:** The battery voltage may show a fluctuation at various engine temperatures. This cycling operation is caused by the post-heat cycle of the intake manifold heater system. The number of cycles and the length of the cycling operation is controlled by the engine control module. Post-heat operation can run for several minutes, and then the electrical system and voltmeter needle will stabilize.

- *Coolant Temp*

Displays the actual coolant temperature.

- *Oil Pressure*

Displays the actual oil pressure.

- *Trans Temperature*

Displays the actual automatic transmission sump temperature.

- *Engine Hours*

Displays the total hours of engine operation, and the hours in drive and at idle.

- *Oil Life*

Displays the percentage of oil filter life remaining, and the miles since the last reset.

- *Fuel Filter Life*

Displays the percentage of fuel filter life remaining, and the miles since the last reset.

**NOTE:** Refer to Fuel Filter Life Reset in this section for further information.

- *Exhaust Brake*

Displays actual exhaust brake power.

- *Turbo Boost*

Displays actual turbo boost value.

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- *Tire Pressure Monitor System*

Displays the actual tire pressure.

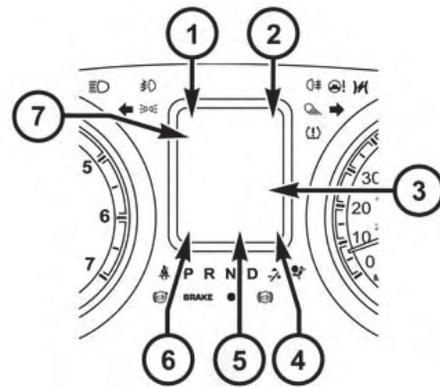
- *Gauge Summary*

Displays the coolant, trans, oil temp and oil pressure.

- *Oil Temp*

Displays the actual oil temperature.

**Electronic Vehicle Information Center (EVIC)  
Displays — 3.5" Display**



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The EVIC displays are located in the center portion of the cluster and consists of seven sections:

### 1. *Compass Display*

Displays the current direction. For further information, refer to “Compass Settings” under “Customer Programmable Features — Uconnect® 5.0/8.4 Settings”.

### 2. *Temperature Display*

Displays the temperature in degrees Celsius or degrees Fahrenheit.

### 3. *Main Screen*

Displays main menu, sub-menus, settings.

### 4. *EVIC White Telltales*

- *Electronic Speed Control Ready*



This light will turn on when the electronic speed control is ON. For further information, refer to “Electronic Speed Control” in “Understanding The Features Of Your Vehicle.”

- *Electronic Speed Control SET*



This light will turn on when the electronic speed control is SET. For further information, refer to “Electronic Speed Control” in “Understanding The Features Of Your Vehicle.”

- *Shift Lever Status*

The highest available transmission gear is displayed in the lower right corner of the Electronic Vehicle Information Center (EVIC) whenever the Electronic Range Select (ERS) feature is active. Use the +/- selector on the shift lever to activate ERS. Refer to “Automatic Transmission” in “Starting And Operating” for further information.

### 5. *EVIC Amber Telltales*

- *Low Fuel Telltale*



When the fuel level reaches approximately 3.0 gal (11.0 L) this light will turn on, and remain on until fuel is added.

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• *Windshield Washer Fluid Low Indicator*



This telltale will turn on to indicate the windshield washer fluid is low.

• *Low Coolant Level Indicator*



This telltale will turn on to indicate the vehicle coolant level is low.

• *Transmission Temperature Warning Telltale*



This telltale indicates that the transmission fluid temperature is running hot. This may occur with severe usage, such as trailer towing.

If this telltale turns on, safely pull over and stop the vehicle. Then, shift the transmission into NEUTRAL and run the engine at idle or faster until the light turns off.

**CAUTION!**  
Continuous driving with the Transmission Temperature Warning Light illuminated will eventually cause severe transmission damage or transmission failure.

**WARNING!**  
If you continue operating the vehicle when the Transmission Temperature Warning Light is illuminated you could cause the fluid to boil over, come in contact with hot engine or exhaust components and cause a fire.

• *Air Suspension Payload Protection Telltale — If Equipped*



This telltale will turn on to indicate that the maximum payload may have been exceeded or load leveling cannot be achieved at its current ride height.

Protection Mode will automatically be selected in order to “protect” the air suspension system, air suspension adjustment is limited due to payload.

- **Service Stop/Start System Telltale — If Equipped**



This telltale will turn on to indicate that the Stop/Start is Unavailable, service Stop/Start system.

- **Loose Fuel Filler Cap**



This telltale will turn on to indicate that the fuel filler cap may be loose.

- **Water In Fuel Indicator Light — Diesel Only**



The “Water In Fuel Indicator Light” will illuminate when there is water detected in the fuel filters. If this light remains on, DO NOT start the vehicle before you drain the water from the fuel

filters to prevent engine damage. Refer to “Maintenance

Procedures/Draining Fuel/Water Separator Filters” in “Maintaining Your Vehicle” for further information.

- **Wait To Start Light — Diesel Only**



The “Wait To Start” telltale will illuminate for approximately two seconds when the ignition is turned to the RUN position. It’s duration may be longer based on colder operating conditions. Vehicle will not initiate start until telltale is out. Refer to “Starting Procedures” in “Starting And Operating” for further information.

**NOTE:** The “Wait To Start” telltale may not illuminate if the intake manifold temperature is warm enough.

- **Low Diesel Exhaust Fluid Light — Diesel Only**



This telltale will turn on to indicate the Diesel Exhaust Fluid (DEF) is low.

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6. EVIC Red Telltales

- *Door Ajar*



This light will turn on to indicate that one or more doors may be ajar.

- *Oil Pressure Warning Light*



This telltale indicates low engine oil pressure. If the light turns on while driving, stop the vehicle and shut off the engine as soon as possible. A chime will sound when this light turns on.

Do not operate the vehicle until the cause is corrected. This light does not show how much oil is in the engine. The engine oil level must be checked under the hood.

- *Oil Temperature Warning Light*



This telltale indicates engine oil temperature is high. If the light turns on while driving, stop the vehicle and shut off the engine as soon as possible.

- *Charging System Light*



This light shows the status of the electrical charging system. If the light stays on or comes on while driving, turn off some of the vehicle's non-essential electrical devices or increase engine speed (if at idle). If the charging system light remains on, it means that the vehicle is experiencing a problem with the charging system. Obtain SERVICE IMMEDIATELY. See an authorized dealer.

If jump starting is required, refer to "Jump Starting Procedures" in "What To Do In Emergencies".

- *Electronic Throttle Control (ETC) Light*



This light informs you of a problem with the Electronic Throttle Control (ETC) system. The light will come on when the ignition is first turned ON and remain on briefly as a bulb check. If the light does not come on during starting, have the system checked by an authorized dealer.

If a problem is detected, the light will come on while the engine is running. Cycle the ignition key when the vehicle has completely stopped and the shift lever is placed in the PARK position. The light should turn off.

If the light remains lit with the engine running, your vehicle will usually be drivable. However, see an authorized dealer for service as soon as possible. If the light is flashing when the engine is running, immediate service is required. You may experience reduced performance, an elevated/rough idle or engine stall and your vehicle may require towing.

- *Engine Temperature Warning Light*



This light warns of an overheated engine condition. As temperatures rise and the gauge approaches **H**, this indicator will illuminate and a single chime will sound after reaching a set threshold. Further overheating will cause the temperature gauge to pass **H**, a continuous chime will occur until the engine is allowed to cool.

If the light turns on while driving, safely pull over and stop the vehicle. If the A/C system is on, turn it off. Also, shift the transmission into NEUTRAL and idle the vehicle. If the temperature reading does not return to normal, turn the engine off immediately and call for service. Refer to “If Your Engine Overheats” in “What To Do In Emergencies” for further information.

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- **Electric Power Steering Malfunction Warning Light**



This telltale is on when the Electric Power Steering is not operating and needs service.

- **Trailer Brake Disconnected Warning Light**



This telltale is on when the Trailer Brake has been disconnected.

### 7. *Audio/Phone Information And Sub-menu Information*

Whenever there are sub-menus available, the position within the sub-menu is shown here.

The main display area will normally display the main menu or the screens of a selected feature of the main menu. The main display area also displays “pop up” messages that consist of approximately 60 possible warning or information messages. These pop up messages fall into several categories:

- **Five Second Stored Messages**

When the appropriate conditions occur, this type of message takes control of the main display area for five seconds and then returns to the previous screen. Most of the messages of this type are then stored (as long as the condition that activated it remains active) and can be reviewed from the “Messages” main menu item. As long as there is a stored message, an “i” will be displayed in the EVIC’s compass/outside temp line. Examples of this message type are “Right Front Turn Signal Lamp Out” and “Low Tire Pressure”.

- **Unstored Messages**

This message type is displayed indefinitely or until the condition that activated the message is cleared. Examples of this message type are “Turn Signal On” (if a turn signal is left on) and “Lights On” (if driver leaves the vehicle).

- **Unstored Messages Until RUN**

These messages deal primarily with the Remote Start feature. This message type is displayed until the ignition is in the RUN state. Examples of this message type are “Remote Start Aborted - Door Ajar” and “Press Brake Pedal and Push Button to Start”.

- **Five Second Unstored Messages**

When the appropriate conditions occur, this type of message takes control of the main display area for five seconds and then returns to the previous screen. An example of this message type is “Automatic High Beams On”.

### EVIC Warning Lights

#### Water In Fuel Indicator Light



The “Water In Fuel Indicator Light” will illuminate when there is water detected in the fuel filters. If this light remains on, DO NOT start the vehicle before you drain the water from the

fuel filters to prevent engine damage. Refer to “Maintenance Procedures/ Draining Fuel/Water Separator Filters” in “Maintaining Your Vehicle” for further information.

#### Wait To Start Light



The “Wait To Start Light” will illuminate when the ignition is turned to the RUN position and the intake manifold temperature is below 66°F (19°C). Wait until the “Wait To Start Light” turns OFF, then start the vehicle. Refer to “Starting Procedures” in “Starting and Operating” for further information.

**NOTE:** The “Wait To Start Light” may not illuminate if the intake manifold temperature is warm enough.

#### Low Coolant Level Indicator



This telltale will turn on to indicate the vehicle coolant level is low.

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### Cold Ambient Derate Mode Messages

The vehicle will display messages when a derate (engine power reduction) is activated to protect the turbocharger during engine start up in cold ambient temperatures.

- **Engine Power Reduced During Warmup** — This message will display during start up when the ambient temperature is between 10° F (-12° C) and -10° F (-23° C).
- **Engine Power Reduced Up To 30 Sec (Seconds) During Warmup** — This message will display during start up when the ambient temperature is between -10° F (-23° C) and -25 F (-32° C).
- **Engine Power Reduced Up To 2 Min (Minutes) During Warmup** — This message will display during start up when the ambient temperature is -25° F (-32° C) and below.

- **Coolant Low** — This telltale will turn on to indicate the vehicle coolant level is low. See “Adding Coolant” under the section “Maintaining Your Vehicle” for more information.

### Diesel Particulate Filter (DPF) Messages

The Cummins® diesel engine meets all EPA Heavy Duty Diesel Engine Emissions Standards, resulting in one of the lowest emitting diesel engines ever produced. To achieve these emissions standards, your vehicle is equipped with a state-of-the-art engine and exhaust system. These systems are seamlessly integrated into your vehicle and managed by the Powertrain Control Module (PCM). The PCM manages engine combustion to allow the exhaust system’s catalyst to trap and burn Particulate Matter (PM) pollutants, with no input or interaction on your part.

**WARNING!**

A hot exhaust system can start a fire if you park over materials that can burn. Such materials might be grass or leaves coming into contact with your exhaust system. Do not park or operate your vehicle in areas where your exhaust system can contact anything that can burn.

Your vehicle has the ability to alert you to additional maintenance required on your vehicle or engine. Refer to the following messages that may be displayed on your Electronic Vehicle Information Center (EVIC):

- **Perform Service** — Your vehicle will require emissions maintenance at a set interval. To help remind you when this maintenance is due, the Electronic Vehicle Information Center (EVIC) will display “Perform Service”. When the “Perform Service” message is

displayed on the EVIC it is necessary to have the emissions maintenance performed. Emissions maintenance may include replacing the Closed Crankcase Ventilation (CCV) filter element. The procedure for clearing and resetting the “Perform Service” indicator message is located in the appropriate Service Information.

- **Exhaust System — Regeneration Required Now** — “Exhaust Filter XX% Full Safely Drive at Highway Speeds to Remedy” will be displayed on the Electronic Vehicle Information Center (EVIC) if the exhaust particulate filter reaches 80% of its maximum storage capacity. Under conditions of exclusive short duration and low speed driving cycles, your Cummins® diesel engine and exhaust after-treatment system may never reach the conditions required to remove the trapped PM. If this occurs, the “Exhaust Filter XX% Full Safely Drive at Highway Speeds to Remedy” message will

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be displayed in the EVIC. If this message is displayed, you will hear one chime to assist in alerting you of this condition

- By simply driving your vehicle at highway speeds for as little as 45 minutes, you can remedy the condition in the particulate filter system and allow your Cummins® diesel engine and exhaust after-treatment system to remove the trapped PM and restore the system to normal operating condition.
- **Exhaust System — Regeneration In Process Exhaust Filter XX% Full** — Indicates that the Diesel Particulate Filter (DPF) is self-cleaning. Maintain your current driving condition until regeneration is completed.
- **Exhaust System — Regeneration Completed** — This message indicates that the Diesel Particulate Filter (DPF) self-cleaning is completed. If this message is displayed, you will hear one chime to assist in alerting you of this condition.

- **Exhaust Service Required — See Dealer Now** — This message indicates regeneration has been disabled due to a system malfunction. At this point the engine Powertrain Control Module (PCM) will register a fault code, the instrument panel will display a MIL light.

<b>CAUTION!</b>
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<b>See your authorized dealer, as damage to the exhaust system could occur soon with continued operation.</b>
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- **Exhaust Filter Full — Power Reduced See Dealer** — This message indicates the PCM has derated the engine to limit the likelihood of permanent damage to the after-treatment system. If this condition is not corrected and a dealer service is not performed, extensive exhaust after-treatment damage can occur. To correct this condition it will be necessary to have your vehicle serviced by your local authorized dealer.

**CAUTION!**

See your authorized dealer, as damage to the exhaust system could occur soon with continued operation.

**Diesel Exhaust Fluid (DEF) Warning Messages**

Your vehicle will begin displaying warning messages when the DEF level reaches a driving range of approximately 350 miles (563 km). If the following warning message sequence is ignored, your vehicle may be limited to a maximum speed of 5 MPH (8 km/H) unless DEF is added.

- **DEF Low Refill Soon** — This message will display when the low level is reached, during vehicle start up, and with increased frequency during vehicle operation. It will be accompanied by a single chime. Approximately 5 gallons (19 Liters) of DEF is required to refill the tank when this message is initially displayed.

on pickup applications, and approximately 7 gallons (28 Liters) are required on chassis-cab applications.

- **Speed Limited to 5 MPH in XXX mi Refill DEF** — This message will continuously display if the “DEF Low Refill Soon” message is ignored, and the frequency of occurrence of the chime will increase unless up to 2 gallons (7.5 Liters) of DEF is added to the tank.
- **5 MPH Max Speed on Restart, Long Idle or Refuel Refill DEF** — This message will continuously display when the counter reaches zero, and will be accompanied by a periodic chime.
- The vehicle will only be capable of a maximum speed of 5 MPH upon the first of the following conditions to occur:
  - If the vehicle is shutoff and restarted.
  - If the vehicle is idled for an extended period of time, approximately one hour or greater.

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- If the system detects that the level of fuel in the tank has increased.
- Add a minimum of 2 gallons (9.5 Liters) of DEF to the tank in order to avoid vehicle operation at a maximum speed of 5 MPH (8 km/H).

**NOTE:** A minimum of 2 gallons (9.5 Liters) may be required to restore normal vehicle operation. Although the vehicle will start normally and can be placed in gear after this message has been initially displayed, extreme caution should be utilized since the vehicle will only be capable of maneuvering at a maximum speed of 5 MPH (8 km/H).

### Diesel Exhaust Fluid (DEF) Fault Warning Messages

There are four different messages which are displayed if the vehicle detects that the DEF system has been filled with a fluid other than DEF, has experienced component

failures, or when tampering has been detected. The vehicle may be limited to a maximum speed of 5 MPH (8 km/H) if the DEF system is not serviced within less than 200 miles (322 km) of the fault being detected.

When the DEF system needs to be serviced the following warnings will display:

- **Service DEF System See Dealer** — This message will display when the fault is initially detected, each time the vehicle is started, and periodically during driving. The message will be accompanied by a single chime. We recommend you drive to your nearest authorized dealer and have your vehicle serviced as soon as possible.
- **5 MPH Max Speed in 150 mi Service DEF System See Dealer** — This message will display if the DEF system has not been serviced after the “Service DEF System – See Dealer” message is displayed. This message will continuously display until the mileage counter reaches

zero, and will be accompanied by a periodic chime. The message will continue to countdown until it reaches zero unless the vehicle is serviced. We recommend you drive to your nearest authorized dealer and have your vehicle serviced immediately.

**NOTE:** Under some circumstances this mileage counter may start with a value of less than 150 miles (241 km). For example, if recurring faults are detected in a time interval of less than 40 hours, the counter may restart at the value where it stopped when a previous fault was temporarily remedied, or at a minimum of 50 miles (80 km).

- **5 MPH Max Speed on Restart, Long Idle or Refuel Service DEF See Dealer** — This message will continuously display when the mileage counter reaches zero, and will be accompanied by a periodic chime.

- The vehicle will only be capable of a maximum speed of 5 MPH upon the first of the following conditions to occur:
  - If the vehicle is shutoff and restarted.
  - If the vehicle is idled for an extended period of time, approximately one hour or greater.
  - If the system detects that the level of fuel in the tank has increased.
- **5 MPH Max Speed Service DEF System See Dealer** — This message will continuously display, and will be accompanied by a periodic chime. Although the vehicle can be started and placed in gear, the vehicle will only operate at a maximum speed of 5 MPH. Your vehicle will require towing, see your authorized dealer for service.

**NOTE:** When this message is displayed, the engine can still be started. However, the vehicle will only operate at a maximum speed of 5 MPH.

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### RAM Active Air System

Your vehicle is equipped with an advanced Ram Active Air system that provides enhanced performance, especially when towing under demanding hot or high altitude conditions. If the EVIC displays the message "Active Airbox Service Required See Dealer", vehicle performance may be reduced until service is performed by an authorized RAM dealer.

### Fuel Filter Life Reset

The cluster will display the "Service Fuel Filter" message when the fuel filter maintenance life is less than 5%. To check the remaining fuel filter life, go to the "Fuel Filter Life" screen in the "Vehicle Info" menu. When this message appears, dealers should replace both frame mounted and engine mounted fuel filters.

**NOTE:** Use the steering wheel EVIC controls for the following procedure(s)

### Vehicles Equipped With Passive Entry

1. Without pressing the brake pedal, press the ENGINE START/STOP button and cycle the ignition to the ON/RUN position (do not start the engine.)
2. Press and release the **DOWN** arrow button to scroll downward through the main menu to "Vehicle Info".
3. Press and release the **RIGHT** arrow button to access the "Fuel Filter Life" screen.
4. Press and release the **DOWN** arrow button to select "Reset", then press and release the **Right** arrow button to select reset of the Fuel Filter Life to 100%.
5. Press and release the **Up** arrow button to exit the EVIC screen.

### Vehicles Not Equipped With Passive Entry

1. Without pressing the brake pedal, cycle the ignition to the ON/RUN position (do not start the engine.)
2. Press and release the **DOWN** arrow button to scroll downward through the main menu to "Vehicle Info".
3. Press and release the **RIGHT** arrow button to access the "Fuel Filter Life" screen.
4. Press and release the **DOWN** arrow button to select "Reset", then press and release the **Right** arrow button to select reset of the Fuel Filter Life to 100%.
5. Press and release the **Up** arrow button to exit the EVIC screen.

**NOTE:** If the indicator message illuminates when you start the vehicle, the Fuel Filter indicator system did not reset. If necessary, repeat this procedure.

### Oil Life Reset

Your vehicle is equipped with an engine oil change indicator system. The "Oil Change Required" message will flash in the EVIC display for approximately 10 seconds after a single chime has sounded, to indicate the next scheduled oil change interval. The engine oil change indicator system is duty cycle based, which means the engine oil change interval may fluctuate, dependent upon your personal driving style.

**NOTE:** Use the steering wheel EVIC controls for the following procedure(s)

### Vehicles Equipped With Passive Entry

1. Without pressing the brake pedal, press the ENGINE START/STOP button and cycle the ignition to the ON/RUN position (do not start the engine.)
2. Press and release the **DOWN** arrow button to scroll downward through the main menu to "Vehicle Info".

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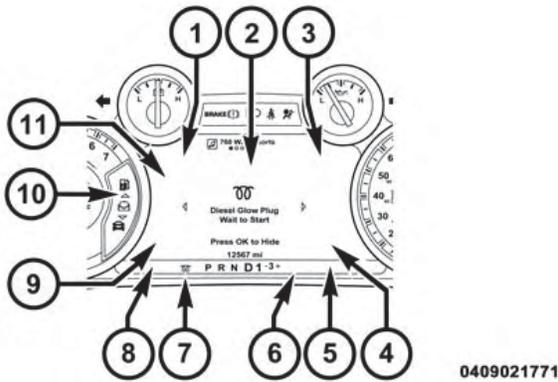
3. Press and release the **RIGHT** arrow button to access the "Oil Life" screen.
4. Press and release the **DOWN** arrow button to select "Reset", then press and release the **Right** arrow button to select reset of the Oil Life to 100%.
5. Press and release the **Up** arrow button to exit the EVIC screen.
3. Press and release the **RIGHT** arrow button to access the "Oil Life" screen.
4. Press and release the **DOWN** arrow button to select "Reset", then press and release the **Right** arrow button to select reset of the Oil Life to 100%.
5. Press and release the **Up** arrow button to exit the EVIC screen.

### Vehicles Not Equipped With Passive Entry

1. Without pressing the brake pedal, press the ENGINE START/STOP button and cycle the ignition to the ON/RUN position (do not start the engine.)
2. Press and release the **DOWN** arrow button to scroll downward through the main menu to "Vehicle Info".

**NOTE:** If the indicator message illuminates when you start the vehicle, the oil change indicator system did not reset. If necessary, repeat this procedure.

### Electronic Vehicle Information Center (EVIC) Displays — 7” Display



The EVIC displays are located in the center portion of the cluster and consists of eight sections:

1. Main Screen — The inner ring of the display will illuminate in grey under normal conditions, yellow for non critical warnings, red for critical warnings and white for on demand information.
2. Audio/Phone Information and Sub-menu Information — Whenever there are sub-menus available, the position within the sub-menus is shown here.
3. Selectable Information (Compass, Temp, Range to Empty, Trip A, Trip B, Average MPG, Trailer Trip (distance only), Trailer Brake Gain).
4. Telltales/Indicators
5. Shift Lever Status (PRNDL)
6. Selectable Menu Icons
7. Air Suspension Status – If Equipped
8. 4WD Status

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9. Selectable Gauge 2

10. Selectable Gauge 1

11. Selectable Gauge 1

The main display area will normally display the main menu or the screens of a selected feature of the main menu. The main display area also displays “pop up” messages that consist of approximately 60 possible warning or information messages. These pop up messages fall into several categories:

- *Five Second Stored Messages*

When the appropriate conditions occur, this type of message takes control of the main display area for five seconds and then returns to the previous screen. Most of the messages of this type are then stored (as long as the condition that activated it remains active) and can be reviewed from the “Messages” main menu item. As long as there is a stored message, an “i” will be displayed in

the EVIC’s compass/outside temp line. Examples of this message type are “Right Front Turn Signal Lamp Out” and “Low Tire Pressure”.

- *Unstored Messages*

This message type is displayed indefinitely or until the condition that activated the message is cleared. Examples of this message type are “Turn Signal On” (if a turn signal is left on) and “Lights On” (if driver leaves the vehicle).

- *Unstored Messages Until RUN*

These messages deal primarily with the Remote Start feature. This message type is displayed until the ignition is in the RUN state. Examples of this message type are “Remote Start Aborted - Door Ajar” and “Press Brake Pedal and Push Button to Start”.

- *Five Second Unstored Messages*

When the appropriate conditions occur, this type of message takes control of the main display area for five

seconds and then returns to the previous screen. An example of this message type is “Automatic High Beams On”.

### EVIC Amber Telltales

This area will show reconfigurable amber caution telltales. These telltales include:

#### Water In Fuel Indicator Light



The “Water In Fuel Indicator Light” will illuminate when there is water detected in the fuel filters. If this light remains on, DO NOT start the vehicle before you drain the water from the fuel filters to prevent engine damage. Refer to “Maintenance Procedures/Draining Fuel/Water Separator Filters” in “Maintaining Your Vehicle” for further information.

#### Wait To Start Light



The “Wait To Start” telltale will illuminate for approximately two seconds when the ignition is turned to the RUN position. It’s duration may be longer based on colder operating conditions. Vehicle will not initiate start until telltale is out. Refer to “Starting Procedures” in “Starting And Operating” for further information.

**NOTE:** The “Wait To Start” telltale may not illuminate if the intake manifold temperature is warm enough.

#### Low Diesel Exhaust Fluid Light



This telltale will turn on to indicate the Diesel Exhaust Fluid (DEF) is low.

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### Cold Ambient Derate Mode Messages

The vehicle will display messages when a derate (engine power reduction) is activated to protect the turbocharger during engine start up in cold ambient temperatures.

- **Engine Power Reduced During Warmup** — This message will display during start up when the ambient temperature is between 10° F (-12° C) and -10° F (-23° C).
- **Engine Power Reduced Up To 30 Sec (Seconds) During Warmup** — This message will display during start up when the ambient temperature is between -10° F (-23° C) and -25 F (-32° C).
- **Engine Power Reduced Up To 2 Min (Minutes) During Warmup** — This message will display during start up when the ambient temperature is -25° F (-32° C) and below.

- **Coolant Low** — This telltale will turn on to indicate the vehicle coolant level is low. See “Adding Coolant” under the section “Maintaining Your Vehicle” for more information.

### Diesel Particulate Filter (DPF) Messages

The Cummins® diesel engine meets all EPA Heavy Duty Diesel Engine Emissions Standards, resulting in one of the lowest emitting diesel engines ever produced. To achieve these emissions standards, your vehicle is equipped with a state-of-the-art engine and exhaust system. These systems are seamlessly integrated into your vehicle and managed by the Powertrain Control Module (PCM). The PCM manages engine combustion to allow the exhaust system’s catalyst to trap and burn Particulate Matter (PM) pollutants, with no input or interaction on your part.

**WARNING!**

A hot exhaust system can start a fire if you park over materials that can burn. Such materials might be grass or leaves coming into contact with your exhaust system. Do not park or operate your vehicle in areas where your exhaust system can contact anything that can burn.

Your vehicle has the ability to alert you to additional maintenance required on your vehicle or engine. Refer to the following messages that may be displayed on your Electronic Vehicle Information Center (EVIC):

- **Perform Service** — Your vehicle will require emissions maintenance at a set interval. To help remind you when this maintenance is due, the Electronic Vehicle Information Center (EVIC) will display “Perform Service”. When the “Perform Service” message is

displayed on the EVIC it is necessary to have the emissions maintenance performed. Emissions maintenance may include replacing the Closed Crankcase Ventilation (CCV) filter element. The procedure for clearing and resetting the “Perform Service” indicator message is located in the appropriate Service Information.

- **Exhaust System — Regeneration Required Now** — “Exhaust Filter XX% Full Safely Drive at Highway Speeds to Remedy” will be displayed on the Electronic Vehicle Information Center (EVIC) if the exhaust particulate filter reaches 80% of its maximum storage capacity. Under conditions of exclusive short duration and low speed driving cycles, your Cummins® diesel engine and exhaust after-treatment system may never reach the conditions required to remove the trapped PM. If this occurs, the “Exhaust Filter XX% Full Safely Drive at Highway Speeds to Remedy” message will be

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displayed in the EVIC. If this message is displayed, you will hear one chime to assist in alerting you of this condition

- By simply driving your vehicle at highway speeds for as little as 45 minutes, you can remedy the condition in the particulate filter system and allow your Cummins® diesel engine and exhaust after-treatment system to remove the trapped PM and restore the system to normal operating condition.
- **Exhaust System — Regeneration In Process Exhaust Filter XX% Full** — Indicates that the Diesel Particulate Filter (DPF) is self-cleaning. Maintain your current driving condition until regeneration is completed.
- **Exhaust System — Regeneration Completed** — This message indicates that the Diesel Particulate Filter (DPF) self-cleaning is completed. If this message is displayed, you will hear one chime to assist in alerting you of this condition.

- **Exhaust Service Required — See Dealer Now** — This message indicates regeneration has been disabled due to a system malfunction. At this point the engine Powertrain Control Module (PCM) will register a fault code, the instrument panel will display a MIL light.

### CAUTION!

**See your authorized dealer, as damage to the exhaust system could occur soon with continued operation.**

- **Exhaust Filter Full — Power Reduced See Dealer** — This message indicates the PCM has derated the engine to limit the likelihood of permanent damage to the after-treatment system. If this condition is not corrected and a dealer service is not performed, extensive exhaust after-treatment damage can occur. To correct this condition it will be necessary to have your vehicle serviced by your local authorized dealer.

**CAUTION!**

See your authorized dealer, as damage to the exhaust system could occur soon with continued operation.

**Diesel Exhaust Fluid (DEF) Warning Messages**

Your vehicle will begin displaying warning messages when the DEF level reaches a driving range of approximately 350 miles (563 km). If the following warning message sequence is ignored, your vehicle may be limited to a maximum speed of 5 MPH (8 km/H) unless DEF is added.

- **DEF Low Refill Soon** — This message will display when the low level is reached, during vehicle start up, and with increased frequency during vehicle operation. It will be accompanied by a single chime. Approximately 5 gallons (19 Liters) of DEF is required to refill the tank when this message is initially displayed

on pickup applications, and approximately 7 gallons (28 Liters) are required on chassis-cab applications.

- **Speed Limited to 5 MPH in XXX mi Refill DEF** — This message will continuously display if the “DEF Low Refill Soon” message is ignored, and the frequency of occurrence of the chime will increase unless up to 2 gallons (7.5 Liters) of DEF is added to the tank.
- **5 MPH Max Speed on Restart, Long Idle or Refuel Refill DEF** — This message will continuously display when the counter reaches zero, and will be accompanied by a periodic chime.
- The vehicle will only be capable of a maximum speed of 5 MPH upon the first of the following conditions to occur:
  - If the vehicle is shutoff and restarted.
  - If the vehicle is idled for an extended period of time, approximately one hour or greater.

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- If the system detects that the level of fuel in the tank has increased.
- Add a minimum of 2 gallons (9.5 Liters) of DEF to the tank in order to avoid vehicle operation at a maximum speed of 5 MPH (8 km/H).

**NOTE:** A minimum of 2 gallons (9.5 Liters) may be required to restore normal vehicle operation. Although the vehicle will start normally and can be placed in gear after this message has been initially displayed, extreme caution should be utilized since the vehicle will only be capable of maneuvering at a maximum speed of 5 MPH (8 km/H).

### Diesel Exhaust Fluid (DEF) Fault Warning Messages

There are four different messages which are displayed if the vehicle detects that the DEF system has been filled with a fluid other than DEF, has experienced component failures, or when tampering has been detected. The vehicle

may be limited to a maximum speed of 5 MPH (8 km/H) if the DEF system is not serviced within less than 200 miles (322 km) of the fault being detected.

When the DEF system needs to be serviced the following warnings will display:

- **Service DEF System See Dealer** — This message will display when the fault is initially detected, each time the vehicle is started, and periodically during driving. The message will be accompanied by a single chime. We recommend you drive to your nearest authorized dealer and have your vehicle serviced as soon as possible.
- **5 MPH Max Speed in 150 mi Service DEF System See Dealer** — This message will display if the DEF system has not been serviced after the “Service DEF System – See Dealer” message is displayed. This message will

continuously display until the mileage counter reaches zero, and will be accompanied by a periodic chime. The message will continue to countdown until it reaches zero unless the vehicle is serviced. We recommend you drive to your nearest authorized dealer and have your vehicle serviced immediately.

**NOTE:** Under some circumstances this mileage counter may start with a value of less than 150 miles (241 km). For example, if recurring faults are detected in a time interval of less than 40 hours, the counter may restart at the value where it stopped when a previous fault was temporarily remedied, or at a minimum of 50 miles (80 km).

- **5 MPH Max Speed on Restart, Long Idle or Refuel Service DEF See Dealer** — This message will continuously display when the mileage counter reaches zero, and will be accompanied by a periodic chime.

- The vehicle will only be capable of a maximum speed of 5 MPH upon the first of the following conditions to occur:
  - If the vehicle is shutdown and restarted.
  - If the vehicle is idled for an extended period of time, approximately one hour or greater.
  - If the system detects that the level of fuel in the tank has increased.
- **5 MPH Max Speed Service DEF System See Dealer** — This message will continuously display, and will be accompanied by a periodic chime. Although the vehicle can be started and placed in gear, the vehicle will only operate at a maximum speed of 5 MPH. Your vehicle will require towing, see your authorized dealer for service.

**NOTE:** When this message is displayed, the engine can still be started. However, the vehicle will only operate at a maximum speed of 5 MPH.

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**RAM Active Air System**

Your vehicle is equipped with an advanced Ram Active Air system that provides enhanced performance, especially when towing under demanding hot or high altitude conditions. If the EVIC displays the message “Active Airbox Service Required See Dealer”, vehicle performance may be reduced until service is performed by an authorized RAM dealer.

**Fuel Filter Life Reset**

The cluster will display the “Service Fuel Filter” message when the fuel filter maintenance life is less than 5%. To check the remaining fuel filter life, go to the “Fuel Filter Life” screen in the “Vehicle Info” menu. When this message appears, dealers should replace both frame mounted and engine mounted fuel filters.

**NOTE:** Use the steering wheel EVIC controls for the following procedure(s)

**Vehicles Equipped With Passive Entry**

1. Without pressing the brake pedal, press the ENGINE START/STOP button and place the ignition in the ON/RUN position (do not start the engine.)
2. Press and release the **DOWN** arrow button to scroll downward through the main menu to “Vehicle Info”.
3. Press and release the **RIGHT** arrow button to access the “Fuel Filter Life” screen.
4. Press and hold the **RIGHT** arrow button for one second to access the Reset Confirmation screen.
5. Press and release the **UP** or **DOWN** arrow button to select “Yes” or “No” then press and hold the **RIGHT** arrow button to reset the Fuel Filter Life.
6. Press and release the **Up** arrow button to exit the EVIC screen once the Fuel Filter Life is 100%

### **Vehicles Not Equipped With Passive Entry**

1. Without pressing the brake pedal, cycle the ignition to the ON/RUN position (do not start the engine.)
2. Press and release the **DOWN** arrow button to scroll downward through the main menu to "Vehicle Info".
3. Press and release the **RIGHT** arrow button to access the "Fuel Filter Life" screen.
4. Press and hold the **RIGHT** arrow button for one second to access the "Fuel Filter Life Reset" screen.
5. Press and hold the **RIGHT** arrow button for one second to access the Reset Confirmation screen.
6. Press and release the **UP** or **DOWN** arrow button to select "Yes" or "No" then press and hold the **RIGHT** arrow button to reset the Fuel Filter Life.

7. Press and release the **Up** arrow button to exit the EVIC screen once the Fuel Filter Life is 100%

**NOTE:** If the indicator message illuminates when you start the vehicle, the oil change indicator system did not reset. If necessary, repeat this procedure.

### **Oil Life Reset**

Your vehicle is equipped with an engine oil change indicator system. The "Oil Change Required" message will flash in the EVIC display for approximately 10 seconds after a single chime has sounded, to indicate the next scheduled oil change interval. The engine oil change indicator system is duty cycle based, which means the engine oil change interval may fluctuate, dependent upon your personal driving style.

**NOTE:** Use the steering wheel EVIC controls for the following procedure(s)

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### Vehicles Equipped With Passive Entry

1. Without pressing the brake pedal, press the ENGINE START/STOP button and cycle the ignition to the ON/RUN position (do not start the engine.)
2. Press and release the **DOWN** arrow button to scroll downward through the main menu to "Vehicle Info".
3. Press and release the **RIGHT** arrow button to access the "Oil Life" screen.
4. Press and hold the **RIGHT** arrow button for one second to access the "Oil Life Reset" screen.
5. Press and release the **DOWN** arrow button to select "Yes", then press and release the Right arrow button to select reset of the Oil Life.
6. Press and release the **Up** arrow button to exit the EVIC screen.

### Vehicles Not Equipped With Passive Entry

1. Without pressing the brake pedal, cycle the ignition to the ON/RUN position (do not start the engine.)
2. Press and release the **DOWN** arrow button to scroll downward through the main menu to " **Vehicle Info**".
3. Press and release the **RIGHT** arrow button to access the " **Oil Life**" screen.
4. Press and hold the **RIGHT** arrow button for one second to access the " **Oil Life Reset**" screen.
5. Press and release the **DOWN** arrow button to select "Yes", then press and release the Right arrow button to select reset of the Oil Life.
6. Press and release the **Up** arrow button to exit the EVIC screen.

**NOTE:** If the indicator message illuminates when you start the vehicle, the oil change indicator system did not reset. If necessary, repeat this procedure.

# STARTING AND OPERATING

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**STARTING PROCEDURES**

Before starting your vehicle, adjust your seat, adjust both inside and outside mirrors, and fasten your seat belts.

The starter should not be operated for more than 15-second intervals. Waiting a few minutes between such intervals will protect the starter from overheating.

**WARNING!**

- Do not leave children or animals inside parked vehicles in hot weather. Interior heat build up may cause serious injury or death.
- When leaving the vehicle, always make sure the ignition is in the OFF position, remove the key fob from the vehicle, and lock the vehicle.

**WARNING! (Continued)**

- Never leave children alone in a vehicle, or with access to an unlocked vehicle. Allowing children to be in a vehicle unattended is dangerous for a number of reasons. A child or others could be seriously or fatally injured. Children should be warned not to touch the parking brake, brake pedal or the transmission gear selector. Do not leave the key fob in or near the vehicle (or in a location accessible to children), and do not leave the ignition (of a vehicle equipped with Keyless Enter-N-Go™) in the ACC or ON/RUN mode. A child could operate power windows, other controls, or move the vehicle.

*(Continued)*

### Manual Transmission — If Equipped

Apply the parking brake, place the shift lever in NEUTRAL and press the clutch pedal to the floor before starting the vehicle. This vehicle is equipped with a clutch interlocking ignition system. It will not start unless the clutch is fully pressed.

### Automatic Transmission — If Equipped

Start the engine with the transmission in the NEUTRAL or PARK position. Apply the brake before shifting to any driving range.

#### Tip Start Feature

**Do not** press the accelerator. Turn the ignition switch briefly to the START position and release it. The starter motor will continue to run but will automatically disengage when the engine is running.

### Keyless Enter-N-Go™ — If Equipped



This feature allows the driver to operate the ignition switch with the push of a button, as long as the Remote Start/Keyless Enter-N-Go™ Key Fob is in the passenger compartment.

### Normal Starting

#### Using The ENGINE START/STOP Button

1. The transmission must be in PARK or NEUTRAL.
2. Press and hold the brake pedal while pressing the ENGINE START/STOP button once.
3. The system takes over and attempts to start the vehicle. If the vehicle fails to start, the starter will disengage automatically after 10 seconds.

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4. If you wish to stop the cranking of the engine prior to the engine starting, remove your foot from the brake pedal and press the button again.

### NOTE:

- Normal starting of either a cold or a warm engine is obtained without pumping or pressing the accelerator pedal.
- Under cold weather conditions, the engine may not immediately crank if the "Wait To Start" telltale is illuminated. This is normal operation. For vehicles equipped with Keyless Enter-N-Go™, the vehicle will automatically crank when the "Wait To Start" time has elapsed. See the section "Starting Procedure Engine Manifold Air Temperature 0°F to 66°F (18° C to 19°C)" for more information.

### *To Turn Off The Engine Using ENGINE START/STOP Button*

1. Place the shift lever/gear selector in PARK, then press and release the ENGINE START/STOP button.
2. The ignition switch will return to the OFF position.
3. If the shift lever/gear selector is not in PARK, the ENGINE START/STOP button must be held for two seconds or three short presses in a row with the vehicle speed above 5 mph (8 km/h) before the engine will shut off. The ignition switch position will remain in the ACC position until the shift lever/gear selector is in PARK and the button is pressed twice to the OFF position. If the shift lever/gear selector is not in PARK and the ENGINE START/STOP button is pressed once, the EVIC (if equipped) will display a "Vehicle Not In Park" message and the engine will remain running. Never leave a vehicle out of the PARK position, or it could roll.

**NOTE:** If the ignition switch is left in the ACC or RUN (engine not running) position and the transmission is in PARK, the system will automatically time out after 30 minutes of inactivity and the ignition will switch to the OFF position.

***ENGINE START/STOP Button Functions — With Driver's Foot OFF The Brake Pedal (In PARK Or NEUTRAL Position)***

The ENGINE START/STOP button operates similar to an ignition switch. It has three positions, OFF, ACC, RUN. To change the ignition switch positions without starting the vehicle and use the accessories follow these steps:

1. Starting with the ignition in the OFF position:
2. Press the ENGINE START/STOP button once to change the ignition to the ACC position.

3. Press the ENGINE START/STOP button a second time to change the ignition to the RUN position.
4. Press the ENGINE START/STOP button a third time to return the ignition to the OFF position.

**Keyless Enter-N-Go™ Starting Procedure — Engine Manifold Air Temperature 0° F To 66° F (–18° C to 19° C)**

**NOTE:** The temperature displayed in the Electronic Vehicle Information Center (EVIC) does not necessarily reflect the engine manifold air temperature. Refer to “Electronic Vehicle Information Center (EVIC)” in “Understanding Your Instrument Panel” for further information. When engine temperatures fall below 66°F (19°C) the “Wait To Start Light” will remain on indicating the intake manifold heater system is active.

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Follow the steps in the "Normal Starting" procedure except:

1. Pushing the engine start button with the driver's foot on the brake will move the ignition from OFF or ACC to RUN, and will illuminate the "Wait To Start" telltale. The engine will not immediately crank, this is normal operation.
2. The "Wait To Start" telltale will remain on for a period of time that varies depending on the engine temperature.
3. While the "Wait to Start" telltale is on, the EVIC will additionally display a gauge or bar whose initial length represents the full "Wait to Start" time period. Its length will decrease until it disappears when the "Wait to Start" time has elapsed.

### CAUTION!

If the "Water in Fuel Indicator Light" remains on, DO NOT START engine before you drain the water from the fuel filters to avoid engine damage. Refer to "Maintenance Procedures/Draining Fuel/Water Separator Filter" in "Maintaining Your Vehicle" for further information.

4. After the engine "Wait To Start" telltale goes off, the engine will automatically crank.

### CAUTION!

The engine may automatically crank when the "Wait To Start" time has elapsed. To abort the automatic starting process, ensure the driver's foot is fully removed from the brake pedal prior to pushing the START/STOP button to cycle the ignition off.

5. After engine start-up, check to see that there is oil pressure.
6. Allow the engine to idle about three minutes until the manifold heaters have completed the post-heat cycle.
7. Release the parking brake and drive.

**NOTE:**

- Engine idle speed will automatically increase to 1,000 RPM and engage the Variable Geometry Turbocharger at low coolant temperatures to improve engine warm-up.
- The engine may not automatically crank after the engine "Wait To Start" telltale goes off if a door or the hood is ajar.
- If the engine stalls, or if the ignition switch is left ON for more than two minutes after the "Wait To Start Light" goes out, reset the grid heaters by turning the

ignition switch to the OFF position for at least five seconds and then back ON. Repeat steps 1 through 7 of "Keyless Enter-N-Go™ Starting Procedure – Engine Manifold Air Temperature Below 66° F (19° C)."

**Extreme Cold Weather**

The Cummins® diesel engine is equipped with several features designed to assist cold weather starting and operation:

- The engine block heater is a resistance heater installed in the water jacket of the engine just above and behind the oil filter. It requires a 110–115 Volt AC electrical outlet with a grounded, three-wire extension cord.

**NOTE:** The engine block heater cord is a factory installed option. If your vehicle is not equipped, heater cords are available from your authorized MOPAR® dealer.

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- A 12 Volt heater built into the fuel filter housings aid in preventing fuel gelling. It is controlled by a built-in thermostat.
- A heated intake air system both improves engine starting and reduces the amount of white smoke generated by a warming engine.

**Normal Starting Procedure — Engine Manifold Air Temperature Above 66° F (19° C)**

Observe the instrument panel cluster lights when starting the engine.

1. Always apply the parking brake.
2. Shift into PARK for an automatic transmission. For vehicles equipped with a manual transmission, fully press and hold the clutch pedal and shift into NEUTRAL.
3. Turn the ignition switch to the ON position and watch the instrument panel cluster lights.

**CAUTION!**

If the "Water in Fuel Indicator Light" remains on, DO NOT START the engine before you drain the water from the fuel filters to avoid engine damage. Refer to "Maintenance Procedures/Draining Fuel/Water Separator Filter" in "Maintaining Your Vehicle" for further information.

4. Turn the ignition switch to the START position and crank the engine. Do not press the accelerator during starting.

**CAUTION!**

Do not crank engine for more than 15 seconds at a time or starter motor damage may result. Turn the ignition switch to the OFF position and wait at least two minutes for the starter to cool before repeating start procedure.

5. When the engine starts, release the key fob.
6. Check that the oil pressure warning light has turned off.
7. Release the parking brake.

**Starting Procedure — Engine Manifold Air Temperature 0°F To 66°F (–18°C to 19°C)**

**NOTE:** The temperature displayed in the Electronic Vehicle Information Center (EVIC) does not necessarily reflect the engine manifold air temperature. Refer to “Electronic Vehicle Information Center (EVIC)” in “Understanding Your Instrument Panel” for further information. When engine temperatures fall below 66°F (19°C) the “Wait To Start Light” will remain on indicating the intake manifold heater system is active.

Follow the steps in the “Normal Starting” procedure except:

1. The “Wait To Start” telltale will remain on for a period of time that varies depending on the engine temperature.
2. While the “Wait To Start” telltale is on, the EVIC will additionally display a gauge or bar whose initial length represents the full “Wait To Start” time period. Its length will decrease until it disappears when the “Wait To Start” time has elapsed.

**CAUTION!**

**If the “Water in Fuel Indicator Light” remains on, DO NOT START engine before you drain the water from the fuel filters to avoid engine damage. Refer to “Maintenance Procedures/Draining Fuel/Water Separator Filter” in “Maintaining Your Vehicle” for further information.**

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3. After the "Wait To Start" telltale goes off, turn the ignition switch to the START position. Do not press the accelerator during starting.

**CAUTION!**

**Do not crank engine for more than 15 seconds at a time or starter motor damage may result. Turn the ignition switch to the OFF position and wait at least two minutes for the starter to cool before repeating start procedure.**

4. After engine start-up, check that the oil pressure warning light has turned off.
5. Allow the engine to idle about three minutes until the manifold heaters have completed the post-heat cycle.
6. Release the parking brake and drive.

**NOTE:**

- Engine idle speed will automatically increase to 1,000 RPM and engage the Variable Geometry Turbocharger at low coolant temperatures to improve engine warm-up.
- Automatic equipped vehicles with optional Keyless Enter-N-Go™ – If the start button is pushed once while in park with the ignition off and driver's foot on the brake pedal, the vehicle will automatically crank and start after the Wait to Start time has elapsed. If it is desired to abort the start process before it completes, the driver's foot should be fully removed from the brake pedal prior to pushing the start button again in order for the ignition to move directly to off.
- If the engine stalls, or if the ignition switch is left ON for more than two minutes after the "Wait To Start" telltale goes out, reset the grid heaters by turning the ignition switch to the OFF position for at least five

seconds and then back ON. Repeat steps 1 through 5 of "Starting Procedure – Engine Manifold Air Temperature Below 66°F (19°C)."

#### **Starting Procedure – Engine Manifold Air Temperature Below 0°F (-18°C)**

In extremely cold weather below 0°F (-18°C) it may be beneficial to cycle the manifold heaters twice before attempting to start the engine. This can be accomplished by turning the ignition OFF for at least five seconds and then back ON after the "Wait To Start" telltale has turned off, but before the engine is started. However, excessive cycling of the manifold heaters will result in damage to the heater elements or reduced battery voltage.

**NOTE: If multiple pre-heat cycles are used before starting, additional engine run time may be required to maintain battery state of charge at a satisfactory level.**

1. If the engine stalls after the initial start, the ignition must be turned to the OFF position for at least five seconds and then to the ON position to recycle the manifold heaters.

**NOTE:** Excessive white smoke and poor engine performance will result if manifold heaters are not recycled.

2. Heat generated by the manifold heaters dissipates rapidly in a cold engine. If more than two minutes pass between the time the "Wait To Start" telltale turns off and the engine is started, recycle the manifold heaters by turning the ignition switch to the OFF position for at least five seconds and then back ON.
3. If the vehicle is driven and vehicle speed exceeds 19 mph (31 km/h) before the manifold heater post-heat (after start) cycle is complete, the manifold heaters will shut off.

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4. If the engine is started before the "Wait To Start" telltale turns off, the preheat cycle will turn off.
5. If the engine is cranked for more than 10 seconds, the post-heat cycle will turn off.

### NOTE:

- Engine idle speed will automatically increase to 1,000 RPM and engage the Variable Geometry Turbocharger at low coolant temperatures to improve engine warm-up.
- When a diesel engine is allowed to run out of fuel or the fuel gels at low temperatures, air is pulled into the fuel system. If your engine has run out of fuel, refer to "Maintenance Procedures/Priming If The Engine Has Run Out Of Fuel" in "Maintaining Your Vehicle" for further information.
- If the engine stalls, or if the ignition switch is left ON for more than two minutes after the "Wait To Start"

telltale goes out, reset the grid heaters by turning the ignition switch to the OFF position for at least five seconds and then back ON. Repeat steps 1 through 5 of "Starting Procedure – Engine Manifold Air Temperature Below 66°F (19°C)."

### Starting Fluids

#### WARNING!

Starting fluids or flammable liquids must never be used in the Cummins® diesel engine (see Warning label). Never pour diesel fuel, flammable liquid, starting fluids (ether) into the air cleaner canister, air intake piping, or turbocharger inlet in an attempt to start the vehicle. This could result in a flash fire and explosion causing serious personal injury and engine damage.

The engine is equipped with an automatic electric air preheating system. If the instructions in this manual are followed, the engine should start in all conditions.

**WARNING!**

- Do not leave children or animals inside parked vehicles in hot weather. Interior heat build up may cause serious injury or death.
- When leaving the vehicle, always make sure the ignition is in the OFF position, remove the key fob from the vehicle, and lock the vehicle.

*(Continued)*

**WARNING! (Continued)**

- Never leave children alone in a vehicle, or with access to an unlocked vehicle. Allowing children to be in a vehicle unattended is dangerous for a number of reasons. A child or others could be seriously or fatally injured. Children should be warned not to touch the parking brake, brake pedal or the transmission gear selector. Do not leave the key fob in or near the vehicle (or in a location accessible to children), and do not leave the ignition (of a vehicle equipped with Keyless Enter-N-Go™) in the ACC or ON/RUN mode. A child could operate power windows, other controls, or move the vehicle.

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**NORMAL OPERATION — DIESEL ENGINE**

Observe the following when the engine is operating.

- All message center lights are off.
- Malfunction Indicator Light (MIL) is off.
- Engine oil pressure is above 10 psi (69 kPa) at idle.
- Voltmeter operation:

The voltmeter may show a gauge fluctuation at various engine temperatures. This cycling operation is caused by the post-heat cycle of the intake manifold heater system. The number of cycles and the length of the cycling operation is controlled by the engine control module. Post-heat operation can run for several minutes, and then the electrical system and voltmeter needle will stabilize.

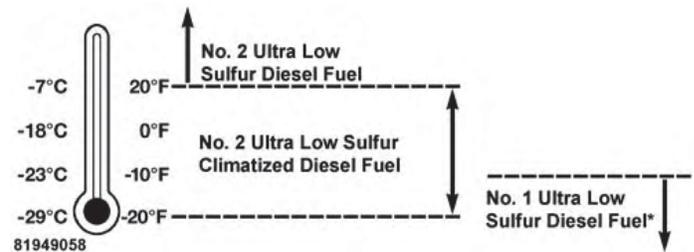
The cycling action will cause temporary dimming of the headlamps, interior lamps, and also a noticeable reduction in blower motor speed.

**Cold Weather Precautions**

Operation in ambient temperature below 32°F (0°C) may require special considerations. The following charts suggest these options:

**Fuel Operating Range**

**NOTE:** Use “Ultra Low Sulfur Diesel Fuels” **ONLY**.



**Fuel Operating Range Chart**

\*No. 1 Ultra Low Sulfur Diesel Fuel should only be used where extended arctic conditions (-10°F/-23°C) exist.

**NOTE:**

- Use of Climatized Ultra Low Sulfur Diesel Fuel or Number 1 Ultra Low Sulfur Diesel Fuel results in a noticeable decrease in fuel economy.
- Climatized Ultra Low Sulfur Diesel Fuel is a blend of Number 2 Ultra Low Sulfur and Number 1 Ultra Low Sulfur Diesel Fuels which reduces the temperature at which wax crystals form in fuel.
- The fuel grade should be clearly marked on the pump at the fuel station.
- The engine requires the use of **“Ultra Low Sulfur Diesel Fuel”**. Use of incorrect fuel could result in engine and exhaust system damage. Refer to “Fuel Requirements” in “Starting And Operating” for further information.
- Commercially available fuel additives are not necessary for the proper operation of your Cummins®

diesel engine. However, if seasonably adjusted fuel is not available and you are operating below 20°F (-6°C), Mopar® Premium Diesel Fuel Treatment (or equivalent) may be beneficial to avoid fuel gelling.

**Engine Oil Usage**

Refer to “Maintenance Procedures” in “Maintaining Your Vehicle” for the correct engine oil viscosity.

**Winter Front Usage**

A winter front or cold weather cover is to be used in ambient temperatures below 32°F (0°C), especially during extended idle conditions to reduce condensation build-up within engine crankcase. If a winter front or cold weather cover is to be used, a percentage of the total grille opening area must be left uncovered to provide sufficient air flow to the charge air cooler and automatic transmission oil cooler. The percentage of opening must be increased with the increasing ambient air temperature and/or engine load. If the cooling fan can be heard

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cycling frequently, increase the size of the opening in the winter front. A suitable cold weather cover is available from your MOPAR® dealer.

### Battery Blanket Usage

A battery loses 60% of its cranking power as the battery temperature decreases to 0°F (-18°C). For the same decrease in temperature, the engine requires twice as much power to crank at the same RPM. The use of 120 VAC powered battery blankets will greatly increase starting capability at low temperatures. Suitable battery blankets are available from your authorized MOPAR® dealer.

### Engine Warm-Up

Avoid full throttle operation when the engine is cold. When starting a cold engine, bring the engine up to operating speed slowly to allow the oil pressure to stabilize as the engine warms up.

**NOTE:** High-speed, no-load running of a cold engine can result in excessive white smoke and poor engine performance. No-load engine speeds should be kept under 1,200 RPM during the warm-up period, especially in cold ambient temperature conditions.

Your vehicle is equipped with a turbo speed limiter, this feature limits the engine speed to 1,200 RPM when engine coolant temperatures are below 70°F (21°C). This feature is designed to protect the turbocharger from damage and will only operate in PARK or NEUTRAL.

If temperatures are below 32°F (0°C), operate the engine at moderate speeds for five minutes before full loads are applied.

**NOTE:** If ambient temperatures are low and the coolant temperature is below 180°F (82°C), the engine idle speed will slowly increase to 1,000 RPM after two minutes of idle, if the following conditions are met:

- Foot is off brake pedal and throttle pedal.
- Automatic transmission is in PARK.
- Vehicle speed is 0 mph (0 km/h).
- Applying the throttle will cancel fast idle.
- Operating the exhaust brake at idle will greatly improve warm up rate and will help keep the engine close to operating temperature during extended idle.

### Engine Idling

Avoid prolonged idling, long periods of idling may be harmful to your engine because combustion chamber temperatures can drop so low that the fuel may not burn completely. Incomplete combustion allows carbon and

varnish to form on piston rings, engine valves, and injector nozzles. Also, the unburned fuel can enter the crankcase, diluting the oil and causing rapid wear to the engine.

If the engine is allowed to idle, under some conditions the idle speed may increase to 900 RPM then return to normal idle speed. This is normal operation.

**NOTE:** For EVIC messages related to the vehicle's exhaust system, refer to "Maintenance Procedures/Intervention Regeneration Strategy – EVIC Message Process Flow" in "Maintaining Your Vehicle" for further information.

### Idle-Up Feature — Automatic Transmission Only

The driver-controlled high idle speed feature will help increase cylinder temperatures and provide additional cab heat, however, excessive idling may still cause the

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exhaust aftertreatment system to not properly regenerate. Extended periods of idle time should be avoided.

The Idle-Up feature uses the speed control switches to increase engine idle speed and quickly warm the vehicle's interior.

1. With the transmission in PARK, the parking brake applied, and the engine running, press the speed control switch to the ON position, then press the SET switch.
2. The engine RPM will go up to 1100 RPM. To increase the RPM, press and hold the ACCEL/RESUME switch and the idle speed will increase to approximately 1500 RPM. To decrease the RPM, press and hold the DECEL switch and the idle speed will decrease to approximately 1100 RPM.

3. To cancel the Idle-Up feature, either press the CANCEL switch, press the ON/OFF switch, or press the brake pedal.

### Stopping The Engine

Idle the engine a few minutes before routine shutdown. After full load operation, idle the engine three to five minutes before shutting it down. This idle period will allow the lubricating oil and coolant to carry excess heat away from the combustion chamber, bearings, internal components, and turbocharger. This is especially important for turbocharged, charge air-cooled engines.

**NOTE:**

- During engine shut down on vehicles equipped with manual transmissions, it is normal for the diesel engine to resonate heavily for a moment during engine shut off. When the engine is connected to a manual transmission, this resonance causes load gear rattle from the transmission. This is commonly referred to as "shut down rattle." The manufacturer recommends performing engine shut down with the clutch pedal pushed to the floor (clutch disengaged). When engine shut down is performed in this manner the rattle is reduced (not eliminated).
- Refer to the following chart for proper engine shut-down.

Driving Condition	Load	Turbo-charger Temperature	Idle Time (min.) Before Engine Shutdown
Stop and Go	Empty	Cool	Less than One
Stop and Go	Medium		One
Highway Speeds	Medium	Warm	Two
City Traffic	Maximum GCWR		Three
Highway Speeds	Maximum GCWR		Four
Uphill Grade	Maximum GCWR	Hot	Five

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### Idle Shutdown

This feature can be enabled so that the truck will automatically shutdown when the truck has been idling for a set period of time when the engine is at operating temperature. Idle time can be set in 5 minute increments between 5 and 60 minutes. See your local authorized dealer to enable this feature.

### Programmable Maximum Vehicle Speed (Chassis Cab Only)

This feature allows the owner to set a maximum vehicle speed for the vehicle. The 3500 Series maximum vehicle speed can be set between 40 mph (64 km/h) and 87 mph (140 km/h). The 4500/5500 Series maximum vehicle speed can be set between 40 mph (64 km/h) and 85 mph (136 km/h). See your local authorized dealer to enable this feature.

**NOTE:** DO NOT set the maximum vehicle speed to a value greater than what the vehicle tires are rated for.

### Operating Precautions

#### Avoid Overheating The Engine

The temperature of the engine coolant (antifreeze) (a mixture of 50% ethylene-glycol and 50% water) must not exceed the normal range of the temperature gauge 240°F (116°C) with a 16 psi (110 kPa) radiator cap.

Usually the engine coolant (antifreeze) temperature indicated during operation will be to the left of center in the normal range of the gauge.

#### Avoid Low Coolant Temperature Operation

Continual operation at low engine coolant (antifreeze) temperature below the normal range on the gauge 140°F (60°C) can be harmful to the engine. Low engine coolant (antifreeze) temperature can cause incomplete combustion which allows carbon and varnish to form on piston rings and injector nozzles. Also, the unburned fuel can enter the crankcase, diluting the lubricating oil and causing rapid wear to the engine.

**Cooling System Tips — Automatic Transmission**

To reduce potential for engine and transmission overheating in high ambient temperature conditions, take the following actions:

- *City Driving* —  
When stopped, shift the transmission into NEUTRAL and increase engine idle speed.
- *Highway Driving* —  
Reduce your speed.
- *Up Steep Hills* —  
Select a lower transmission gear.
- *Air Conditioning* —  
Turn it off temporarily.

**Do Not Operate The Engine With Low Oil Pressure**

When the engine is at normal operating temperature, the minimum oil pressures required are:

Idle 700 to 800 RPM	10 psi (69 kPa)
Full speed and load	30 psi (207 kPa)

<b>CAUTION!</b>
<b>If oil pressure falls to less than normal readings, shut the engine off immediately. Failure to do so could result in immediate and severe engine damage.</b>

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### Do Not Operate The Engine With Failed Parts

All engine failures give some warning before the parts fail. Be on the alert for changes in performance, sounds, and visual evidence that the engine requires service. Some important clues are:

- engine misfiring or vibrating severely
- sudden loss of power
- unusual engine noises
- fuel, oil or coolant leaks
- sudden change, outside the normal operating range, in the engine operating temperature
- excessive smoke
- oil pressure drop

### ENGINE BLOCK HEATER — IF EQUIPPED

The engine block heater warms engine coolant and permits quicker starts in cold weather. Connect the heater cord to a ground-fault interrupter protected 110–115 Volt AC electrical outlet with a grounded, three-wire extension cord.

The engine block heater cord is routed under the hood to the right side and can be located just behind the grille near the headlamp.

**NOTE:** The engine block heater cord is a factory installed option. If your vehicle is not equipped, heater cords are available from your authorized MOPAR® dealer.

The block heater must be plugged in at least one hour to have an adequate warming effect on the coolant.

**WARNING!**

**Remember to disconnect the cord before driving. Damage to the 110–115 Volt electrical cord could cause electrocution.**

**NOTE:** The block heater will require 110 Volts AC and 6.5 Amps to activate the heater element.

**Block Heater Usage**

For ambient temperatures below 0°F (-18°C), engine block heater usage is recommended.

For ambient temperatures below -20°F (-29°C), engine block heater usage is required.

**DIESEL EXHAUST BRAKE (ENGINE BRAKING)**

The purpose of the exhaust brake (engine braking) feature is to supply negative (braking) torque from the engine. Typically, the engine braking is used for, but not

limited to, vehicle towing applications where vehicle braking can be achieved by the internal engine power, thereby sparing the mechanical brakes of the vehicle.

Benefits of the exhaust brake are:

- vehicle driving control
- reduced brake fade
- longer brake life
- faster cab warm-up

The exhaust brake feature will only function when the driver toggles it on by pushing the exhaust brake button until the "Exhaust Brake Indicator" is illuminated. Normal (Full Strength) exhaust brake mode is indicated by a yellow "Exhaust Brake Indicator".

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**Exhaust Brake Switch**

Once the "Exhaust Brake Indicator" is illuminated and the vehicle is moving faster than 5 mph (8 km/h); the exhaust brake will automatically operate when the driver removes pressure from the accelerator pedal. Exhaust braking is most effective when the engine RPM is higher.

The automatic transmission will downshift more aggressively in TOW/HAUL mode when the exhaust brake is enabled to increase brake performance.

**CAUTION!**

Use of aftermarket exhaust brakes is not recommended and could lead to engine damage

**WARNING!**

Do not use the exhaust brake feature when driving in icy or slippery conditions as the increased engine braking can cause the rear wheels to slide and the vehicle to swing around with the possible loss of vehicle control, which may cause an accident possibly resulting in personal injury or death.

**NOTE:** For optimum braking power it is recommended to use the exhaust brake while in TOW/HAUL mode.

The exhaust brake feature can also be used to reduce the engine warm up time. To use the exhaust brake as a warm-up device, the vehicle must be stopped or moving less than 5 mph (8 km/h), the "Exhaust Brake Indicator" must be on, and the coolant temperature must be below 180°F (82°C) and ambient temperature below 60°F (16°C).

#### Automatic Smart Exhaust Brake

Automatic Exhaust Brake technology delivers smoother, less aggressive exhaust braking characteristics during downhill descents. Although it can apply full exhaust braking force if needed, Automatic Exhaust Brake may not apply obvious braking if the vehicle speed is not increasing. Automatic Exhaust Brake is intended to maintain vehicle speed, while Full Exhaust Brake is intended to reduce vehicle speed.

Automatic Exhaust Brake can be enabled by pushing the exhaust brake button again anytime after the normal Full Exhaust Brake has been turned on. The "Exhaust Brake

Indicator" in the EVIC will change from Yellow to Green when Automatic Exhaust Brake is enabled. Pushing the exhaust brake button again will toggle the exhaust brake mode to off.

#### AUTOMATIC TRANSMISSION — IF EQUIPPED

##### CAUTION!

Damage to the transmission may occur if the following precautions are not observed:

- Shift into or out of PARK or REVERSE only after the vehicle has come to a complete stop.
- Do not shift between PARK, REVERSE, NEUTRAL, or DRIVE when the engine is above idle speed.
- Before shifting into any gear, make sure your foot is firmly pressing the brake pedal.

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**WARNING!**

- It is dangerous to shift out of PARK or NEUTRAL if the engine speed is higher than idle speed. If your foot is not firmly pressing the brake pedal, the vehicle could accelerate quickly forward or in reverse. You could lose control of the vehicle and hit someone or something. Only shift into gear when the engine is idling normally and your foot is firmly pressing the brake pedal.

*(Continued)*

**WARNING! (Continued)**

- Unintended movement of a vehicle could injure those in or near the vehicle. As with all vehicles, you should never exit a vehicle while the engine is running. Before exiting a vehicle, always apply the parking brake, shift the transmission into PARK, turn the engine OFF, and remove the key fob. When the ignition is in the LOCK/OFF (key removal) position, the transmission is locked in PARK, securing the vehicle against unwanted movement.
- When leaving the vehicle, always make sure the ignition is in the OFF position, remove the key fob from the vehicle, and lock the vehicle.

*(Continued)*

**WARNING! (Continued)**

- Never leave children alone in a vehicle, or with access to an unlocked vehicle. Allowing children to be in a vehicle unattended is dangerous for a number of reasons. A child or others could be seriously or fatally injured. Children should be warned not to touch the parking brake, brake pedal or the transmission gear selector.
- Do not leave the key fob in or near the vehicle (or in a location accessible to children), and do not leave the ignition (of a vehicle equipped with Keyless Enter-N-Go™) in the ACC or ON/RUN mode. A child could operate power windows, other controls, or move the vehicle.

**NOTE:** You must press and hold the brake pedal while shifting out of PARK.

**Key Ignition Park Interlock**

This vehicle is equipped with a Key Ignition Park Interlock which requires the transmission to be in PARK before the ignition switch can be turned to the LOCK/OFF (key removal) position. The key fob can only be removed from the ignition when the ignition is in the LOCK/OFF position, and the transmission is locked in PARK whenever the ignition switch is in the LOCK/OFF position.

**Brake/Transmission Shift Interlock System**

This vehicle is equipped with a Brake Transmission Shift Interlock System (BTSI) that holds the shift lever in PARK unless the brakes are applied. To shift the transmission out of PARK, the ignition switch must be turned to the ON/RUN position (engine running or not) and the brake pedal must be pressed.

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### **Six-Speed Automatic Transmission — If Equipped**

Chassis Cab models (with automatic transmission) use the AS69RC transmission (which is equipped with a Power Take-Off [PTO] access cover on the side of the transmission case). Pickup models may use either the AS69RC transmission, or the 68RFE transmission (which has no PTO access cover).

The transmission gear position display (located in the instrument cluster) indicates the transmission gear range. The shift lever is mounted on the right side of the steering column. You must press the brake pedal to move the shift lever out of PARK (refer to “Brake/Transmission Shift Interlock System” in this section). To drive, move the shift lever from PARK or NEUTRAL to the DRIVE position. Pull the shift lever toward you when shifting into REVERSE or PARK, or when shifting out of PARK.

The electronically-controlled transmission provides a precise shift schedule. The transmission electronics are

self-calibrating; therefore, the first few shifts on a new vehicle may be somewhat abrupt. This is a normal condition, and precision shifts will develop within a few hundred miles (kilometers).

Only shift from DRIVE to PARK or REVERSE when the accelerator pedal is released and the vehicle is stopped. Be sure to keep your foot on the brake pedal when shifting between these gears.

The transmission shift lever has only PARK, REVERSE, NEUTRAL, and DRIVE shift positions. Manual downshifts can be made using the Electronic Range Select (ERS) shift control (refer to “Electronic Range Select (ERS) Operation” in this section for further information). Pressing the ERS (-/+ ) switches (on the shift lever) while in the DRIVE position will select the highest available transmission gear, and will display that gear in the instrument cluster as 1, 2, 3, etc.

### Gear Ranges

DO NOT race the engine when shifting from PARK or NEUTRAL into another gear range.

**NOTE:** After selecting any gear range, wait a moment to allow the selected gear to engage before accelerating. This is especially important when the engine is cold.

### PARK (P)

This range supplements the parking brake by locking the transmission. The engine can be started in this range. Never attempt to use PARK while the vehicle is in motion. Apply the parking brake when leaving the vehicle in this range.

When parking on a level surface, you may shift the transmission into PARK first, and then apply the parking brake.

When parking on a hill, apply the parking brake before shifting the transmission to PARK, otherwise the load on the transmission locking mechanism may make it difficult to move the shift lever out of PARK. As an added precaution, turn the front wheels toward the curb on a downhill grade and away from the curb on an uphill grade.

On four-wheel drive vehicles be sure that the transfer case is in a drive position.

### WARNING!

- Never use the PARK position as a substitute for the parking brake. Always apply the parking brake fully when parked to guard against vehicle movement and possible injury or damage.

(Continued)

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**WARNING! (Continued)**

- Your vehicle could move and injure you and others if it is not in PARK. Check by trying to move the shift lever out of PARK with the brake pedal released. Make sure the transmission is in PARK before leaving the vehicle.
- It is dangerous to shift out of PARK or NEUTRAL if the engine speed is higher than idle speed. If your foot is not firmly pressing the brake pedal, the vehicle could accelerate quickly forward or in reverse. You could lose control of the vehicle and hit someone or something. Only shift into gear when the engine is idling normally and your foot is firmly pressing the brake pedal.

(Continued)

**WARNING! (Continued)**

- Unintended movement of a vehicle could injure those in or near the vehicle. As with all vehicles, you should never exit a vehicle while the engine is running. Before exiting a vehicle, always apply the parking brake, shift the transmission into PARK, turn the engine OFF, and remove the key fob. When the ignition is in the LOCK/OFF (key removal) position, the transmission is locked in PARK, securing the vehicle against unwanted movement.
- When leaving the vehicle, always make sure the ignition is in the OFF position, remove the key fob from the vehicle, and lock the vehicle.

(Continued)

**WARNING! (Continued)**

- Never leave children alone in a vehicle, or with access to an unlocked vehicle. Allowing children to be in a vehicle unattended is dangerous for a number of reasons. A child or others could be seriously or fatally injured. Children should be warned not to touch the parking brake, brake pedal or the shift lever.
- Do not leave the key fob in or near the vehicle (or in a location accessible to children), and do not leave the ignition (in a vehicle equipped with Keyless Enter-N-Go™) in the ACC or ON/RUN position. A child could operate power windows, other controls, or move the vehicle.

**CAUTION!**

- Before moving the shift lever out of PARK, you must turn the ignition switch from the LOCK/OFF position to the ON/RUN position, and also press the brake pedal. Otherwise, damage to the shift lever could result.
- DO NOT race the engine when shifting from PARK or NEUTRAL into another gear range, as this can damage the drivetrain.

The following indicators should be used to ensure that you have engaged the transmission into the PARK position:

- When shifting into PARK, pull the shift lever toward you and move it all the way counterclockwise until it stops.

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- Release the shift lever and make sure it is fully seated in the PARK gate.
- Look at the transmission gear position display and verify that it indicates the PARK position.
- With brake pedal released, verify that the shift lever will not move out of PARK.

**REVERSE (R)**

This range is for moving the vehicle backward. Shift into REVERSE only after the vehicle has come to a complete stop.

**NEUTRAL (N)**

Use this range when the vehicle is standing for prolonged periods with the engine running. The engine may be started in this range. Apply the parking brake and shift the transmission into PARK if you must leave the vehicle.

**WARNING!**

**Do not coast in NEUTRAL and never turn off the ignition to coast down a hill. These are unsafe practices that limit your response to changing traffic or road conditions. You might lose control of the vehicle and have a collision.**

**CAUTION!**

**Towing the vehicle, coasting, or driving for any other reason with the transmission in NEUTRAL can cause severe transmission damage. Refer to "Recreational Towing" in "Starting And Operating" and "Towing A Disabled Vehicle" in "What To Do In Emergencies" for further information.**

## DRIVE (D)

This range should be used for most city and highway driving. It provides the smoothest upshifts and downshifts, and the best fuel economy. The transmission automatically upshifts through underdrive first, second, and third gears, direct fourth gear and overdrive fifth and sixth gears. The DRIVE position provides optimum driving characteristics under all normal operating conditions.

When frequent transmission shifting occurs (such as when operating the vehicle under heavy loading conditions, in hilly terrain, traveling into strong head winds, or while towing heavy trailers), use the Electronic Range Select (ERS) shift control (refer to “Electronic Range Select (ERS) Operation” in this section for further information) to select a lower gear range. Under these conditions, using a lower gear range will improve performance and extend transmission life by reducing excessive shifting and heat buildup.

If the transmission temperature exceeds normal operating limits, the powertrain controller will modify the transmission shift schedule and expand the range of torque converter clutch engagement. This is done to prevent transmission damage due to overheating.

If the transmission becomes extremely hot or is in danger of overheating, the “Transmission Temperature Warning Light” may illuminate and the transmission may operate differently until the transmission cools down.

**NOTE:** Use caution when operating a heavily loaded vehicle at low speeds (such as towing a trailer up a steep grade, or in stop-and-go traffic) during hot weather. In these conditions, torque converter slip can impose a significant additional heat load on the cooling system. Downshifting the transmission to the lowest possible gear (when climbing a grade), or shifting to NEUTRAL (when stopped in heavy traffic) can help to reduce this excess heat generation.

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During cold temperatures, transmission operation may be modified depending on engine and transmission temperature as well as vehicle speed. This feature improves warm up time of the engine and transmission to achieve maximum efficiency. Engagement of the torque converter clutch is inhibited until the transmission fluid is warm (refer to the "Note" under "Torque Converter Clutch" in this section). On Pickup models with 68RFE transmission, top overdrive gear is also inhibited until the transmission fluid is warm, and during extremely cold temperatures (-16°F [-27°C] or below), operation may briefly be limited to first and direct gears only. On trucks with AS69RC transmission, fifth and sixth gears may be inhibited briefly on cold starts below 41°F (5°C), and during very cold temperatures (-4°F [-20°C] or below), operation may briefly be limited to third gear only. During this condition, the ability of the vehicle to accelerate under heavily loaded conditions may be reduced. In all cases, normal operation will resume once the transmission temperature has risen to a suitable level.

### Transmission Limp Home Mode

Transmission function is monitored electronically for abnormal conditions. If a condition is detected that could result in transmission damage, Transmission Limp Home Mode is activated. In this mode, the transmission remains in fourth gear (for 68RFE transmission) or third gear (for AS69RC transmission) regardless of which forward gear is selected. If an AS69RC-equipped truck enters Limp Home Mode at highway speeds, it will initially engage fifth gear, until the vehicle slows to a speed where third gear can be engaged. PARK, REVERSE, and NEUTRAL will continue to operate. The Malfunction Indicator Light (MIL) may be illuminated. Limp Home Mode allows the vehicle to be driven to an authorized dealer for service without damaging the transmission.

In the event of a momentary problem, the transmission can be reset to regain all forward gears by performing the following steps:

1. Stop the vehicle.
2. Shift the transmission into PARK.
3. Turn the ignition switch to the OFF position.
4. Wait approximately 10 seconds.
5. Restart the engine.
6. Shift into the desired gear range. If the problem is no longer detected, the transmission will return to normal operation.

**NOTE:** Even if the transmission can be reset, we recommend that you visit your authorized dealer at your earliest possible convenience. Your authorized dealer has diagnostic equipment to determine if the problem could recur.

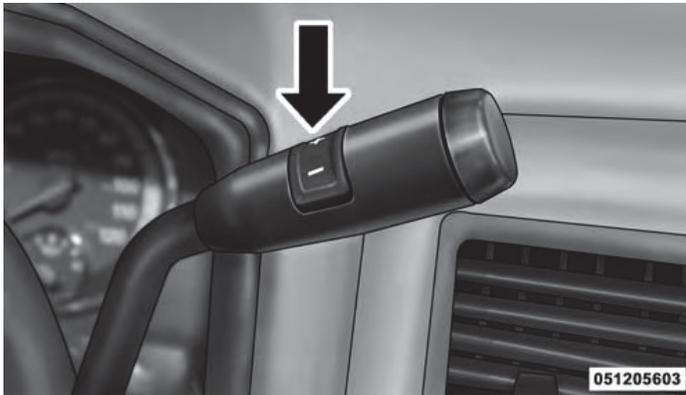
If the transmission cannot be reset, authorized dealer service is required.

#### Electronic Range Select (ERS) Operation

The Electronic Range Select (ERS) shift control allows the driver to limit the highest available gear when the transmission is in DRIVE. For example, if you shift the transmission into 4 (fourth gear), the transmission will not shift above fourth gear, but will shift through the lower gears normally.

You can switch between DRIVE and ERS mode at any vehicle speed. When the shift lever is in the DRIVE position, the transmission will operate automatically, shifting between all available gears. Tapping the ERS (-) switch will activate ERS mode, display the current gear in the instrument cluster, and maintain that gear as the top available gear. Once in ERS mode, tapping the ERS (-) or (+) switch will change the top available gear.

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**Column Shift Lever**

To exit ERS mode, simply press and hold the ERS (+) switch until “D” is once again displayed in the instrument cluster.

<b>WARNING!</b>							
Do not downshift for additional engine braking on a slippery surface. The drive wheels could lose their grip and the vehicle could skid, causing a collision or personal injury.							

<b>Screen Display</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>D</b>
Actual Gear(s)	1	1-2	1-3	1-4	1-5	1-6	1-6
Allowed							

**NOTE:** To select the proper gear position for maximum deceleration (engine braking), simply press and hold the ERS (-) switch. The transmission will shift to the range from which the vehicle can best be slowed down.

**CAUTION!**

When using ERS for engine braking while descending steep grades, be careful not to overspeed the engine. Apply the brakes as needed to prevent engine overspeed.

**Overdrive Operation**

The automatic transmission includes an electronically controlled Overdrive (fifth and sixth gears). The transmission will automatically shift into Overdrive if the following conditions are present:

- The shift lever is in the DRIVE position.
- The transmission fluid has reached an adequate temperature.
- The engine coolant has reached an adequate temperature.

- The vehicle speed is sufficiently high.
- The driver is not heavily pressing the accelerator.

**When To Use TOW/HAUL Mode**

When driving in hilly areas, towing a trailer, carrying a heavy load, etc., and frequent transmission shifting occurs, press the TOW/HAUL switch to activate TOW/HAUL mode. This will improve performance and reduce the potential for transmission overheating or failure due to excessive shifting. When operating in TOW/HAUL mode, transmission upshifts are delayed, and the transmission will automatically downshift (for engine braking) when the throttle is closed and/or during steady braking maneuvers.

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**TOW/HAUL Switch**

The “TOW/HAUL Indicator Light” will illuminate in the instrument cluster to indicate that TOW/HAUL mode has been activated. Pressing the switch a second time restores normal operation. Normal operation is always the default at engine start-up. If TOW/HAUL mode is desired, the switch must be pressed each time the engine is started.

**WARNING!**

Do not use the “TOW/HAUL” feature when driving in icy or slippery conditions. The increased engine braking could cause the rear wheels to slide, and the vehicle to swing around with the possible loss of vehicle control, which could cause an accident possibly resulting in personal injury or death.

**Torque Converter Clutch**

A feature designed to improve fuel economy has been included in the automatic transmission on your vehicle. A clutch within the torque converter engages automatically at calibrated speeds. This may result in a slightly different feeling or response during normal operation in the upper gears. When the vehicle speed drops or during some accelerations, the clutch automatically disengages.

**NOTE:**

- The torque converter clutch will not engage (and 68RFE-equipped trucks will not shift to sixth gear), until the transmission fluid and engine coolant are warm [usually after 1 to 3 miles (2 to 5 km) of driving]. Because the engine speed is higher when the torque converter clutch is not engaged, it may seem as if the transmission is not shifting properly when cold. This is normal. Using the Electronic Range Select (ERS) shift control, when the transmission is sufficiently warm, will demonstrate that the transmission is able to shift into and out of Overdrive.
- If the vehicle has not been driven for several days, the first few seconds of operation after shifting the transmission into gear may seem sluggish. This is due to the fluid partially draining from the torque converter into the transmission. This condition is normal and will not cause damage to the transmission. The torque converter will refill within five seconds after starting the engine.

**MANUAL TRANSMISSION — IF EQUIPPED**

**WARNING!**

You or others could be injured if you leave the vehicle unattended without having the parking brake fully applied. The parking brake should always be applied when the driver is not in the vehicle, especially on an incline.

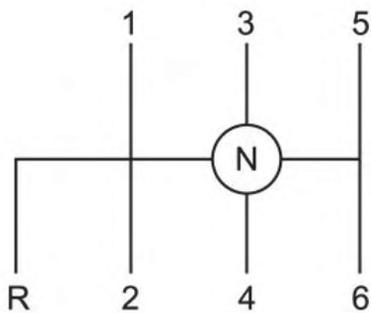
**CAUTION!**

Never drive with your foot resting on the clutch pedal, or attempt to hold the vehicle on a hill with the clutch pedal partially engaged, as this will cause abnormal wear on the clutch.

**NOTE:** During cold weather, you may experience increased effort in shifting until the transmission fluid warms up. This is normal.

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**Shifting**



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**Shift Pattern**

Truck models with manual transmission are equipped with a clutch interlocking ignition system. The clutch pedal must be fully pressed to start the vehicle.

Fully press the clutch pedal before shifting gears. As you release the clutch pedal, lightly press the accelerator pedal.

This transmission has a “creeper” first gear which should be used to start from a standing position when carrying a payload or towing a trailer. Damage to the clutch can result from starting in second or third gear with a loaded vehicle. An unloaded vehicle may be launched in second gear. Use each gear in numerical order – do not skip a gear.

**NOTE:** When loaded, pulling a trailer or on a grade, the truck should always start in first gear and not skip gears.

**Recommended Vehicle Shift Speeds**

To utilize your manual transmission efficiently for both fuel economy and performance, it should be upshifted as listed in recommended shift speed chart. Shift at the

vehicle speeds listed for acceleration. When heavily loaded or pulling a trailer these recommended up-shift speeds may not apply.

**Maximum Recommended Up-Shift Speeds**

<b>Gear Selection</b>	<b>1 to 2</b>	<b>2 to 3</b>	<b>3 to 4</b>	<b>4 to 5</b>	<b>5 to 6</b>
<b>Maximum Speed</b>	7 mph (11 km/h)	15 mph (24 km/h)	25 mph (40 km/h)	40 mph (64 km/h)	45 mph (72 km/h)

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**Downshifting**

Moving from a high gear down to a lower gear is recommended to preserve brakes when driving down steep hills. In addition, downshifting at the right time provides better acceleration when you desire to resume speed. Downshift progressively. Do not skip gears to avoid overspeeding the engine and clutch.

**WARNING!**

Do not downshift for additional engine braking on a slippery surface. The drive wheels could lose their grip and the vehicle could skid.

**CAUTION!**

When descending a hill, be very careful to downshift one gear at a time to prevent overspeeding the engine which can cause valve damage, and/or clutch disc damage even if the clutch pedal is pressed.

**Maximum Recommended Downshift Speeds**

**CAUTION!**

Failure to follow the recommended downshifting speeds may cause the engine to overspeed and/or damage the clutch disc even if the clutch pedal is pressed.

**Maximum Recommended Downshifting Speeds**

Gear Selection	6 to 5	5 to 4	4 to 3	3 to 2	2 to 1
Maximum Speed	68 mph (109 km/h)	50 mph (80 km/h)	32 mph (51 km/h)	19 mph (31 km/h)	10 mph ) (16 km/h)

**CAUTION!**

If you skip a gear while downshifting or downshift at too high of a vehicle speed, these conditions may cause the engine to overspeed if too low of a gear is selected and the clutch pedal is released. Damage to the clutch and the transmission can result from skipping a gear while downshifting or downshifting at too high of a vehicle speed even if the clutch pedal is held pressed (i.e., not released).

**Reverse Shifting**

To shift into REVERSE (R), bring the vehicle to a complete stop. Press the clutch and pause briefly to allow the gear train to stop rotating. Beginning from the NEUTRAL (N) position, move the shift lever in one quick smooth motion straight across and into the REVERSE (R) area (the driver will feel a firm “click” as the shifter passes the “knock-over”). Complete the shift by pulling the shift lever into REVERSE (R).

The “knock-over” prevents the driver from accidentally entering the REVERSE (R) shift area and warns the driver that they are about to shift the transmission into REVERSE (R). Due to this feature, a slow shift to REVERSE (R) can be perceived as a high shift effort.

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To shift out of REVERSE bring the vehicle to a complete stop and press the clutch. Shifting out of REVERSE prior to a complete stop may cause high shift effort.

### **POWER TAKE OFF OPERATION — IF EQUIPPED (CHASSIS CAB ONLY)**

This vehicle when equipped with either the AS69RC automatic six-speed or G-56 manual six-speed transmissions, will allow for an aftermarket upfit with a transmission driven PTO (power take off). The customer will have the ability to operate the PTO in either a “stationary” or “mobile” mode. The vehicles will be factory set to the “stationary” mode. To select ‘mobile mode’ You will need to enter the commercial vehicle menu on the EVIC screen and select mobile PTO mode. Details of the PTO selection modes and further PTO information is available at the Ram Truck Bodybuilders web site. [www.rambodybuilder.com](http://www.rambodybuilder.com)

### **AS69RC Six-Speed Automatic Transmission Only**

The PTO drive gear (part of the AS69RC) operates at torque converter turbine speed. The turbine speed will be less than engine speed when the torque converter clutch is not engaged and will be same as engine speed when the torque converter clutch is engaged.

### **Stationary Mode**

To operate the PTO in this mode the vehicle must meet the following conditions:

- Be in PARK position (vehicles equipped with automatic transmission.)
- PTO switch has been activated.
- Parking brake applied (vehicles equipped with manual transmission).
- Brake pedal must not be applied.
- Vehicle engine must be running.

- No vehicle, brake or clutch switch faults present.
- PTO must be correctly installed using the vehicle provided circuits.

The Electronic Vehicle Information Center (EVIC) will display a "PTO On" message for five seconds if the above conditions are met. Otherwise, the EVIC will display a message "To Operate PTO Shift To Park" indicating what operator action should be taken to engage the PTO mode.

The customer has the choice to operate the PTO by utilizing the cruise control switches or by utilizing a remote control (provided by the PTO supplier). To operate the feature using the cruise control switches, the customer must first activate the PTO switch which will turn on the PTO. In order to increase or decrease the engine idle speed, to optimize the PTO function, the "RESUME/ACCEL" and "DECEL" cruise switches can be used respectively. To disengage PTO operation and return to "standard vehicle operation" simply toggle the PTO switch to the OFF position.

The torque converter clutch (TCC) will automatically engage at engine speeds above 1,200 RPM (engine speed) in PTO stationary mode. Once engaged, the TCC will remain applied and will not disengage until the engine speed falls below 1,000 RPM. TCC engagement is desirable for certain types of PTO applications (Automatic Transmission Only).

To operate the PTO via a remote switch, the customer must make sure the above conditions are met. It is vital for proper operation that the PTO and remote have been installed correctly, paying special attention to ensure the vehicle provided wiring has been connected properly. This is the responsibility of the installer of the PTO and switches/remote system. It is the responsibility of the PTO manufacturer to ensure that their electrical (switches and remote) system is compatible with the vehicle's electrical architecture and software functionality.

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**NOTE:** Single set speed can be programmed via the PTO menu on the EVIC screen. Further details are available at the Ram Truck Bodybuilders website. [www.rambodybuilder.com](http://www.rambodybuilder.com) [www.ramtrucks.com](http://www.ramtrucks.com).

### Mobile Mode

To operate the PTO in this mode the vehicle must meet the following conditions:

- Mobile mode is activated via the menu on the EVIC screen.
- (ON/OFF) switch has been activated.
- Vehicles with automatic transmission must be in PARK or DRIVE.
- Parking brake must not be applied.
- Brake pedal must not be applied.

- No vehicle, brake or clutch switch faults present.
- Vehicle engine must be running.
- PTO must be correctly installed using the vehicle provided circuits.

The customer may choose to use the PTO while the vehicle is moving. To do so, the PTO function must be activated prior to taking the vehicle out of PARK. This is accomplished by activating the upfitter-provided PTO on/off switch. At this point, the customer may place the vehicle in a forward or reverse gear and have PTO operation once the vehicle begins to move. To disengage PTO operation and return to “standard vehicle operation” simply toggle the on/off switch to the OFF position.

**NOTE:** For application specific information with respect to PTO and pump requirements and additional vehicle information (wiring schematics, preset idle values, engine speed limits, and vehicle hardware and software requirements) please refer to the Body Builders Guide by accessing [www.rambodybuilder.com](http://www.rambodybuilder.com) and choosing the appropriate links.

#### **Power Take Off — Aftermarket Installation**

If you did not order the PTO (Power Take Off) Prep Package from the factory and want to convert your vehicle, refer to the Body Builder's Guide at [www.rambodybuilder.com](http://www.rambodybuilder.com) or contact the manufacturer directly at (866) 205-4102 (toll free).

#### **ENGINE RUNAWAY**

Diesel engine runaway is a rare condition affecting diesel engines, where the engine consumes its own lubrication oil and runs at higher and higher RPM until it overspeeds

to a point where it destroys itself due to either mechanical failure or engine seizure through lack of lubrication.

#### **WARNING!**

In case of engine runaway due to flammable fumes from fuel spills or turbocharger oil leaks being sucked into the engine, do the following to help avoid personal injury and/or vehicle damage:

1. Turn the ignition switch to the OFF position.
2. Using a CO2 or dry chemical type fire extinguisher, direct the spray from the fire extinguisher into the grille on the passenger side so that the spray enters the engine air intake.

The inlet for the engine air intake is located behind the passenger side headlamp and receives air through the grille.

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**FUEL REQUIREMENTS**

Use good quality diesel fuel from a reputable supplier in your vehicle. Federal law requires that you must fuel this vehicle with Ultra Low Sulfur Highway Diesel fuel (15 ppm Sulfur maximum) and prohibits the use of Low Sulfur Highway Diesel fuel (500 ppm Sulfur maximum) to avoid damage to the emissions control system.

For most year-round service, No. 2 diesel fuel meeting ASTM (formerly known as the American Society for Testing and Materials) specification D-975 Grade S15 will provide good performance. If the vehicle is exposed to extreme cold (below 20°F or -7°C), or is required to operate at colder-than-normal conditions for prolonged periods, use climatized No. 2 diesel fuel or dilute the No. 2 diesel fuel with 50% No. 1 diesel fuel. This will provide better protection from fuel gelling or wax-plugging of the fuel filters.

**WARNING!**

**Do not use alcohol or gasoline as a fuel blending agent. They can be unstable under certain conditions and hazardous or explosive when mixed with diesel fuel.**

Diesel fuel is seldom completely free of water. To prevent fuel system trouble, drain the accumulated water from the fuel/water separator using the fuel/water separator drain provided on both fuel filters. If you buy good quality fuel and follow the cold weather advice above, fuel conditioners should not be required in your vehicle. If available in your area, a high cetane "premium" diesel fuel may offer improved cold-starting and warm-up performance.

**CAUTION!**

If the "Water in Fuel Indicator Light" remains on, DO NOT START engine before you drain the water from the fuel filter(s) to avoid engine damage. Refer to "Maintenance Procedures/Draining Fuel/Water Separator Filter" in "Maintaining Your Vehicle" for further information.

**Fuel Specifications**

The Cummins® diesel engine has been developed to take advantage of the high energy content and generally lower cost No. 2 Ultra Low Sulfur diesel fuel or No. 2 Ultra Low Sulfur climatized diesel fuels. Experience has shown that it also operates on No. 1 Ultra Low Sulfur diesel fuels or other fuels within specification.

**NOTE:**

- If you accidentally fill the fuel tank with gasoline on your diesel vehicle, Do not start the vehicle. If you restart your vehicle you risk damage the engine and fuel system. Please call your local dealer for service.
- A maximum blend of 5% biodiesel meeting ASTM specification D-975 may be used with your Cummins® diesel engine. (Chassis Cab models not configured with B20 capability.)
- A maximum blend of 20% biodiesel meeting ASTM specification D-7467 may be used with your Cummins® diesel engine. (Pickup models and Chassis Cab models configured with B20 Capability.)
- In addition, commercially available fuel additives are not necessary for the proper operation of your Cummins® diesel engine.
- No. 1 Ultra Low Sulfur diesel fuel should only be used where extended arctic conditions (-10°F or -23°C) exist.

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## **Bio-Diesel Fuel Requirements**

### **Chassis Cab Models**

A maximum blend of 5% biodiesel meeting ASTM specification D975 may be used with your Cummins diesel engine. If operation with Biodiesel blends greater than 5% but not greater than 20% (B6-B20) is desired, the truck must first be reconfigured by an authorized Ram dealer and the provisions in the following section must be adhered to.

### **Pickup Models And Chassis Cab Models Ordered With B20 Option**

Your vehicle has been validated and approved for the use of Biodiesel in blends up to 20% (B20) provided that you comply with the requirements outlined below. It is important that you understand and comply with these

requirements. Failure to comply with Oil Change requirements for vehicles operating on biodiesel blends up to B20 will result in premature engine wear. Such wear is not covered by the New Vehicle Limited Warranty.

Biodiesel is a fuel produced from renewable resources typically derived from animal fat, rapeseed oil (Rapeseed Methyl Ester (RME) base), or soybean oil (Soy Methyl Ester (SME or SOME) base). Biodiesel fuel has inherent limitations which require that you understand and adhere to the following requirements if you use blends of Biodiesel greater than 5% but not greater than 20% (B6-B20). There are no unique restrictions for the use of B5. Use of blends greater than 20% is not approved. Use of blends greater than 20% can result in engine damage. Such damage is not covered by the New Vehicle Limited Warranty.

### **Fuel Quality — Must Comply With ASTM Standards**

The quality of Biodiesel fuel may vary widely. Only fuel produced by a BQ9000 supplier to the following specifications may be blended to meet Biodiesel blend (B6–B20) fuel meeting ASTM specification D-7467:

- Pretrodiesel fuel meeting ASTM specification D-975 and Biodiesel fuel (B100) meeting ASTM specification D-6751.

### **Fuel Oxidation Stability — Must Use Fuel Within Six Months Of Manufacture**

Biodiesel fuel has poor oxidation stability which can result in long term storage problems. Fuel produced to approved ASTM standards, if stored properly, provides for protection against fuel oxidation for up to six months.

### **Fuel Water Separation — Must Use MOPAR®/Cummins® Approved Fuel Filter Elements**

You must use MOPAR®/Cummins® approved fuel filter elements in both your engine mounted filter and frame mounted filter.

Biodiesel fuel has a natural affinity to water and water accelerates microbial growth. Your MOPAR®/Cummins® filtration system is designed to provide adequate fuel water separation capabilities.

### **Bio-Diesel Fuel Properties — Low Ambient Temperatures**

Biodiesel fuel may gel or solidify at low ambient temperatures, which may pose problems for both storage and operation. Precautions can be necessary at low ambient temperatures, such as storing the fuel in a heated building or a heated storage tank, or using cold temperature additives.

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**Fuel In Oil Dilution — Must Adhere To Required Oil Change Interval**

Fuel dilution of lubricating oil has been observed with the use of Biodiesel fuel. Fuel in oil must not exceed 5%. To ensure this limit is met your oil change interval must be maintained to the following schedule:

- Ram PickUp 2500/3500 Only — 15,000 Miles\*
- Ram 3500/4500/5500 Chassis Cab — 12,500 Miles\*

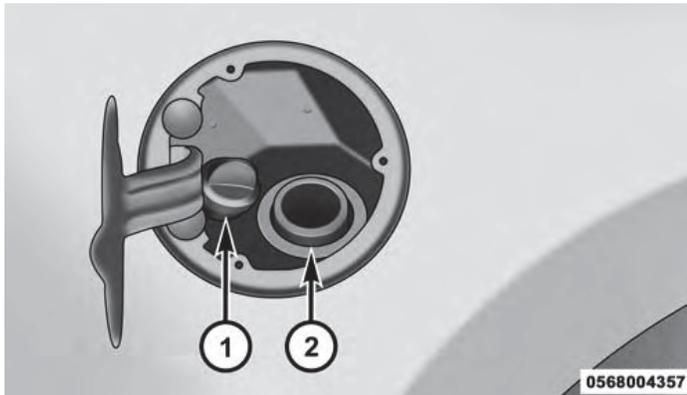
(\*unless otherwise notified with a oil service message)

**CAUTION!**

- Under no circumstances should oil change intervals exceed 15,000 miles (24 000 km) pickup or 12,500 miles (20 000 km) chassis cab if operation occurs with greater than 5% biodiesel blends. Oil change intervals should not exceed 6 months in either case. Failure to comply with these Oil Change requirements for vehicles operating on biodiesel blends up to B20 may result in premature engine wear. Such wear is not covered by the New Vehicle Limited Warranty.
- B20 Biodiesel capable: The engine may suffer severe damage if operated with concentrations of Biodiesel higher than 20%.

### ADDING FUEL — 2500/3500 DIESEL MODELS

1. Open the fuel filler door.



Diesel Fuel And Diesel Exhaust Fluid Fill Location

- 1 — Diesel Exhaust Fluid Fill Location
- 2 — Diesel Fuel Fill Location

**NOTE:** There is no fuel filler cap. A flapper door inside the filler pipe seals the system.

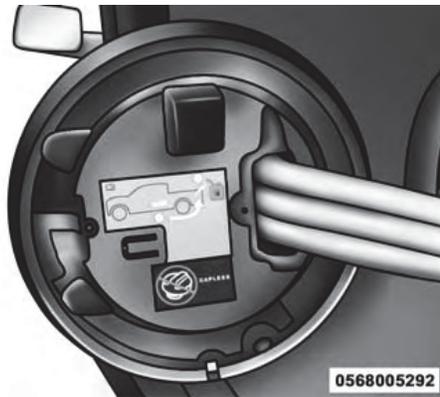
2. Insert the fuel nozzle fully into the filler pipe – the nozzle opens and holds the flapper door while refueling.
3. Fill the vehicle with fuel – when the fuel nozzle “clicks” or shuts off the fuel tank is full.
4. Remove the fuel nozzle and close the fuel door.

### Emergency Fuel Can Refueling

Most fuel cans will not open the flapper door.

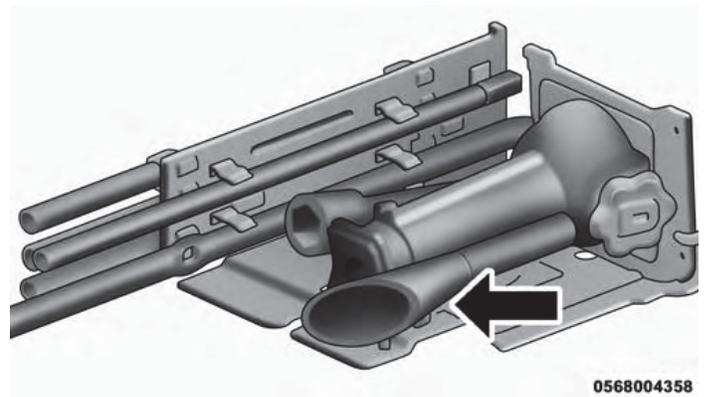
A funnel is provided to open the flapper door to allow emergency refueling with a fuel can.

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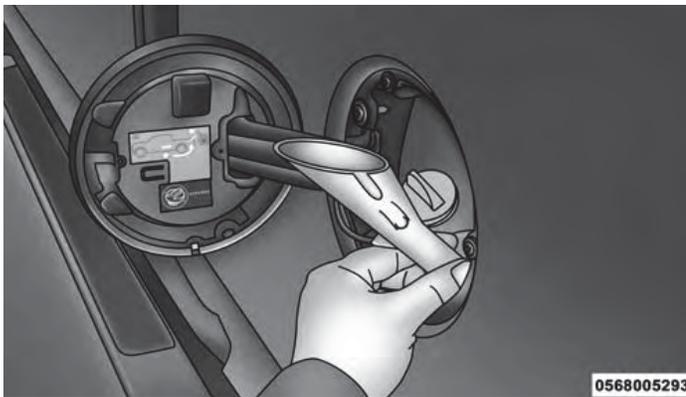
**Diesel Fuel And DEF Fluid Filler Door**

1. Retrieve fuel funnel from the jack kit located under the front passenger seat.



**Fuel Fill Funnel Location 2500/3500 Models**

2. Insert funnel into same filler pipe opening as the fuel nozzle.



Emergency Fuel Fill Location

**NOTE:** Ensure funnel is inserted fully to hold flapper door open.

3. Pour fuel into funnel opening.
4. Remove funnel from filler pipe, clean off prior to putting back in the jack kit.

**CAUTION!**

To avoid fuel spillage and overfilling, do not “top off” the fuel tank after filling.

**WARNING!**

- Never have any smoking materials lit in or near the vehicle when the fuel door is open or the tank is being filled.
- Never add fuel when the engine is running. This is in violation of most state and federal fire regulations and may cause the “Malfunction Indicator Light” to turn on.
- A fire may result if fuel is pumped into a portable container that is inside of a vehicle. You could be burned. Always place fuel containers on the ground while filling.

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**ADDING FUEL — CHASSIS CAB MODELS**

**CAUTION!**

To avoid fuel spillage and overfilling, do not “top off” the fuel tank after filling.

**NOTE:**

- When the fuel nozzle “clicks” or shuts off, the fuel tank is full.
- Tighten the fuel filler cap until you hear a “clicking” sound. This is an indication that the fuel filler cap is properly tightened.
- Make sure that the fuel filler cap is tightened each time the vehicle is refueled.

**WARNING!**

A fire may result if fuel is pumped into a portable container that is on a truck bed. You could be burned. Always place fuel containers on the ground while filling.

**Fuel Filler Cap**

If the fuel filler cap is lost or damaged, be sure the replacement cap is for use with this vehicle.

**CAUTION!**

Damage to the fuel system or emission control system could result from using an improper fuel tank filler tube cap. A poorly fitting cap could let impurities into the fuel system.

**WARNING!**

- Never have any smoking materials lit in or near the vehicle when the fuel filler cap is removed or the tank filled.
- Never add fuel to the vehicle when the engine is running.

**Avoid Using Contaminated Fuel**

Fuel that is contaminated by water or dirt can cause severe damage to the engine fuel system. Proper maintenance of the engine fuel filter and fuel tank is essential. Refer to "Maintenance Procedures" in "Maintaining Your Vehicle" for further information.

**Bulk Fuel Storage — Diesel Fuel**

If you store quantities of fuel, good maintenance of the stored fuel is also essential. Fuel contaminated with water will promote the growth of "microbes." These

microbes form "slime" that will clog the fuel filtration system and lines. Drain condensation from the supply tank and change the line filter on a regular basis.

**NOTE:** When a diesel engine is allowed to run out of fuel, air is pulled into the fuel system.

If the vehicle will not start, refer to "Maintenance Procedures/Priming If The Engine Has Run Out Of Fuel" in "Maintaining Your Vehicle" for further information.

**WARNING!**

**Do not open the high pressure fuel system with the engine running. Engine operation causes high fuel pressure. High pressure fuel spray can cause serious injury or death.**

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### Diesel Exhaust Fluid Storage

Diesel Exhaust Fluid (DEF) is considered a very stable product with a long shelf life. If DEF is kept in temperatures between 10° and 90°F (-12° and 32°C), it will last a minimum of one year.

DEF is subject to freezing at the lowest temperatures. For example, DEF may freeze at temperatures at or below 12° F (-11° C). The system has been designed to operate in this environment.

**NOTE:** When working with DEF, it is important to know that:

- Any containers or parts that come into contact with DEF must be DEF compatible (plastic or stainless steel). Copper, brass, aluminum, iron or non-stainless steel should be avoided as they are subject to corrosion by DEF.
- If DEF is spilled, it should be wiped up completely.

### Adding Diesel Exhaust Fluid

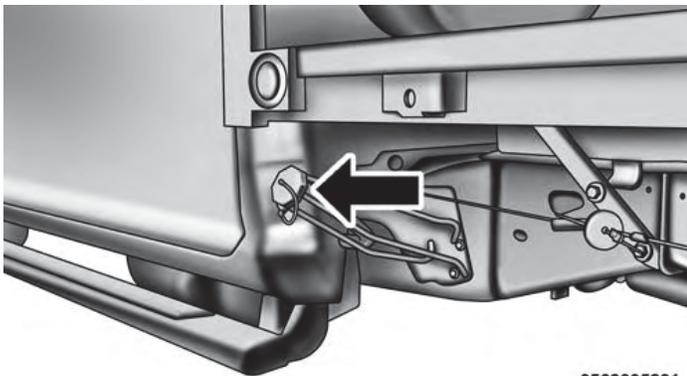
The DEF gauge (located on the instrument cluster) will display the level of DEF remaining in the tank. Refer to “Instrument Cluster” and “Instrument Cluster Descriptions” in “Understanding Your Instrument Panel” for further information.

**NOTE:** Driving conditions (altitude, vehicle speed, load, etc.) will effect the amount of DEF that is used in your vehicle.

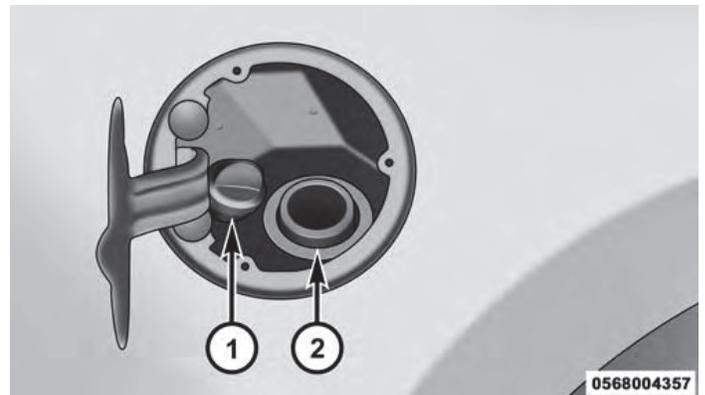
### DEF Fill Procedure

**NOTE:** Refer to “Fluids, Lubricants, and Genuine Parts” in “Maintaining Your Vehicle” for the correct fluid type.

1. Remove cap from DEF tank (located on drivers side of the vehicle or in fuel door).



DEF Filler Cap Chassis Cab Models

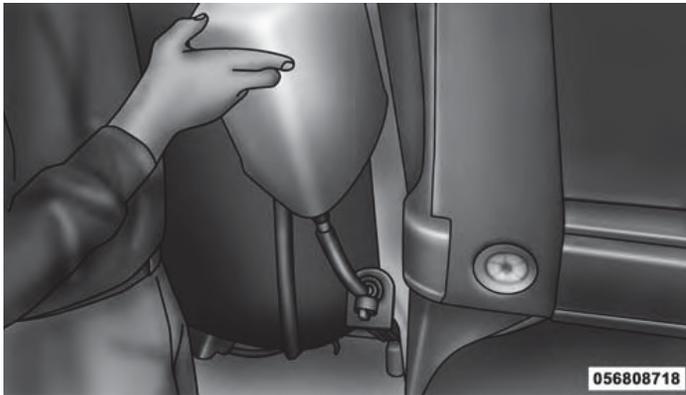


DEF Filler Cap And Fuel Fill 1500/2500/3500 Models

- 1 — Diesel Exhaust Fluid Fill Location
- 2 — Diesel Fuel Fill Location

2. Insert DEF fill adapter/nozzle into DEF tank filler neck.

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Filling The DEF Tank

**CAUTION!**

- To avoid DEF spillage, and possible damage to the DEF tank from overfilling, do not "top off" the DEF tank after filling.

**CAUTION! (Continued)**

- **DO NOT OVERFILL.** DEF will freeze below 12°F (-11°C). The DEF system is designed to work in temperatures below the DEF freezing point, however, if the tank is overfilled and freezes, the system could be damaged.
- When DEF is spilled, clean the area immediately with water and use an absorbent material to soak up the spills on the ground.
- Do not attempt to start your engine if DEF is accidentally added to the diesel fuel tank as it can result in severe damage to your engine, including but not limited to failure of the fuel pump and injectors.

(Continued)

3. Stop filling the DEF tank immediately when any of the following happen: DEF stops flowing from the fill bottle into the DEF tank, DEF splashes out the filler neck, or a DEF pump nozzle automatically shuts off.
4. Reinstall cap onto DEF tank.

#### **Filling The Def Tank In Cold Climates**

Since DEF will begin to freeze at 12°F (-11°C), your vehicle is equipped with an automatic DEF heating system. This allows the DEF injection system to operate properly at temperatures below 12°F (-11°C). If your vehicle is not in operation for an extended period of time with temperatures below 12°F (-11°C), the DEF in the tank may freeze. If the tank is overfilled and freezes, it could be damaged. Therefore, do not overfill the DEF tank.

Extra care should be taken when filling with portable containers to avoid overfilling. Note the level of the DEF gauge in your instrument cluster. On pickup applications, you may safely add a maximum of 2 gallons of DEF from portable containers when your DEF gauge is reading ½ full. On Chassis Cab applications a maximum of 2 gallons may be added when the DEF gauge is reading ¾ full.

#### **TRAILER TOWING**

In this section you will find safety tips and information on limits to the type of towing you can reasonably do with your vehicle. Before towing a trailer, carefully review this information to tow your load as efficiently and safely as possible.

To maintain the New Vehicle Limited Warranty coverage, follow the requirements and recommendations in this manual concerning vehicles used for trailer towing.

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### Common Towing Definitions

The following trailer towing related definitions will assist you in understanding the following information:

#### Gross Vehicle Weight Rating (GVWR)

The GVWR is the total allowable weight of your vehicle. This includes driver, passengers, cargo and tongue weight. The total load must be limited so that you do not exceed the GVWR. Refer to "Vehicle Loading/Vehicle Certification Label" in "Starting and Operating" for further information.

#### Gross Trailer Weight (GTW)

The GTW is the weight of the trailer plus the weight of all cargo, consumables and equipment (permanent or temporary) loaded in or on the trailer in its "loaded and ready for operation" condition. The recommended way to measure GTW is to put your fully loaded trailer on a vehicle scale. The entire weight of the trailer must be supported by the scale.

#### Gross Combination Weight Rating (GCWR)

The GCWR is the total permissible weight of your vehicle and trailer when weighed in combination.

#### Gross Axle Weight Rating (GAWR)

The GAWR is the maximum capacity of the front and rear axles. Distribute the load over the front and rear axles evenly. Make sure that you do not exceed either front or rear GAWR. Refer to "Vehicle Loading/Vehicle Certification Label" in "Starting and Operating" for further information.

### WARNING!

**It is important that you do not exceed the maximum front or rear GAWR. A dangerous driving condition can result if either rating is exceeded. You could lose control of the vehicle and have an accident.**

### **Tongue Weight (TW)**

The tongue weight is the downward force exerted on the hitch ball by the trailer. In most cases it should not be less than 10% of the trailer load. You must consider this as part of the load on your vehicle.

### **Frontal Area**

The frontal area is the maximum height multiplied by the maximum width of the front of a trailer.

### **Trailer Sway Control**

The trailer sway control can be a mechanical telescoping link that can be installed between the hitch receiver and the trailer tongue that typically provides adjustable friction associated with the telescoping motion to dampen any unwanted trailer swaying motions while traveling.

If equipped, the electronic Trailer Sway Control (TSC) recognizes a swaying trailer and automatically applies individual wheel brakes and/or reduces engine power to attempt to eliminate the trailer sway.

### **Weight-Carrying Hitch**

A weight-carrying hitch supports the trailer tongue weight, just as if it were luggage located at a hitch ball or some other connecting point of the vehicle. These kinds of hitches are the most popular on the market today and they are commonly used to tow small and medium sized trailers.

### **Weight-Distributing Hitch**

A weight-distributing system works by applying leverage through spring (load) bars. They are typically used for heavier loads to distribute trailer tongue weight to the tow vehicle's front axle and the trailer axle(s). When used in accordance with the manufacturer's directions, it provides for a more level ride, offering more consistent

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steering and brake control thereby enhancing towing safety. The addition of a friction/hydraulic sway control also dampens sway caused by traffic and crosswinds and contributes positively to tow vehicle and trailer stability. Trailer sway control and a weight distributing (load equalizing) hitch are recommended for heavier Tongue Weights (TW) and may be required depending on vehicle and trailer configuration/loading to comply with Gross Axle Weight Rating (GAWR) requirements.

**WARNING!**

- An improperly adjusted Weight Distributing Hitch system may reduce handling, stability, braking performance, and could result in a collision.
- Weight Distributing Systems may not be compatible with Surge Brake Couplers. Consult with your hitch and trailer manufacturer or a reputable Recreational Vehicle dealer for additional information.

**Fifth-Wheel Hitch**

The fifth-wheel hitch is a special high platform with a coupling that mounts over the rear axle of the tow vehicle in the truck bed. It connects a vehicle and fifth-wheel trailer with a coupling king pin.

**Gooseneck Hitch**

The gooseneck hitch employs a pivoted coupling arm which attaches to a ball mounted in the bed of a pickup truck. The coupling arm connects to the hitch mounted over the rear axle in the truck bed.

**Trailer Hitch Classification**

The following chart provides the industry standard for the maximum trailer weight a given trailer hitch class can tow and should be used to assist you in selecting the correct trailer hitch for your intended towing condition.

Trailer Hitch Classification Definitions	
Class	Max. Trailer Hitch Industry Standards
Class I - Light Duty	2,000 lbs (907 kg)
Class II - Medium Duty	3,500 lbs (1 587 kg)
Class III - Heavy Duty	5,000 lbs (2 268 kg)
Class IV - Extra Heavy Duty	10,000 lbs (4 540 kg)
Fifth Wheel/Gooseneck	Greater than 10,000 lbs (4 540 kg)
Refer to the “Trailer Towing Weights (Maximum Trailer Weight Ratings)” for the Maximum Gross Trailer Weight (GTW) towable for your given drive-train.	
All trailer hitches should be professionally installed on your vehicle.	

### Trailer Towing Weights (Maximum Trailer Weight Ratings)

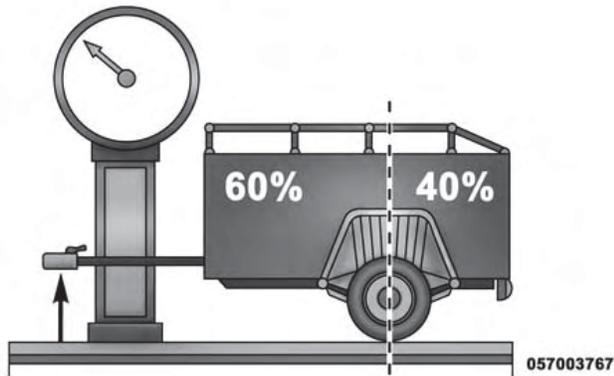
NOTE: For additional trailer towing information (maximum trailer weight ratings) refer to the following website addresses:

- [ramtrucks.com/en/towing\\_guide/](http://ramtrucks.com/en/towing_guide/)
- [ramtruck.ca](http://ramtruck.ca) (Canada)
- [rambodybuilder.com](http://rambodybuilder.com)

### Trailer And Tongue Weight

Always load a trailer with 60% of the weight in the front of the trailer. This places 10% of the GTW on the tow hitch of your vehicle. Loads balanced over the wheels or heavier in the rear can cause the trailer to sway **severely** side to side which will cause loss of control of the vehicle and trailer. Failure to load trailers heavier in front is the cause of many trailer collisions. Never exceed the maximum tongue weight stamped on your trailer hitch.

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Consider the following items when computing the weight on the rear axle of the vehicle:

- The tongue weight of the trailer
- The weight of any other type of cargo or equipment put in or on your vehicle
- The weight of the driver and all passengers

**NOTE:** Remember that everything put into or on the trailer adds to the load on your vehicle. Also, additional factory-installed options or dealer-installed options must be considered as part of the total load on your vehicle. Refer to “Tire Safety Information/Tire and Loading Information Placard” in “Starting and Operating” for further information.

**Towing Requirements**

To promote proper break-in of your new vehicle drive-train components the following guidelines are recommended:

<b>CAUTION!</b>
<ul style="list-style-type: none"><li>• Do not tow a trailer at all during the first 500 miles (805 km) the new vehicle is driven. The engine, axle or other parts could be damaged.</li></ul>

*(Continued)*

**CAUTION! (Continued)**

- Then, during the first 500 miles (805 km) that a trailer is towed, do not drive over 50 mph (80 km/h) and do not make starts at full throttle. This helps the engine and other parts of the vehicle wear in at the heavier loads.

**WARNING!**

Improper towing can lead to a collision. Follow these guidelines to make your trailer towing as safe as possible:

*(Continued)*

**WARNING! (Continued)**

- Make certain that the load is secured in the trailer and will not shift during travel. When trailering cargo that is not fully secured, dynamic load shifts can occur that may be difficult for the driver to control. You could lose control of your vehicle and have a collision.
- When hauling cargo or towing a trailer, do not overload your vehicle or trailer. Overloading can cause a loss of control, poor performance or damage to brakes, axle, engine, transmission, steering, suspension, chassis structure or tires.
- Safety chains must always be used between your vehicle and trailer. Always connect the chains to the hook retainers of the vehicle hitch. Cross the chains under the trailer tongue and allow enough slack for turning corners.

*(Continued)*

**WARNING! (Continued)**

- Vehicles with trailers should not be parked on a grade. When parking, apply the parking brake on the tow vehicle. Put the tow vehicle transmission in PARK. For four-wheel drive vehicles, make sure the transfer case is not in NEUTRAL. Always, block or "chock" the trailer wheels.
- GCWR must not be exceeded.
- Total weight must be distributed between the tow vehicle and the trailer such that the following four ratings are not exceeded:
  1. GVWR
  2. GTW
  3. GAWR
  4. Tongue weight rating for the trailer hitch utilized.

**Towing Requirements — Tires**

- Do not attempt to tow a trailer while using a compact spare tire.
- Proper tire inflation pressures are essential to the safe and satisfactory operation of your vehicle. Refer to "Tires – General Information" in "Starting and Operating" for proper tire inflation procedures.
- Check the trailer tires for proper tire inflation pressures before trailer usage.
- Check for signs of tire wear or visible tire damage before towing a trailer. Refer to "Tires – General Information" in "Starting and Operating" for the proper inspection procedure.
- When replacing tires, refer to "Tires – General Information" in "Starting and Operating" for proper tire replacement procedures. Replacing tires with a higher load carrying capacity will not increase the vehicle's GVWR and GAWR limits.

### Towing Requirements — Trailer Brakes

#### WARNING!

- Do not connect trailer brakes to your vehicle's hydraulic brake lines. It can overload your brake system and cause it to fail. You might not have brakes when you need them and could have an accident.
- Towing any trailer will increase your stopping distance. When towing you should allow for additional space between your vehicle and the vehicle in front of you. Failure to do so could result in an accident.

#### CAUTION!

If the trailer weighs more than 1,000 lbs (454 kg) loaded, it should have its own brakes and they should be of adequate capacity. Failure to do this could lead to accelerated brake lining wear, higher brake pedal effort, and longer stopping distances.

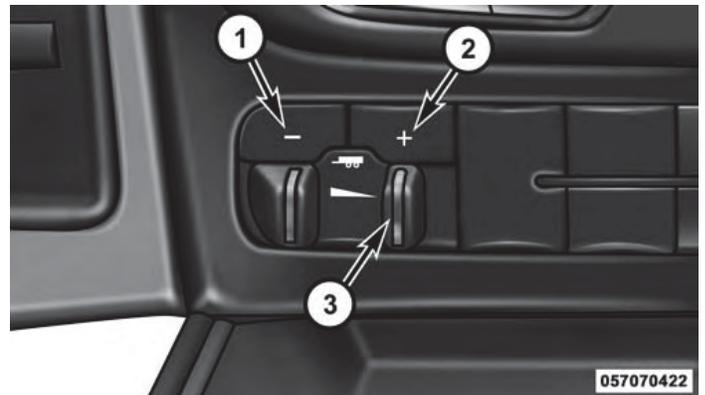
- Do not interconnect the hydraulic brake system or vacuum system of your vehicle with that of the trailer. This could cause inadequate braking and possible personal injury.
- An electronically actuated trailer brake controller is required when towing a trailer with electronically actuated brakes. When towing a trailer equipped with a hydraulic surge actuated brake system, an electronic brake controller is not required.
- Trailer brakes are recommended for trailers over 1,000 lbs (454 kg) and required for trailers in excess of 1,653 lbs (750 kg).

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**Integrated Trailer Brake Module — If Equipped**

Your vehicle may have an Integrated Trailer Brake Module (ITBM) for Electric and Electric Over Hydraulic (EOH) trailer brakes.

**NOTE:** This module has been designed and verified with electric trailer brakes and new electric over hydraulic systems. Some previous EOH systems may not be compatible with ITBM.



**Integrated Trailer Brake Module (ITBM)**

- 1 — GAIN Adjustment Button
- 2 — GAIN Adjustment Button
- 3 — Manual Brake Control Lever

The user interface consists of the following:

#### **Manual Brake Control Lever**

Slide the manual brake control lever to the right to activate power to the trailer's electric brakes independent of the tow vehicle's brakes. If the manual brake control lever is activated while the brake is also applied, the greater of the two inputs determines the power sent to the trailer brakes.

The trailer and the vehicle's brake lamps will come on when either vehicle braking or manual trailer brakes are applied.

#### **Trailer Brake Status Indicator Light**

This light indicates the trailer electrical connection status.

If no electrical connection is detected after the ignition is turned on, pressing the GAIN adjustment button or

sliding the manual brake control lever will display the GAIN setting for 10 seconds and the "Trailer Brake Status Indicator Light" will not be displayed.

If a fault is detected in the trailer wiring or the Integrated Trailer Brake Module (ITBM), the "Trailer Brake Status Indicator Light" will flash.

#### **GAIN Adjustment Buttons (+/-)**

Pressing these buttons will adjust the brake control power output to the trailer brakes in 0.5 increments. The GAIN setting can be increased to a maximum of 10 or decreased to a minimum of 0 (no trailer braking).

#### **GAIN**

The GAIN setting is used to set the trailer brake control for the specific towing condition and should be changed as towing conditions change. Changes to towing conditions include trailer load, vehicle load, road conditions and weather.

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**Adjusting GAIN**

**NOTE:** This should only be performed in a traffic free environment at speeds of approximately 20–25 mph (30–40 km/h).

1. Make sure the trailer brakes are in good working condition, functioning normally and properly adjusted. See your trailer dealer if necessary.
2. Hook up the trailer and make the electrical connections according to the trailer manufacturer's instructions.
3. When a trailer with electric/EOH brakes is plugged in, the trailer connected message should appear in the EVIC (if the connection is not recognized by the ITBM, braking functions will not be available), the GAIN setting will illuminate and the correct type of trailer must be selected from the EVIC options.

4. Press the UP or DOWN button on the steering wheel until "TRAILER TOW" appears on the screen.
5. Press the RIGHT arrow on the steering wheel to enter "TRAILER TOW".

6. Press the UP or DOWN buttons until Trailer Brake Type appears on the screen.

**NOTE: 1500 Models Only** — Light Electric and Heavy Electric will only be available due to the tow capacities of the vehicle.

7. Press the RIGHT arrow and then press the UP or DOWN buttons until the proper Trailer Brake Type appears on the screen.
8. In a traffic-free environment, tow the trailer on a dry, level surface at a speed of 20–25 mph (30–40 km/h) and squeeze the manual brake control lever completely.

**STARTING AND OPERATING 267**

9. If the trailer wheels lockup (indicated by squealing tires), reduce the GAIN setting; if the trailer wheels turn freely, increase the GAIN setting. Repeat steps 8 and 9 until the GAIN setting is at a point just below trailer wheel lockup. If towing a heavier trailer, trailer wheel lockup may not be attainable even with the maximum GAIN setting of 10.

	<b>Light Electric</b>	<b>Heavy Electric</b>	<b>Light EOH</b>	<b>Heavy EOH</b>
Type of Trailer Brakes	Electric Trailer Brakes	Electric Trailer Brakes	Electric over Hydraulic Trailer Brakes	Electric over Hydraulic Trailer Brakes
Load	*Under 10,000 lbs	*Above 10,000 lbs	*Under 10,000 lbs	*Above 10,000 lbs

\* The suggested selection depends and may change depending on the customer preferences for braking performance. Condition of the trailer brakes, driving and road state may also affect the selection.

**EVIC Display Messages**

The trailer brake control interacts with the Electronic Vehicle Information Center (EVIC). Display messages, along with a single chime, will be displayed when a malfunction is determined in the trailer connection, trailer brake control, or on the trailer. Refer to “Electronic Vehicle Information Center” in “Understanding Your Instrument Panel” for further information.

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**CAUTION!**

Connecting a trailer that is not compatible with the ITBM system may result in reduced or complete loss of trailer braking. There may be a increase in stopping distance or trailer instability which could result in damage to your vehicle, trailer, or other property.

**WARNING!**

Connecting a trailer that is not compatible with the ITBM system may result in reduced or complete loss of trailer braking. There may be a increase in stopping distance or trailer instability which could result in personal injury.

**NOTE:**

- An aftermarket controller may be available for use with trailers with air or electric-over-hydraulic trailer brake systems. To determine the type of brakes on your trailer and the availability of controllers, check with your trailer manufacturer or dealer.
- Removal of the ITBM will cause errors and it may cause damage to the electrical system and electronic modules of the vehicle. See your authorized dealer if an aftermarket module is to be installed.

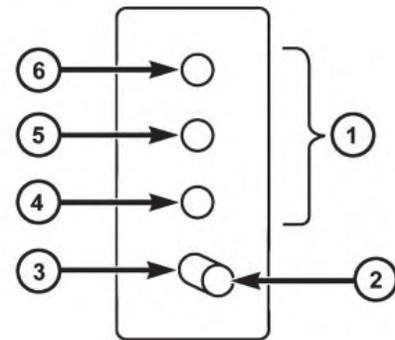
### Towing Requirements — Trailer Lights And Wiring

Whenever you pull a trailer, regardless of the trailer size, stoplights and turn signals on the trailer are required for motoring safety.

The Trailer Tow Package may include a four- and seven-pin wiring harness. Use a factory approved trailer harness and connector.

**NOTE:** Do not cut or splice wiring into the vehicles wiring harness.

The electrical connections are all complete to the vehicle but you must mate the harness to a trailer connector. Refer to the following illustrations.

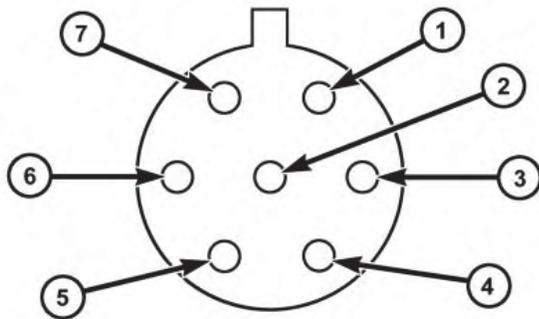


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Four-Pin Connector

- |                 |                     |
|-----------------|---------------------|
| 1 — Female Pins | 4 — Park            |
| 2 — Male Pin    | 5 — Left Stop/Turn  |
| 3 — Ground      | 6 — Right Stop/Turn |

270 STARTING AND OPERATING



057003765

Seven-Pin Connector

- |                     |                    |
|---------------------|--------------------|
| 1 — Battery         | 5 — Ground         |
| 2 — Backup Lamps    | 6 — Left Stop/Turn |
| 3 — Right Stop/Turn | 7 — Running Lamps  |
| 4 — Electric Brakes |                    |

### Towing Tips

Before setting out on a trip, practice turning, stopping and backing the trailer up in an area away from heavy traffic.

### Automatic Transmission

The DRIVE range can be selected when towing. The transmission controls include a drive strategy to avoid frequent shifting when towing. However, if frequent shifting does occur while in DRIVE, select TOW/HAUL mode or select a lower gear range (using the Electronic Range Select (ERS) shift control).

**NOTE:** Using TOW/HAUL mode or selecting a lower gear range (using the ERS shift control) while operating the vehicle under heavy loading conditions will improve performance and extend transmission life by reducing excessive shifting and heat build up. This action will also provide better engine braking.

When towing a loaded trailer up steep grades at low speeds (20 mph [32 km/h] or below), holding your vehicle in first gear (using the ERS shift control) can help to avoid transmission overheating.

If you regularly tow a trailer for more than 45 minutes of continuous operation, then change the automatic transmission fluid and filter(s) as specified for "police, taxi, fleet, or frequent trailer towing." Refer to the "Maintenance Schedule" for the proper maintenance intervals.

**NOTE:** Check the automatic transmission fluid level before towing.

#### **Tow/Haul Mode**

To reduce potential for automatic transmission overheating, activate TOW/HAUL mode when driving in hilly areas, or select a lower gear range (using the Electronic Range Select (ERS) shift control) on more severe grades.

#### **Electronic Speed Control — If Equipped**

- Do not use in hilly terrain or with heavy loads.
- When using the speed control, if you experience speed drops greater than 10 mph (16 km/h), disengage until you can get back to cruising speed.
- Use speed control in flat terrain and with light loads to maximize fuel efficiency.

#### **Cooling System**

To reduce potential for engine and transmission overheating, take the following actions:

##### **City Driving**

When stopped for short periods of time, shift the transmission into NEUTRAL and increase engine idle speed.

##### **Highway Driving**

Reduce speed.

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### Air Conditioning

Turn off temporarily.

### Air Suspension System

To aid in attaching/detaching the trailer from the vehicle, the air suspension system can be used. Refer to "Air Suspension System" in "Starting And Operating" for further information.

**NOTE:** The vehicle must remain in the engine running position while attaching a trailer for proper leveling of the air suspension system.

### DIESEL EXHAUST FLUID

Your vehicle is equipped with a Selective Catalytic Reduction system to meet the very stringent diesel emissions standards required by the Environmental Protection Agency.

The purpose of the SCR system is to reduce levels of NO<sub>x</sub> (oxides of nitrogen emitted from engines) that are harmful to our health and the environment to a near-zero level. Small quantities of Diesel Exhaust Fluid (DEF) is injected into the exhaust upstream of a catalyst where, when vaporized, it converts smog-forming nitrogen oxides (NO<sub>x</sub>) into harmless nitrogen (N<sub>2</sub>) and water vapor (H<sub>2</sub>O), two natural components of the air we breathe. You can operate with the comfort that your vehicle is contributing to a cleaner, healthier world environment for this and generations to come.

### System Overview

This vehicle is equipped with a Diesel Exhaust Fluid (DEF) injection system and a Selective Catalytic Reduction (SCR) catalyst to meet the emission requirements.

The DEF injection system consists of the following components:

- DEF tank
- DEF pump
- DEF injector
- Electronically-heated DEF lines
- DEF control module
- NOx sensors
- NH3 sensor
- Temperature sensors
- SCR catalyst

The DEF injection system and SCR catalyst enable the achievement of diesel emissions requirements; while maintaining outstanding fuel economy, drivability, torque and power ratings.

Refer to “Electronic Vehicle Information Center (EVIC)” in “Understanding Your Instrument Panel” for system messages and warnings.

**NOTE:**

- Your vehicle is equipped with a DEF injection system. You may occasionally hear an audible clicking noise. This is normal operation.
- The DEF pump will run for a period of time after engine shutdown to purge the DEF system. This is normal operation.



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## WHAT TO DO IN EMERGENCIES

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276 WHAT TO DO IN EMERGENCIES

**JUMP STARTING**

**WARNING!**

- To prevent personal injury or damage to clothing, do not allow battery fluid to contact eyes, skin or fabrics. Do not lean over a battery when connecting jumper cables or allow cable clamps to touch each other. Keep open flames or sparks away from battery vent holes. Always wear eye protection when working with batteries.
- Do not use a booster battery or any other booster source that has a greater than 12 Volt system, i.e., do not use a 24 Volt power source.

**NOTE:** Replacement batteries should both be of equal size to prevent damage to the vehicle's charging system.

Your vehicle is equipped with two 12 Volt batteries. If it becomes necessary to use a booster battery with jumper

cables to start a vehicle's engine because its batteries are discharged, the following procedure should be used:

Set the parking brake and place an automatic transmission in PARK (or NEUTRAL for a manual transmission). Turn off lights, heater and other electrical loads. Observe charge indicator (if equipped) in both batteries. If the indicator (if equipped) is light or yellow on either battery, replace that battery.

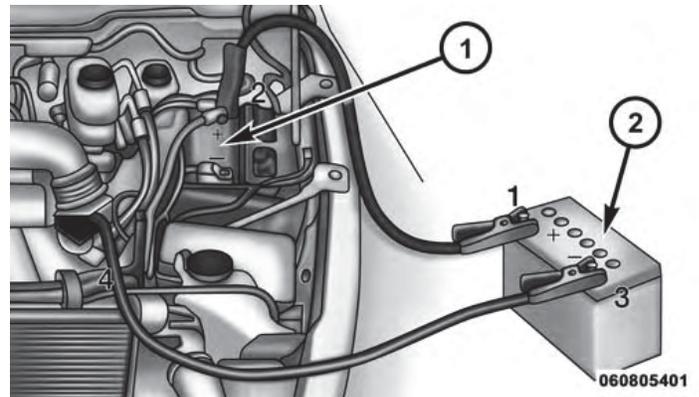
**CAUTION!**

Use the jump start procedure only when the charge indicator (if equipped) in both batteries is dark in the center. Do not attempt jump starting when either battery charge indicator (if equipped) is bright or yellow. If the charge indicator (if equipped) has a green dot in the center, failure to start is not due to a discharged battery and cranking system should be checked.

1. Attach one jumper cable to the positive terminal of booster battery and the other end of the same cable to the positive terminal of the discharged battery.

**WARNING!**

Do not permit vehicles to touch each other as this could establish a ground connection and personal injury could result.



Jump Starting Location

- 1 — Discharged Battery
- 2 — Booster Battery

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2. Connect one end of the other jumper cable to negative (-) post of booster battery. Connect the other end of the jumper cable to a good ground on the engine block of the vehicle with the discharged battery. Make sure a good connection is made, free of dirt and grease.
3. Take care that the clamps from one cable do not inadvertently touch clamps from the other cable. Do not lean over the battery when making connection. The negative connection must provide good electrical conductivity and current carrying capacity.

### **WARNING!**

- Do not connect the cable to the negative post of the discharge battery. The resulting electrical spark could cause the battery to explode.
- During cold weather when temperatures are below freezing point, electrolyte in a discharged battery may freeze. Do not attempt jump starting because the battery could rupture or explode. The battery temperature must be brought up above freezing point before attempting to jump start.

4. After the engine is started or if the engine fails to start, cables must be disconnected in the following order:
  - Disconnect the negative cable at the engine ground.
  - Disconnect the negative cable at the negative post on booster battery.
  - Disconnect the cable from the positive post of both batteries.

**WARNING!**

Any procedure other than above could result in:

- Personal injury caused by electrolyte squirting out the battery vent;
- Personal injury or property damage due to battery explosion;
- Damage to charging system of booster vehicle or of immobilized vehicle.

**With Portable Starting Unit**

There are many types of these units available. Follow the manufacturer's instructions for necessary precautions and operation.

**CAUTION!**

It is very important that the starting unit operating voltage does not exceed 12 Volts DC or damage to battery, starter motor, alternator, or electrical system may occur.



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## MAINTAINING YOUR VEHICLE

### CONTENTS

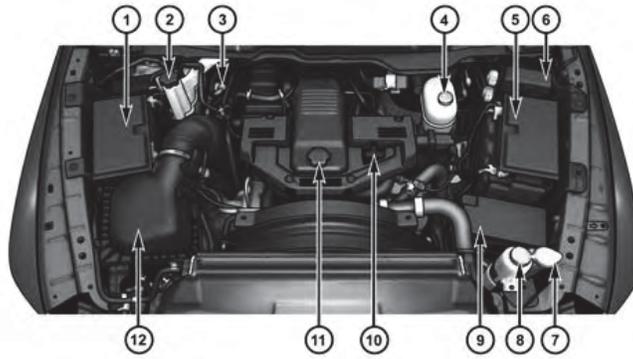
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**ENGINE COMPARTMENT — 6.7L DIESEL — SIX-SPEED 68RFE (2500/3500 Models)**



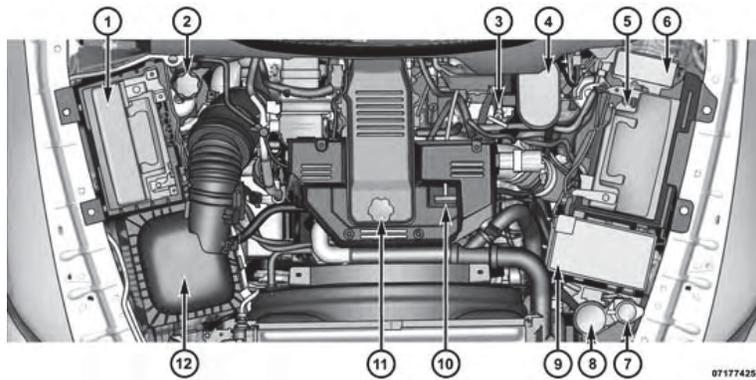
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- 1 — Battery
- 2 — Engine Coolant Reservoir
- 3 — Automatic Transmission Dipstick
- 4 — Brake Fluid Reservoir
- 5 — Battery
- 6 — Aux Power Distribution Center

- 7 — Washer Fluid Reservoir
- 8 — Power Steering Fluid Reservoir
- 9 — Power Distribution Center
- 10 — Engine Oil Dipstick
- 11 — Engine Oil Fill
- 12 — Air Cleaner Filter

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**ENGINE COMPARTMENT — 6.7L DIESEL — SIX-SPEED AS69RC HD (3500/CHASSIS CAB MODELS)**



- 1 — Battery
- 2 — Engine Coolant Reservoir
- 3 — Automatic Transmission Dipstick
- 4 — Brake Fluid Reservoir
- 5 — Battery
- 6 — Aux Power Distribution Center

- 7 — Washer Fluid Reservoir
- 8 — Power Steering Fluid Reservoir
- 9 — Power Distribution Center
- 10 — Engine Oil Dipstick
- 11 — Engine Oil Fill
- 12 — Air Cleaner Filter

## MAINTENANCE PROCEDURES

The pages that follow contain the **required** maintenance services determined by the engineers who designed your vehicle.

Besides those maintenance items specified in the fixed maintenance schedule, there are other components which may require servicing or replacement in the future.

### CAUTION!

- Failure to properly maintain your vehicle or perform repairs and service when necessary could result in more costly repairs, damage to other components or negatively impact vehicle performance. Immediately have potential malfunctions examined by an authorized Chrysler Group LLC dealership or qualified repair center.

*(Continued)*

### CAUTION! *(Continued)*

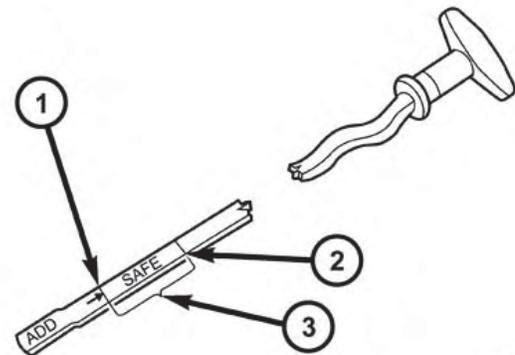
- Your vehicle has been built with improved fluids that protect the performance and durability of your vehicle and also allow extended maintenance intervals. Do not use chemical flushes in these components as the chemicals can damage your engine, transmission, power steering or air conditioning. Such damage is not covered by the New Vehicle Limited Warranty. If a flush is needed because of component malfunction, use only the specified fluid for the flushing procedure.

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### Engine Oil

#### Checking Oil Level

To assure proper lubrication of your vehicle's engine, the engine oil must be maintained at the correct level. Check the oil level at regular intervals. The best time to check the oil level is before starting the engine after it has been parked overnight. When checking oil after operating the engine, first ensure the engine is at full operating temperature, then wait for 30 minutes after engine shutdown to check the oil.



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Engine Oil Dipstick

- 1 — ADD Range
- 2 — Full Mark
- 3 — SAFE Range

Checking the oil while the vehicle is on level ground will improve the accuracy of the oil level readings. Add oil

only when the level on the dipstick is below the "ADD" mark. The total capacity from the ADD mark to the Full mark is 2 qts (1.9L).

**CAUTION!**

**Overfilling or underfilling the crankcase will cause oil aeration or loss of oil pressure. This could damage your engine.**

Never operate the engine with oil level below the "ADD" mark or above the upper "SAFE" mark.

**Change Engine Oil**

Refer to the "Maintenance Schedule" for the proper maintenance intervals.

**Engine Oil Selection**

For best performance and maximum protection under all types of operating conditions, the manufacturer only

recommends engine oils that are API CJ-4 certified and meet the requirements of Chrysler Group LLC. Use MOPAR® or an equivalent oil meeting Chrysler Material Standard MS-10902. Products meeting Cummins® CES 20081 may also be used. The identification of these engine oils are typically located on the back of the oil container.

**American Petroleum Institute (API) Engine Oil Identification Symbol**



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This symbol means that the oil has been certified by the American Petroleum Institute (API). The manufacturer only recommends API Certified engine oils.

Oils with a high ash content may produce damaging deposits on cylinder head valves and/or aftertreatment

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system damage. A maximum sulfated ash content of 1.00 mass % is recommended for all oil used in the engine.

The same oil change interval is to be followed for synthetic oil as for petroleum based oil. Also, synthetic oil must meet the same performance specifications as petroleum oil.

<b>CAUTION!</b>
<b>Do not use chemical flushes in your engine oil as the chemicals can damage your engine. Such damage is not covered by the New Vehicle Limited Warranty.</b>

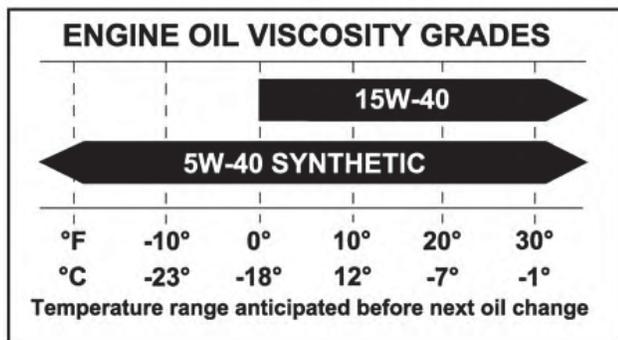
**Engine Oil Viscosity (SAE Grade)**

In ambient temperatures above 0°F (-18°C), we recommend you use SAE 15W-40 engine oil such as MOPAR®, Shell Rotella® and Shell Rimula® that meets Chrysler Material Standard MS-10902 and the API CJ-4 engine oil

category is required. Products meeting Cummins® CES 20081 may also be used. The identification of these engine oils is typically located on the back of the oil container.

In ambient temperatures below 0°F (-18°C), SAE 5W-40 we recommend you use **synthetic** engine oil such as MOPAR®, Shell Rotella® and Shell Rimula® that meets Chrysler Materials Standard MS-10902 and the API CJ-4 engine oil category is required.

<b>CAUTION!</b>
<b>Failure to use SAE 5W-40 synthetic engine oil in ambient temperatures below 0°F (-18°C) could result in severe engine damage.</b>



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Engine oil not designated by the Chrysler or Cummins® Material Standards and API CJ-4 should not be used, as engine and exhaust system durability may be compromised. The engine oil filler cap also shows the recommended engine oil viscosity for your engine. For information on engine oil filler cap location, refer to "Engine Compartment" in "Maintaining Your Vehicle" for further information.

### Synthetic Engine Oils

You may use synthetic engine oils if the recommended oil quality requirements are met and the recommended maintenance intervals for oil and filter changes are followed.

### Materials Added To Engine Oil

The manufacturer strongly recommends against the addition of any additives (other than leak detection dyes) to the engine oil. Engine oil is an engineered product and its performance may be impaired by supplemental additives.

### Engine Oil Filter

Refer to "Fluids, Lubricants, and Genuine Parts" in "Maintaining Your Vehicle" for further information. The engine oil filter should be changed at every engine oil change.

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**Disposing Of Used Engine Oil And Oil Filters**

Care should be taken in disposing of used engine oil and oil filters from your vehicle. Used oil and oil filters, indiscriminately discarded, can present a problem to the environment. Contact your authorized dealer, service station or governmental agency for advice on how and where used oil and oil filters can be safely discarded in your area.

**Engine Air Cleaner Filter**

**CAUTION!**

**All air entering the engine intake must be filtered. The abrasive particles in unfiltered air will cause rapid wear to engine components.**

**WARNING!**

**The air induction system (air cleaner, hoses, etc.) provides a measure of protection. Do not remove the air induction system (air cleaner, hoses, etc.) unless such removal is necessary for repair or maintenance. Make sure that no one is near the engine compartment before starting the vehicle with the air induction system (air cleaner, hoses, etc.) removed. Failure to do so can result in serious personal injury.**

The condition of the air cleaner filter is monitored by the Engine Control Module. The "SERVICE AIR FILTER" message will display in the Electronic Vehicle Information Center (EVIC) when service is required. Refer to "Electronic Vehicle Information Center (EVIC)" in "Understanding Your Instrument Panel" for further information.

The “SERVICE AIR FILTER” message could be displayed periodically. This is because engine air flow requirements change based on driving conditions. As the filter becomes more restrictive and air flow requirements increase the “SERVICE AIR FILTER” message will be displayed. The message may not be displayed in subsequent drive cycles if the same conditions are not met. The air filter element should be replaced within 250 miles (402 km) from the first time this message is displayed to ensure proper engine operation during all driving conditions.

**CAUTION!**

**Driving with a restricted air filter can cause engine damage. Driving in dusty environments for extended periods will lead to rapid air filter plugging. Action should be taken as soon as the “SERVICE AIR FILTER” message is displayed.**

If the vehicle experiences a sudden loss of engine power while being driven in heavy snow or rain, or when plowing snow, and/or the “SERVICE AIR FILTER” message is displayed on the EVIC along with a chime that repeats every 60 seconds, visually inspect the air filter for snow/ice build up or extreme water saturation. If the air filter is not damaged, remove all snow/ice and reinstall air filter. If the air filter is damaged, replace filter element.

**NOTE:** The air filter housing contains a Mass Air Flow sensor. This sensor is critical to proper engine operation and component longevity. Any damage or modification to this sensor could result in major engine and/or exhaust aftertreatment damage. We recommend you use MOPAR® brand parts.

Even though your vehicle is equipped with an Air Filter Monitor, a visual inspection of the air cleaner filter element is recommended every 15,000 miles (24,000km) or

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12 months – whichever occurs first. Under no circumstances should the air cleaner filter element exceed 30,000 miles (48,000 km) or 24 months, whichever comes first.

**CAUTION!**

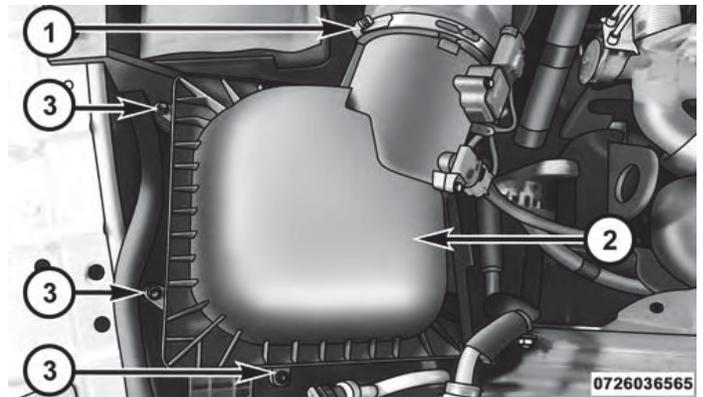
Many aftermarket performance air filter elements do not adequately filter the air entering the engine. Use of such filters can severely damage your engine.

**Engine Air Cleaner Filter Inspection and Replacement**

Inspect engine air cleaner filter for dirt and or debris, if you find evidence of either dirt or debris you should change your air cleaner filter.

**Engine Air Cleaner Filter Removal**

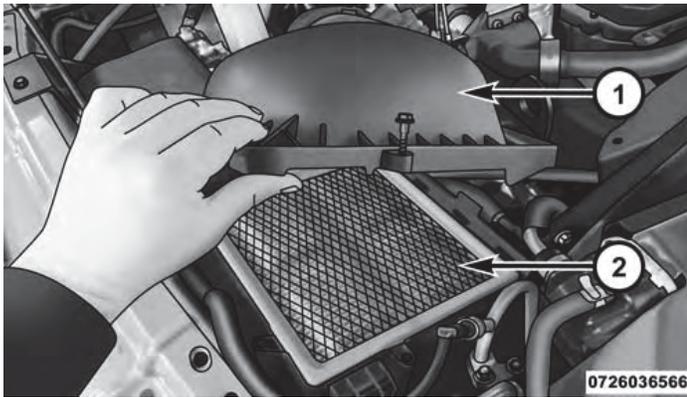
1. Remove the screws from the air cleaner cover.



**Air Cleaner Filter Cover**

- 1 — Clean Air Hose Clamp
- 2 — Air Cleaner Filter Cover
- 3 — Screws

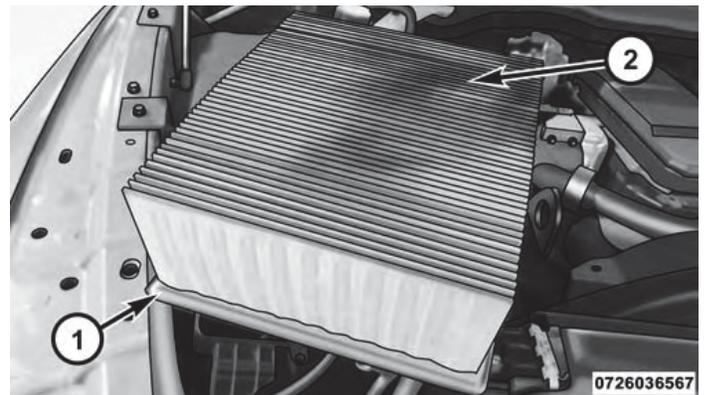
2. Lift the air cleaner cover to access the air cleaner filter.



Open Air Cleaner Filter Assembly

- 1 — Air Cleaner Cover
- 2 — Air Cleaner Filter

3. Remove the air cleaner filter element from the housing assembly.



Air Cleaner Filter

- 1 — Air Cleaner Filter
- 2 — Air Cleaner Filter Inspection Surface

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### Engine Air Cleaner Filter Installation

**NOTE:** Inspect and clean the housing if dirt or debris is present before replacing the air filter element.

1. Install the air cleaner filter element into the housing assembly with the air cleaner filter inspection surface facing downward.
2. Install the air cleaner cover onto the housing assembly locating tabs.
3. Install screws to secure the air cleaner cover to the housing assembly.

### Draining Fuel/Water Separator Filter

There are two fuel filter assemblies. One is located on the driver's side of the engine. The best access to this water drain valve is from under the hood. The second one is on the under body, located in front of the rear axle above the drive shaft on pick-up models. The Chassis Cab models

second filter location is on the frame behind the front axle. The best access to this water drain valve is from under the vehicle.

#### CAUTION!

- Do not drain the fuel/water separator filters when the engine is running.
- Diesel fuel will damage blacktop paving surfaces. Drain the filters into an appropriate container.

If water is detected in the water separator while the engine is running, or while the ignition switch is in the ON position, the "Water In Fuel Indicator Light" will illuminate and an audible chime will be heard five times. At this point you should stop the engine and drain the water from both of the filters.

**CAUTION!**

**If the “Water In Fuel Indicator Light” remains on, DO NOT START the engine before you drain water from the fuel filters to avoid engine damage.**

If the “Water In Fuel Indicator Light” comes on and a single chime is heard while you are driving, or with the ignition switch in the ON position, there may be a problem with your water separator wiring or sensor. See your authorized dealer for service.

Upon proper draining of the water from both fuel filters, the “Water In Fuel Indicator Light” will remain illuminated for approximately 10 seconds. If the water was drained while the engine was running, the “Water In Fuel Indicator Light” may remain on for approximately three minutes.

**NOTE:** Care should be taken in disposing of used fluids from your vehicle. Used fluids, indiscriminately discarded, can present a problem to the environment. Contact an authorized dealer, service station, or government agency for advice on recycling programs and for where used fluids and filters can be properly disposed of in your area.

Drain the fuel/water separator filters when the “Water In Fuel Indicator Light” is ON. Within 10 minutes of vehicle shutdown, turn the engine mounted filter drain valve (located on the side of the filter assembly) counterclockwise 1/4 turn, and turn the under body mounted filter drain valve (located on the bottom of the filter assembly) counterclockwise 1 full turn. Then turn the ignition switch to the ON position, and allow any accumulated water to drain. Leave the drain valve open until all water and contaminants have been removed. When clean fuel is visible, close the drain valves by turning them fully clockwise, and turn the ignition switch to OFF.

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If more than a couple ounces/milliliters of fuel have been drained, follow the directions for “Priming If The Engine Has Run Out Of Fuel.”

**Engine Mounted Fuel Filter Replacement**

**NOTE:**

- Using a fuel filter that does not meet the manufacturer’s filtration and water separating requirements can severely impact fuel system life and reliability.
- The engine mounted filter housing is equipped with a No-Filter-No-Run (NFNR) feature. Engine will not run if:
  1. No filter is installed.
  2. Inferior/Non-approved filter is used. Use of OEM filter is required to ensure vehicle will run.



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**Engine Mounted Fuel Filter Assembly**

1 — Drain Valve

**CAUTION!**

- Diesel fuel will damage blacktop paving surfaces. Drain the filter into an appropriate container.
- Do not prefill the fuel filter when installing a new fuel filter. There is a possibility debris could be introduced into the fuel filter during this action. It is best to install the filter dry and allow the in-tank lift pump to prime the fuel system.

1. Ensure engine is turned off.
2. Place drain pan under the fuel filter drain hose.
3. Open the water drain valve 1/4 turn counterclockwise and completely drain fuel and water into the approved container.
4. Close the water drain valve.

5. Remove lid using a socket or strap wrench. Rotate counterclockwise for removal. Remove used o-ring and discard it.
6. Remove the used filter cartridge from the housing and dispose of according to your local regulations.
7. Wipe clean the sealing surfaces of the lid and housing.
8. Install new o-ring back into ring groove on the filter housing and lubricate with clean engine oil.
9. Remove new filter cartridge from plastic bag and install into housing.

**NOTE:** Do not remove cartridge from bag until you reach this step in order to keep cartridge clean.

10. Push down on the cartridge to ensure it is properly seated. **Do not pre-fill the filter housing with fuel.**

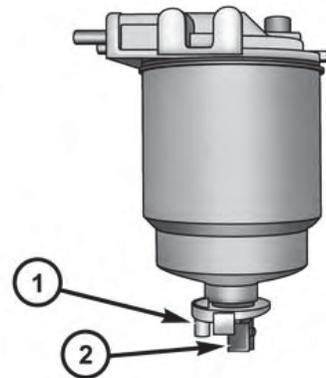
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11. Install lid onto housing and tighten to 22.5 ft lbs (30.5 N.m). Do not overtighten the lid.
12. Prime the engine using the procedure in "Priming If The Engine Has Run Out Of Fuel." Then start the engine and confirm there are no leaks.

**Underbody Mounted Fuel Filter Replacement**

**NOTE:**

- Using a fuel filter that does not meet the manufacturer's filtration and water separating requirements can severely impact fuel system life and reliability.
- The underbody mounted filter housing will cause the engine not to run if:
  1. No filter is installed.



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**Underbody Mounted Fuel Filter Assembly**

1 — Drain Valve

2 — WIF Sensor

**CAUTION!**

- Diesel fuel will damage blacktop paving surfaces. Drain the filter into an appropriate container.
- Do not prefill the fuel filter when installing a new fuel filter. There is a possibility debris could be introduced into the fuel filter during this action. It is best to install the filter dry and allow the in-tank lift pump to prime the fuel system.

1. Ensure engine is turned off.
2. Place drain pan under the fuel filter drain hose.
3. Open the water drain valve 1 full turn counterclockwise and completely drain fuel and water into the approved container.

4. Close the water drain valve.
5. Remove lid using a socket or strap wrench. Rotate counterclockwise for removal. Remove used o-ring and discard it.
6. Remove the used filter cartridge from the housing and dispose of according to your local regulations.
7. Wipe clean the sealing surfaces of the lid and housing.
8. Install new o-ring back into ring groove on the filter housing and lubricate with clean engine oil.

**NOTE:** WIF sensor is re-usable. Service kit comes with new o-ring for filter canister and WIF sensor.

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**Priming If The Engine Has Run Out Of Fuel**

**WARNING!**

Do not open the high pressure fuel system with the engine running. Engine operation causes high fuel pressure. High pressure fuel spray can cause serious injury or death.

1. Add a substantial amount of fuel to the tank, approximately 2 to 5 gal (8L to 19L).
2. Turn ignition switch to the start position to engage starter for one second, return ignition switch to run position. This will activate in tank fuel pump for approximately 15 seconds. Repeat this process twice.
3. Start the engine using the "Normal Starting" procedure. Refer to "Starting Procedures" in "Starting and Operating" for further information.

**CAUTION!**

Do not engage the starter motor for more than 15 seconds at a time. Allow two minutes between the cranking intervals.

NOTE: The engine may run rough until the air is forced from all the fuel lines.

**WARNING!**

Do not use alcohol or gasoline as a fuel blending agent. They can be unstable under certain conditions and be hazardous or explosive when mixed with diesel fuel.

**CAUTION!**

Due to lack of lubricants in alcohol or gasoline, the use of these fuels can cause damage to the fuel system.

**NOTE:**

- A maximum blend of 5% biodiesel, meeting ASTM specification D-975 may be used with your Cummins® diesel engine. (Chassis Cab models not configured with B20 capability.)
- A maximum blend of 20% biodiesel, meeting ASTM specification D-7467 may be used with your Cummins® diesel engine. (Pickup models and Chassis Cab models configured with B20 capability.)
- Use of biodiesel mixture in excess of 20% can negatively impact the fuel filter's ability to separate water from the fuel, resulting in high pressure fuel system corrosion or damage.

- Ethanol blends are not recommended or approved for use with your Cummins® diesel engine.
- In addition, commercially available fuel additives are not necessary for the proper operation of your Cummins® diesel engine.

**Intervention Regeneration Strategy — EVIC Message Process Flow**

The Cummins® diesel engine meets all EPA Heavy Duty Diesel Engine Emissions Standards, resulting in one of the lowest emitting diesel engines ever produced.

To achieve these emissions standards, your vehicle is equipped with a state-of-the-art engine and exhaust system. The engine and exhaust after-treatment system work together to achieve the EPA Heavy Duty Diesel Engine Emissions Standards. These systems are seamlessly integrated into your vehicle and managed by the Cummins® Powertrain Control Module (PCM). The

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PCM manages engine combustion to allow the exhaust system's catalyst to trap and burn Particulate Matter (PM) pollutants, with no input or interaction on your part.

Additionally, your vehicle has the ability to alert you to additional maintenance required on your truck or engine.

Refer to "Electronic Vehicle Information Center (EVIC)" in "Understanding Your Instrument Panel" for further information.

#### **WARNING!**

**A hot exhaust system can start a fire if you park over materials that can burn. Such materials might be grass or leaves coming into contact with your exhaust system. Do not park or operate your vehicle in areas where your exhaust system can contact anything that can burn.**

#### **Diesel Exhaust Fluid**

Diesel Exhaust Fluid (DEF) sometimes known simply by the name of its active component, UREA—is a key component of selective catalytic reduction (SCR) systems, which help diesel vehicles meet stringent emission regulations. DEF is a liquid reducing agent that reacts with engine exhaust in the presence of a catalyst to convert smog-forming nitrogen oxides (NOx) into harmless nitrogen and water vapor.

Refer to "Fluids, Lubricants, and Genuine Parts" in "Maintaining Your Vehicle" for further information.

You can receive assistance in locating DEF in the United States by calling 866-RAM-INFO (866-726-4636). In Canada call 1-800-465-2001 (English) or 1-800-387-9983 (French)

### Maintenance-Free Batteries

The top of the maintenance-free batteries are permanently sealed. You will never have to add water, nor is periodic maintenance required.

**NOTE:** Replacement batteries should both be of equal capacity to prevent damage to the vehicle's charging system.

#### CAUTION!

It is essential when replacing the cables on the battery that the positive cable is attached to the positive post and the negative cable is attached to the negative post. Battery posts are marked (+) positive and negative (-) and are identified on the battery case. Also, if a "fast charger" is used while the battery is in vehicle, disconnect both vehicle battery cables before connecting the charger to the battery. Do not use a "fast charger" to provide starting voltage.

#### WARNING!

Battery posts, terminals, and related accessories contain lead and lead compounds. Always wash hands after handling the battery.

### Battery Blanket Usage

A battery loses 60% of its cranking power as the battery temperature decreases to 0°F (-18°). For the same decrease in temperature, the engine requires twice as much power to crank at the same RPM. The use of 120 Volt AC powered battery blankets will greatly increase starting capability at low temperatures. Suitable battery blankets are available from your authorized MOPAR® dealer.

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**Cooling System**

**WARNING!**

**You or others can be badly burned by hot engine coolant (antifreeze) or steam from your radiator. If you see or hear steam coming from under the hood, do not open the hood until the radiator has had time to cool. Never try to open a cooling system pressure cap when the radiator is hot.**

**Engine Coolant Checks**

Check the engine coolant (antifreeze) protection every 12 months (before the onset of freezing weather, where applicable). If the engine coolant (antifreeze) is dirty or rusty in appearance, the system should be drained, flushed and refilled with fresh coolant. Check the front of the A/C condenser (if equipped) or radiator for any accumulation of bugs, leaves, etc. If dirty, clean by gently

spraying water from a garden hose vertically down the face of the A/C condenser (if equipped) or the back of the radiator core.

Check the engine cooling system hoses for brittle rubber, cracking, tears, cuts and tightness of the connection at the coolant recovery bottle and radiator. Inspect the entire system for leaks.

With the engine at normal operating temperature (but not running), check the cooling system pressure cap for proper vacuum sealing by draining a small amount of engine coolant (antifreeze) from the radiator drain cock. The radiator drain cock is located in the lower radiator tank. If the cap is sealing properly, the engine coolant (antifreeze) will begin to drain from the coolant expansion bottle. **DO NOT REMOVE THE COOLANT PRESSURE CAP WHEN THE COOLING SYSTEM IS HOT.**

### Cooling System — Drain Flush And Refill

If the engine coolant (antifreeze) is dirty or contains a considerable amount of sediment, clean and flush with a reliable cooling system cleaner. Follow with a thorough rinsing to remove all deposits and chemicals. Properly dispose of old engine coolant (antifreeze).

Refer to the “Maintenance Schedule” for the proper maintenance intervals.

#### Selection Of Coolant

Refer to “Fluids, Lubricants, and Genuine Parts” in “Maintaining Your Vehicle” for further information.

### CAUTION!

- **Mixing of engine coolant (antifreeze) other than specified Organic Additive Technology (OAT) engine coolant (antifreeze), may result in engine damage and may decrease corrosion protection. Organic Additive Technology (OAT) engine coolant is different and should not be mixed with Hybrid Organic Additive Technology (HOAT) engine coolant (antifreeze) or any “globally compatible” coolant (antifreeze). If a non-OAT engine coolant (antifreeze) is introduced into the cooling system in an emergency, the cooling system will need to be drained, flushed, and refilled with fresh OAT coolant (conforming to MS-12106), by an authorized dealer as soon as possible.**

*(Continued)*

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**CAUTION! (Continued)**

- Do not use water alone or alcohol-based engine coolant (antifreeze) products. Do not use additional rust inhibitors or antirust products, as they may not be compatible with the radiator engine coolant and may plug the radiator.
- This vehicle has not been designed for use with propylene glycol-based engine coolant (antifreeze). Use of propylene glycol-based engine coolant (antifreeze) is not recommended.

**Adding Coolant**

Your vehicle has been built with an improved engine coolant (OAT coolant conforming to MS-12106) that allows extended maintenance intervals. This engine coolant (antifreeze) can be used up to ten years or 150,000 miles (240,000 km) before replacement. To prevent reducing this extended maintenance period, it is

important that you use the same engine coolant (OAT coolant conforming to MS-12106) throughout the life of your vehicle.

Please review these recommendations for using Organic Additive Technology (OAT) engine coolant (antifreeze) that meets the requirements of Chrysler Material Standard MS-12106. When adding engine coolant (antifreeze):

- We recommend using MOPAR® Antifreeze/Coolant 10 Year/150,000 Mile Formula OAT (Organic Additive Technology) that meets the requirements of Chrysler Material Standard MS-12106.
- Mix a minimum solution of 50% OAT engine coolant that meets the requirements of Chrysler Material Standard MS-12106 and distilled water. Use higher concentrations (not to exceed 70%) if temperatures below -34° F (-37° C) are anticipated.

- Use only high purity water such as distilled or deionized water when mixing the water/engine coolant (antifreeze) solution. The use of lower quality water will reduce the amount of corrosion protection in the engine cooling system.
- Mixing engine coolant (antifreeze) types is not recommended and can result in cooling system damage. If HOAT and OAT coolant are mixed in an emergency, have a authorized dealer drain, flush, and refill with OAT coolant (conforming to MS-12106) as soon as possible.

Please note that it is the owner's responsibility to maintain the proper level of protection against freezing according to the temperatures occurring in the area where the vehicle is operated.

**NOTE:**

- Some vehicles require special tools to add coolant properly. Failure to fill these systems properly could lead to severe internal engine damage. If any coolant is needed to be added to the system please contact your local authorized dealer.

**Cooling System Pressure Cap**

The cap must be fully tightened to prevent loss of engine coolant (antifreeze), and to ensure that the engine coolant (antifreeze) will return to the radiator from the coolant expansion bottle.

The cap should be inspected and cleaned if there is any accumulation of foreign material on the sealing surfaces.

**WARNING!**

- Do not open hot engine cooling system. Never add engine coolant (antifreeze) when the engine is overheated. Do not loosen or remove the cap to cool an overheated engine. Heat causes pressure to build up in the cooling system. To prevent scalding or injury, do not remove the pressure cap while the system is hot or under pressure.
- Do not use a pressure cap other than the one specified for your vehicle. Personal injury or engine damage may result.

**Disposal Of Used Engine Coolant**

Used ethylene glycol-based engine coolant (antifreeze) is a regulated substance requiring proper disposal. Check with your local authorities to determine the disposal rules for your community. To prevent ingestion by animals or children, do not store ethylene glycol-based engine coolant (antifreeze) in open containers or allow it to remain in puddles on the ground. If ingested by a child or pet, seek emergency assistance immediately. Clean up any ground spills immediately.

**Points To Remember**

**NOTE:** When the vehicle is stopped after a few miles/kilometers of operation, you may observe vapor coming from the front of the engine compartment. This is normally a result of moisture from rain, snow, or high humidity accumulating on the radiator and being vaporized when the thermostat opens, allowing hot engine coolant (antifreeze) to enter the radiator.

If an examination of your engine compartment shows no evidence of radiator or hose leaks, the vehicle may be safely driven. The vapor will soon dissipate.

- Do not overfill the coolant expansion bottle.
- Check the coolant freeze point in the radiator and in the coolant expansion bottle. If engine coolant (antifreeze) needs to be added, the contents of the coolant expansion bottle must also be protected against freezing.
- If frequent engine coolant (antifreeze) additions are required, the cooling system should be pressure tested for leaks.
- Maintain engine coolant (antifreeze) concentration at a minimum of 50% OAT coolant (conforming to MS-12106) and distilled water for proper corrosion protection of your engine which contains aluminum components.

- Make sure that the coolant expansion bottle overflow hoses are not kinked or obstructed.
- Keep the front of the radiator clean. If your vehicle is equipped with air conditioning, keep the front of the condenser clean.
- Do not change the thermostat for Summer or Winter operation. If replacement is ever necessary, install ONLY the correct type thermostat. Other designs may result in unsatisfactory engine coolant (antifreeze) performance, poor gas mileage, and increased emissions.

#### **Charge Air Cooler — Inter-Cooler**

The charge air cooler is positioned below the radiator and the air conditioner condenser. Air enters the engine through the air cleaner and passes through the turbo-charger, where it is pressurized. This pressurized air rapidly reaches high temperature. The air is then directed through a hose to the charge air cooler and through

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another hose to the intake manifold of the engine. The air entering the engine has been cooled by about 50° to 100°F (10° to 38°C). This cooling process enables more efficient burning of fuel resulting in fewer emissions.

To guarantee optimum performance of the system, keep the surfaces of the charge air cooler, condenser and radiator clean and free of debris. Periodically check the hoses leading to and from the charge air cooler for cracks or loose clamps resulting in loss of pressure and reduced engine performance.

#### **Brake System**

##### **Brake Master Cylinder — Brake Fluid Level Check**

The fluid level of the master cylinder should be checked when performing under the hood service, or immediately if the “Brake System Warning Light” indicates system failure.

The brake master cylinder has a translucent plastic reservoir. On the outboard side of the reservoir, there is a “MAX” mark and a “MIN” mark. The fluid level must be kept within these two marks. Do not add fluid above the full mark because leakage may occur at the cap.

With disc brakes, the fluid level can be expected to fall as the brake linings wear. However, an unexpected drop in fluid level may be caused by a leak and a system check should be conducted.

Refer to “Fluids, Lubricants, and Genuine Parts” in “Maintaining Your Vehicle” for further information.

**WARNING!**

- Use only manufacturer's recommended brake fluid. Refer to "Fluids, Lubricants, and Genuine Parts" in "Maintaining Your Vehicle" for further information. Using the wrong type of brake fluid can severely damage your brake system and/or impair its performance. The proper type of brake fluid for your vehicle is also identified on the original factory installed hydraulic master cylinder reservoir.

*(Continued)*

**WARNING! (Continued)**

- To avoid contamination from foreign matter or moisture, use only new brake fluid or fluid that has been in a tightly closed container. Keep the master cylinder reservoir cap secured at all times. Brake fluid in an open container absorbs moisture from the air resulting in a lower boiling point. This may cause it to boil unexpectedly during hard or prolonged braking, resulting in sudden brake failure. This could result in an accident.
- Overfilling the brake fluid reservoir can result in spilling brake fluid on hot engine parts, causing the brake fluid to catch fire. Brake fluid can also damage painted and vinyl surfaces, care should be taken to avoid its contact with these surfaces.

*(Continued)*

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**WARNING! (Continued)**

- Do not allow petroleum based fluid to contaminate the brake fluid. Brake seal components could be damaged, causing partial or complete brake failure. This could result in an accident.

**Clutch Hydraulic System**

The clutch hydraulic system is a sealed maintenance-free system. In the event of leakage or other malfunction, the system must be replaced.

**Transfer Case — If Equipped**

**Drain And Refill**

Refer to the "Maintenance Schedule" for the proper maintenance intervals.

**Selection of Lubricant**

Refer to "Fluids, Lubricants, and Genuine Parts" in "Maintaining Your Vehicle" for fluid specifications.

**Fluid Level Check**

This fluid level can be checked by removing the filler plug. The fluid level should be to the bottom edge of the filler plug hole with the vehicle in a level position.

**Manual Transmission — If Equipped**

**Selection of Lubricant**

Refer to "Fluids, Lubricants, and Genuine Parts" in "Maintaining Your Vehicle" for fluid specifications.

**Fluid Level Check**

The fluid level can be checked by removing the filler plug. If the level of the lubricant is more than 1/2 in (12 mm) below the bottom of the filler hole while the

vehicle is on level ground, enough lubricant should be added to bring the level to 1/4 in (6 mm) below the bottom of the filler hole.

### **Automatic Transmission — If Equipped**

#### **Selection of Lubricant**

It is important to use the proper transmission fluid to ensure optimum transmission performance and life. Use only the manufacturer's specified transmission fluid. Refer to "Fluids, Lubricants, and Genuine Parts" in this section for fluid specifications. It is important to maintain the transmission fluid at the correct level using the recommended fluid.

No chemical flushes should be used in any transmission; only the approved lubricant should be used.

#### **CAUTION!**

Using a transmission fluid other than the manufacturer's recommended fluid may cause deterioration in transmission shift quality and/or torque converter shudder, and will require more frequent fluid and filter changes. Refer to "Fluids, Lubricants, and Genuine Parts" in this section for fluid specifications.

#### **Special Additives**

The manufacturer strongly recommends against using any special additives in the transmission. Automatic Transmission Fluid (ATF) is an engineered product and its performance may be impaired by supplemental additives. Therefore, do not add any fluid additives to the transmission. The only exception to this policy is the use of special dyes for diagnosing fluid leaks. Avoid using transmission sealers as they may adversely affect seals.

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**CAUTION!**

**Do not use chemical flushes in your transmission as the chemicals can damage your transmission components. Such damage is not covered by the New Vehicle Limited Warranty.**

**Fluid Level Check**

It is best to check the fluid level when the transmission is at normal operating temperature (170-180°F / 77-82°C for 68RFE transmission, or 158-176°F / 70-80°C for AS69RC transmission). This normally occurs after at least 15 miles (25 km) of driving. At normal operating temperature the fluid cannot be held comfortably between the fingertips. You can read the transmission sump temperature in the EVIC display (see Electronic Vehicle Information Center [EVIC] for further information).

Use the following procedure to check the transmission fluid level properly:

1. Monitor the transmission temperature using the EVIC display, and operate the vehicle as required to reach the normal operating temperature.
2. Park the vehicle on level ground.
3. Run the engine at normal idle speed for at least 60 seconds, and leave the engine running for the rest of this procedure.
4. Fully apply the parking brake and press the brake pedal.
5. Place the shift lever momentarily into each gear position (allowing time for the transmission to fully engage in each position), ending with the transmission in PARK.

6. Remove the dipstick, wipe it clean and reinsert it until seated.
7. Remove the dipstick again and note the fluid level on both sides. The fluid level reading is only valid if there is a solid coating of oil on both sides of the dipstick. Note that the holes in the dipstick will be full of fluid if the actual level is at or above the hole. The fluid level should be between the "HOT" (upper) reference holes on the dipstick at normal operating temperature. If the fluid level is low, add fluid through the dipstick tube to bring it to the proper level. **Do not overfill.** Use **ONLY** the recommended fluid (see "Fluids, Lubricants, and Genuine Parts" for fluid specifications). After adding any quantity of oil through the dipstick tube, wait a minimum of two minutes for the oil to fully drain into the transmission before rechecking the fluid level.

**NOTE:** If it is necessary to check the transmission **below** the operating temperature, the fluid level should be between the two "COLD" (lower) holes on the dipstick with the fluid at 60-70°F / 16-21°C for 68RFE transmission, or 68-86°F / 20-30°C for AS69RC transmission. Only use the COLD region of the dipstick as a rough reference when setting the fluid level after a transmission service or fluid change. Re-check the fluid level, and adjust as required, once the transmission reaches normal operating temperature.

**CAUTION!**

**If the fluid temperature is below 50°F (10°C) it may not register on the dipstick. Do not add fluid until the temperature is elevated enough to produce an accurate reading. Run the engine at idle, in PARK, to warm the fluid.**

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8. Check for leaks. Release the parking brake.

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**NOTE:** To prevent dirt and water from entering the transmission after checking or replenishing fluid, make sure that the dipstick cap is properly reseated. It is normal for the dipstick cap to spring back slightly from its fully seated position, as long as its seal remains engaged in the dipstick tube.

#### Fluid And Filter Changes

Refer to the "Maintenance Schedule" for the proper maintenance intervals.

In addition, change the fluid and filter(s) if the fluid becomes contaminated (with water, etc.), or if the transmission is disassembled for any reason.

#### Noise Control System Required Maintenance & Warranty

All vehicles built over 10,000 lbs. (4 535 kg) Gross Vehicle Weight Rating and manufactured for sale and use in the United States are required to comply with the Federal

Government's Exterior Noise Regulations. These vehicles can be identified by the Noise Emission Control Label located in the operator's compartment.

**Vehicle Noise Emission Control Information**  
Date of Vehicle Manufacture

\_\_\_\_\_

**This vehicle conforms to U.S. EPA regulations for noise emission applicable to medium and heavy duty trucks.**

**The following acts or the causing thereof by any person are prohibited by the Noise Control Act of 1972: (A) the removal or rendering inoperative, other than for purposes of maintenance, repair, or replacement, of any noise control device or element of design (listed in the Owner's Manual) incorporated into this vehicle in compliance with the Noise Control Act (B) the use of this vehicle after such device or element of design has been removed or rendered inoperative.**

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#### Required Maintenance For Noise Control Systems

The following maintenance services must be performed every six months or 7,500 miles (12 000 km) whichever comes first, to assure proper operation of the noise

control systems. In addition, inspection and service should be performed anytime a malfunction is observed or suspected. Proper maintenance of the entire vehicle will help the effectiveness of the noise control systems.

#### **Exhaust System**

Inspect the entire exhaust system for leaks and damaged parts. Devices such as hangers, clamps, and U-bolts should be tight and in good condition. Damaged components, burned or blown out mufflers, burned or rusted out exhaust pipes should be replaced according to the procedures and specifications outlined in the appropriate service manual.

#### **Air Cleaner Assembly**

Inspect air cleaner housing for proper assembly and fit. Make certain that the air cleaner is properly positioned and that the cover is tight. Check all hoses leading to the air cleaner for tightness. The air filter element must also be clean and serviced according to the instructions outlined in the Maintenance Schedule section of this manual.

#### **Tampering With Noise Control System Prohibited**

Federal law prohibits the following acts or the causing thereof: (1) the removal or rendering inoperative by any person, other than for purposes of maintenance, repair, or replacement, of any device or element of design incorporated into any new vehicle for the purpose of noise control prior to its sale or delivery to the ultimate purchaser or while it is in use, or (2) the use of the vehicle after such device or element of design has been removed or rendered inoperative by any person.

Among those acts presumed to constitute tampering are the acts listed below.

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#### **AIR CLEANER**

- Removal of the air cleaner.
- Removal of the air cleaner filter element from the air cleaner housing.
- Removal of the air ducting.

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**EXHAUST SYSTEM**

- Removal or rendering inoperative exhaust system components including the muffler or tailpipe.

**ENGINE COOLING SYSTEM**

- Removal or rendering inoperative the fan clutch.
- Removal of the fan shroud.

**Noise Emission Warranty**

The manufacturer warrants that this vehicle as manufactured by the manufacturer, was designed, built and equipped to conform at the time it left the manufacturer's control with all applicable U.S. EPA Noise Control Regulations.

This warranty covers this vehicle as designed, built and equipped by the manufacturer, and is not limited to any particular part, component or system of the vehicle manufactured by the manufacturer. Defects in design, assembly or in any part, component or system of the vehicle as manufactured by the manufacturer, which, at the time it left the manufacturer's control, caused noise emissions to exceed Federal standards, are covered by this warranty for the life of the vehicle.

**Maintenance Log and Service Chart (Diesel Engines)**

Noise Systems Maintenance Chart and Service Log — Insert Month, Day, Year under column mileage closest to the mileage at which service was performed.

MILES	7,500	15,000	22,500	30,000	37,500	45,000	52,500	60,000
KILOMETERS	12 000	24 000	36 000	48 000	60 000	72 000	84 000	96 000
Exhaust system-inspect								
Air cleaner assembly-inspect								
ODOMETER READING								

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Noise Systems Maintenance Chart and Service Log — Insert Month, Day, Year under column mileage closest to the mileage at which service was performed.

PER-FORMED BY								
PER-FORMED AT								
MILES	67,500	75,000	82,500	90,000	97,500	105,000	112,500	120,000
KILOMETERS	108 000	120 000	132 000	144 000	156 000	168 000	180 000	192 000
Exhaust system-inspect								

Noise Systems Maintenance Chart and Service Log — Insert Month, Day, Year under column mileage closest to the mileage at which service was performed.

Air cleaner assembly-inspect								
ODOMETER READING								
PERFORMED BY								
PERFORMED AT								

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**FLUID CAPACITIES**

	U.S.	Metric
<b>Fuel (Approximate)</b>		
2500/3500 Standard Cab Longbed Models	28 Gallons	106 Liters
2500/3500 Crew/Mega Cab Shortbed Models	31 Gallons	129 Liters
2500/3500 Crew Cab Longbed Models	32 Gallons	132 Liters
Standard Rear Tank – Chassis Cab Only	52 Gallons	197 Liters
Optional Midship Tank – Chassis Cab Only	22 Gallons	83 Liters
Diesel Exhaust Fluid Tank (Approximate) – 2500/3500 Models	5.5 Gallons	21 Liters
Diesel Exhaust Fluid Tank (Approximate) – Chassis Cab	9 Gallons	34 Liters

	U.S.	Metric
<b>Engine Oil With Filter</b>		
6.7L Turbo Diesel Engine	12 Quarts	11.4 Liters
<b>Cooling System</b>		
6.7L Turbo Diesel Engine (MOPAR® Engine Coolant/Antifreeze 10 Year/150,000 Mile Formula)	5.7 Gallons	21.4 Liters

**FLUIDS, LUBRICANTS AND GENUINE PARTS**

**Engine**

Component	Fluid, Lubricant, or Genuine Part
Engine Coolant	We recommend you use MOPAR® Antifreeze/Coolant 10 Year/150,000 Mile Formula OAT (Organic Additive Technology).

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Component	Fluid, Lubricant, or Genuine Part
Engine Oil	<p>In ambient temperatures above 0°F (-18°C), we recommend you use 15W-40 engine oil such as MOPAR®, Shell Rotella® and Shell Rimula® that meets Chrysler Materials Standard MS-10902 and the API CJ-4 engine oil category is required. Products meeting Cummins® CES 20081 may also be used. The identification of these engine oils is typically located on the back of the oil container.</p> <p>In ambient temperatures below 0°F (-18°C), we recommend you use 5W-40 <b>synthetic</b> engine oil such as MOPAR®, Shell Rotella® and Shell Rimula® that meets Chrysler Materials Standard MS-10902 and the API CJ-4 engine oil category is required.</p>
Engine Oil Filter	We recommend you use MOPAR® Engine Oil Filters.
Fuel Filters	We recommend you use MOPAR® Fuel Filter. Must meet 3 micron rating. <b>Using a fuel filter that does not meet the manufacturers filtration and water separating requirements can severely impact fuel system life and reliability.</b>
Crankcase Ventilation Filter	We recommend you use MOPAR® CCV Filter.

Component	Fluid, Lubricant, or Genuine Part
Fuel Selection	<p>Use good quality diesel fuel from a reputable supplier in your vehicle. Federal law requires that you must fuel this vehicle with Ultra Low Sulfur Highway Diesel fuel (15 ppm Sulfur maximum) and prohibits the use of Low Sulfur Highway Diesel fuel (500 ppm Sulfur maximum) to avoid damage to the emissions control system.</p> <p>For most year-round service, No. 2 diesel fuel meeting ASTM specification D-975 Grade S15 will provide good performance.</p> <p>If the vehicle is exposed to extreme cold (below 20°F or -7°C), or is required to operate at colder-than-normal conditions for prolonged periods, use climatized No. 2 diesel fuel or dilute the No. 2 diesel fuel with 50% No. 1 diesel fuel. This will provide better protection from fuel gelling or wax-plugging of the fuel filters.</p> <p><b>This vehicle is fully compatible with biodiesel blends up to 5% biodiesel meeting ASTM specification D-975.</b> Pickup models, and Chassis Cab models configured with optional B20 capability, are additionally compatible with 20% biodiesel meeting ASTM specification D-7467.</p>
Diesel Exhaust Fluid	<p>MOPAR® Diesel Exhaust Fluid (API Certified) (DEF) or equivalent that has been API Certified to the ISO 22241 standard. Use of fluids not API Certified to ISO 22241 may result in system damage. You can receive assistance in locating DEF in the United States by calling 866-RAM-INFO (866-726-4636). In Canada call 1-800-465-2001 (English) or 1-800-387-9983 (French).</p>

326 MAINTAINING YOUR VEHICLE

**Chassis**

Component	Fluid, Lubricant, or Genuine Part
Automatic Transmission – If Equipped (Six-Speed 68RFE) – Pickup models without PTO	We recommend you use MOPAR® ATF+4® Automatic Transmission Fluid or equivalent licensed ATF+4® product. Failure to use ATF+4® fluid may affect the function or performance of your transmission.
Automatic Transmission – If Equipped (Six-Speed AS69RC) – Pickup models with PTO, and all Chassis Cab models	We recommend you use MOPAR® ASRC Automatic Transmission Fluid or equivalent. Failure to use the proper fluid may affect the function or performance of your transmission.
Transfer Case	We recommend you use MOPAR® BW44–44 Transfer Case Fluid.
Front and Rear Axle Fluid (2500/3500)	We recommend you use Synthetic, GL-5 SAE 75W-85. Limited slip additive is not required for Limited-Slip Rear Axles.

**MAINTAINING YOUR VEHICLE 327**

<b>Component</b>	<b>Fluid, Lubricant, or Genuine Part</b>
Front and Rear Axle Fluid (4500/5500)	We recommend you use Synthetic, GL-5 SAE 75W-85. Limited slip additive is not required for Limited-Slip Rear Axles.
Clutch Linkage	We recommend you use MOPAR® Multi-Purpose Grease, NLGI Grade 2 E.P. or equivalent.
Manual Transmission (G-56) – If Equipped	We recommend you use MOPAR® ATF+4® Automatic Transmission Fluid or equivalent licensed ATF+4® product.



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## MAINTENANCE SCHEDULE

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330 MAINTENANCE SCHEDULE

**MAINTENANCE SCHEDULE – DIESEL ENGINE**

**CAUTION!**

Failure to perform the required maintenance items may result in damage to the vehicle.

**At Each Stop For Fuel**

- Check the engine oil level at least 30 minutes after a fully warmed engine is shut off. Checking the oil level while the vehicle is on level ground will improve the accuracy of the oil level reading. Add oil only when the level is at or below the ADD or MIN mark.

**Once A Month**

- Inspect the batteries, and clean and tighten the terminals as required.
- Check the fluid levels of the coolant reservoir, brake master cylinder, and automatic transmission (if equipped), and add as needed.

**At Each Oil Change**

- Change the engine oil filter.
- Inspect the exhaust system.
- Check the coolant level, hoses, and clamps.
- Lubricate outer tie rod ends.

Inspection and service should also be performed anytime a malfunction is observed or suspected. Retain all receipts.

**Oil Change Indicator System – Cummins® Diesel**

Your vehicle is equipped with an engine oil change indicator system. This system will alert you when it is time to change your engine oil by displaying the words “Oil Change Due” on your Electronic Vehicle Information Center (EVIC). The oil change reminder will remind the owner to change the engine oil every 15,000 miles or

500 hours, whichever comes first, except for the Chassis Cab models that are using B20 biodiesel, which are 12,500 miles or 400 hours, whichever comes first. Failure to change the engine oil per the maintenance schedule can result in internal engine damage.

Your authorized dealer will reset the oil change indicator message after completing the scheduled oil change. If a scheduled oil change is performed by someone other than your authorized dealer, the message can be reset by referring to the steps described under "Electronic Vehicle Information Center (EVIC)" in "Understanding Your Instrument Panel" for further information.

**Replace the engine oil and oil filter every 15,000 miles (24 000 km) or six months, or sooner if prompted by the oil change indicator system. Under no circumstances should oil change intervals exceed 15,000 miles (24 000 km) or six months, whichever comes first.**

**NOTE:**

- **Under no circumstances should oil change intervals exceed 15,000 miles (24,000 km) or six months or 500 Hours, whichever comes first.**
- Replace the engine oil and oil filter every 12,500 miles (20 000 km) when running B20 fuel (Chassis Cab Only).

If Chassis Cab models are operated with greater than 5% levels of Biodiesel, the oil change interval must not exceed 12,500 miles (20 000 km) under any circumstances. See the Fuel Requirements section for more information regarding operation of Chassis Cab models configured for use with Biodiesel blend (B6-B20) fuel meeting ASTM specification D-7467.

**332 MAINTENANCE SCHEDULE**

**Perform Service Indicator — Cummins® Diesel**

Your vehicle will require emissions maintenance at a set interval. To help remind you when this maintenance is due, the Electronic Vehicle Information Center (EVIC) will display “Perform Service”. When the “Perform Service” message is displayed on the EVIC it is necessary to have the emissions maintenance performed. Emissions maintenance may include replacing the Closed Crankcase Ventilation (CCV) filter element. The procedure for clearing and resetting the “Perform Service” indicator message is located in the appropriate Service Information.

**Required Maintenance Intervals**

Refer to the Maintenance Schedules on the following pages for the required maintenance intervals.

**7,500 Miles (12,000 km) or 6 Months Maintenance Service Schedule**

- Check the Diesel Exhaust Fluid (DEF) tank, refill if necessary.
  - Rotate tires.
  - Lubricate front drive shaft fitting (4x4).
  - Lubricate outer tie rod ends.
- \*\* Under no circumstances should oil change intervals exceed 15,000 miles (24 000 km) or six months or 500 Hours, whichever comes first.

\_\_\_\_\_  
Odometer Reading Date

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Signature, Authorized Service Center





**336 MAINTENANCE SCHEDULE**

**30,000 Miles (48,000 km) or 24 Months Maintenance Service Schedule**

- Check the Diesel Exhaust Fluid (DEF) tank, refill if necessary.
- Rotate tires.
- Replace engine fuel filter element.
- Replace chassis mounted fuel filter element.
- Lubricate front drive shaft fitting (4x4).
- Lubricate outer tie rod ends.
- Inspect the wheel bearings.
- Inspect the front suspension, tie rod ends and boot seals for cracks or leaks and all parts for damage, wear, improper looseness or end play; replace if necessary.
- Inspect the front and rear axle surfaces every 20,000 miles (32,000 km). If gear oil leakage is suspected, check the fluid level. If using your vehicle for police, taxi, fleet, off-road or frequent trailer towing change the axle fluid every 20,000 miles (32,000 km).
- Check the transfer case fluid (4x4).
- Change automatic transmission fluid (AS69RC transmission only).  
\*\* Under no circumstances should oil change intervals exceed 15,000 miles (24 000 km) or six months or 500 Hours, whichever comes first.

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338 MAINTENANCE SCHEDULE

**45,000 Miles (72,000 km) or 36 Months Maintenance Service Schedule**

- Check the Diesel Exhaust Fluid (DEF) tank, refill if necessary.
- Rotate tires.
- Inspect drive belt, replace as necessary.
- Replace engine fuel filter element.
- Replace chassis mounted fuel filter element.
- Lubricate front drive shaft fitting (4x4).
- Lubricate outer tie rod ends.
- Inspect the front suspension, tie rod ends and boot seals for cracks or leaks and all parts for damage, wear, improper looseness or end play; replace if necessary.
- Inspect brake linings.
- Inspect and adjust parking brake if necessary.
- Inspect the front and rear axle surfaces every 20,000 miles (32,000 km). If gear oil leakage is suspected, check the fluid level.  
If using your vehicle for police, taxi, fleet, off-road or frequent trailer towing change the axle fluid every 20,000 miles (32,000 km).  
\*\* Under no circumstances should oil change intervals exceed 15,000 miles (24 000 km) or six months or 500 Hours, whichever comes first.

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340 MAINTENANCE SCHEDULE

**60,000 Miles (96,000 km) or 48 Months Maintenance Service Schedule**

- Check the Diesel Exhaust Fluid (DEF) tank, refill if necessary.
- Rotate tires.
- Replace engine fuel filter element.
- Replace chassis mounted fuel filter element.
- Lubricate front drive shaft fitting (4x4).
- Lubricate outer tie rod ends.
- Inspect the wheel bearings.
- Inspect the front suspension, tie rod ends and boot seals for cracks or leaks and all parts for damage, wear, improper looseness or end play; replace if necessary.
- Inspect the front and rear axle surfaces. If gear oil leakage is suspected, check the fluid level. If using your vehicle for police, taxi, fleet, off-road or frequent trailer towing change the axle fluid.
- Change automatic transmission fluid and sump filter (AS69RC transmission only).
- Change automatic transmission fluid and filter(s) if using your vehicle for any of the following: police, fleet, or frequent trailer towing (68RFE transmission only).
- Change the manual transmission fluid if using your vehicle for any of the following: police, fleet, or frequent trailer towing.
- Inspect the front and rear axle surfaces every 20,000 miles (32,000 km). If gear oil leakage is suspected, check the fluid level. If using your vehicle for police, taxi, fleet, off-road or frequent trailer towing change the axle fluid every 20,000 miles (32,000 km).

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**67,500 Miles (108,000 km) or 54 Months Maintenance Service Schedule**

- Check the Diesel Exhaust Fluid (DEF) tank, refill if necessary.
- Rotate tires.
- Inspect drive belt, replace as necessary.
- Lubricate front drive shaft fitting (4x4).
- Lubricate outer tie rod ends.
- Inspect brake linings.
- Inspect and adjust parking brake if necessary.
- Replace Crankcase Ventilation Filter (CCV).**  
\*\* Under no circumstances should oil change intervals exceed 15,000 miles (24 000 km) or six months or 500 Hours, whichever comes first.

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**342 MAINTENANCE SCHEDULE**

**75,000 Miles (120,000 km) or 60 Months Maintenance Service Schedule**

- Check the Diesel Exhaust Fluid (DEF) tank, refill if necessary.
- Rotate tires.
- Replace engine fuel filter element.
- Replace chassis mounted fuel filter element.
- Lubricate front drive shaft fitting (4x4).
- Lubricate outer tie rod ends.
- Inspect the front suspension, tie rod ends and boot seals for cracks or leaks and all parts for damage, wear, improper looseness or end play; replace if necessary.
- Inspect the front and rear axle surfaces every 20,000 miles (32,000 km). If gear oil leakage is suspected, check the fluid level. If using your vehicle for police, taxi, fleet, off-road or frequent trailer towing change the axle fluid every 20,000 miles (32,000 km).  
\*\* Under no circumstances should oil change intervals exceed 15,000 miles (24 000 km) or six months or 500 Hours, whichever comes first.

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344 MAINTENANCE SCHEDULE

**90,000 Miles (144,000 km) or 72 Months Maintenance Service Schedule**

- Check the Diesel Exhaust Fluid (DEF) tank, refill if necessary.
- Rotate tires.
- Inspect drive belt, replace as required.
- Replace engine fuel filter element.
- Replace chassis mounted fuel filter element.
- Lubricate front drive shaft fitting (4x4).
- Lubricate outer tie rod ends.
- Inspect the wheel bearings.
- Inspect the front suspension, tie rod ends and boot seals for cracks or leaks and all parts for damage, wear, improper looseness or end play; replace if necessary.
- Inspect brake linings.
- Inspect and adjust parking brake if necessary.
- Inspect the front and rear axle surfaces every 20,000 miles (32,000 km). If gear oil leakage is suspected, check the fluid level.  
If using your vehicle for police, taxi, fleet, off-road or frequent trailer towing change the axle fluid every 20,000 miles (32,000 km).
- Check the transfer case fluid (4x4).
- Change automatic transmission fluid (AS69RC transmission only).  
\*\* Under no circumstances should oil change intervals exceed 15,000 miles (24 000 km) or six months or 500 Hours, whichever comes first.

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**97,500 Miles (157,000 km) or 78 Months Maintenance Service Schedule**

- Check the Diesel Exhaust Fluid (DEF) tank, refill if necessary.
  - Rotate tires.
  - Lubricate front drive shaft fitting (4x4).
  - Lubricate outer tie rod ends.
  - Flush and replace power steering fluid.
- \*\* Under no circumstances should oil change intervals exceed 15,000 miles (24 000 km) or six months or 500 Hours, whichever comes first.

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346 MAINTENANCE SCHEDULE

**105,000 Miles (168,000 km) or 84 Months Maintenance Service Schedule**

- Check the Diesel Exhaust Fluid (DEF) tank, refill if necessary.
- Rotate tires.
- Replace engine fuel filter element.
- Replace chassis mounted fuel filter element.
- Lubricate front drive shaft fitting (4x4).
- Lubricate outer tie rod ends.
- Inspect the front suspension, tie rod ends and boot seals for cracks or leaks and all parts for damage, wear, improper looseness or end play; replace if necessary.
- Inspect the front and rear axle surfaces every 20,000 miles (32,000 km). If gear oil leakage is suspected, check the fluid level. If using your vehicle for police, taxi, fleet, off-road or frequent trailer towing change the axle fluid every 20,000 miles (32,000 km).  
\*\* Under no circumstances should oil change intervals exceed 15,000 miles (24 000 km) or six months or 500 Hours, whichever comes first.

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**112,500 Miles (180,000 km) or 90 Months Maintenance Service Schedule**

- Check the Diesel Exhaust Fluid (DEF) tank, refill if necessary.
  - Rotate tires.
  - Inspect drive belt, replace as required.
  - Lubricate front drive shaft fitting (4x4).
  - Lubricate outer tie rod ends.
  - Inspect brake linings.
  - Inspect and adjust parking brake if necessary.
- \*\* Under no circumstances should oil change intervals exceed 15,000 miles (24 000 km) or six months or 500 Hours, whichever comes first.

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**348 MAINTENANCE SCHEDULE**

**120,000 Miles (192,000 km) or 96 Months Maintenance Service Schedule**

- Check the Diesel Exhaust Fluid (DEF) tank, refill if necessary.
- Rotate tires.
- Replace engine fuel filter element.
- Replace chassis mounted fuel filter element.
- Lubricate front drive shaft fitting (4x4).
- Lubricate outer tie rod ends.
- Inspect the wheel bearings.
- Inspect the front suspension, tie rod ends and boot seals for cracks or leaks and all parts for damage, wear, improper looseness or end play; replace if necessary.
- Inspect the front and rear axle surfaces. If gear oil leakage is suspected, check the fluid level. If using your vehicle for police, taxi, fleet, off-road or frequent trailer towing change the axle fluid.
- Change the automatic transmission fluid and filter(s).
- Change the manual transmission fluid if using your vehicle for any of the following: police, fleet, or frequent trailer towing.
- Inspect the front and rear axle surfaces every 20,000 miles (32,000 km). If gear oil leakage is suspected, check the fluid level. If using your vehicle for police, taxi, fleet, off-road or frequent trailer towing change the axle fluid every 20,000 miles (32,000 km).

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350 MAINTENANCE SCHEDULE

**135,000 Miles (216,000 km) or 108 Months Maintenance Service Schedule**

- Check the Diesel Exhaust Fluid (DEF) tank, refill if necessary.
- Rotate tires.
- Inspect drive belt, replace as required.
- Replace engine fuel filter element.
- Replace chassis mounted fuel filter element.
- Lubricate front drive shaft fitting (4x4).
- Lubricate outer tie rod ends.
- Inspect the front suspension, tie rod ends and boot seals for cracks or leaks and all parts for damage, wear, improper looseness or end play; replace if necessary.
- Inspect brake linings.
- Inspect and adjust parking brake if necessary.
- Inspect the front and rear axle surfaces every 20,000 miles (32,000 km). If gear oil leakage is suspected, check the fluid level.  
If using your vehicle for police, taxi, fleet, off-road or frequent trailer towing change the axle fluid every 20,000 miles (32,000 km).
- Replace Crankcase Ventilation Filter (CCV).**  
\*\* Under no circumstances should oil change intervals exceed 15,000 miles (24 000 km) or six months or 500 Hours, whichever comes first.

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**142,500 Miles (228,000 km) or 114 Months Maintenance Service Schedule**

- Check the Diesel Exhaust Fluid (DEF) tank, refill if necessary.
  - Rotate tires.
  - Lubricate front drive shaft fitting (4x4).
  - Lubricate outer tie rod ends.
- \*\* Under no circumstances should oil change intervals exceed 15,000 miles (24 000 km) or six months or 500 Hours, whichever comes first.

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352 MAINTENANCE SCHEDULE

**150,000 Miles (240,000 km) or 120 Months Maintenance Service Schedule**

- Check the Diesel Exhaust Fluid (DEF) tank, refill if necessary.
- Rotate tires.
- Replace engine fuel filter element.
- Replace chassis mounted fuel filter element.
- Adjust valve lash clearance.
- Lubricate front drive shaft fitting (4x4).
- Lubricate outer tie rod ends.
- Inspect the wheel bearings.
- Inspect the front suspension, tie rod ends and boot seals for cracks or leaks and all parts for damage, wear, improper looseness or end play; replace if necessary.
- Flush and replace engine coolant.
- Inspect the front and rear axle surfaces every 20,000 miles (32,000 km). If gear oil leakage is suspected, check the fluid level.  
If using your vehicle for police, taxi, fleet, off-road or frequent trailer towing change the axle fluid every 20,000 miles (32,000 km).
- Check the transfer case fluid (4x4).
- Change automatic transmission fluid (AS69RC transmission only).  
\*\* Under no circumstances should oil change intervals exceed 15,000 miles (24 000 km) or six months or 500 Hours, whichever comes first.

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Inspection and service should also be performed anytime a malfunction is observed or suspected. Retain all receipts.

\* This maintenance is not required if belt was previously replaced.

\*\* Under no circumstances should oil change intervals exceed 15,000 miles (24 000 km) or six months or 500 Hours, whichever comes first.

**CAUTION!**

\*\*\*The manufacturer highly recommends that all cooling system service, maintenance, and repairs be performed by your local authorized dealer.

**WARNING!**

- You can be badly injured working on or around a motor vehicle. Do only service work for which you have the knowledge and the right equipment. If you have any doubt about your ability to perform a service job, take your vehicle to a competent mechanic.
- Failure to properly inspect and maintain your vehicle could result in a component malfunction and effect vehicle handling and performance. This could cause an accident.



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### **INSTALLATION OF RADIO TRANSMITTING EQUIPMENT**

Special design considerations are incorporated into this vehicle's electronic system to provide immunity to radio frequency signals. Mobile two-way radios and telephone equipment must be installed properly by trained personnel. The following must be observed during installation.

The positive power connection should be made directly to the battery and fused as close to the battery as possible. The negative power connection should be made to body sheet metal adjacent to the negative battery connection. This connection should not be fused.

Antennas for two-way radios should be mounted on the roof or the rear area of the vehicle. Care should be used in mounting antennas with magnet bases. Magnets may affect the accuracy or operation of the compass on vehicles so equipped.

The antenna cable should be as short as practical and routed away from the vehicle wiring when possible. Use only fully shielded coaxial cable.

Carefully match the antenna and cable to the radio to ensure a low Standing Wave Ratio (SWR).

Mobile radio equipment with output power greater than normal may require special precautions.

All installations should be checked for possible interference between the communications equipment and the vehicle's electronic systems.



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Chrysler Group LLC  
14D241-226-AF



Sixth Edition

Printed in U.S.A.

# Exhibit 6



**RAM**

**2015**

**RAM TRUCK**

**DIESEL SUPPLEMENT**

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**OWNER'S MANUAL**

### VEHICLES SOLD IN CANADA

With respect to any Vehicles Sold in Canada, the name Chrysler Group LLC shall be deemed to be deleted and the name Chrysler Canada Inc. used in substitution therefore.

### DRIVING AND ALCOHOL

Drunken driving is one of the most frequent causes of accidents.

Your driving ability can be seriously impaired with blood alcohol levels far below the legal minimum. If you are drinking, don't drive. Ride with a designated non-drinking driver, call a cab, a friend, or use public transportation.

#### WARNING!

**Driving after drinking can lead to an accident. Your perceptions are less sharp, your reflexes are slower, and your judgment is impaired when you have been drinking. Never drink and then drive.**

This manual illustrates and describes the operation of features and equipment that are either standard or optional on this vehicle. This manual may also include a description of features and equipment that are no longer available or were not ordered on this vehicle. Please disregard any features and equipment described in this manual that are not on this vehicle.

Chrysler Group LLC reserves the right to make changes in design and specifications, and/or make additions to or improvements to its products without imposing any obligation upon itself to install them on products previously manufactured.

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**RAM 1500**



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# INTRODUCTION

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## 8 INTRODUCTION

### A MESSAGE FROM CHRYSLER GROUP LLC

Chrysler Group LLC welcomes you as a turbocharged diesel-powered truck owner. Your diesel truck will sound, feel, drive, and operate differently from a gasoline-powered truck. It is important that you read and understand this manual.

Almost 100% of the heavy trucks in the United States and Canada are diesel-powered because of the fuel economy, rugged durability, and high torque which permits pulling heavy loads.

You may find that some of the starting, operating, and maintenance procedures are different. However, they are simple to follow and careful adherence to them will ensure that you take full advantage of the features of this engine.

### NOTE:

- Some aftermarket products may cause severe engine/transmission and/or exhaust system damage. Your vehicle's Powertrain Control Systems can detect and store information about vehicle modifications that increase horsepower and torque output such as whether or not performance-enhancing powertrain components, commonly referred to as downloaders, power boxes, or performance chips have been used.
- Any chassis/suspension or tire size modifications to the vehicle will effect the performance of the Adaptive Cruise Control and Forward Collision Warning System.

This information cannot be erased and will stay in the system's memory even if the modification is removed. This information can be retrieved by Chrysler Group LLC, and service and repair facilities, when servicing

your vehicle. This information may be used to determine if repair will be covered by New Vehicle Limited Warranty.

There is a probability that the use of a “performance chip” will prohibit the engine from starting. In this instance, the vehicle will need to be serviced by a authorized dealer in order to return the vehicle to it’s factory settings.



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# THINGS TO KNOW BEFORE STARTING YOUR VEHICLE

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## 12 THINGS TO KNOW BEFORE STARTING YOUR VEHICLE

### REMOTE STARTING SYSTEM



This system uses the Remote Keyless Entry (RKE) transmitter to start the engine conveniently from outside the vehicle while still maintaining security. The system has a range of approximately 300 ft (91 m).

#### NOTE:

- The vehicle must be equipped with an automatic transmission to be equipped with Remote Start.
- Obstructions between the vehicle and the RKE transmitter may reduce this range.
- The Remote Start system will wait for the “Wait To Start” amber telltale to extinguish before cranking the engine. This allows time for the engine pre-heat cycle to pre-heat the cylinder air, and is normal in cold

weather. Refer to “Electronic Vehicle Information Display (EVIC)” in “Understanding Your Instrument Panel” for further information on the “Wait To Start” amber telltale and the pre-heat cycle.

#### How To Use Remote Start

All of the following conditions must be met before the engine will remote start:

- Shift lever in PARK
- Doors closed
- Hood closed
- HAZARD switch off
- BRAKE switch inactive (brake pedal not pressed)
- Battery at an acceptable charge level
- RKE PANIC button not pressed

**THINGS TO KNOW BEFORE STARTING YOUR VEHICLE 13**

- Fuel meets minimum requirement
- System not disabled from previous remote start event
- Vehicle security alarm not active
- Water In Fuel Indicator Light is not illuminated
- "Wait To Start" telltale is not illuminated

**WARNING!**

- **Do not start or run an engine in a closed garage or confined area. Exhaust gas contains Carbon Monoxide (CO) which is odorless and colorless. Carbon Monoxide is poisonous and can cause serious injury or death when inhaled.**
- **Keep Remote Keyless Entry (RKE) transmitters away from children. Operation of the Remote Start System, windows, door locks or other controls could cause serious injury or death.**

**ENGINE BREAK-IN RECOMMENDATIONS**

The diesel engine does not require a break-in period due to its construction. Normal operation is allowed, providing the following recommendations are followed:

- Warm up the engine before placing it under load.
- Do not operate the engine at idle for prolonged periods.
- Use the appropriate transmission gear to prevent engine lugging.
- Observe vehicle oil pressure and temperature indicators.
- Check the coolant and oil levels frequently.
- Vary throttle position at highway speeds when carrying or towing significant weight.

#### 14 THINGS TO KNOW BEFORE STARTING YOUR VEHICLE

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**NOTE:** Light duty operation such as light trailer towing or no load operation will extend the time before the engine is at full efficiency. Reduced fuel economy and power may be seen at this time.

The engine oil installed in the engine at the factory is a high-quality energy conserving type lubricant. Oil changes should be consistent with anticipated climate conditions under which vehicle operations will occur. The recommended viscosity and quality grades are shown under "Fluids, Lubricants and Genuine Parts", under "Maintaining Your Vehicle" in this manual. NON-DETERGENT OR STRAIGHT MINERAL OILS MUST NEVER BE USED.

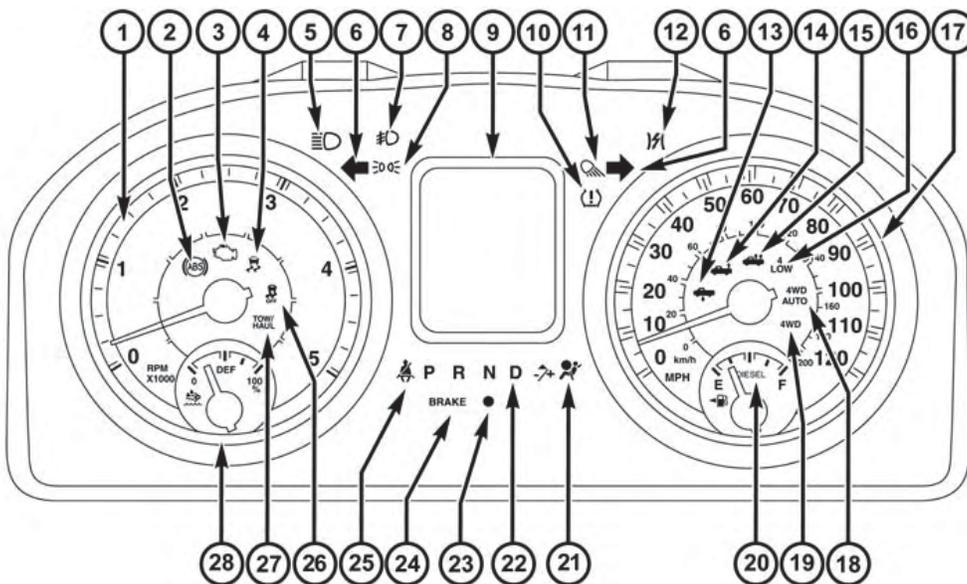
# UNDERSTANDING YOUR INSTRUMENT PANEL

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INSTRUMENT CLUSTER



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## Instrument Cluster Descriptions

### 1. Tachometer

The tachometer indicates engine speed in Revolutions Per Minute (RPM x 1000).

### 2. Anti-Lock Brake (ABS) Light



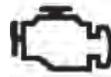
This light monitors the Anti-lock Brake System (ABS). The light will turn on when the ignition switch is turned to the ON/RUN position and may stay on for as long as four seconds.

If the ABS light remains on or turns on while driving, it indicates that the anti-lock portion of the brake system is not functioning and that service is required. However, the conventional brake system will continue to operate normally if the BRAKE warning light is not on.

If the ABS light is on, the brake system should be serviced as soon as possible to restore the benefits of anti-lock brakes. If the ABS light does not turn on when the

ignition switch is turned to the ON/RUN position, have the light inspected by an authorized dealer.

### 3. Malfunction Indicator Light (MIL)



The Malfunction Indicator Light (MIL) is part of an Onboard Diagnostic (OBDII) system which monitors the emissions and engine control system. If the vehicle is ready for emissions testing, the light will come on when the ignition is first turned on and remain on, as a bulb check, until the engine is started. If the vehicle is not ready for emissions testing the light will come on when the ignition is first turned on and remain on for 15 seconds, then blink for 5 seconds, and remain on until the vehicle is started. If the bulb does not come on during starting, have the condition investigated promptly.

If this light comes on and remains on while driving, it suggests a potential engine control problem and the need for system service.

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Although your vehicle will usually be drivable and not need towing, see your authorized dealer for service as soon as possible.

<b>CAUTION!</b>
Prolonged driving with the Malfunction Indicator Light (MIL) on could cause damage to the engine control system. It also could affect fuel economy and driveability. If the MIL is flashing, severe catalytic converter damage and power loss will soon occur. Immediate service is required.

<b>WARNING!</b>
A malfunctioning catalytic converter, as referenced above, can reach higher temperatures than in normal operating conditions. This can cause a fire if you

<b>WARNING! (Continued)</b>
drive slowly or park over flammable substances such as dry plants, wood, cardboard, etc. This could result in death or serious injury to the driver, occupants or others.

**4. Electronic Stability Control (ESC) Activation/ Malfunction Indicator Light — If Equipped**



The “ESC Activation/Malfunction Indicator Light” in the instrument cluster will come on when the ignition switch is turned to the ON/RUN position. It should go out with the engine running. If the “ESC Activation/Malfunction Indicator Light” comes on continuously with the engine running, a malfunction has been detected in the ESC system. If this light remains on after several ignition cycles, and the vehicle has been driven several miles

(Continued)

(kilometers) at speeds greater than 30 mph (48 km/h), see your authorized dealer as soon as possible to have the problem diagnosed and corrected.

**NOTE:**

- The “ESC Off Indicator Light” and the “ESC Activation/Malfunction Indicator Light” come on momentarily each time the ignition switch is turned to ON/RUN.
- Each time the ignition is turned to ON/RUN, the ESC system will be ON, even if it was turned off previously.
- The ESC system will make buzzing or clicking sounds when it is active. This is normal; the sounds will stop when ESC becomes inactive following the maneuver that caused the ESC activation.

**5. High Beam Indicator**



This indicator shows that headlights are on high beam. Push the multifunction lever forward to switch the headlights to high beam, and pull toward yourself (normal position) to return to low beam.

**6. Turn Signal Indicators**



The arrow will flash with the exterior turn signal when the turn signal lever is operated.

**NOTE:**

- A continuous chime will sound if the vehicle is driven more than 1 mile (1.6 km) with either turn signal on.
- Check for an inoperative outside light bulb if either indicator remains on and does not flash, or flashes at a rapid rate.

**20 UNDERSTANDING YOUR INSTRUMENT PANEL**

**7. Front Fog Light Indicator — If Equipped**



This indicator will illuminate when the front fog lights are on.

**8. Park/Headlight ON Indicator — If Equipped**



This indicator will illuminate when the park lights or headlights are turned on.

**9. Electronic Vehicle Information Center (EVIC)**

The Electronic Vehicle Information Center (EVIC) features an interactive display that is located in the instrument cluster. For further information, refer to “Electronic Vehicle Information Center (EVIC)” for further information.

**10. Tire Pressure Monitoring Telltale Light**



Each tire, including the spare (if provided), should be checked monthly when cold and inflated to the inflation pressure recommended by the vehicle manufacturer on the vehicle placard or tire inflation pressure label. (If your vehicle has tires of a different size than the size indicated on the vehicle placard or tire inflation pressure label, you should determine the proper tire inflation pressure for those tires.)

As an added safety feature, your vehicle has been equipped with a Tire Pressure Monitoring System (TPMS) that illuminates a low tire pressure telltale when one or more of your tires is significantly under-inflated. Accordingly, when the low tire pressure telltale illuminates, you should stop and check your tires as soon as possible, and inflate them to the proper pressure. Driving on a significantly under-inflated tire causes the tire to overheat and can lead to tire failure. Under-inflation also

**UNDERSTANDING YOUR INSTRUMENT PANEL 21**

reduces fuel efficiency and tire tread life, and may affect the vehicle's handling and stopping ability.

Please note that the TPMS is not a substitute for proper tire maintenance, and it is the driver's responsibility to maintain correct tire pressure, even if under-inflation has not reached the level to trigger illumination of the TPMS low tire pressure telltale.

Your vehicle has also been equipped with a TPMS malfunction indicator to indicate when the system is not operating properly. The TPMS malfunction indicator is combined with the low tire pressure telltale. When the system detects a malfunction, the telltale will flash for approximately one minute and then remain continuously illuminated. This sequence will continue upon subsequent vehicle start-ups as long as the malfunction exists. When the malfunction indicator is illuminated, the system may not be able to detect or signal low tire pressure as intended. TPMS malfunctions may occur for a variety of reasons, including the installation of replacement or

alternate tires or wheels on the vehicle that prevent the TPMS from functioning properly. Always check the TPMS malfunction telltale after replacing one or more tires or wheels on your vehicle, to ensure that the replacement or alternate tires and wheels allow the TPMS to continue to function properly.

**3**

**CAUTION!**

**The TPMS has been optimized for the original equipment tires and wheels. TPMS pressures and warning have been established for the tire size equipped on your vehicle. Undesirable system operation or sensor damage may result when using replacement equipment that is not of the same size, type, and/or style. Aftermarket wheels can cause sensor damage. Using aftermarket tire sealants may cause the Tire Pressure Monitoring System (TPMS)**

*(Continued)*

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**CAUTION! (Continued)**

sensor to become inoperable. After using an after-market tire sealant it is recommended that you take your vehicle to an authorized dealership to have your sensor function checked.

**NOTE:** The TPMS telltale is also accompanied by a “Low Tire” message in the Electronic Vehicle Information Center (EVIC) screen indicating “Low Tire”.

**11. Cargo Light**



The cargo light will illuminate when the cargo light is activated by pressing the cargo light button on the headlight switch.

**12. Electronic Throttle Control (ETC) Light**



This light informs you of a problem with the Electronic Throttle Control (ETC) system. The light will come on when the ignition is first

turned ON and remain on briefly as a bulb check. If the light does not come on during starting, have the system checked by an authorized dealer.

If a problem is detected, the light will come on while the engine is running. Cycle the ignition key when the vehicle has completely stopped and the transmission is in the PARK position. The light should turn off.

If the light remains lit with the engine running, your vehicle will usually be drivable. However, see an authorized dealer for service as soon as possible. If the light is flashing when the engine is running, immediate service is required. You may experience reduced performance, an elevated/rough idle or engine stall and your vehicle may require towing.

**13. Air Suspension Normal Ride Height Indicator Lamp — If Equipped**

This light will illuminate when the air suspension system is set to the Normal Ride Height setting. For further information, refer to “Air Suspension System” in “Starting And Operating”.

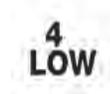
**14. Air Suspension Off-Road 1 Indicator Lamp — If Equipped**

This light will illuminate when the air suspension system is set to the Off-Road 1 setting. For further information, refer to “Air Suspension System” in “Starting And Operating”.

**15. Air Suspension Off-Road 2 Indicator Lamp — If Equipped**

This light will illuminate when the air suspension system is set to the Off-Road 2 setting. For further information, refer to “Air Suspension System” in “Starting And Operating”.

**16. 4 LOW**



This light alerts the driver that the vehicle is in the four-wheel drive LOW mode. The front and rear driveshafts are mechanically locked together forcing the front and rear wheels to rotate at the same speed. Low range provides a greater gear reduction ratio to provide increased torque at the wheels.

For further information on four-wheel drive operation and proper use, refer to “Four-Wheel Drive Operation — If Equipped” in “Starting And Operating”.

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### 17. Speedometer

The speedometer shows the vehicle speed in miles per hour and/or kilometers per hour (mph/km/h).

### 18. 4WD AUTO Indicator Light — If Equipped

 This light alerts the driver that the vehicle is in the four-wheel drive auto mode, and the front axle is engaged, but the vehicle's power is sent to the rear wheels. Four-wheel drive will be automatically engaged when the vehicle senses a loss of traction.

For further information on four-wheel drive operation and proper use, refer to "Four-Wheel Drive Operation — If Equipped" in "Starting And Operating".

### 19. 4WD Indicator Light — If Equipped

 This light alerts the driver that the vehicle is in the four-wheel drive mode, and the front and

rear driveshafts are mechanically locked together forcing the front and rear wheels to rotate at the same speed.

For further information on four-wheel drive operation and proper use, refer to "Four-Wheel Drive Operation — If Equipped" in "Starting And Operating".

### 20. Fuel Gauge

Shows level of fuel in tank when ignition switch is in the ON/RUN position.

### 21. Air Bag Warning Light

 This light will turn on for four to eight seconds as a bulb check when the ignition switch is first turned to ON/RUN. If the light is either not on during starting, stays on, or turns on while driving, have the system inspected at an authorized dealer as soon as possible. Refer to "Occupant Restraints" in "Things To Know Before Starting Your Vehicle" for further information.

### 22. *Transmission Gear Position Indicator*

The Transmission Gear Position Indicator is self-contained within the instrument cluster. It displays the gear range of the automatic transmission.

**NOTE:** The highest available transmission gear is displayed in the lower right corner of the EVIC whenever the Electronic Range Select (ERS) feature is active. Use the +/- selector on the shift lever or steering wheel to activate ERS. Refer to “Automatic Transmission” in “Starting And Operating” for further information.

### 23. *Vehicle Security Light — If Equipped*

- This light will flash at a fast rate for approximately 15 seconds, when the vehicle security alarm is arming, and then will flash slowly until the vehicle is disarmed.

### 24. *Brake Warning Light*



This light monitors various brake functions, including brake fluid level and parking brake application. If the brake light turns on it may indicate that the parking brake is applied, that the brake fluid level is low, or that there is a problem with the Anti-lock Brake System reservoir.

If the light remains on when the parking brake has been disengaged, and the fluid level is at the full mark on the master cylinder reservoir, it indicates a possible brake hydraulic system malfunction or that a problem with the Brake Booster has been detected by the Anti-Lock Brake System (ABS)/Electronic Stability Control (ESC) system. In this case, the light will remain on until the condition has been corrected. If the problem is related to the brake booster, the ABS pump will run when applying the brake and a brake pedal pulsation may be felt during each stop.

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The dual brake system provides a reserve braking capacity in the event of a failure to a portion of the hydraulic system. A leak in either half of the dual brake system is indicated by the Brake Warning Light, which will turn on when the brake fluid level in the master cylinder has dropped below a specified level.

The light will remain on until the cause is corrected.

**NOTE:** The light may flash momentarily during sharp cornering maneuvers, which change fluid level conditions. The vehicle should have service performed, and the brake fluid level checked.

If brake failure is indicated, immediate repair is necessary.

### WARNING!

**Driving a vehicle with the red brake light on is dangerous. Part of the brake system may have failed. It will take longer to stop the vehicle. You could have a collision. Have the vehicle checked immediately.**

Vehicles equipped with the ABS, are also equipped with Electronic Brake Force Distribution (EBD). In the event of an EBD failure, the Brake Warning Light will turn on along with the ABS Light. Immediate repair to the ABS system is required.

Operation of the Brake Warning Light can be checked by turning the ignition switch from the OFF position to the ON/RUN position. The light should illuminate for approximately two seconds. The light should then turn off unless the parking brake is applied or a brake fault is detected. If the light does not illuminate, have the light inspected by an authorized dealer.

The light also will turn on when the parking brake is applied with the ignition switch in the ON/RUN position.

**NOTE:** This light shows only that the parking brake is applied. It does not show the degree of brake application.

### 25. *Seat Belt Reminder Light*



When the ignition switch is first turned to ON/RUN, this light will turn on for four to eight seconds as a bulb check. During the bulb check, if the driver's seat belt is unbuckled, a chime will sound. After the bulb check or when driving, if the driver's seat belt remains unbuckled, the seat belt reminder light will flash or remain on continuously. Refer to "Occupant Restraints" in "Things To Know Before Starting Your Vehicle" for further information.

### 26. *Electronic Stability Control (ESC) OFF Indicator Light — If Equipped*



This light indicates that the Electronic Stability Control (ESC) is in Partial Off or Full Off mode.

### 27. *TOW/HAUL*



The TOW HAUL button is located on the center stack upper switch bank. This light will illuminate when TOW HAUL mode is selected.

### 28. *DEF Gauge*

The DEF Gauge displays the actual level of Diesel Exhaust Fluid in the DEF tank. Diesel Exhaust Fluid (DEF) is required to maintain normal vehicle operation and emissions compliance. More information is available in the Electronic Vehicle Information (EVIC) or Driver Information Display (DID) section under the heading of Diesel Exhaust Fluid (DEF) Warning Messages.

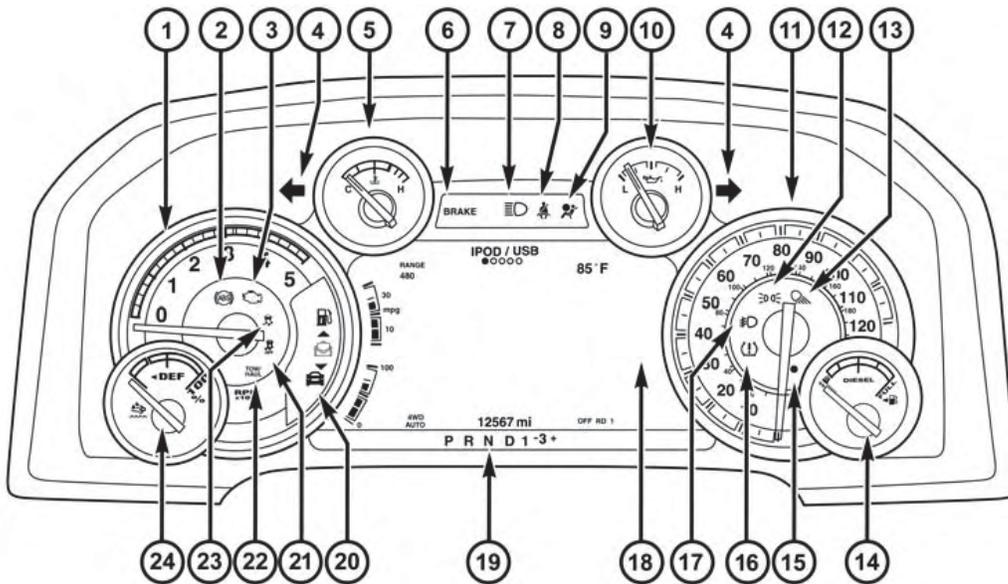
## 28 UNDERSTANDING YOUR INSTRUMENT PANEL

### NOTE:

The gauge may take up to five seconds to update after adding a gallon or more of Diesel Exhaust Fluid (DEF) to the DEF tank. If you have a fault related to the DEF system, the gauge may not update to the new level. See your authorized dealer for service.

The DEF gauge may also not immediately update after a refill if the temperature of the DEF fluid is below 12F (-11C). The DEF line heater will possibly warm up the DEF fluid and allow the gauge to update after a period of run time. Under very cold conditions, it is possible that the gauge may not reflect the new fill level for several drives.

INSTRUMENT CLUSTER



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30 UNDERSTANDING YOUR INSTRUMENT PANEL

**Instrument Cluster Descriptions**

**1. Tachometer**

The tachometer indicates engine speed in Revolutions Per Minute (RPM x 1000).

**CAUTION!**

**Do not operate the engine with the tachometer pointer at high RPM for extended periods. Engine operation over 3200 RPM (Redline) can result in significant damage that will not be covered under warranty.**

**2. Anti-Lock Brake (ABS) Light**



This light monitors the Anti-lock Brake System (ABS). The light will turn on when the ignition switch is turned to the ON/RUN position and may stay on for as long as four seconds.

If the ABS light remains on or turns on while driving, it indicates that the anti-lock portion of the brake system is not functioning and that service is required. However, the conventional brake system will continue to operate normally if the BRAKE warning light is not on.

If the ABS light is on, the brake system should be serviced as soon as possible to restore the benefits of anti-lock brakes. If the ABS light does not turn on when the ignition switch is turned to the ON/RUN position, have the light inspected by an authorized dealer.

**3. Malfunction Indicator Light (MIL)**



The Malfunction Indicator Light (MIL) is part of an Onboard Diagnostic (OBDII) system which monitors the emissions and engine control system. If the vehicle is ready for emissions testing, the light will come on when the ignition is first turned on and remain on, as a bulb check, until the engine is started. If the vehicle is not ready for emissions

testing the light will come on when the ignition is first turned on and remain on for 15 seconds, then blink for 5 seconds, and remain on until the vehicle is started. If the bulb does not come on during starting, have the condition investigated promptly.

If this light comes on and remains on while driving, it suggests a potential engine control problem and the need for system service.

Although your vehicle will usually be drivable and not need towing, see your authorized dealer for service as soon as possible.

<b>CAUTION!</b>
<b>Prolonged driving with the Malfunction Indicator Light (MIL) on could cause damage to the engine control system. It also could affect fuel economy and driveability. If the MIL is flashing, severe catalytic converter damage and power loss will soon occur. Immediate service is required.</b>

<b>WARNING!</b>
<b>A malfunctioning catalytic converter, as referenced above, can reach higher temperatures than in normal operating conditions. This can cause a fire if you drive slowly or park over flammable substances such as dry plants, wood, cardboard, etc. This could result in death or serious injury to the driver, occupants or others.</b>

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4. Turn Signal Indicators



The arrow will flash with the exterior turn signal when the turn signal lever is operated.

NOTE:

- A continuous chime will sound if the vehicle is driven more than 1 mile (1.6 km) with either turn signal on.
- Check for an inoperative outside light bulb if either indicator remains on and does not flash, or flashes at a rapid rate.

5. Engine Coolant Temperature

This gauge shows the engine coolant temperature. The gauge pointer will likely show higher temperatures when driving in hot weather, up mountain grades, or in heavy stop and go traffic. If the red Warning Light turns on while driving, safely bring the vehicle to a stop, and turn off the engine. DO NOT operate the vehicle until the cause is corrected.

CAUTION!
Driving with a hot engine cooling system could damage your vehicle. If the temperature gauge reads "H" pull over and stop the vehicle. Idle the vehicle with the air conditioner turned off until the pointer drops back into the normal range. If the pointer remains on the "H" and you hear continuous chimes, turn the engine off immediately and call an authorized dealer for service.

**WARNING!**

A hot engine cooling system is dangerous. You or others could be badly burned by steam or boiling coolant. You may want to call an authorized dealer for service if your vehicle overheats. If you decide to look under the hood yourself, see "Maintaining Your Vehicle." Follow the warnings under the "Cooling System Pressure Cap" paragraph.

**6. Brake Warning Light**



This light monitors various brake functions, including brake fluid level and parking brake application. If the brake light turns on it may indicate that the parking brake is applied, that the brake fluid level is low, or that there is a problem with the Anti-lock Brake System reservoir.

If the light remains on when the parking brake has been disengaged, and the fluid level is at the full mark on the

master cylinder reservoir, it indicates a possible brake hydraulic system malfunction or that a problem with the Brake Booster has been detected by the Anti-Lock Brake System (ABS)/Electronic Stability Control (ESC) system. In this case, the light will remain on until the condition has been corrected. If the problem is related to the brake booster, the ABS pump will run when applying the brake and a brake pedal pulsation may be felt during each stop.

The dual brake system provides a reserve braking capacity in the event of a failure to a portion of the hydraulic system. A leak in either half of the dual brake system is indicated by the Brake Warning Light, which will turn on when the brake fluid level in the master cylinder has dropped below a specified level.

The light will remain on until the cause is corrected.

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**NOTE:** The light may flash momentarily during sharp cornering maneuvers, which change fluid level conditions. The vehicle should have service performed, and the brake fluid level checked.

If brake failure is indicated, immediate repair is necessary.

#### **WARNING!**

**Driving a vehicle with the red brake light on is dangerous. Part of the brake system may have failed. It will take longer to stop the vehicle. You could have a collision. Have the vehicle checked immediately.**

Vehicles equipped with the ABS, are also equipped with Electronic Brake Force Distribution (EBD). In the event of an EBD failure, the Brake Warning Light will turn on along with the ABS Light. Immediate repair to the ABS system is required.

Operation of the Brake Warning Light can be checked by turning the ignition switch from the OFF position to the ON/RUN position. The light should illuminate for approximately two seconds. The light should then turn off unless the parking brake is applied or a brake fault is detected. If the light does not illuminate, have the light inspected by an authorized dealer.

The light also will turn on when the parking brake is applied with the ignition switch in the ON/RUN position.

**NOTE:** This light shows only that the parking brake is applied. It does not show the degree of brake application.

#### **7. High Beam Indicator**



This indicator shows that headlights are on high beam. Push the multifunction lever forward to switch the headlights to high beam, and pull toward yourself (normal position) to return to low beam.

### 8. *Seat Belt Reminder Light*



When the ignition switch is first turned to ON/RUN, this light will turn on for four to eight seconds as a bulb check. During the bulb check, if the driver's seat belt is unbuckled, a chime will sound. After the bulb check or when driving, if the driver's seat belt remains unbuckled, the seat belt reminder light will flash or remain on continuously. Refer to "Occupant Restraints" in "Things To Know Before Starting Your Vehicle" for further information.

### 9. *Air Bag Warning Light*



This light will turn on for four to eight seconds as a bulb check when the ignition switch is first turned to ON/RUN. If the light is either not on during starting, stays on, or turns on while driving, have the system inspected at an authorized

dealer as soon as possible. Refer to "Occupant Restraints" in "Things To Know Before Starting Your Vehicle" for further information.

### 10. *Engine Oil Pressure*

The pointer should always indicate some oil pressure when the engine is running. A continuous high or low reading under normal driving conditions may indicate a lubrication system malfunction. Immediate service should be obtained from an authorized dealer.

If the gauge pointer moves to either extreme of the gauge, the Check Gauges indicator will illuminate and a single chime will sound.

### 11. *Speedometer*

The speedometer shows the vehicle speed in miles per hour and/or kilometers per hour (mph/km/h).

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**12. Park/Headlight ON Indicator — If Equipped**



This indicator will illuminate when the park lights or headlights are turned on.

**13. Cargo Light**



The cargo light will illuminate when the cargo light is activated by pressing the cargo light button on the headlight switch.

**14. Fuel Gauge**

Shows level of fuel in tank when ignition switch is in the ON/RUN position.

**15. Vehicle Security Light — If Equipped**



This light will flash at a fast rate for approximately 15 seconds, when the vehicle security alarm is arming, and then will flash slowly until the vehicle is disarmed.

**16. Tire Pressure Monitoring Telltale Light**



Each tire, including the spare (if provided), should be checked monthly when cold and inflated to the inflation pressure recommended by the vehicle manufacturer on the vehicle placard or tire inflation pressure label. (If your vehicle has tires of a different size than the size indicated on the vehicle placard or tire inflation pressure label, you should determine the proper tire inflation pressure for those tires.)

As an added safety feature, your vehicle has been equipped with a Tire Pressure Monitoring System (TPMS) that illuminates a low tire pressure telltale when one or more of your tires is significantly under-inflated. Accordingly, when the low tire pressure telltale illuminates, you should stop and check your tires as soon as possible, and inflate them to the proper pressure. Driving on a significantly under-inflated tire causes the tire to overheat and can lead to tire failure. Under-inflation also

reduces fuel efficiency and tire tread life, and may affect the vehicle's handling and stopping ability.

Please note that the TPMS is not a substitute for proper tire maintenance, and it is the driver's responsibility to maintain correct tire pressure, even if under-inflation has not reached the level to trigger illumination of the TPMS low tire pressure telltale.

Your vehicle has also been equipped with a TPMS malfunction indicator to indicate when the system is not operating properly. The TPMS malfunction indicator is combined with the low tire pressure telltale. When the system detects a malfunction, the telltale will flash for approximately one minute and then remain continuously illuminated. This sequence will continue upon subsequent vehicle start-ups as long as the malfunction exists. When the malfunction indicator is illuminated, the system may not be able to detect or signal low tire pressure as intended. TPMS malfunctions may occur for a variety of reasons, including the installation of replacement or

alternate tires or wheels on the vehicle that prevent the TPMS from functioning properly. Always check the TPMS malfunction telltale after replacing one or more tires or wheels on your vehicle, to ensure that the replacement or alternate tires and wheels allow the TPMS to continue to function properly.

<b>CAUTION!</b>
<b>The TPMS has been optimized for the original equipment tires and wheels. TPMS pressures and warning have been established for the tire size equipped on your vehicle. Undesirable system operation or sensor damage may result when using replacement equipment that is not of the same size, type, and/or style. Aftermarket wheels can cause sensor damage. Using aftermarket tire sealants may cause the Tire Pressure Monitoring System (TPMS)</b>

*(Continued)*

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**CAUTION! (Continued)**

sensor to become inoperable. After using an after-market tire sealant it is recommended that you take your vehicle to an authorized dealership to have your sensor function checked.

**NOTE:** The TPMS telltale is also accompanied by a “Low Tire” message in the Driver Information Display (DID) screen indicating “Low Tire”.

**17. Front Fog Light Indicator — If Equipped**



This indicator will illuminate when the front fog lights are on.

**18. Driver Information Display (DID)**

The Driver Information Display (DID) features an interactive display that is located in the instrument cluster. For further information, refer to “Driver Information Display (DID)” in this section.

**19. Transmission Gear Position Indicator**

The Transmission Gear Position Indicator is self-contained within the instrument cluster. It displays the gear range of the automatic transmission.

**NOTE:** The highest available transmission gear is displayed in the lower right corner of the DID whenever the Electronic Range Select (ERS) feature is active. Use the +/- selector on the shift lever or steering wheel to activate ERS. Refer to “Automatic Transmission” in “Starting And Operating” for further information.

### 20. Driver Information Display (DID) Menu

Driver Information Display (DID) features an interactive display of the main menu's that is located in the instrument cluster. For further information, refer to "Driver Information Display (DID)" in this section.

### 21. Electronic Stability Control (ESC) OFF Indicator Light — If Equipped



This light indicates that the Electronic Stability Control (ESC) is in Partial Off or Full Off mode.

### 22. TOW/HAUL



The TOW HAUL button is located on the center stack upper switch bank. This light will illuminate when TOW HAUL mode is selected.

### 23. Electronic Stability Control (ESC) Activation/Malfunction Indicator Light — If Equipped



The "ESC Activation/Malfunction Indicator Light" in the instrument cluster will come on when the ignition switch is turned to the ON/RUN position. It should go out with the engine running. If the "ESC Activation/Malfunction Indicator Light" comes on continuously with the engine running, a malfunction has been detected in the ESC system. If this light remains on after several ignition cycles, and the vehicle has been driven several miles (kilometers) at speeds greater than 30 mph (48 km/h), see your authorized dealer as soon as possible to have the problem diagnosed and corrected.

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##### NOTE:

- The “ESC Off Indicator Light” and the “ESC Activation/Malfunction Indicator Light” come on momentarily each time the ignition switch is turned to ON/RUN.
- Each time the ignition is turned to ON/RUN, the ESC system will be ON, even if it was turned off previously.
- The ESC system will make buzzing or clicking sounds when it is active. This is normal; the sounds will stop when ESC becomes inactive following the maneuver that caused the ESC activation.

##### 24. DEF Gauge

The DEF Gauge displays the actual level of Diesel Exhaust Fluid in the DEF tank. Diesel Exhaust Fluid (DEF) is required to maintain normal vehicle operation and emissions compliance. More information is available in the Electronic Vehicle Information (EVIC) or Driver

Information Display (DID) section under the heading of Diesel Exhaust Fluid (DEF) Warning Messages.

##### NOTE:

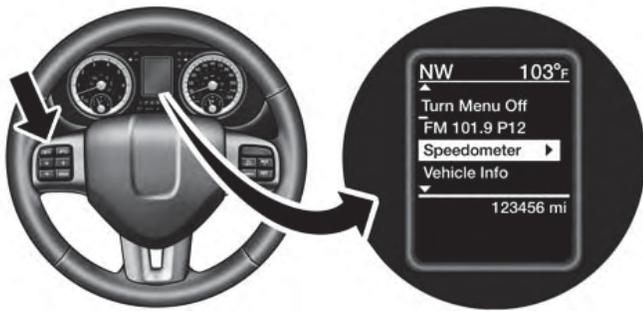
- The gauge may take up to five seconds to update after adding a gallon or more of Diesel Exhaust Fluid (DEF) to the DEF tank. If you have a fault related to the DEF system, the gauge may not update to the new level. See your authorized dealer for service.
- The DEF gauge may also not immediately update after a refill if the temperature of the DEF fluid is below 12F (-11C). The DEF line heater will possibly warm up the DEF fluid and allow the gauge to update after a period of run time. Under very cold conditions, it is possible that the gauge may not reflect the new fill level for several drives.

### ELECTRONIC VEHICLE INFORMATION CENTER (EVIC)

The Electronic Vehicle Information Center (EVIC) features a driver-interactive display that is located in the instrument cluster.

This system conveniently allows the driver to select a variety of useful information by pressing the switches mounted on the steering wheel.

Refer to “Electronic Vehicle Information Center – If Equipped” in the Owner’s Manual for further information.

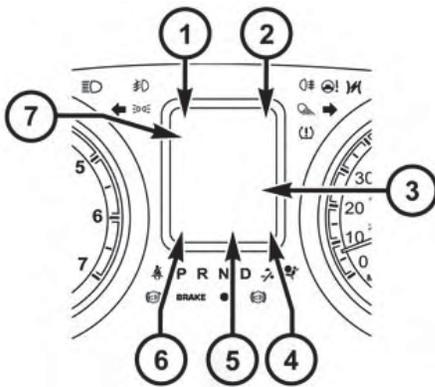


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Electronic Vehicle Information Center (EVIC)

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**Electronic Vehicle Information Center (EVIC)  
Displays — 3.5” Display**



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The EVIC displays are located in the center portion of the cluster and consists of seven sections:

**1. *Compass Display***

Displays the current direction. For further information, refer to “Compass Settings” under “Customer Programmable Features — Uconnect® 5.0/8.4 Settings”.

**2. *Temperature Display***

Displays the temperature in degrees Celsius or degrees Fahrenheit.

**3. *Main Screen***

Displays main menu, sub-menus, settings.

#### 4. EVIC White Telltales

- **Electronic Speed Control Ready**



This light will turn on when the electronic speed control is ON. For further information, refer to “Electronic Speed Control” in “Understanding The Features Of Your Vehicle.”

- **Electronic Speed Control SET**



This light will turn on when the electronic speed control is SET. For further information, refer to “Electronic Speed Control” in “Understanding The Features Of Your Vehicle.”

- **ERS Gear Limit**

The highest available transmission gear is displayed in the lower right corner of the Electronic Vehicle Information Center (EVIC) whenever the Electronic Range Select (ERS) feature is active. Use the +/- selector on the shift lever or steering wheel to activate ERS. Refer to “Automatic Transmission” in “Starting And Operating” for further information.

#### 5. EVIC Amber Telltales

- **Low Fuel Telltale**



When the fuel level reaches approximately 3.0 gal (11.0 L) this light will turn on, and remain on until fuel is added.

- **Windshield Washer Fluid Low Indicator**



This telltale will turn on to indicate the windshield washer fluid is low.

- **Low Coolant Level Indicator**



This telltale will turn on to indicate the vehicle coolant level is low.

- **Transmission Temperature Warning Telltale**



This telltale indicates that the transmission fluid temperature is running hot. This may occur with severe usage, such as trailer towing.

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If this telltale turns on, safely pull over and stop the vehicle. Then, shift the transmission into PARK and run the engine at idle or faster until the light turns off.

<b>CAUTION!</b>
Continuous driving with the Transmission Temperature Warning Light illuminated will eventually cause severe transmission damage or transmission failure.

<b>WARNING!</b>
If you continue operating the vehicle when the Transmission Temperature Warning Light is illuminated you could cause the fluid to boil over, come in contact with hot engine or exhaust components and cause a fire.

- *Air Suspension Payload Protection Telltale — If Equipped*



This telltale will turn on to indicate that the maximum payload may have been exceeded or load leveling cannot be achieved at its current ride height.

Protection Mode will automatically be selected in order to “protect” the air suspension system, air suspension adjustment is limited due to payload.

- *Water In Fuel Indicator Light — Diesel Only*



The “Water In Fuel Indicator Light” will illuminate when there is water detected in the fuel filters. If this light remains on, DO NOT start the vehicle before you drain the water from the fuel filters to prevent engine damage. Refer to “Maintenance Procedures/Draining Fuel/Water Separator Filters” in “Maintaining Your Vehicle” for further information.

- **Wait To Start Light**

 The “Wait To Start” telltale will illuminate for approximately two seconds when the ignition is turned to the RUN position. It’s duration may be longer based on colder operating conditions. Vehicle will not initiate start until telltale is out. Refer to “Starting Procedures” in “Starting And Operating” for further information.

**NOTE:** The “Wait To Start” telltale may not illuminate if the intake manifold temperature is warm enough.

- **Low Diesel Exhaust Fluid Light**

 This telltale will turn on to indicate the Diesel Exhaust Fluid (DEF) is low.

## 6. EVIC Red Telltales

- **Door Ajar**



This light will turn on to indicate that one or more doors may be ajar.

- **Oil Pressure Warning Light**



This telltale indicates low engine oil pressure. If the light turns on while driving, stop the vehicle and shut off the engine as soon as possible. A chime will sound when this light turns on.

Do not operate the vehicle until the cause is corrected. This light does not show how much oil is in the engine. The engine oil level must be checked under the hood.

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- *Oil Temperature Warning Light*



This telltale indicates engine oil temperature is high. If the light turns on while driving, stop the vehicle and shut off the engine as soon as possible.

- *Charging System Light*



This light shows the status of the electrical charging system. If the light stays on or comes on while driving, turn off some of the vehicle's non-essential electrical devices or increase engine speed (if at idle). If the charging system light remains on, it means that the vehicle is experiencing a problem with the charging system. Obtain SERVICE IMMEDIATELY. See an authorized dealer.

If jump starting is required, refer to "Jump Starting Procedures" in "What To Do In Emergencies".

- *Electronic Throttle Control (ETC) Light*



This light informs you of a problem with the Electronic Throttle Control (ETC) system. The light will come on when the ignition is first turned ON and remain on briefly as a bulb check. If the light does not come on during starting, have the system checked by an authorized dealer.

If a problem is detected, the light will come on while the engine is running. Cycle the ignition key when the vehicle has completely stopped and the transmission is in the PARK position. The light should turn off.

If the light remains lit with the engine running, your vehicle will usually be drivable. However, see an authorized dealer for service as soon as possible. If the light is flashing when the engine is running, immediate service is required. You may experience reduced performance, an elevated/rough idle or engine stall and your vehicle may require towing.

• *Engine Temperature Warning Light*

 This light warns of an overheated engine condition. As temperatures rise and the gauge approaches **H**, this indicator will illuminate and a single chime will sound after reaching a set threshold. Further overheating will cause the temperature gauge to pass **H**, a continuous chime will occur until the engine is allowed to cool.

If the light turns on while driving, safely pull over and stop the vehicle. If the A/C system is on, turn it off. Also, shift the transmission into PARK and idle the vehicle. If the temperature reading does not return to normal, turn the engine off immediately and call for service. Refer to “If Your Engine Overheats” in “What To Do In Emergencies” for further information.

• *Electric Power Steering Malfunction Warning Light*

 This telltale is on when the Electric Power Steering is not operating and needs service.

• *Trailer Brake Disconnected Warning Light*

 This telltale is on when the Trailer Brake has been disconnected.

7. *Audio/Phone Information And Sub-menu Information*

Whenever there are sub-menus available, the position within the sub-menu is shown here.

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The main display area will normally display the main menu or the screens of a selected feature of the main menu. The main display area also displays “pop up” messages that consist of approximately 60 possible warning or information messages. These pop up messages fall into several categories:

- *Five Second Stored Messages*

When the appropriate conditions occur, this type of message takes control of the main display area for five seconds and then returns to the previous screen. Most of the messages of this type are then stored (as long as the condition that activated it remains active) and can be reviewed from the “Messages” main menu item. As long as there is a stored message, an “i” will be displayed in the EVIC’s compass/outside temp line. Examples of this message type are “Right Front Turn Signal Lamp Out” and “Low Tire Pressure”.

- *Unstored Messages*

This message type is displayed indefinitely or until the condition that activated the message is cleared. Examples of this message type are “Turn Signal On” (if a turn signal is left on) and “Lights On” (if driver leaves the vehicle).

- *Unstored Messages Until RUN*

These messages deal primarily with the Remote Start feature. This message type is displayed until the ignition is in the RUN state. Examples of this message type are “Remote Start Aborted - Door Ajar” and “Press Brake Pedal and Push Button to Start”.

- *Five Second Unstored Messages*

When the appropriate conditions occur, this type of message takes control of the main display area for five seconds and then returns to the previous screen. An example of this message type is “Automatic High Beams On”.

### Diesel Particulate Filter (DPF) Messages

This engine meets all required diesel engine emissions standards. To achieve these emissions standards, your vehicle is equipped with a state-of-the-art engine and exhaust system. These systems are seamlessly integrated into your vehicle and managed by the Powertrain Control Module (PCM). The PCM manages engine combustion to allow the exhaust system’s catalyst to trap and burn Particulate Matter (PM) pollutants, with no input or interaction on your part.

**WARNING!**

**A hot exhaust system can start a fire if you park over materials that can burn. Such materials might be grass or leaves coming into contact with your exhaust system. Do not park or operate your vehicle in areas where your exhaust system can contact anything that can burn.**

Your vehicle has the ability to alert you to additional maintenance required on your vehicle or engine. Refer to the following messages that may be displayed on your Electronic Vehicle Information Center (EVIC):

- **Exhaust Filter XX% Full Safely Drive at Highway Speeds to Remedy** — This message will be displayed in the Electronic Vehicle Information Center (EVIC) if the exhaust particulate filter reaches 80% of its maximum storage capacity. Under conditions of exclusive short duration and low speed driving cycles, your diesel engine and exhaust after-treatment system may never reach the conditions required to cleanse the filter to remove the trapped PM. If this occurs, the “Exhaust Filter XX% Full Safely Drive at Highway Speeds to Remedy” message will be displayed in the EVIC. If this message is displayed, you will hear one chime to assist in alerting you of this condition. By simply driving your vehicle at highway speeds for up to 20

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minutes, you can remedy the condition in the particulate filter system and allow your diesel engine and exhaust after-treatment system to cleanse the filter to remove the trapped PM and restore the system to normal operating condition.

- **Exhaust System — Regeneration In Process Exhaust Filter XX% Full** — This message indicates that the Diesel Particulate Filter (DPF) is self-cleaning. Maintain your current driving condition until regeneration is completed.
- **Exhaust System — Regeneration Completed** — This message indicates that the Diesel Particulate Filter (DPF) self-cleaning is completed. If this message is displayed, you will hear one chime to assist in alerting you of this condition.
- **Exhaust Service Required — See Dealer Now** — This message indicates regeneration has been disabled due to a system malfunction. At this point the engine

Powertrain Control Module (PCM) will register a fault code, the instrument panel will display a MIL light.

### CAUTION!

See your authorized dealer, as damage to the exhaust system could occur soon with continued operation.

- **Exhaust Filter Full — Power Reduced See Dealer** — This message indicates the PCM has derated the engine to limit the likelihood of permanent damage to the after-treatment system. If this condition is not corrected and a dealer service is not performed, extensive exhaust after-treatment damage can occur. To correct this condition it will be necessary to have your vehicle serviced by your local authorized dealer.

**CAUTION!**

See your authorized dealer, as damage to the exhaust system could occur soon with continued operation.

**Diesel Exhaust Fluid (DEF) Warning Messages**

Your vehicle will begin displaying warning messages when the DEF level reaches a driving range of approximately 500 miles (800 km). If the following warning message sequence is ignored, your vehicle may not restart unless DEF is added with in the displayed mileage shown in the Cluster message.

- **Engine Will Not Restart in XXXX mi DEF Low Refill Soon** — This message will display when DEF driving range is less than 500 miles, DEF fluid top off is required with in the displayed mileage. The message will be displayed in the cluster during vehicle start up with the current allowed mileage and accompanied by

a single chime. The remaining mileage can be pulled up anytime by way of the “Messages” list within the EVIC/DID

- **Engine Will Not Restart in XXXX mi Refill DEF** — This message will display when DEF driving range is less than 200 miles. It is also displayed at 150 miles and 100 miles. DEF fluid top off is required with in the displayed mileage. The message will be displayed in the EVIC/DID during vehicle start up with an updated distance mileage, and it will be accompanied by a single chime. Stating at 100 miles, remaining range will be continuously displayed while operating the vehicle. Chimes will also accompany the 75, 50 and 25 mile remaining distances. The DEF Low telltale will be on continuously until DEF fluid is topped off.
- **Engine Will Not Restart Refill DEF** — This message will display when the DEF driving range is less than 1 mile, DEF fluid top off is required or the engine will not restart. The message will be displayed in the

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EVIC/DID during vehicle start up, and it will be accompanied by a single chime. The DEF Low telltale will be illuminated continuously until DEF fluid tank is filled with a minimum of two gallons of DEF.

### **Diesel Exhaust Fluid (DEF) Fault Warning Messages**

There are different messages which are displayed if the vehicle detects that the DEF system has been filled with a fluid other than DEF, has experienced component failures, or when tampering has been detected.

When the DEF system needs to be serviced the following warnings will display:

- **Service DEF System See Dealer** — This message will display when the fault is initially detected and each time the vehicle is started. The message will be accompanied by a single chime and the Malfunction Indicator Light. We recommend you drive to your nearest

authorized dealer and have your vehicle serviced immediately. If not corrected in 50 miles, vehicle will enter the “Engine Will not restart in XXXmi Service DEF See dealer” warning stage and message.

- **Engine Will Not Restart in XXX mi Service DEF See Dealer** — This message is first displayed if the fault detected is not serviced after 50 miles of operation. It is also displayed at 150 miles 125 miles and 100 miles. System service is required within the displayed mileage. The message will be displayed during vehicle start up with an updated distance mileage, and it will be accompanied by a single chime. Starting at 100 miles, remaining range will be continuously displayed while operating the vehicle. Chimes will also accompany the 75, 50 and 25 mile remaining distances. We recommend you drive to your nearest authorized dealer and have your vehicle serviced immediately.

- **Engine Will Not Restart Service DEF System See Dealer** — This message will display if DEF system issue detected is not serviced during the allowed period. Your engine will not restart unless your vehicle is serviced by your authorized dealer. This message will be displayed when under 1 mile until engine will not start and each time the vehicle is started, and will be continuously displayed. The message will be accompanied by a single chime. Your Malfunction Indicator Light will be continuously illuminated. We highly recommend you drive to your nearest authorized dealer if the message appears while engine is running.
- **Engine Will Not Start Service DEF System See Dealer** — This message will display when the fault detected is not serviced after the Engine will not restart Service DEF System See Dealer message is displayed on the next subsequent restart. Your engine will not start unless you vehicle is serviced by your authorized dealer. The message will be accompanied by a single

chime. Your Malfunction Indicator Light will be continuously illuminated. If the message appears and you can not start the engine, we recommend you have your vehicle towed to your nearest authorized dealer immediately.

### EVIC/DID Displays

When the appropriate conditions exist, the EVIC/DID displays the following messages:

- System Setup Unavailable – Vehicle Not in Park
- System Setup Unavailable – Vehicle in Motion
- Exhaust Filter Full Safely Drive at Highway Speeds To Remedy
- Exhaust Filter XX% Full – Power Reduced See Dealer
- Exhaust Service Required – See Dealer Now

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- Exhaust System – Filter XX% Full Service Required See Dealer
- Exhaust System – Regeneration In Process Exhaust Filter XX% Full
- Exhaust System – Regeneration Completed
- Engine Will Not Restart in XXXX mi DEF Low Refill Soon
- Engine Will Not Restart in XXXX mi Refill DEF
- Engine Will Not Restart Refill DEF
- Service DEF System See Dealer
- Incorrect DEF Detected See Dealer
- Engine Will Not Restart in XXX mi Service DEF See Dealer
- Engine Will Not Restart Service DEF System See Dealer

#### Oil Life Reset

Your vehicle is equipped with an engine oil change indicator system. The “Oil Change Required” message will display in the EVIC display for approximately 10 seconds after a single chime has sounded, to indicate the next scheduled oil change interval. The engine oil change indicator system is duty cycle based, which means the engine oil change interval may fluctuate, dependent upon your personal driving style.

**NOTE:** Use the steering wheel EVIC controls for the following procedure(s).

#### Vehicles Equipped With Passive Entry

1. Without pressing the brake pedal, push the ENGINE START/STOP button and place the ignition to the ON/RUN position (do not start the engine).
2. Push and release the **DOWN** arrow button to scroll downward through the main menu to “Vehicle Info.”

3. Push and release the **RIGHT** arrow button to access the "Oil Life" screen.
  4. Push and release the **DOWN** arrow button to select "Reset," then press and release the **Right** arrow button to select reset of the Oil Life to 100%.
  5. Push and release the **Up** arrow button to exit the EVIC screen.
3. Push and release the **RIGHT** arrow button to access the "Vehicle Info" screen then scroll **UP** or **DOWN** to select "Oil Life."
  4. Push and hold the **RIGHT** arrow button to select "Reset," then select "NO" or "YES" by pressing the **RIGHT** arrow then press the **RIGHT** arrow button to select reset of the Oil Life to 100%.
  5. Push and release the **Up** arrow button to exit the EVIC screen.

#### Vehicles Not Equipped With Passive Entry

1. Without pushing the brake pedal, push the **ENGINE START/STOP** button and place the ignition to the **ON/RUN** position (do not start the engine).
2. Push and release the **LEFT** arrow then press and release the **DOWN** arrow button to scroll downward through the main menu to "Vehicle Info."

**NOTE:** If the indicator message illuminates when you start the vehicle, the Fuel Filter indicator system did not reset. If necessary, repeat this procedure.

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**Vehicle Information (Customer Information Features)**

Press and release the UP  $\triangle$  arrow or DOWN  $\nabla$  arrow button until "Vehicle Info" displays in the EVIC. Press the RIGHT  $\triangleright$  arrow or LEFT  $\triangleleft$  arrow button to scroll through the available Vehicle Information sub menu(s) to display anyone of the following choices.



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**EVIC Steering Wheels Buttons  
Vehicle Information Sub Menus**

- *Battery Voltage*

Displays the actual battery voltage.

- *Fuel Filter Life*

Displays the life of the fuel filter.

- *Oil Pressure*

Displays the actual oil pressure.

- *Oil Temperature*

Displays the actual oil temperature.

- *Trans Temperature*

Displays the actual transmission sump temperature.

- *Coolant Temp*

Displays the actual coolant temperature.

- *Tire Pressure Monitor System*

Displays the actual tire pressure.

- *Engine Hours*

Displays the actual engine hours.

Gauge Summary (Coolant Temp, Trans Temp, Oil Temp, Oil Pressure)

### DRIVER INFORMATION DISPLAY (DID)

The Driver Information Display (DID) features an interactive display that is located in the instrument cluster.



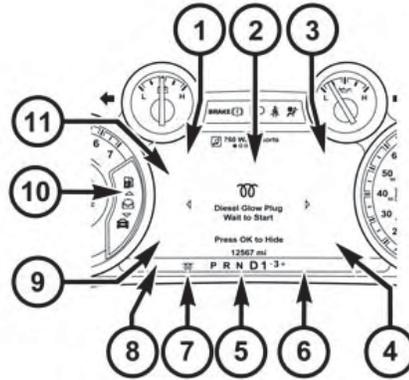
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Driver Information Display (DID)

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This system conveniently allows the driver to select a variety of useful information by pressing the switches mounted on the steering wheel. Refer to “Driver Information Display– If Equipped” in the Owner’s Manual for further information.

**Driver Information Display (DID) – 7” Display**



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The Driver Information Display (DID) display is located in the center portion of the cluster and consists of eight sections:

1. Main Screen — The inner ring of the display will illuminate in grey under normal conditions, yellow for non critical warnings, red for critical warnings and white for on demand information.
2. Audio Information and Submenu Information — Whenever there are submenus available, the position within the submenus is shown here.
3. Selectable Information (Compass, Temp, Range to Empty, Trip A, Trip B, Average MPG, Trailer Trip (distance only), Trailer Brake Gain).
4. Air Suspension Status – If Equipped
5. Transmission Gear Position Indicator (PRND)
6. Status Menu Icons
7. Telltales/Indicators
8. 4WD Status
9. Selectable Gauge (Trans Temp, Oil Temp, Oil Life, Trailer Brake, Current MPG, Fuel Filter Life, Turbo Boost, Exhaust Brake, Battery Voltage)
10. Main Menu Items (Digital Speedometer, Vehicle Info, Fuel Economy, Trip A, Trip B, Trailer Tow, Audio, Stored Messages, Screen Setup, Vehicle Settings)
11. Selectable Gauge (Trans Temp, Oil Temp, Oil Life, Trailer Brake, Current MPG, Fuel Filter Life, Turbo Boost, Exhaust Brake, Battery Voltage)

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The main display area will normally display the main menu or the screens of a selected feature of the main menu. The main display area also displays “pop up” messages that consist of approximately 60 possible warning or information messages. These pop up messages fall into several categories:

- *Five Second Stored Messages*

When the appropriate conditions occur, this type of message takes control of the main display area for five seconds and then returns to the previous screen. Most of the messages of this type are then stored (as long as the condition that activated it remains active) and can be reviewed from the “Messages” main menu item. As long as there is a stored message, an “i” will be displayed in the DID’s compass/outside temp line. Examples of this message type are “Right Front Turn Signal Lamp Out” and “Low Tire Pressure”.

- *Unstored Messages*

This message type is displayed indefinitely or until the condition that activated the message is cleared. Examples of this message type are “Turn Signal On” (if a turn signal is left on) and “Lights On” (if driver leaves the vehicle).

- *Unstored Messages Until RUN*

These messages deal primarily with the Remote Start feature. This message type is displayed until the ignition is in the RUN state. Examples of this message type are “Remote Start Aborted - Door Ajar” and “Press Brake Pedal and Push Button to Start”.

- *Five Second Unstored Messages*

When the appropriate conditions occur, this type of message takes control of the main display area for five seconds and then returns to the previous screen. An example of this message type is “Automatic High Beams On”.

### DID Amber Telltales

This area will show reconfigurable amber caution telltales. These telltales include:

#### Water In Fuel Indicator Light



The “Water In Fuel Indicator Light” will illuminate when there is water detected in the fuel filters. If this light remains on, DO NOT start the vehicle before you drain the water from the fuel filters to prevent engine damage. Refer to “Maintenance Procedures/Draining Fuel/Water Separator Filters” in “Maintaining Your Vehicle” for further information.

#### Wait To Start Light



The “Wait To Start” telltale will illuminate for approximately two seconds when the ignition is turned to the RUN position. It’s duration may be longer based on colder operating conditions. Vehicle will not initiate start until telltale is out. Refer to “Starting Procedures” in “Starting And Operating” for further information.

**NOTE:** The “Wait To Start” telltale may not illuminate if the intake manifold temperature is warm enough.

#### Low Diesel Exhaust Fluid Light



This telltale will turn on to indicate the Diesel Exhaust Fluid (DEF) is low.

#### Diesel Particulate Filter (DPF) Messages

The Cummins® diesel engine meets all EPA Heavy Duty Diesel Engine Emissions Standards, resulting in one of the lowest emitting diesel engines ever produced. To achieve these emissions standards, your vehicle is equipped with a state-of-the-art engine and exhaust system. These systems are seamlessly integrated into your vehicle and managed by the Powertrain Control Module (PCM). The PCM manages engine combustion to allow the exhaust system’s catalyst to trap and burn

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Particulate Matter (PM) pollutants, with no input or interaction on your part.

<b>WARNING!</b>
<b>A hot exhaust system can start a fire if you park over materials that can burn. Such materials might be grass or leaves coming into contact with your exhaust system. Do not park or operate your vehicle in areas where your exhaust system can contact anything that can burn.</b>

Your vehicle has the ability to alert you to additional maintenance required on your vehicle or engine. Refer to the following messages that may be displayed on your DID:

- **Perform Service** — Your vehicle will require emissions maintenance at a set interval. To help remind you when this maintenance is due, the Cluster will display

“Perform Service”. When the “Perform Service” message is displayed on the DID it is necessary to have the emissions maintenance performed. Emissions maintenance may include replacing the Closed Crankcase Ventilation (CCV) filter element. The procedure for clearing and resetting the “Perform Service” indicator message is located in the appropriate Service Information.

- **Exhaust System — Regeneration Required Now** — “Exhaust Filter XX% Full Safely Drive at Highway Speeds to Remedy” will be displayed in the Cluster if the exhaust particulate filter reaches 80% of its maximum storage capacity. Under conditions of exclusive short duration and low speed driving cycles, your Cummins® diesel engine and exhaust after-treatment system may never reach the conditions required to remove the trapped PM. If this occurs, the “Exhaust Filter XX% Full Safely Drive at Highway Speeds to

Remedy” message will be displayed in the DID. If this message is displayed, you will hear one chime to assist in alerting you of this condition

- By simply driving your vehicle at highway speeds for as little as 45 minutes, you can remedy the condition in the particulate filter system and allow your Cummins® diesel engine and exhaust after-treatment system to remove the trapped PM and restore the system to normal operating condition.
- **Exhaust System — Regeneration In Process Exhaust Filter XX% Full** — Indicates that the Diesel Particulate Filter (DPF) is self-cleaning. Maintain your current driving condition until regeneration is completed.
- **Exhaust System — Regeneration Completed** — This message indicates that the Diesel Particulate Filter (DPF) self-cleaning is completed. If this message is displayed, you will hear one chime to assist in alerting you of this condition.

- **Exhaust Service Required — See Dealer Now** — This message indicates regeneration has been disabled due to a system malfunction. At this point the engine Powertrain Control Module (PCM) will register a fault code, the instrument panel will display a MIL light.

**CAUTION!**

**See your authorized dealer, as damage to the exhaust system could occur soon with continued operation.**

- **Exhaust Filter Full — Power Reduced See Dealer** — This message indicates the PCM has derated the engine to limit the likelihood of permanent damage to the after-treatment system. If this condition is not corrected and a dealer service is not performed, extensive exhaust after-treatment damage can occur. To correct this condition it will be necessary to have your vehicle serviced by your local authorized dealer.

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**CAUTION!**

See your authorized dealer, as damage to the exhaust system could occur soon with continued operation.

**Diesel Exhaust Fluid (DEF) Warning Messages**

Your vehicle will begin displaying warning messages when the DEF level reaches a driving range of approximately 500 miles (800 km). If the following warning message sequence is ignored, your vehicle may not restart unless DEF is added with in the displayed mileage shown in the Cluster message.

- **Engine Will Not Restart in XXXX mi DEF Low Refill Soon** — This message will display when DEF driving range is less than 500 miles, DEF fluid top off is required with in the displayed mileage. The message will be displayed in the cluster during vehicle start up with the current allowed mileage and accompanied by

a single chime. The remaining mileage can be pulled up anytime by way of the “Messages” list within the DID

- **Engine Will Not Restart in XXXX mi Refill DEF** — This message will display when DEF driving range is less than 200 miles. It is also displayed at 150 miles and 100 miles. DEF fluid top off is required with in the displayed mileage. The message will be displayed in the DID during vehicle start up with an updated distance mileage, and it will be accompanied by a single chime. Stating at 100 miles, remaining range will be continuously displayed while operating the vehicle. Chimes will also accompany the 75, 50 and 25 mile remaining distances. The DEF Low telltale will be on continuously until DEF fluid is topped off.
- **Engine Will Not Restart Refill DEF** — This message will display when the DEF driving range is less than 1 mile, DEF fluid top off is required or the engine will

not restart. The message will be displayed in the DID during vehicle start up, and it will be accompanied by a single chime. The DEF Low telltale will be illuminated continuously until DEF fluid tank is filled with a minimum of two gallons of DEF.

### Diesel Exhaust Fluid (DEF) Fault Warning Messages

There are four different messages which are displayed if the vehicle detects that the DEF system has been filled with a fluid other than DEF, has experienced component failures, or when tampering has been detected. The vehicle may be limited to a maximum speed of 5 MPH (8 km/H) if the DEF system is not serviced within less than 200 miles (322 km) of the fault being detected.

When the DEF system needs to be serviced the following warnings will display:

- **Service DEF System See Dealer** — This message will display when the fault is initially detected, each time the vehicle is started, and periodically during driving. The message will be accompanied by a single chime. We recommend you drive to your nearest authorized dealer and have your vehicle serviced as soon as possible.
- **5 MPH Max Speed in 150 mi Service DEF System See Dealer** — This message will display if the DEF system has not been serviced after the “Service DEF System – See Dealer” message is displayed. This message will continuously display until the mileage counter reaches zero, and will be accompanied by a periodic chime. The message will continue to countdown until it reaches zero unless the vehicle is serviced. We recommend you drive to your nearest authorized dealer and have your vehicle serviced immediately.

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**NOTE:** Under some circumstances this mileage counter may start with a value of less than 150 miles (241 km). For example, if recurring faults are detected in a time interval of less than 40 hours, the counter may restart at the value where it stopped when a previous fault was temporarily remedied, or at a minimum of 50 miles (80 km).

- **5 MPH Max Speed on Restart, Long Idle or Refuel Service DEF See Dealer** — This message will continuously display when the mileage counter reaches zero, and will be accompanied by a periodic chime.
- The vehicle will only be capable of a maximum speed of 5 MPH upon the first of the following conditions to occur:
  - If the vehicle is shutoff and restarted.
  - If the vehicle is idled for an extended period of time, approximately one hour or greater.
  - If the system detects that the level of fuel in the tank has increased.

- **5 MPH Max Speed Service DEF System See Dealer** — This message will continuously display, and will be accompanied by a periodic chime. Although the vehicle can be started and placed in gear, the vehicle will only operate at a maximum speed of 5 MPH. Your vehicle will require towing, see your authorized dealer for service.

**NOTE:** When this message is displayed, the engine can still be started. However, the vehicle will only operate at a maximum speed of 5 MPH.

### **DID Displays**

When the appropriate conditions exist, the DID displays the following messages:

- System Setup Unavailable – Vehicle Not in Park
- System Setup Unavailable – Vehicle in Motion

- Exhaust Filter Full Safely Drive at Highway Speeds To Remedy
- Exhaust Filter XX% Full – Power Reduced See Dealer
- Exhaust Service Required – See Dealer Now
- Exhaust System – Filter XX% Full Service Required See Dealer
- Exhaust System – Regeneration In Process Exhaust Filter XX% Full
- Exhaust System – Regeneration Completed
- Engine Will Not Restart in XXXX mi DEF Low Refill Soon
- Engine Will Not Restart in XXXX mi Refill DEF
- Engine Will Not Restart Refill DEF
- Service DEF System See Dealer
- Incorrect DEF Detected See Dealer
- Engine Will Not Restart in XXX mi Service DEF See Dealer
- Engine Will Not Restart Service DEF System See Dealer

**Oil Life Reset**

Your vehicle is equipped with an engine oil change indicator system. The “Oil Change Required” message will flash in the DID display for approximately 10 seconds after a single chime has sounded, to indicate the next scheduled oil change interval. The engine oil change indicator system is duty cycle based, which means the engine oil change interval may fluctuate, dependent upon your personal driving style.

**NOTE:** Use the steering wheel DID controls for the following procedure(s)

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**Vehicles Equipped With Passive Entry**

1. Without pressing the brake pedal, press the ENGINE START/STOP button and cycle the ignition to the ON/RUN position (do not start the engine.)
2. Press and release the **DOWN** arrow button to scroll downward through the main menu to "Vehicle Info".
3. Press and release the **RIGHT** arrow button to access the "Oil Life" screen.
4. Press and hold the **RIGHT** arrow button for one second to access the "Oil Life Reset" screen.
5. Press and release the **DOWN** arrow button to select "Yes", then press and release the Right arrow button to select reset of the Oil Life.
6. Press and release the **Up** arrow button to exit the DID screen.

**Vehicles Not Equipped With Passive Entry**

1. Without pressing the brake pedal, cycle the ignition to the ON/RUN position (do not start the engine.)
2. Press and release the **DOWN** arrow button to scroll downward through the main menu to " **Vehicle Info**".
3. Press and release the **RIGHT** arrow button to access the " **Oil Life**" screen.
4. Press and hold the **RIGHT** arrow button for one second to access the " **Oil Life Reset**" screen.
5. Press and release the **DOWN** arrow button to select "Yes", then press and release the Right arrow button to select reset of the Oil Life.
6. Press and release the **Up** arrow button to exit the DID screen.

**NOTE:** If the indicator message illuminates when you start the vehicle, the oil change indicator system did not reset. If necessary, repeat this procedure.

**Vehicle Information (Customer Information Features)**

Press and release the UP  arrow or DOWN  arrow button until "Vehicle Info" displays in the Driver Information Display (DID). Press the RIGHT  arrow or LEFT  arrow button to scroll through the available Vehicle Information sub menu(s) to display anyone of the following choices.



DID Steering Wheels Buttons

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### Vehicle Information Sub Menus

- *Battery Voltage*

Displays the actual battery voltage.

- *Coolant Temp*

Displays the actual coolant temperature.

- *Trans Temperature*

Displays the actual transmission sump temperature.

- *Tire Pressure Monitor System*

Displays the actual tire pressure.

- *Oil Life*

Displays the actual oil life.

- *Engine Hours*

Displays the actual engine hours.

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## STARTING AND OPERATING

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**STARTING PROCEDURES**

Before starting your vehicle, adjust your seat, both inside and outside mirrors, and fasten your seat belts.

The starter is allowed to crank for up to 30-second intervals. Waiting a few minutes between such intervals will protect the starter from overheating.

**WARNING!**

- When leaving the vehicle, always make sure the ignition is in the OFF position, remove the Key Fob from the vehicle, and lock the vehicle.

*(Continued)*

**WARNING! (Continued)**

- Never leave children alone in a vehicle, or with access to an unlocked vehicle. Leaving children in a vehicle unattended is dangerous for a number of reasons. A child or others could be seriously or fatally injured. Children should be warned not to touch the parking brake, brake pedal or the shift lever/transmission gear selector.
- Do not leave the Key Fob in or near the vehicle (or in a location accessible to children), and do not leave the ignition (of a vehicle equipped with Keyless Enter-N-Go™) in the ACC or ON/RUN mode. A child could operate power windows, other controls, or move the vehicle.

**NOTE:** Engine start up in very low ambient temperature could result in evident white smoke. This condition will disappear as the engine warms up.

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**CAUTION!**

- The engine is allowed to crank as long as 30 seconds. If the engine fails to start during this period, please wait at least two minutes for the starter to cool before repeating start procedure.
- If the “Water in Fuel Indicator Light” remains on, **DO NOT START** engine before you drain the water from the fuel filters to avoid engine damage. Refer to “Maintenance Procedures/Draining Fuel/Water Separator Filter” in “Maintaining Your Vehicle” for further information.

**Normal Starting**

Normal starting of either a warm or cold engine is obtained without pumping or pressing the accelerator pedal. Turn the key fob to the START position and release

when the engine starts. If the engine fails to start, turn the key fob to the OFF position, wait five seconds, then repeat the “Normal Starting” procedure.

**Automatic Transmission**

Start the engine with the transmission gear selector in the PARK position. Apply the brake before shifting to any driving range.

**Tip Start Feature**

**Do not** press the accelerator. Cycle the ignition switch briefly to the START position and release it. The starter motor will continue to run but will automatically disengage when the engine is running.

**Keyless Enter-N-Go™**



This feature allows the driver to operate the ignition switch with the push of a button, as long as the Remote Start/Keyless Enter-N-Go™ Key Fob is in the passenger compartment.

**Normal Starting Procedure — Keyless Enter-N-Go™**

Observe the instrument panel cluster lights when starting the engine.

**NOTE:** Normal starting of either a cold or a warm engine is obtained without pumping or pressing the accelerator pedal

1. Always apply the parking brake.

2. Press and hold the brake pedal while pressing the ENGINE START/STOP button once.

**NOTE:** A delay of the start of up to five seconds is possible under very cold conditions. The "Wait to Start" telltale will be illuminated during the pre-heat process. When the engine Wait To Start light goes off the engine will automatically crank.

<b>CAUTION!</b>
<b>If the "Water in Fuel Indicator Light" remains on, DO NOT START the engine before you drain the water from the fuel filters to avoid engine damage. Refer to "Maintenance Procedures/Draining Fuel/Water Separator Filter" in "Maintaining Your Vehicle" for further information.</b>

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3. The system will automatically engage the starter to crank the engine. If the vehicle fails to start, the starter will disengage automatically after 30 seconds.
4. If you wish to stop the cranking of the engine prior to the engine starting, press the button again.
5. Check that the oil pressure warning light has turned off.
6. Release the parking brake.

### Extreme Cold Weather

The engine block heater is a resistance heater installed in the water jacket of the engine. It requires a 110–115 Volt AC electrical outlet with a grounded, three-wire extension cord. Its use is recommended for environments that routinely fall below -10°F (-23°C). It should be used when the vehicle has not been running overnight or longer

periods and should be plugged in two hours prior to start. Its use is required for cold starts with temperatures under -20°F (-28°C).

**NOTE: The engine block heater cord is a factory installed option. If your vehicle is not equipped, heater cords are available from your authorized MOPAR® dealer.**

- A 12 Volt heater built into the fuel filter housing aids in preventing fuel gelling. It is controlled by a built-in thermostat.
- A Diesel Pre-Heat system both improves engine starting and reduces the amount of white smoke generated by a warming engine.

### Starting Fluids

The engine is equipped with a glow plug preheating system. If the instructions in this manual are followed,

the engine should start in all conditions and no type of starting fluid should be used.

**WARNING!**

- Do not leave children or animals inside parked vehicles in hot weather. Interior heat build up may cause serious injury or death.
- When leaving the vehicle, always make sure the ignition is in the OFF position, remove the key fob from the vehicle, and lock the vehicle.

*(Continued)*

**WARNING! (Continued)**

- Never leave children alone in a vehicle, or with access to an unlocked vehicle. Allowing children to be in a vehicle unattended is dangerous for a number of reasons. A child or others could be seriously or fatally injured. Children should be warned not to touch the parking brake, brake pedal or the transmission gear selector. Do not leave the key fob in or near the vehicle (or in a location accessible to children), and do not leave the ignition (of a vehicle equipped with Keyless Enter-N-Go™) in the ACC or ON/RUN mode. A child could operate power windows, other controls, or move the vehicle.

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**NORMAL OPERATION**

Observe the following when the diesel engine is operating.

- All message center lights are off.
- Malfunction Indicator Light (MIL) is off.
- Engine Oil Pressure telltale is not illuminated.
- Voltmeter operation:

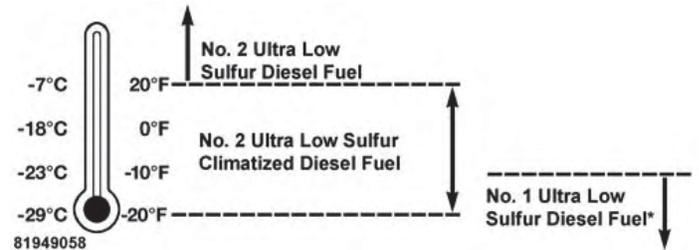
The voltmeter may show a gauge fluctuation at various engine temperatures. This is caused by the glow plug heating system. The number of cycles and the length of the cycling operation is controlled by the engine control module. Glow plug heater operation can run for several minutes, once the heater operation is complete the voltmeter needle will stabilize.

**Cold Weather Precautions**

Operation in ambient temperature below 32°F (0°C) may require special considerations. The following charts suggest these options:

**Fuel Operating Range**

**NOTE:** Use "Ultra Low Sulfur Diesel Fuels" **ONLY**.



**Fuel Operating Range Chart**

\*No. 1 Ultra Low Sulfur Diesel Fuel should only be used where extended arctic conditions (-10°F/-23°C) exist.

**NOTE:**

- Use of Climatized Ultra Low Sulfur Diesel Fuel or Number 1 Ultra Low Sulfur Diesel Fuel results in a noticeable decrease in fuel economy.
- Climatized Ultra Low Sulfur Diesel Fuel is a blend of Number 2 Ultra Low Sulfur and Number 1 Ultra Low Sulfur Diesel Fuels which reduces the temperature at which wax crystals form in fuel.
- The fuel grade should be clearly marked on the pump at the fuel station.
- The engine requires the use of **“Ultra Low Sulfur Diesel Fuel”**. Use of incorrect fuel could result in engine and exhaust system damage. Refer to “Fuel Requirements” in “Starting And Operating” for further information.

**Engine Oil Usage**

Refer to “Maintenance Procedures” in “Maintaining Your Vehicle” for the correct engine oil viscosity.

**Engine Warm-Up**

Avoid full throttle operation when the engine is cold. When starting a cold engine, bring the engine up to operating speed slowly to allow the oil pressure to stabilize as the engine warms up.

If temperatures are below 32°F (0°C), operate the engine at moderate speeds for five minutes before full loads are applied.

**80 STARTING AND OPERATING**

**Engine Idling**

Avoid prolonged idling, long periods of idling may be harmful to your engine because combustion chamber temperatures can drop so low that the fuel may not burn completely. Incomplete combustion allows carbon and varnish to form on piston rings, cylinder head valves, and injector nozzles. Also, the unburned fuel can enter the crankcase, diluting the oil and causing rapid wear to the engine.

**Stopping The Engine**

After full load operation, idle the engine for a few minutes before shutting it down. This idle period will allow the lubricating oil and coolant to carry excess heat away from the turbocharger.

**NOTE:** Refer to the following chart for proper engine shutdown.

Driving Condition	Load	Turbocharger Temperature	Idle Time (min.) Before Engine Shutdown
Stop and Go	Empty	Cool	None
Stop and Go	Medium		0.5
Highway Speeds	Medium	Warm	1.0
City Traffic	Maximum GCWR		1.5
Highway Speeds	Maximum GCWR		2.0
Uphill Grade	Maximum GCWR	Hot	2.5

**NOTE:** Under certain conditions the engine fan will run after the engine is turned off. These conditions are under high load and high temperature conditions.

#### **Cooling System Tips — Automatic Transmission**

To reduce the potential for engine and transmission overheating in high ambient temperature conditions, take the following actions:

- City Driving — When stopped, shift the transmission into NEUTRAL and increase engine idle speed.
- Highway Driving — Reduce your speed.
- Up Steep Hills — Select a lower transmission gear.
- Air Conditioning — Turn it off temporarily.

**NOTE:** If the coolant temperature is too high the A/C will automatically turn off.

#### **Do Not Operate The Engine With Low Oil Pressure**

If the low oil pressure warning light turns on while driving, stop the vehicle and shut down the engine as soon as possible. A chime will sound when the light turns on.

**NOTE:** Do not operate the vehicle until the cause is corrected. This light does not show how much oil is in the engine. The engine oil level must be checked under the hood.

4

#### **CAUTION!**

**If oil pressure falls to less than normal readings, shut the engine off immediately. Failure to do so could result in immediate and severe engine damage.**

## 82 STARTING AND OPERATING

### Do Not Operate The Engine With Failed Parts

All engine failures give some warning before the parts fail. Be on the alert for changes in performance, sounds, and visual evidence that the engine requires service. Some important clues are:

- engine misfiring or vibrating severely
- sudden loss of power
- unusual engine noises
- fuel, oil or coolant leaks
- sudden change, outside the normal operating range, in the engine operating temperature
- excessive smoke
- oil pressure drop

### ENGINE BLOCK HEATER — IF EQUIPPED

The engine block heater warms engine coolant and permits quicker starts in cold weather. Connect the heater cord to a ground-fault interrupter protected 110–115 Volt AC electrical outlet with a grounded, three-wire extension cord.

Its use is recommended for environments that routinely fall below  $-10^{\circ}\text{F}$  ( $-23^{\circ}\text{C}$ ). It should be used when the vehicle has not been running for long periods of time and should be plugged in two hours prior to start. Its use is required for cold starts with temperatures under  $-20^{\circ}\text{F}$  ( $-28^{\circ}\text{C}$ ).

To ensure reliable starting at these temperatures, use of an externally powered electric engine block heater (available from your authorized dealer) is recommended.

**WARNING!**

**Remember to disconnect the cord before driving. Damage to the 110–115 Volt electrical cord could cause electrocution.**

**NOTE:** The block heater will require 110 Volts AC and 6.5 Amps to activate the heater element.

**FUEL REQUIREMENTS**

Use good quality diesel fuel from a reputable supplier in your vehicle. Federal law requires that you must fuel this vehicle with Ultra Low Sulfur Highway Diesel fuel (15 ppm Sulfur maximum) and prohibits the use of Low Sulfur Highway Diesel fuel (500 ppm Sulfur maximum) to avoid damage to the emissions control system.

For most year-round service, No. 2 diesel fuel meeting ASTM (formerly known as the American Society for Testing and Materials) specification D-975 Grade S15 will

provide good performance. If the vehicle is exposed to extreme cold (below 20°F or -7°C), or is required to operate at colder-than-normal conditions for prolonged periods, use climatized No. 2 diesel fuel or dilute the No. 2 diesel fuel with 50% No. 1 diesel fuel. This will provide better protection from fuel gelling or wax-plugging of the fuel filters.

**WARNING!**

**Do not use alcohol or gasoline as a fuel blending agent. They can be unstable under certain conditions and hazardous or explosive when mixed with diesel fuel.**

Diesel fuel is seldom completely free of water. To prevent fuel system trouble, drain the accumulated water from the fuel/water separator using the fuel/water separator drain provided on the fuel filter housing. If you buy good quality fuel and follow the cold weather advice above,

**84 STARTING AND OPERATING**

fuel conditioners should not be required in your vehicle. If available in your area, a high cetane “premium” diesel fuel may offer improved cold-starting and warm-up performance.

**CAUTION!**

**If the “Water in Fuel Indicator Light” remains on, DO NOT START engine before you drain the water from the fuel filter(s) to avoid engine damage. Refer to “Maintenance Procedures/Draining Fuel/Water Separator Filter” in “Maintaining Your Vehicle” for further information.**

**Fuel Specifications**

This diesel engine has been developed to take advantage of the high energy content and generally lower cost No. 2 Ultra Low Sulfur diesel fuel or No. 2 Ultra Low Sulfur climatized diesel fuels.

**NOTE:**

- If you accidentally fill the fuel tank with gasoline on your diesel vehicle, do not start the engine. Damage to the engine and fuel system could occur. Please call your authorized dealer for service.
- A maximum blend of 5% biodiesel meeting ASTM specification D-975 may be used with your diesel engine without any adjustments to regular service schedules.
- Commercially available fuel additives are not necessary for the proper operation of your diesel engine.
- No. 1 Ultra Low Sulfur diesel fuel should only be used where extended arctic conditions (-10°F or -23°C) exist.

### Biodiesel Fuel Requirements

A maximum blend of 5% biodiesel meeting ASTM specification D975 is recommended for use with your diesel engine. If frequent operation with Biodiesel blends that are between 6% and 20% (B6–B20) is desired, the maintenance schedule is subject to shorter intervals.

The oil and filter change along with fuel filter replacement is subject to shorter intervals when operating your engine on biodiesel greater than 5%. Do not use biodiesel greater than 20%.

For regular use of biodiesel blends between 6% and 20% (B6–B20) it is important that you understand and comply with these requirements. Refer to the “Maintenance Chart” in the “Maintenance Schedules” section for further direction.

**CAUTION!**

**Failure to comply with Oil Change requirements for vehicles operating on biodiesel blends between 6% and 20% (B6–B20) will result in premature engine wear. Such wear is not covered by the New Vehicle Limited Warranty.**

Biodiesel is a fuel produced from renewable resources typically derived from animal fat, rapeseed oil (Rapeseed Methyl Ester (RME) base), or soybean oil (Soy Methyl Ester (SME or SOME) base).

Biodiesel fuel has inherent limitations which require that you understand and adhere to the following requirements if you use blends of Biodiesel between 6% and 20% (B6–B20). There are no unique restrictions for the use of B5.

**CAUTION!**

Use of blends greater than 20% is not approved. Use of blends greater than 20% can result in engine damage. Such damage is not covered by the New Vehicle Limited Warranty.

**Biodiesel Fuel Properties — Low Ambient Temperatures**

Biodiesel fuel may gel or solidify at low ambient temperatures, which may pose problems for both storage and operation. Precautions can be necessary at low ambient temperatures, such as storing the fuel in a heated building or a heated storage tank, or using cold temperature additives.

**Fuel Quality — Must Comply With ASTM Standards**

The quality of Biodiesel fuel may vary widely. Only fuel produced by a BQ9000 supplier to the following specifications may be blended to meet Biodiesel blend B6 – B20 fuel meeting ASTM specification D-7467:

- Petrodiesel fuel meeting ASTM specification D-975 and Biodiesel fuel (B100) meeting ASTM specification D-6751

**Fuel Oxidation Stability — Must Use Fuel Within Six Months Of Manufacture**

Biodiesel fuel has poor oxidation stability which can result in long term storage problems. Fuel produced to approved ASTM standards, if stored properly, provides for protection against fuel oxidation for up to six months.

### **Fuel Water Separation — Must Use Mopar Approved Fuel Filter Elements**

Biodiesel fuel has a natural affinity to water and water accelerates microbial growth. Your Mopar filtration system is designed to provide adequate fuel water separation capabilities.

### **Fuel In Oil Dilution — Must Adhere To Required Oil Change Interval**

Fuel dilution of lubricating oil has been observed with the use of Biodiesel fuel. Fuel in oil must not exceed 5%. To ensure this limit is met your oil change interval must be maintained with in the suggested schedule. The regular use of biodiesel between 6% and 20% requires intervals shorter than the outlined 10,000 miles and must not exceed the suggested schedule. When routinely operating on biodiesel between 6% and 20%, oil and filter replacement intervals must not exceed 8,000 Miles or 6 months, which ever comes first.

### **Biodiesel Fuel Filter Change Intervals**

The use of biodiese requires intervals shorter than the outlined 30,000 miles (48 280 km) and must not exceed the suggested schedule. When operating on biodiesel between 6% and 20%, fuel filter replacement intervals must not exceed 20,000 Miles (40 233 km).

**NOTE:** Under no circumstances should oil change intervals exceed 8,000 miles (12 875 km) or 6 months, if regular operation occurs with 6% - 20% biodiesel blends. Under no circumstances should fuel filter intervals exceed 20,000 miles (40 233 km), if regular operation occurs with 6% - 20% biodiesel blends. Failure to comply with these Oil Change and fuel filter requirements for vehicles operating on biodiesel blends up to B20 may result in premature engine wear. Such wear is not covered by the New Vehicle Limited Warranty. The engine may suffer severe damage if operated with concentrations of biodiesel higher than 20%.

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**DIESEL EXHAUST FLUID**

Your vehicle is equipped with a Selective Catalytic Reduction system to meet the very stringent diesel emissions standards required by the Environmental Protection Agency.

The purpose of the SCR system is to reduce levels of NO<sub>x</sub> (oxides of nitrogen emitted from engines) that are harmful to our health and the environment to a near-zero level. Small quantities of Diesel Exhaust Fluid (DEF) is injected into the exhaust upstream of a catalyst where, when vaporized, it converts smog-forming nitrogen oxides (NO<sub>x</sub>) into harmless nitrogen (N<sub>2</sub>) and water vapor (H<sub>2</sub>O), two natural components of the air we breathe. You can operate with the comfort that your vehicle is contributing to a cleaner, healthier world environment for this and generations to come.

**System Overview**

This vehicle is equipped with a Diesel Exhaust Fluid (DEF) injection system and a Selective Catalytic Reduction (SCR) catalyst to meet the emission requirements.

The DEF injection system consists of the following components:

- DEF tank
- DEF pump
- DEF injector
- Electronically-heated DEF lines
- NO<sub>x</sub> sensors
- Temperature sensors
- SCR catalyst

The DEF injection system and SCR catalyst enable the achievement of diesel emissions requirements; while maintaining outstanding fuel economy, drivability, torque and power ratings.

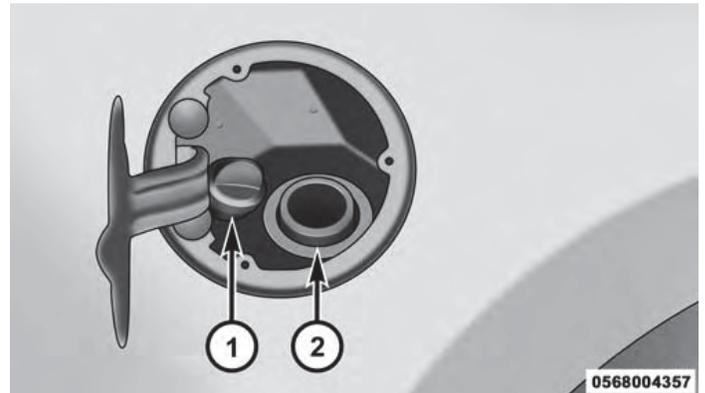
Refer to “Electronic Vehicle Information Center (EVIC)” or “Driver Information Display (DID)” in “Understanding Your Instrument Panel” for system messages and warnings.

**NOTE:**

- Your vehicle is equipped with a DEF injection system. You may occasionally hear an audible clicking noise from under the vehicle at a stop. This is normal operation.
- The DEF pump will run for a period of time after engine shutdown to purge the DEF system. This is normal operation and may be audible from the rear of the vehicle.

**ADDING FUEL — 1500 DIESEL MODELS**

1. Open the fuel filler door.



**Diesel Fuel And Diesel Exhaust Fluid Fill Location**

- 1 — Diesel Exhaust Fluid Fill Location
- 2 — Diesel Fuel Fill Location

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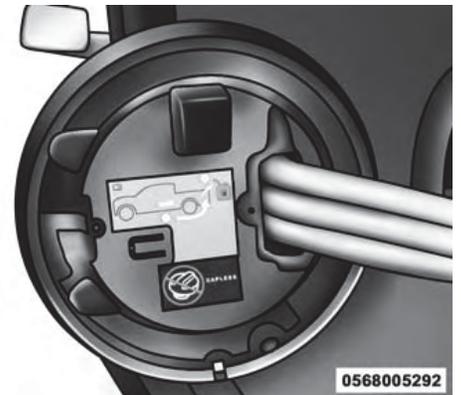
**NOTE:** There is no fuel filler cap. A flapper door inside the filler pipe seals the system.

2. Insert the fuel nozzle fully into the filler pipe – the nozzle opens and holds the flapper door while refueling.
3. Fill the vehicle with fuel – when the fuel nozzle “clicks” or shuts off the fuel tank is full.
4. Remove the fuel nozzle and close the fuel door.

### Emergency Fuel Can Refueling

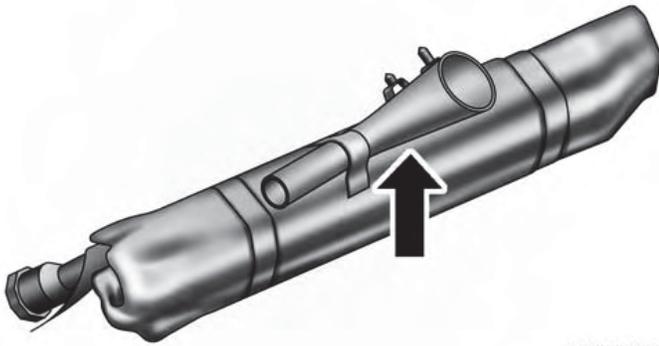
Most fuel cans will not open the flapper door.

A funnel is provided to open the flapper door to allow emergency refueling with a fuel can.



Diesel Fuel And DEF Fluid Filler Door

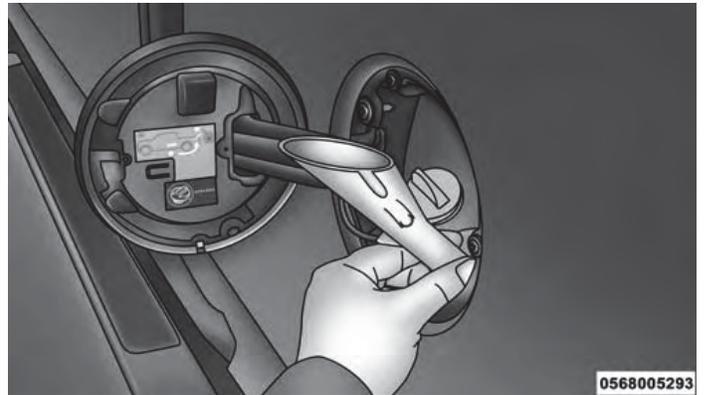
1. Retrieve fuel funnel from the jack kit located under the front passenger seat.



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**Fuel Fill Funnel Location 1500 Models**

2. Insert funnel into same filler pipe opening as the fuel nozzle.



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**Emergency Fuel Fill Location**

**NOTE:** Ensure funnel is inserted fully to hold flapper door open.

3. Pour fuel into funnel opening.
4. Remove funnel from filler pipe, clean off prior to putting back in the jack kit.

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**CAUTION!**

To avoid fuel spillage and overfilling, do not “top off” the fuel tank after filling.

**WARNING!**

- Never have any smoking materials lit in or near the vehicle when the fuel door is open or the tank is being filled.
- Never add fuel when the engine is running. This is in violation of most state and federal fire regulations and may cause the “Malfunction Indicator Light” to turn on.
- A fire may result if fuel is pumped into a portable container that is inside of a vehicle. You could be burned. Always place fuel containers on the ground while filling.

**Avoid Using Contaminated Fuel**

Fuel that is contaminated by water or dirt can cause severe damage to the engine fuel system. Proper maintenance of the engine fuel filter and fuel tank is essential. Refer to “Maintenance Procedures” in “Maintaining Your Vehicle” for further information.

**Bulk Fuel Storage — Diesel Fuel**

If you store quantities of fuel, good maintenance of the stored fuel is also essential. Fuel contaminated with water will promote the growth of “microbes.” These microbes form “slime” that will clog the fuel filtration system and lines. Drain condensation from the supply tank and change the line filter on a regular basis.

**NOTE:** When a diesel engine is allowed to run out of fuel, air is pulled into the fuel system.

If the vehicle will not start, refer to “Maintenance Procedures/Priming If The Engine Has Run Out Of Fuel” in “Maintaining Your Vehicle” for further information.

**WARNING!**

**Do not open the high pressure fuel system with the engine running. Engine operation causes high fuel pressure. High pressure fuel spray can cause serious injury or death.**

**Diesel Exhaust Fluid Storage**

Diesel Exhaust Fluid (DEF) is considered a very stable product with a long shelf life. If DEF is kept in temperatures between 10° and 90°F (-12° and 32°C), it will last a minimum of one year.

DEF is subject to freezing at the lowest temperatures. For example, DEF may freeze at temperatures at or below 12° F (-11° C). The system has been designed to operate in this environment.

**NOTE:** When working with DEF, it is important to know that:

- Any containers or parts that come into contact with DEF must be DEF compatible (plastic or stainless steel). Copper, brass, aluminum, iron or non-stainless steel should be avoided as they are subject to corrosion by DEF.
- If DEF is spilled, it should be wiped up completely.

**Adding Diesel Exhaust Fluid**

The DEF gauge (located on the instrument cluster) will display the level of DEF remaining in the tank. Refer to

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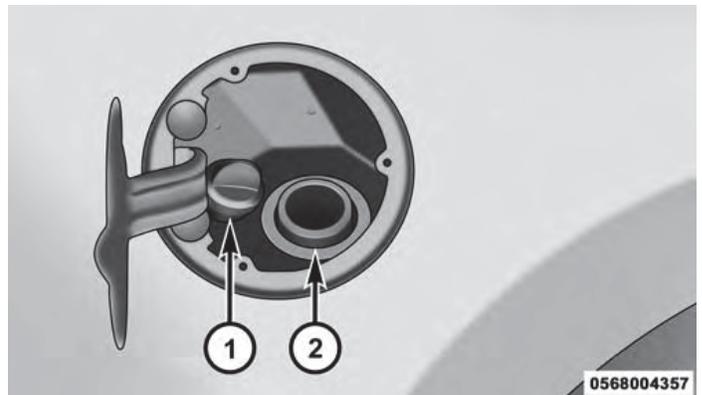
“Instrument Cluster” and “Instrument Cluster Descriptions” in “Understanding Your Instrument Panel” for further information.

**NOTE:** Driving conditions (altitude, vehicle speed, load, etc.) will effect the amount of DEF that is used in your vehicle.

### DEF Fill Procedure

**NOTE:** Refer to “Fluids, Lubricants, and Genuine Parts” in “Maintaining Your Vehicle” for the correct fluid type.

1. Remove cap from DEF tank (located on drivers side of the vehicle or in fuel door).



DEF Filler Cap And Fuel Fill 1500/2500/3500 Models

- 1 — Diesel Exhaust Fluid Fill Location
- 2 — Fuel Fill Location

2. Insert DEF fill adapter/nozzle into DEF tank filler neck.

**NOTE:**

- The DEF gauge may take up to five seconds to update after adding a gallon or more of Diesel Exhaust Fluid (DEF) to the DEF tank. If you have a fault related to the DEF system, the gauge may not update to the new level. See your authorized dealer for service.
- The DEF gauge may also not immediately update after a refill if the temperature of the DEF fluid is below 12F (-11C). The DEF line heater will possibly warm up the DEF fluid and allow the gauge to update after a period of run time. Under very cold conditions, it is possible that the gauge may not reflect the new fill level for several drives.

**CAUTION!**

- To avoid DEF spillage, and possible damage to the DEF tank from overfilling, do not “top off” the DEF tank after filling.
- **DO NOT OVERFILL.** DEF will freeze below 12°F (-11°C). The DEF system is designed to work in temperatures below the DEF freezing point, however, if the tank is overfilled and freezes, the system could be damaged.
- When DEF is spilled, clean the area immediately with water and use an absorbent material to soak up the spills on the ground.
- Do not attempt to start your engine if DEF is accidentally added to the diesel fuel tank as it can result in severe damage to your engine, including but not limited to failure of the fuel pump and injectors.

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3. Stop filling the DEF tank immediately when any of the following happen: DEF stops flowing from the fill bottle into the DEF tank, DEF splashes out the filler neck, or a DEF pump nozzle automatically shuts off. Extra care should be taken when filling with portable containers to avoid overfilling. Note the level of the DEF gauge in your instrument cluster. On pickup applications, you may safely add a maximum of 2 gallons of DEF from portable containers when your DEF gauge is reading  $\frac{1}{2}$  full.
4. Reinstall cap onto DEF tank.

### Filling The Def Tank In Cold Climates

Since DEF will begin to freeze at 12°F (-11°C), your vehicle is equipped with an automatic DEF heating system. This allows the DEF injection system to operate properly at temperatures below 12°F (-11°C). If your vehicle is not in operation for an extended period of time with temperatures below 12°F (-11°C), the DEF in the tank may freeze. If the tank is overfilled and freezes, it could be damaged. Therefore, do not overfill the DEF tank.

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## MAINTAINING YOUR VEHICLE

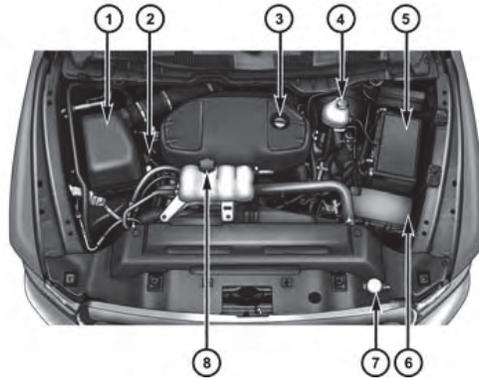
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**ENGINE COMPARTMENT — 3.0L DIESEL**



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- 1 — Air Cleaner Filter
- 2 — Engine Oil Dipstick
- 3 — Engine Oil Fill
- 4 — Brake Fluid Reservoir

- 5 — Battery
- 6 — Power Distribution Center (PDC)
- 7 — Washer Fluid Reservoir
- 8 — Engine Coolant



## MAINTENANCE PROCEDURES

The pages that follow contain the **required** maintenance services determined by the engineers who designed your vehicle.

Besides those maintenance items specified in the fixed maintenance schedule, there are other components which may require servicing or replacement in the future.

### CAUTION!

- Failure to properly maintain your vehicle or perform repairs and service when necessary could result in more costly repairs, damage to other components or negatively impact vehicle performance. Immediately have potential malfunctions examined by an authorized Chrysler Group LLC dealership or qualified repair center.

*(Continued)*

### CAUTION! *(Continued)*

- Your vehicle has been built with improved fluids that protect the performance and durability of your vehicle and also allow extended maintenance intervals. Do not use chemical flushes in these components as the chemicals can damage your engine, transmission, power steering or air conditioning. Such damage is not covered by the New Vehicle Limited Warranty. If a flush is needed because of component malfunction, use only the specified fluid for the flushing procedure.

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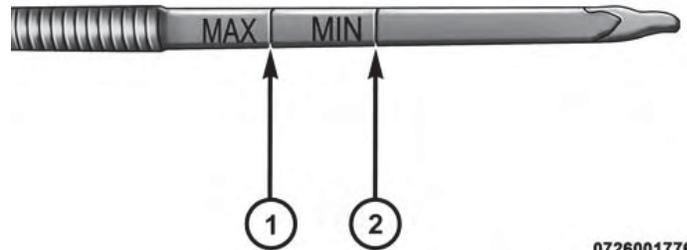
## Engine Oil

### Engine Oil Selection

For best performance and maximum protection under all types of operating conditions, the manufacturer recommends engine oils that meet the requirements of Chrysler Material Standard MS-11106, and that are approved to ACEA C3.

### Checking Oil Level

To assure proper lubrication of your vehicle's engine, the engine oil must be maintained at the correct level. Check the oil level at regular intervals. The best time to check the oil level is before starting the engine after it has been parked overnight. When checking oil after operating the engine, first ensure the engine is at full operating temperature, then wait for five minutes after engine shut-down to check the oil.



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Engine Oil Dipstick

- 1 — MAX Mark
- 2 — MIN Mark

Checking the oil while the vehicle is on level ground will improve the accuracy of the oil level readings. Add oil only when the level on the dipstick is below the "MIN"

mark. The total capacity from the MIN mark to the MAX mark is 1.3 qts (1.2 L).

**CAUTION!**

**Overfilling or underfilling the crankcase will cause oil aeration or loss of oil pressure. This could damage your engine.**

**NOTE:** It is possible for your oil level to be slightly higher than a previous check. This would be due to diesel fuel that may temporarily be in the crankcase due to operation of the diesel particulate filter regeneration strategy. This fuel will evaporate out under normal operation.

Never operate the engine with oil level below the "MIN" mark or above the upper "MAX" mark.

**Change Engine Oil**

Refer to the "Maintenance Schedule" for the proper maintenance intervals.

**Engine Oil Viscosity (SAE Grade)**

**CAUTION!**

**Your vehicle is equipped with an advanced technology Diesel Engine and an emission device designed to limit Diesel Particulate Emissions from being released into the atmosphere. The durability of your engine and life expectancy of this diesel particulate filter emission device is highly dependent on the use of the correct engine oil.**

Only use ACEA C3 SAE 5W-30 Synthetic Low Ash engine oil meeting Chrysler material standard MS-11106 or Pennzoil Ultra Euro L full synthetic 5W-30 motor oil,

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which is recommended for all operating temperatures. This engine oil improves low temperature starting and vehicle fuel economy.

### Materials Added To Engine Oil

The manufacturer strongly recommends against the addition of any additives (other than leak detection dyes) to the engine oil. Engine oil is an engineered product and its performance may be impaired by supplemental additives.

### Engine Oil Filter

Refer to "Fluids, Lubricants, and Genuine Parts" in "Maintaining Your Vehicle" for further information. The engine oil filter should be changed at every engine oil change.

### Disposing Of Used Engine Oil And Oil Filters

Care should be taken in disposing of used engine oil and oil filters from your vehicle. Used oil and oil filters,

indiscriminately discarded, can present a problem to the environment. Contact your authorized dealer, service station or governmental agency for advice on how and where used oil and oil filters can be safely discarded in your area.

### Engine Air Cleaner Filter

Refer to the "Maintenance Schedule" for the proper maintenance intervals.

<b>CAUTION!</b>
<b>All air entering the engine intake must be filtered. The abrasive particles in unfiltered air will cause rapid wear to engine components.</b>

**WARNING!**

The air induction system (air cleaner, hoses, etc.) provides a measure of protection. Do not remove the air induction system (air cleaner, hoses, etc.) unless such removal is necessary for repair or maintenance. Make sure that no one is near the engine compartment before starting the vehicle with the air induction system (air cleaner, hoses, etc.) removed. Failure to do so can result in serious personal injury.

**CAUTION!**

Many aftermarket performance air filter elements do not adequately filter the air entering the engine. Use of such filters can severely damage your engine.

**Engine Air Cleaner Filter Selection**

The quality of replacement engine air cleaner filters varies considerably. Only high quality filters should be used to assure most efficient service. MOPAR® engine air cleaner filters are a high quality filter and are recommended.

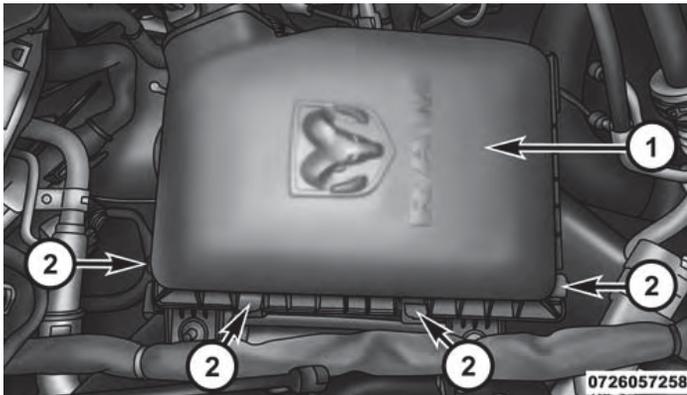
**Engine Air Cleaner Filter Inspection and Replacement**

Inspect engine air cleaner filter for dirt and or debris, if you find evidence of either dirt or debris you should change your air cleaner filter.

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Engine Air Cleaner Filter Removal

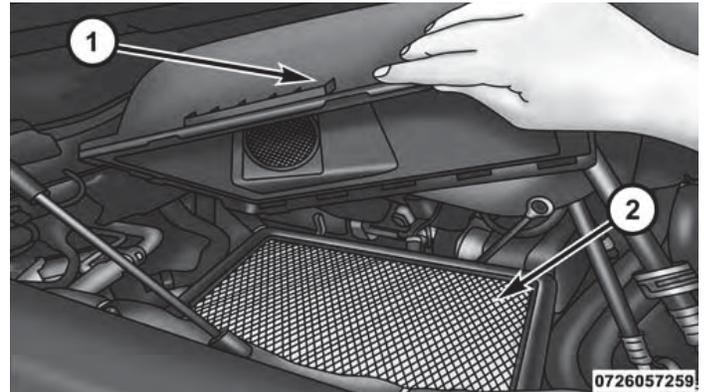
1. Release the spring clips from the air cleaner cover.



3.0 Diesel Air Cleaner Filter Cover

- 1 — Air Cleaner Filter Cover
- 2 — Spring Clips

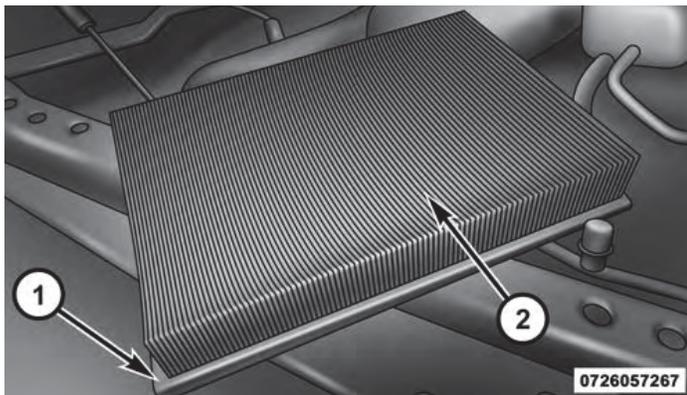
2. Lift the air cleaner cover to access the air cleaner filter.



Open Air Cleaner Filter Assembly

- 1 — Air Cleaner Cover
- 2 — Air Cleaner Filter

3. Remove the air cleaner filter element from the housing assembly.



Air Cleaner Filter

- 1 — Air Cleaner Filter
- 2 — Air Cleaner Filter Inspection Surface

### Engine Air Cleaner Filter Installation

**NOTE:** Inspect and clean the housing if dirt or debris is present before replacing the air filter element.

1. Install the air cleaner filter element into the housing assembly with the air cleaner filter inspection surface facing downward.
2. Install the air cleaner cover onto the housing assembly locating tabs.
3. Latch the spring clips and lock the air cleaner cover to the housing assembly.

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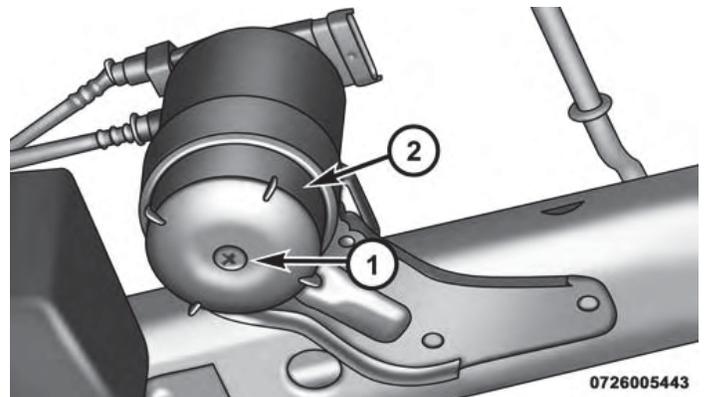
### Draining Fuel/Water Separator Filter

The fuel filter/water separator filter housing is located above the rear axle next to the fuel tank. The best access to this water drain valve is from under the vehicle.

#### CAUTION!

- Do not drain the fuel/water separator filters when the engine is running.
- Diesel fuel will damage blacktop paving surfaces. Drain the filters into an appropriate container.

If water is detected in the water separator while the engine is running, or while the ignition switch is in the ON position, the "Water In Fuel Indicator Light" will illuminate and an audible chime will be heard. At this point you should stop the engine and drain the water from the filter housing.



Fuel Filter Assembly

- 1 — Water in Fuel Drain
- 2 — Fuel Filter Access

**CAUTION!**

**If the “Water In Fuel Indicator Light” remains on, DO NOT START the engine before you drain water from the fuel filters to avoid engine damage.**

If the “Water In Fuel Indicator Light” comes on and a single chime is heard while you are driving, or with the ignition in the ON position, there may be a problem with your water separator wiring or sensor. See your authorized dealer for service.

Upon proper draining of the water from the fuel filter, the “Water In Fuel Indicator Light” will remain illuminated for approximately 10 seconds. If the water was drained while the engine was running, the “Water In Fuel Indicator Light” may remain on for approximately three minutes.

**NOTE:** Care should be taken in disposing of used fluids from your vehicle. Used fluids, indiscriminately discarded, can present a problem to the environment. Contact an authorized dealer, service station, or government agency for advice on recycling programs and for where used fluids and filters can be properly disposed of in your area.

Drain the fuel/water separator filter when the “Water In Fuel Indicator Light” is ON. Within 10 minutes of vehicle shutdown, turn the filter drain valve (located on the bottom of the filter housing) counterclockwise to drain fuel/water, then turn the ignition switch to the ON position, and allow any accumulated water to drain. Leave the drain valve open until all water and contaminants have been removed. When clean fuel is visible, close the drain valve by turning it clockwise, and turn the ignition switch to OFF.

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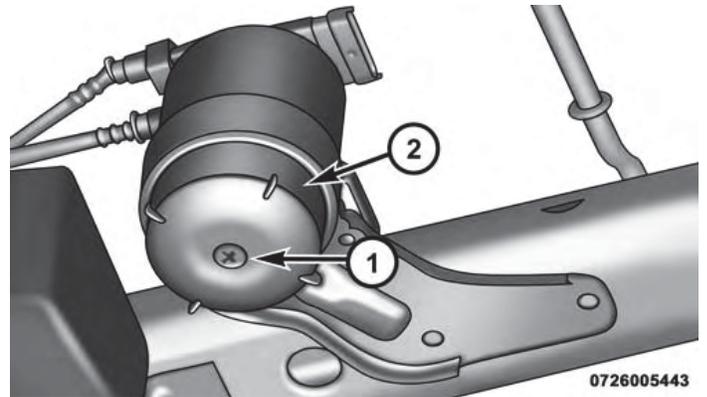
If more than two ounces or 60 milliliters of fuel have been drained, follow the directions for “Priming If The Engine Has Run Out Of Fuel.”

**Underbody Mounted Fuel Filter Replacement**

**NOTE:** Using a fuel filter that does not meet the manufacturer’s filtration and water separating requirements can severely impact fuel system life and reliability.

**CAUTION!**

- Diesel fuel will damage blacktop paving surfaces. Drain the filter into an appropriate container.
- Do not prefill the fuel filter when installing a new fuel filter. There is a possibility debris could be introduced into the fuel filter during this action. It is best to install the filter dry and allow the in-tank lift pump to prime the fuel system.



Fuel Filter Assembly

- 1 — Water in Fuel Drain
- 2 — Fuel Filter Access

1. Turn engine off.
2. Place a drain pan under the fuel filter assembly.

3. Open the water drain valve, and let any accumulated water drain.
4. Close the water drain valve.
5. Remove bottom cover using a strap wrench. Rotate counterclockwise for removal. Remove the used o-ring and discard it.
6. Remove the used filter cartridge from the housing and dispose of it according to your local regulations.
7. Wipe the sealing surfaces of the lid and housing clean.
8. Install a new o-ring into the ring groove on the filter housing and lubricate with clean engine oil.

**NOTE:** WIF (Water In Fuel) sensor is re-usable. Service kit comes with new o-ring for filter canister and WIF sensor.

### Priming If The Engine Has Run Out Of Fuel

#### **WARNING!**

**Do not open the high pressure fuel system with the engine running. Engine operation causes high fuel pressure. High pressure fuel spray can cause serious injury or death.**

1. Add a substantial amount of fuel to the tank, approximately 2 to 5 gal (8L to 19L).
2. Press ignition switch twice without your foot on brake to put vehicle in Run position. This will activate the in tank fuel pump for approximately 30 seconds. Repeat this process twice.
3. Start the engine using the "Normal Starting" procedure. Refer to "Starting Procedures" in "Starting and Operating" for further information.

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**CAUTION!**

The starter motor will engage for approximately 30 seconds at a time. Allow two minutes between cranking intervals.

**NOTE:** The engine may run rough until the air is forced from all the fuel lines.

**WARNING!**

Do not use alcohol or gasoline as a fuel blending agent. They can be unstable under certain conditions and be hazardous or explosive when mixed with diesel fuel.

**CAUTION!**

Due to lack of lubricants in alcohol or gasoline, the use of these fuels can cause damage to the fuel system.

**NOTE:**

- We recommend you use a blend of up to 5% biodiesel, that meets ASTM specification D-975 with your diesel engine. Use of biodiesel mixture in excess of 20% can negatively impact the fuel filter's ability to separate water from the fuel, resulting in high pressure fuel system corrosion or damage.
- In addition, commercially available fuel additives are not necessary for the proper operation of your diesel engine.

### Intervention Regeneration Strategy — Message Process Flow

This engine meets all required diesel engine emissions standards. To achieve these emissions standards, your vehicle is equipped with a state-of-the-art engine and exhaust system. These systems are seamlessly integrated into your vehicle and managed by the Powertrain Control Module (PCM). The PCM manages engine combustion to allow the exhaust system's catalyst to trap and burn Particulate Matter (PM) pollutants, with no input or interaction on your part.

Additionally, your vehicle has the ability to alert you to additional maintenance required on your vehicle or engine.

Refer to "Electronic Vehicle Information Center (EVIC)" or "Driver Information Display (DID)" in "Understanding Your Instrument Panel" for further information.

#### WARNING!

**A hot exhaust system can start a fire if you park over materials that can burn. Such materials might be grass or leaves coming into contact with your exhaust system. Do not park or operate your vehicle in areas where your exhaust system can contact anything that can burn.**

### Maintenance-Free Batteries

Your vehicle is equipped with a maintenance-free battery. The top of the maintenance-free battery is permanently sealed. You will never have to add water, nor is periodic maintenance required.

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**CAUTION!**

It is essential when replacing the cables on the battery that the positive cable is attached to the positive post and the negative cable is attached to the negative post. Battery posts are marked (+) positive and negative (-) and are identified on the battery case. Also, if a "fast charger" is used while the battery is in vehicle, disconnect both vehicle battery cables before connecting the charger to the battery. Do not use a "fast charger" to provide starting voltage.

**WARNING!**

Battery posts, terminals, and related accessories contain lead and lead compounds. Always wash hands after handling the battery.

**Cooling System**

**WARNING!**

You or others can be badly burned by hot engine coolant (antifreeze) or steam from your radiator. If you see or hear steam coming from under the hood, do not open the hood until the radiator has had time to cool. Never try to open a cooling system pressure cap when the radiator is hot.

**Engine Coolant Checks**

Check the engine coolant (antifreeze) protection every 12 months (before the onset of freezing weather, where applicable). If the engine coolant (antifreeze) is dirty or rusty in appearance, the system should be drained, flushed and refilled with fresh coolant. Check the front of the A/C condenser (if equipped) or radiator for any accumulation of bugs, leaves, etc. If dirty, clean by gently

spraying water from a garden hose vertically down the face of the A/C condenser (if equipped) or the back of the radiator core.

Check the engine cooling system hoses for brittle rubber, cracking, tears, cuts and tightness of the connection at the coolant recovery bottle and radiator. Inspect the entire system for leaks.

With the engine at normal operating temperature (but not running), check the cooling system pressure cap for proper vacuum sealing by draining a small amount of engine coolant (antifreeze) from the radiator drain cock. The radiator drain cock is located in the lower radiator tank. If the cap is sealing properly, the engine coolant (antifreeze) will begin to drain from the coolant expansion bottle. DO NOT REMOVE THE COOLANT PRESSURE CAP WHEN THE COOLING SYSTEM IS HOT.

### Cooling System — Drain Flush And Refill

If the engine coolant (antifreeze) is dirty or contains a considerable amount of sediment, clean and flush with a reliable cooling system cleaner. Follow with a thorough rinsing to remove all deposits and chemicals. Properly dispose of old engine coolant (antifreeze).

Refer to the “Maintenance Schedule” for the proper maintenance intervals.

### Selection Of Coolant

Refer to “Fluids, Lubricants, and Genuine Parts” in “Maintaining Your Vehicle” for further information.

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**CAUTION!**

- Mixing of engine coolant (antifreeze) other than specified Organic Additive Technology (OAT) engine coolant (antifreeze), may result in engine damage and may decrease corrosion protection. Organic Additive Technology (OAT) engine coolant is different and should not be mixed with Hybrid Organic Additive Technology (HOAT) engine coolant (antifreeze) or any "globally compatible" coolant (antifreeze). If a non-OAT engine coolant (antifreeze) is introduced into the cooling system in an emergency, the cooling system will need to be drained, flushed, and refilled with fresh OAT coolant (conforming to MS.90032), by an authorized dealer as soon as possible.

*(Continued)*

**CAUTION! (Continued)**

- Do not use water alone or alcohol-based engine coolant (antifreeze) products. Do not use additional rust inhibitors or antirust products, as they may not be compatible with the radiator engine coolant and may plug the radiator.
- This vehicle has not been designed for use with propylene glycol-based engine coolant (antifreeze). Use of propylene glycol-based engine coolant (antifreeze) is not recommended.

**Adding Coolant**

Your vehicle has been built with an improved engine coolant (OAT coolant conforming to MS.90032) that allows extended maintenance intervals. This engine coolant (antifreeze) can be used up to ten years or 150,000 miles (240,000 km) before replacement. To prevent reducing this extended maintenance period, it is important that

**MAINTAINING YOUR VEHICLE 115**

you use the same engine coolant (OAT coolant conforming to MS.90032) throughout the life of your vehicle.

Please review these recommendations for using Organic Additive Technology (OAT) engine coolant (antifreeze) that meets the requirements of Chrysler Material Standard MS.90032. When adding engine coolant (antifreeze):

- We recommend using MOPAR® Antifreeze/Coolant 10 Year/150,000 Mile Formula OAT (Organic Additive Technology) that meets the requirements of Chrysler Material Standard MS.90032.
- Mix a minimum solution of 50% OAT engine coolant that meets the requirements of Chrysler Material Standard MS.90032 and distilled water. Use higher concentrations (not to exceed 70%) if temperatures below -34° F (-37° C) are anticipated.

- Use only high purity water such as distilled or deionized water when mixing the water/engine coolant (antifreeze) solution. The use of lower quality water will reduce the amount of corrosion protection in the engine cooling system.

Please note that it is the owner's responsibility to maintain the proper level of protection against freezing according to the temperatures occurring in the area where the vehicle is operated.

**NOTE:**

- Some vehicles require special tools to add coolant properly. Failure to fill these systems properly could lead to severe internal engine damage. If any coolant is needed to be added to the system please contact your local authorized dealer.

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- Mixing engine coolant (antifreeze) types is not recommended and can result in cooling system damage. If HOAT and OAT coolant are mixed in an emergency, have a authorized dealer drain, flush, and refill with OAT coolant (conforming to MS.90032) as soon as possible.

### Cooling System Pressure Cap

The cap must be fully tightened to prevent loss of engine coolant (antifreeze), and to ensure that the engine coolant (antifreeze) will return to the radiator from the coolant expansion bottle.

The cap should be inspected and cleaned if there is any accumulation of foreign material on the sealing surfaces.

### WARNING!

- Do not open hot engine cooling system. Never add engine coolant (antifreeze) when the engine is overheated. Do not loosen or remove the cap to cool an overheated engine. Heat causes pressure to build up in the cooling system. To prevent scalding or injury, do not remove the pressure cap while the system is hot or under pressure.
- Do not use a pressure cap other than the one specified for your vehicle. Personal injury or engine damage may result.

### Disposal Of Used Engine Coolant

Used ethylene glycol-based engine coolant (antifreeze) is a regulated substance requiring proper disposal. Check with your local authorities to determine the disposal rules for your community. To prevent ingestion by animals or children, do not store ethylene glycol-based

engine coolant (antifreeze) in open containers or allow it to remain in puddles on the ground. If ingested by a child or pet, seek emergency assistance immediately. Clean up any ground spills immediately.

#### Points To Remember

**NOTE:** When the vehicle is stopped after a few miles/kilometers of operation, you may observe vapor coming from the front of the engine compartment. This is normally a result of moisture from rain, snow, or high humidity accumulating on the radiator and being vaporized when the thermostat opens, allowing hot engine coolant (antifreeze) to enter the radiator.

If an examination of your engine compartment shows no evidence of radiator or hose leaks, the vehicle may be safely driven. The vapor will soon dissipate.

- Do not overfill the coolant expansion bottle.

- Check the coolant freeze point in the radiator and in the coolant expansion bottle. If engine coolant (antifreeze) needs to be added, the contents of the coolant expansion bottle must also be protected against freezing.
- If frequent engine coolant (antifreeze) additions are required, the cooling system should be pressure tested for leaks.
- Maintain engine coolant (antifreeze) concentration at a minimum of 50% OAT coolant (conforming to MS.90032) and distilled water for proper corrosion protection of your engine which contains aluminum components.
- Make sure that the coolant expansion bottle overflow hoses are not kinked or obstructed.
- Keep the front of the radiator clean. If your vehicle is equipped with air conditioning, keep the front of the condenser clean.

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- Do not change the thermostat for Summer or Winter operation. If replacement is ever necessary, install ONLY the correct type thermostat. Other designs may result in unsatisfactory engine coolant (antifreeze) performance, poor gas mileage, and increased emissions.

### **Charge Air Cooler — Inter-Cooler**

The charge air cooler is positioned in front of the radiator and the air conditioner condenser. Air enters the engine through the air cleaner and passes through the turbo-charger, where it is pressurized. This pressurized air rapidly reaches high temperature. The air is then directed through a hose to the charge air cooler and through another hose to the intake manifold of the engine. This cooling process enables more efficient burning of fuel resulting in fewer emissions.

To guarantee optimum performance of the system, keep the surfaces of the charge air cooler, condenser and radiator clean and free of debris. Periodically check the hoses leading to and from the charge air cooler for cracks or loose clamps resulting in loss of pressure and reduced engine performance.

### **Brake System**

#### **Brake Master Cylinder — Brake Fluid Level Check**

The fluid level of the master cylinder should be checked when performing under the hood service, or immediately if the "Brake System Warning Light" indicates system failure.

The brake master cylinder has a translucent plastic reservoir. On the outboard side of the reservoir, there is a "MAX" mark and a "MIN" mark. The fluid level must be kept within these two marks. Do not add fluid above the full mark because leakage may occur at the cap.

With disc brakes, the fluid level can be expected to fall as the brake linings wear. However, an unexpected drop in fluid level may be caused by a leak and a system check should be conducted.

Refer to "Fluids, Lubricants, and Genuine Parts" in "Maintaining Your Vehicle" for further information.

**WARNING!**

- Use only manufacturer's recommended brake fluid. Refer to "Fluids, Lubricants, and Genuine Parts" in "Maintaining Your Vehicle" for further information. Using the wrong type of brake fluid can severely damage your brake system and/or impair its performance. The proper type of brake fluid for your vehicle is also identified on the original factory installed hydraulic master cylinder reservoir.

(Continued)

**WARNING! (Continued)**

- To avoid contamination from foreign matter or moisture, use only new brake fluid or fluid that has been in a tightly closed container. Keep the master cylinder reservoir cap secured at all times. Brake fluid in an open container absorbs moisture from the air resulting in a lower boiling point. This may cause it to boil unexpectedly during hard or prolonged braking, resulting in sudden brake failure. This could result in an accident.
- Overfilling the brake fluid reservoir can result in spilling brake fluid on hot engine parts, causing the brake fluid to catch fire. Brake fluid can also damage painted and vinyl surfaces, care should be taken to avoid its contact with these surfaces.

(Continued)

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**WARNING! (Continued)**

- Do not allow petroleum based fluid to contaminate the brake fluid. Brake seal components could be damaged, causing partial or complete brake failure. This could result in an accident.

**FLUID CAPACITIES**

	U.S.	Metric
<b>Fuel (Approximate)</b>		
3.0L Diesel Engine	26 Gallons	98.5 Liters
Diesel Exhaust Fluid Tank	8 Gallons	30.3 Liters
<b>Engine Oil With Filter</b>		
3.0 Liter Diesel Engine (SAE 5W-30 Synthetic, API Certified Low Ash)	10.5 Quarts	10 Liters

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	<b>U.S.</b>	<b>Metric</b>
<b>Cooling System</b>		
3.0L Turbo Diesel Engine (MOPAR® Engine Coolant/ Antifreeze 10 Year/150,000 Mile Formula OAT (Organic Additive Technology))	11.6 Quarts	11 Liters

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**FLUIDS, LUBRICANTS AND GENUINE PARTS**

**Engine**

<b>Component</b>	<b>Fluid, Lubricant, or Genuine Part</b>
Engine Coolant	We recommend you use MOPAR® Antifreeze/Coolant 10 Year/150,000 Mile Formula OAT (Organic Additive Technology).
Engine Oil	Only use ACEA C3 5W-30 Synthetic Low Ash engine oil meeting Chrysler material standard MS-11106 or Pennzoil Ultra Euro L full synthetic 5W-30 motor oil.
Engine Oil Filter	We recommend you use MOPAR® Engine Oil Filters.
Fuel Filters	We recommend you use MOPAR® Fuel Filter. Must meet 3 micron rating. <b>Using a fuel filter that does not meet the manufacturers filtration and water separating requirements can severely impact fuel system life and reliability.</b>

Component	Fluid, Lubricant, or Genuine Part
Fuel Selection	<p>Use good quality diesel fuel from a reputable supplier in your vehicle. Federal law requires that you must fuel this vehicle with Ultra Low Sulfur Highway Diesel fuel (15 ppm Sulfur maximum) and prohibits the use of Low Sulfur Highway Diesel fuel (500 ppm Sulfur maximum) to avoid damage to the emissions control system.</p> <p>For most year-round service, No. 2 diesel fuel meeting ASTM specification D-975 Grade S15 will provide good performance. We recommend you use a blend of up to 5% biodiesel, meeting ASTM specification D-975 with your diesel engine. <b>This vehicle is compatible with biodiesel blends greater than 5% but no greater than 20% biodiesel meeting ASTM specification D-7467 provided the shortened maintenance intervals are followed as directed.</b></p>
Diesel Exhaust Fluid	<p>MOPAR® Diesel Exhaust Fluid (API Certified) (DEF) or equivalent that has been API Certified to the ISO 22241 standard. Use of fluids not API Certified to ISO 22241 may result in system damage.</p>

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**NOTE:** If the vehicle is exposed to extreme cold (below 20°F or -7°C), or is required to operate at colder-than-normal conditions for prolonged periods, use climatized No. 2 diesel fuel or dilute the No. 2 diesel fuel with 50% No. 1 diesel fuel. This will provide better protection from fuel gelling or wax-plugging of the fuel filter.

**CAUTION!**

- **Mixing of engine coolant (antifreeze) other than specified Organic Additive Technology (OAT) engine coolant (antifreeze), may result in engine damage and may decrease corrosion protection. Organic Additive Technology (OAT) engine coolant is different and should not be mixed with Hybrid Organic Additive Technology (HOAT) engine coolant (antifreeze) or any “globally compatible” coolant (antifreeze). If a non-OAT engine coolant (antifreeze) is introduced into the cooling system in an emergency, the cooling system will need to be drained, flushed, and refilled with fresh OAT coolant (conforming to MS.90032), by an authorized dealer as soon as possible.**

*(Continued)*

**CAUTION! (Continued)**

- Do not use water alone or alcohol-based engine coolant (antifreeze) products. Do not use additional rust inhibitors or antirust products, as they may not be compatible with the radiator engine coolant and may plug the radiator.
- This vehicle has not been designed for use with propylene glycol-based engine coolant (antifreeze). Use of propylene glycol-based engine coolant (antifreeze) is not recommended.

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**Chassis**

Component	Fluid, Lubricant, or Genuine Part
Automatic Transmission	Only use Mopar® ZF 8&9 Speed ATF™ Automatic Transmission Fluid or equivalent. Failure to use the correct fluid may affect the function or performance of your transmission.
Transfer Case	We recommend you use MOPAR® BW44-44 Transfer Case Fluid.
Front Axle – 1500 Four-Wheel Drive Models	We recommend you use MOPAR® GL-5 Synthetic Axle Lubricant SAE 75W-85.
Rear Axle	We recommend you use MOPAR® Synthetic Gear Lubricant SAE 75W-140 (MS-8985). Limited-Slip Rear Axles require the addition of 5 oz. (148 ml) MOPAR® Limited Slip Additive (MS-1011).
Brake Master Cylinder	We recommend you use MOPAR® DOT 3 Brake Fluid, SAE J1703 should be used. If DOT 3, SAE J1703 brake fluid is not available, then DOT 4 is acceptable.

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## MAINTENANCE SCHEDULE

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## 128 MAINTENANCE SCHEDULE

### MAINTENANCE SCHEDULE

Your vehicle is equipped with an automatic oil change indicator system. The oil change indicator system will remind you that it is time to take your vehicle in for scheduled maintenance.

Based on engine operation conditions, the oil change indicator message will illuminate. This means that service is required for your vehicle. Operating conditions such as frequent short-trips, trailer tow, extremely hot or cold ambient temperatures will influence when the "Oil Change Required" message is displayed. Severe Operating Conditions can cause the change oil message to illuminate as early as 3,500 miles (5,600 km) since last reset. Have your vehicle serviced as soon as possible, within the next 500 miles (805 km).

Your authorized dealer will reset the oil change indicator message after completing the scheduled oil change. If a scheduled oil change is performed by someone other

than your authorized dealer, the message can be reset by referring to the steps described under "Electronic Vehicle Information Center (EVIC)" or "Driver Information Display (DID)" in "Understanding Your Instrument Panel" for further information.

**NOTE:** Under no circumstances should oil change intervals exceed 10,000 miles (16,000 km) or twelve months, whichever comes first.

#### Once A Month Or Before A Long Trip:

- Check engine oil level
- Check windshield washer fluid level
- Check the tire inflation pressures and look for unusual wear or damage
- Check the fluid levels of the coolant reservoir, brake master cylinder and power steering, and fill as needed
- Check function of all interior and exterior lights

### Required Maintenance

Refer to the Maintenance Schedules on the following pages for required maintenance.

At Every Oil Change Interval As Indicated By Oil Change Indicator System:
• Change oil and filter.
• Completely fill the Diesel Exhaust Fluid tank.
• Rotate the tires. <b>Rotate at the first sign of irregular wear, even if it occurs before the oil indicator system turns on.</b>
• Inspect battery and clean and tighten terminals as required.

At Every Oil Change Interval As Indicated By Oil Change Indicator System:
• Inspect brake pads, shoes, rotors, drums, hoses and park brake.
• Inspect engine cooling system protection and hoses.
• Inspect exhaust system.
• Inspect engine air cleaner if using in dusty or off-road conditions.





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**WARNING!**

- You can be badly injured working on or around a motor vehicle. Do only service work for which you have the knowledge and the right equipment. If you have any doubt about your ability to perform a service job, take your vehicle to a competent mechanic.
- Failure to properly inspect and maintain your vehicle could result in a component malfunction and effect vehicle handling and performance. This could cause an accident.

**Additional Maintenance — B6 To B20 Biodiesel**

**NOTE:**

- Under no circumstances should oil change intervals exceed 8,000 miles (12 875 km) or six months, whichever comes first when using Biodiesel blends greater than 5% (B5).
- The owner is required to monitor mileage for B6-B20 biodiesel, the automatic oil change indicator system does not reflect the use of biofuels.

Additional Maintenance Chart — B6 to B20 Biodiesel

Mileage or time passed (whichever comes first)	10,000	20,000	30,000	40,000	50,000	60,000	70,000	80,000	90,000	100,000	110,000	120,000	130,000	140,000	150,000
Or Years:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Or Kilometers:	16,000	32,000	48,000	64,000	80,000	96,000	112,000	128,000	144,000	160,000	176,000	192,000	208,000	224,000	240,000
<b>Additional B6 to B20 Maintenance</b>															
Replace fuel filter and drain water from the fuel filter assembly.		X		X		X		X		X		X		X	

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**WARNING!**

- You can be badly injured working on or around a motor vehicle. Do only service work for which you have the knowledge and the right equipment. If you have any doubt about your ability to perform a service job, take your vehicle to a competent mechanic.
- Failure to properly inspect and maintain your vehicle could result in a component malfunction and effect vehicle handling and performance. This could cause an accident.

**RAM 2500 / 3500 / 4500 / 5500**



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# INTRODUCTION

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■ A MESSAGE FROM CHRYSLER GROUP LLC . .140

140 INTRODUCTION

**A MESSAGE FROM CHRYSLER GROUP LLC**

Chrysler Group LLC and Cummins® welcome you as a Cummins® turbocharged diesel-powered truck owner. Your diesel truck will sound, feel, drive, and operate differently from a gasoline-powered truck. It is important that you read and understand this manual.

Almost 100% of the heavy duty trucks in the United States and Canada are diesel-powered because of the fuel economy, rugged durability, and high torque which permits pulling heavy loads. Cummins® engines power well over half of these trucks. Now this same technology and proven performance is yours in your truck equipped with the Cummins® turbocharged diesel engine.

You may find that some of the starting, operating, and maintenance procedures are different. However, they are simple to follow and careful adherence to them will ensure that you take full advantage of the features of this engine.

**NOTE:**

- Some aftermarket products may cause severe engine/transmission and/or exhaust system damage. Your vehicle's Powertrain Control Systems can detect and store information about vehicle modifications that increase horsepower and torque output such as whether or not performance-enhancing powertrain components, commonly referred to as downloaders, power boxes, or performance chips have been used.
- Any chassis/suspension or tire size modifications to the vehicle will effect the performance of the Adaptive Cruise Control and Forward Collision Warning System.

This information cannot be erased and will stay in the system's memory even if the modification is removed. This information can be retrieved by Chrysler Group LLC, and service and repair facilities, when servicing

your vehicle. This information may be used to determine if repair will be covered by the New Vehicle Limited Warranty.

There is a probability that the use of a “performance chip” will prohibit the engine from starting. In this instance, the vehicle will need to be serviced by a authorized dealer in order to return the vehicle to it’s factory settings.



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# THINGS TO KNOW BEFORE STARTING YOUR VEHICLE

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## 144 THINGS TO KNOW BEFORE STARTING YOUR VEHICLE

### REMOTE STARTING SYSTEM — IF EQUIPPED



This system uses the Remote Keyless Entry (RKE) transmitter to start the engine conveniently from outside the vehicle while still maintaining security. The system has a range of approximately 300 ft (91 m).

#### NOTE:

- The vehicle must be equipped with an automatic transmission to be equipped with Remote Start.
- The Remote Start system will wait for the “Wait To Start” telltale to extinguish before cranking the engine. This allows time for the intake heater to pre-heat the incoming air, and is normal operation in cold weather. Refer to “Wait To Start” in “Understanding Your Instrument Panel”.

### How To Use Remote Start

All of the following conditions must be met before the engine will remote start:

- Transmission in PARK
- Doors closed
- Hood closed
- HAZARD switch off
- BRAKE switch inactive (brake pedal not pushed)
- Ignition key removed from ignition switch
- Battery at an acceptable charge level
- RKE PANIC button not pushed
- Fuel meets minimum requirement
- Water In Fuel Indicator Light is not illuminated

- Wait To Start Light is not illuminated

<b>WARNING!</b>
<ul style="list-style-type: none"> <li>• Do not start or run an engine in a closed garage or confined area. Exhaust gas contains Carbon Monoxide (CO) which is odorless and colorless. Carbon Monoxide is poisonous and can cause serious injury or death when inhaled.</li> <li>• Keep Remote Keyless Entry (RKE) transmitters away from children. Operation of the Remote Start System, windows, door locks or other controls could cause serious injury or death.</li> </ul>

**Remote Start Abort Message**

The following messages will display in the EVIC/DID if the vehicle fails to remote start or exits remote start prematurely:

- Remote Start Aborted - Door Ajar

**THINGS TO KNOW BEFORE STARTING YOUR VEHICLE 145**

- Remote Start Aborted - Hood Ajar
- Remote Start Aborted - Fuel Low
- Remote Start Aborted - System Fault

The EVIC/DID message stays active until the ignition is turned to the ON/RUN position.

**To Enter Remote Start Mode**



Push and release the REMOTE START button on the RKE transmitter twice, within five seconds. The parking lights will flash and the horn will chirp twice (if programmed). In cold ambient temperature conditions, the diesel vehicle may delay crank up to 30 seconds for the fuel and grid heater. Once the vehicle has started, the engine will run for 15 minutes or 75 seconds in extreme cold and high elevation.

## 146 THINGS TO KNOW BEFORE STARTING YOUR VEHICLE

### NOTE:

- The park lamps will turn on and remain on during Remote Start mode.
- For security, power window and power sunroof operation (if equipped) are disabled when the vehicle is in the Remote Start mode.
- The engine can be started two consecutive times (two 15-minute cycles) with the RKE transmitter. However, the ignition switch must be cycled to the ON position before you can repeat the start sequence for a third cycle.

### To Exit Remote Start Mode Without Driving The Vehicle

Push and release the REMOTE START button one time or allow the engine to run for the entire fifteen minute cycle.

**NOTE:** To avoid unintentional shut downs, the system will disable the one time push of the REMOTE START button for two seconds after receiving a valid Remote Start request.

### To Exit Remote Start Mode And Drive The Vehicle

To exit Remote Start Mode and drive the vehicle before the end of the 15-minute cycle, push and release the unlock button on the RKE transmitter to unlock the door and disarm the Vehicle Security Alarm System (if equipped). Then, prior to the end of the 15-minute cycle, cycle the ignition to the ON/RUN position.

### NOTE:

- The ignition switch must be in the ON/RUN position in order to drive the vehicle.
- For further information, refer to your Owners Manual.

### Remote Start Comfort Systems — If Equipped

When remote start is activated, the heated steering wheel, and driver heated seat features will automatically turn on in cold weather. In warm weather, the driver vented seat feature will automatically turn on when the remote start is activated. These features will stay on through the duration of remote start or until the ignition switch is turned to the ON position.

The Remote Start Comfort System can be activated and deactivated through the EVIC/DID. For more information on Remote Start Comfort System operation refer to your Owners Manual.

### ENGINE BREAK-IN RECOMMENDATIONS

The Cummins® turbocharged diesel engine does not require a break-in period due to its construction. Normal operation is allowed, providing the following recommendations are followed:

### THINGS TO KNOW BEFORE STARTING YOUR VEHICLE 147

- Warm up the engine before placing it under load.
- Do not operate the engine at idle for prolonged periods.
- Use the appropriate transmission gear to prevent engine lugging.
- Observe vehicle oil pressure and temperature indicators.
- Check the coolant and oil levels frequently.
- Vary throttle position at highway speeds when carrying or towing significant weight.

**NOTE:** Light duty operation such as light trailer towing or no load operation will extend the time before the engine is at full efficiency. Reduced fuel economy and power may be seen at this time.

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For additional vehicle break-in requirements, refer to "Trailer Towing" in "Starting And Operating" of the Owners Manual.

Because of the construction of the Cummins® turbo-charged diesel engine, engine run-in is enhanced by loaded operating conditions which allow the engine parts to achieve final finish and fit during the first 6,000 miles (10 000 km).

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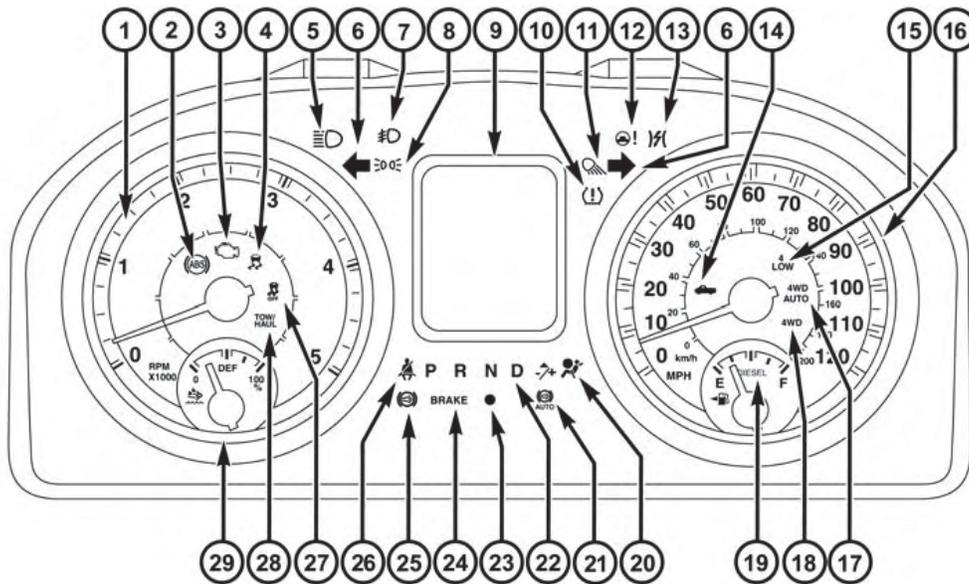
## UNDERSTANDING YOUR INSTRUMENT PANEL

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INSTRUMENT CLUSTER



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## Instrument Cluster Descriptions

### 1. Tachometer

1. The tachometer indicates engine speed in Revolutions Per Minute (RPM x 1000).

### 2. Anti-Lock Brake (ABS) Light



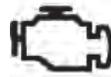
This light monitors the Anti-lock Brake System (ABS). The light will turn on when the ignition switch is turned to the ON/RUN position and may stay on for as long as four seconds.

If the ABS light remains on or turns on while driving, it indicates that the anti-lock portion of the brake system is not functioning and that service is required. However, the conventional brake system will continue to operate normally if the BRAKE warning light is not on.

If the ABS light is on, the brake system should be serviced as soon as possible to restore the benefits of anti-lock brakes. If the ABS light does not turn on when the

ignition switch is turned to the ON/RUN position, have the light inspected by an authorized dealer.

### 3. Malfunction Indicator Light (MIL)



The Malfunction Indicator Light (MIL) is part of an Onboard Diagnostic (OBDII) system which monitors the emissions and engine control system. If the vehicle is ready for emissions testing, the light will come on when the ignition is first turned on and remain on, as a bulb check, until the engine is started. If the vehicle is not ready for emissions testing the light will come on when the ignition is first turned on and remain on for 15 seconds, then blink for 5 seconds, and remain on until the vehicle is started. If the bulb does not come on during starting, have the condition investigated promptly.

If this light comes on and remains on while driving, it suggests a potential engine control problem and the need for system service.

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Although your vehicle will usually be drivable and not need towing, see your authorized dealer for service as soon as possible.

**CAUTION!**

Prolonged driving with the Malfunction Indicator Light (MIL) on could cause damage to the engine control system. It also could affect fuel economy and driveability. If the MIL is flashing, severe catalytic converter damage and power loss will soon occur. Immediate service is required.

**WARNING!**

A malfunctioning catalytic converter, as referenced above, can reach higher temperatures than in normal operating conditions. This can cause a fire if you

**WARNING! (Continued)**

drive slowly or park over flammable substances such as dry plants, wood, cardboard, etc. This could result in death or serious injury to the driver, occupants or others.

*4. Electronic Stability Control (ESC) Activation/ Malfunction Indicator Light — If Equipped*



The “ESC Activation/Malfunction Indicator Light” in the instrument cluster will come on when the ignition switch is turned to the ON/RUN position. It should go out with the engine running. If the “ESC Activation/Malfunction Indicator Light” comes on continuously with the engine running, a malfunction has been detected in the ESC system. If this light remains on after several ignition cycles, and the vehicle has been driven several miles

*(Continued)*

(kilometers) at speeds greater than 30 mph (48 km/h), see your authorized dealer as soon as possible to have the problem diagnosed and corrected.

**NOTE:**

- The “ESC Off Indicator Light” and the “ESC Activation/Malfunction Indicator Light” come on momentarily each time the ignition switch is turned to ON/RUN.
- Each time the ignition is turned to ON/RUN, the ESC system will be ON, even if it was turned off previously.
- The ESC system will make buzzing or clicking sounds when it is active. This is normal; the sounds will stop when ESC becomes inactive following the maneuver that caused the ESC activation.

**5. High Beam Indicator**



This indicator shows that headlights are on high beam. Push the multifunction lever forward to switch the headlights to high beam, and pull toward yourself (normal position) to return to low beam.

**6. Turn Signal Indicators**



The arrow will flash with the exterior turn signal when the turn signal lever is operated.

**NOTE:**

- A continuous chime will sound if the vehicle is driven more than 1 mile (1.6 km) with either turn signal on.
- Check for an inoperative outside light bulb if either indicator remains on and does not flash, or flashes at a rapid rate.

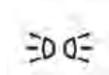
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**7. Front Fog Light Indicator — If Equipped**



This indicator will illuminate when the front fog lights are on.

**8. Park/Headlight ON Indicator — If Equipped**



This indicator will illuminate when the park lights or headlights are turned on.

**9. Electronic Vehicle Information Center (EVIC)**

The Electronic Vehicle Information Center (EVIC) features an interactive display that is located in the instrument cluster. For further information, refer to “Electronic Vehicle Information Center (EVIC)” in this section.

**10. Tire Pressure Monitoring Telltale Light**



Each tire, including the spare (if provided), should be checked monthly when cold and inflated to the inflation pressure recommended by the vehicle manufacturer on the vehicle placard or tire inflation pressure label. (If your vehicle has tires of a different size than the size indicated on the vehicle placard or tire inflation pressure label, you should determine the proper tire inflation pressure for those tires.)

As an added safety feature, your vehicle has been equipped with a Tire Pressure Monitoring System (TPMS) that illuminates a low tire pressure telltale when one or more of your tires is significantly under-inflated. Accordingly, when the low tire pressure telltale illuminates, you should stop and check your tires as soon as possible, and inflate them to the proper pressure. Driving on a significantly under-inflated tire causes the tire to overheat and can lead to tire failure. Under-inflation also

reduces fuel efficiency and tire tread life, and may affect the vehicle's handling and stopping ability.

Please note that the TPMS is not a substitute for proper tire maintenance, and it is the driver's responsibility to maintain correct tire pressure, even if under-inflation has not reached the level to trigger illumination of the TPMS low tire pressure telltale.

Your vehicle has also been equipped with a TPMS malfunction indicator to indicate when the system is not operating properly. The TPMS malfunction indicator is combined with the low tire pressure telltale. When the system detects a malfunction, the telltale will flash for approximately one minute and then remain continuously illuminated. This sequence will continue upon subsequent vehicle start-ups as long as the malfunction exists. When the malfunction indicator is illuminated, the system may not be able to detect or signal low tire pressure as intended. TPMS malfunctions may occur for a variety of reasons, including the installation of replacement or

alternate tires or wheels on the vehicle that prevent the TPMS from functioning properly. Always check the TPMS malfunction telltale after replacing one or more tires or wheels on your vehicle, to ensure that the replacement or alternate tires and wheels allow the TPMS to continue to function properly.

**CAUTION!**

**The TPMS has been optimized for the original equipment tires and wheels. TPMS pressures and warning have been established for the tire size equipped on your vehicle. Undesirable system operation or sensor damage may result when using replacement equipment that is not of the same size, type, and/or style. Aftermarket wheels can cause sensor damage. Using aftermarket tire sealants may cause the Tire Pressure Monitoring System (TPMS)**

*(Continued)*

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**CAUTION! (Continued)**

sensor to become inoperable. After using an after-market tire sealant it is recommended that you take your vehicle to an authorized dealership to have your sensor function checked.

**NOTE:** The TPMS telltale is also accompanied by a “Low Tire” message in the Electronic Vehicle Information Center (EVIC) and Driver Information Display (DID) screen indicating “Low Tire”.

**11. Cargo Light**



The cargo light will illuminate when the cargo light is activated by pressing the cargo light button on the headlight switch.

**12. Electric Power Steering Malfunction Warning Light — If Equipped**



This telltale is on when the Electric Power Steering is not operating and needs service.

**13. Electronic Throttle Control (ETC) Light**



This light informs you of a problem with the Electronic Throttle Control (ETC) system. The light will come on when the ignition is first turned ON and remain on briefly as a bulb check. If the light does not come on during starting, have the system checked by an authorized dealer.

If a problem is detected, the light will come on while the engine is running. Cycle the ignition key when the vehicle has completely stopped and the transmission is placed in the PARK position. The light should turn off.

If the light remains lit with the engine running, your vehicle will usually be drivable. However, see an authorized dealer for service as soon as possible. If the light is flashing when the engine is running, immediate service is required. You may experience reduced performance, an elevated/rough idle or engine stall and your vehicle may require towing.

**14. Alternate Trailer Height**

This light will illuminate when the air suspension system is set to the Normal Ride Height setting. For further information, refer to “Air Suspension System” in “Starting And Operating”.

**15. 4 LOW**



This light alerts the driver that the vehicle is in the four-wheel drive LOW mode. The front and rear driveshafts are mechanically locked together forcing the front and rear wheels to

rotate at the same speed. Low range provides a greater gear reduction ratio to provide increased torque at the wheels.

For further information on four-wheel drive operation and proper use, refer to “Four-Wheel Drive Operation — If Equipped” in “Starting And Operating”.

**16. Speedometer**

The speedometer shows the vehicle speed in miles per hour and/or kilometers per hour (mph/km/h).

**17. 4WD AUTO Indicator Light — If Equipped**



This light alerts the driver that the vehicle is in the four-wheel drive auto mode, and the front axle is engaged, but the vehicle’s power is sent to the rear wheels. Four-wheel drive will be automatically engaged when the vehicle senses a loss of traction.

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For further information on four-wheel drive operation and proper use, refer to “Four-Wheel Drive Operation — If Equipped” in “Starting And Operating”.

### 18. 4WD Indicator Light — If Equipped

**4WD** This light alerts the driver that the vehicle is in the four-wheel drive mode, and the front and rear driveshafts are mechanically locked together forcing the front and rear wheels to rotate at the same speed.

For further information on four-wheel drive operation and proper use, refer to “Four-Wheel Drive Operation — If Equipped” in “Starting And Operating”.

### 19. Fuel Gauge

Shows level of fuel in tank when ignition switch is in the ON/RUN position.

### 20. Air Bag Warning Light



This light will turn on for four to eight seconds as a bulb check when the ignition switch is first turned to ON/RUN. If the light is either not on during starting, stays on, or turns on while driving, have the system inspected at an authorized dealer as soon as possible. Refer to “Occupant Restraints” in “Things To Know Before Starting Your Vehicle” for further information.

### 21. Exhaust Brake Auto Indicator



This light will indicate when the Exhaust Brake is activated automatically.

### 22. Transmission Gear Position Indicator

The Transmission Gear Position Indicator is self-contained within the instrument cluster. It displays the gear range of the automatic transmission.

**NOTE:** The highest available transmission gear is displayed in the lower right corner of the EVIC whenever the Electronic Range Select (ERS) feature is active. Use the +/- selector on the shift lever or steering wheel to activate ERS. Refer to “Automatic Transmission” in “Starting And Operating” for further information.

**23. Vehicle Security Light — If Equipped**

 This light will flash at a fast rate for approximately 15 seconds, when the vehicle security alarm is arming, and then will flash slowly until the vehicle is disarmed.

**24. Brake Warning Light**

 This light monitors various brake functions, including brake fluid level and parking brake application. If the brake light turns on it may indicate that the parking brake is applied, that the brake fluid level is low, or that there is a problem with the Anti-lock Brake System reservoir.

If the light remains on when the parking brake has been disengaged, and the fluid level is at the full mark on the master cylinder reservoir, it indicates a possible brake hydraulic system malfunction or that a problem with the Brake Booster has been detected by the Anti-Lock Brake System (ABS)/Electronic Stability Control (ESC) system. In this case, the light will remain on until the condition has been corrected. If the problem is related to the brake booster, the ABS pump will run when applying the brake and a brake pedal pulsation may be felt during each stop.

The dual brake system provides a reserve braking capacity in the event of a failure to a portion of the hydraulic system. A leak in either half of the dual brake system is indicated by the Brake Warning Light, which will turn on when the brake fluid level in the master cylinder has dropped below a specified level.

The light will remain on until the cause is corrected.

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**NOTE:** The light may flash momentarily during sharp cornering maneuvers, which change fluid level conditions. The vehicle should have service performed, and the brake fluid level checked.

If brake failure is indicated, immediate repair is necessary.

### WARNING!

**Driving a vehicle with the red brake light on is dangerous. Part of the brake system may have failed. It will take longer to stop the vehicle. You could have a collision. Have the vehicle checked immediately.**

Vehicles equipped with the ABS, are also equipped with Electronic Brake Force Distribution (EBD). In the event of an EBD failure, the Brake Warning Light will turn on along with the ABS Light. Immediate repair to the ABS system is required.

Operation of the Brake Warning Light can be checked by turning the ignition switch from the OFF position to the ON/RUN position. The light should illuminate for approximately two seconds. The light should then turn off unless the parking brake is applied or a brake fault is detected. If the light does not illuminate, have the light inspected by an authorized dealer.

The light also will turn on when the parking brake is applied with the ignition switch in the ON/RUN position.

**NOTE:** This light shows only that the parking brake is applied. It does not show the degree of brake application.

### 25. Exhaust Brake Indicator Light



This light indicates that the Exhaust Brake is active.

**26. Seat Belt Reminder Light**



When the ignition switch is first turned to ON/RUN, this light will turn on for four to eight seconds as a bulb check. During the bulb check, if the driver's seat belt is unbuckled, a chime will sound. After the bulb check or when driving, if the driver's seat belt remains unbuckled, the seat belt reminder light will flash or remain on continuously. Refer to "Occupant Restraints" in "Things To Know Before Starting Your Vehicle" for further information.

**27. Electronic Stability Control (ESC) OFF Indicator Light — If Equipped**



This light indicates that the Electronic Stability Control (ESC) is in Partial Off or Full Off mode.

**28. TOW/HAUL**



The TOW HAUL button is located on the center stack upper switch bank. This light will illuminate when TOW HAUL mode is selected.

**29. DEF Gauge**

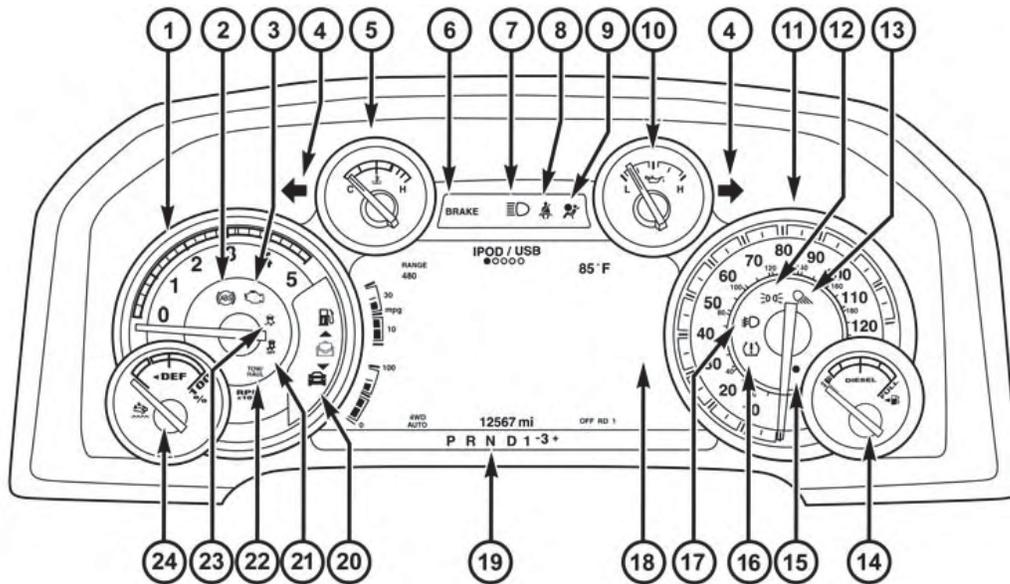
The DEF Gauge displays the actual level of Diesel Exhaust Fluid in the DEF tank. Diesel Exhaust Fluid (DEF) is required to maintain normal vehicle operation and emissions compliance. More information is available in the Electronic Vehicle Information (EVIC) or Driver Information Display (DID) section under the heading of Diesel Exhaust Fluid (DEF) Warning Messages.

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### NOTE:

- The gauge may take up to five seconds to update after adding a gallon or more of Diesel Exhaust Fluid (DEF) to the DEF tank. If you have a fault related to the DEF system, the gauge may not update to the new level. See your authorized dealer for service.
- The DEF gauge may also not immediately update after a refill if the temperature of the DEF fluid is below 12F (-11C). The DEF line heater will possibly warm up the DEF fluid and allow the gauge to update after a period of run time. Under very cold conditions, it is possible that the gauge may not reflect the new fill level for several drives.

INSTRUMENT CLUSTER



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## Instrument Cluster Descriptions

### 1. Tachometer

The tachometer indicates engine speed in Revolutions Per Minute (RPM x 1000).

#### CAUTION!

Do not operate the engine with the tachometer pointer at high RPM for extended periods. Engine operation over 3200 RPM (Redline) can result in significant damage that will not be covered under warranty.

### 2. Anti-Lock Brake (ABS) Light



This light monitors the Anti-lock Brake System (ABS). The light will turn on when the ignition switch is turned to the ON/RUN position and may stay on for as long as four seconds.

If the ABS light remains on or turns on while driving, it indicates that the anti-lock portion of the brake system is not functioning and that service is required. However, the conventional brake system will continue to operate normally if the BRAKE warning light is not on.

If the ABS light is on, the brake system should be serviced as soon as possible to restore the benefits of anti-lock brakes. If the ABS light does not turn on when the ignition switch is turned to the ON/RUN position, have the light inspected by an authorized dealer.

### 3. Malfunction Indicator Light (MIL)



The Malfunction Indicator Light (MIL) is part of an Onboard Diagnostic (OBDII) system which monitors the emissions and engine control system. If the vehicle is ready for emissions testing, the light will come on when the ignition is first turned on and remain on, as a bulb check, until the engine is started. If the vehicle is not ready for emissions

testing the light will come on when the ignition is first turned on and remain on for 15 seconds, then blink for 5 seconds, and remain on until the vehicle is started. If the bulb does not come on during starting, have the condition investigated promptly.

If this light comes on and remains on while driving, it suggests a potential engine control problem and the need for system service.

Although your vehicle will usually be drivable and not need towing, see your authorized dealer for service as soon as possible.

**CAUTION!**

**Prolonged driving with the Malfunction Indicator Light (MIL) on could cause damage to the engine control system. It also could affect fuel economy and driveability. If the MIL is flashing, severe catalytic converter damage and power loss will soon occur. Immediate service is required.**

**WARNING!**

**A malfunctioning catalytic converter, as referenced above, can reach higher temperatures than in normal operating conditions. This can cause a fire if you drive slowly or park over flammable substances such as dry plants, wood, cardboard, etc. This could result in death or serious injury to the driver, occupants or others.**

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4. *Turn Signal Indicators*



The arrow will flash with the exterior turn signal when the turn signal lever is operated.

NOTE:

- A continuous chime will sound if the vehicle is driven more than 1 mile (1.6 km) with either turn signal on.
- Check for an inoperative outside light bulb if either indicator remains on and does not flash, or flashes at a rapid rate.

5. *Engine Coolant Temperature*

This gauge shows the engine coolant temperature. The gauge pointer will likely show higher temperatures when driving in hot weather, up mountain grades, or in heavy stop and go traffic. If the red Warning Light turns on while driving, safely bring the vehicle to a stop, and turn

off the engine. DO NOT operate the vehicle until the cause is corrected.

**CAUTION!**

Driving with a hot engine cooling system could damage your vehicle. If the temperature gauge reads "H" pull over and stop the vehicle. Idle the vehicle with the air conditioner turned off until the pointer drops back into the normal range. If the pointer remains on the "H" and you hear continuous chimes, turn the engine off immediately and call an authorized dealer for service.

**WARNING!**

A hot engine cooling system is dangerous. You or others could be badly burned by steam or boiling coolant. You may want to call an authorized dealer for service if your vehicle overheats. If you decide to look under the hood yourself, see "Maintaining Your Vehicle." Follow the warnings under the "Cooling System Pressure Cap" paragraph.

**6. Brake Warning Light**

**BRAKE**

This light monitors various brake functions, including brake fluid level and parking brake application. If the brake light turns on it may indicate that the parking brake is applied, that the brake fluid level is low, or that there is a problem with the Anti-lock Brake System reservoir.

If the light remains on when the parking brake has been disengaged, and the fluid level is at the full mark on the

master cylinder reservoir, it indicates a possible brake hydraulic system malfunction or that a problem with the Brake Booster has been detected by the Anti-Lock Brake System (ABS)/Electronic Stability Control (ESC) system. In this case, the light will remain on until the condition has been corrected. If the problem is related to the brake booster, the ABS pump will run when applying the brake and a brake pedal pulsation may be felt during each stop.

The dual brake system provides a reserve braking capacity in the event of a failure to a portion of the hydraulic system. A leak in either half of the dual brake system is indicated by the Brake Warning Light, which will turn on when the brake fluid level in the master cylinder has dropped below a specified level.

The light will remain on until the cause is corrected.

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**NOTE:** The light may flash momentarily during sharp cornering maneuvers, which change fluid level conditions. The vehicle should have service performed, and the brake fluid level checked.

If brake failure is indicated, immediate repair is necessary.

### **WARNING!**

**Driving a vehicle with the red brake light on is dangerous. Part of the brake system may have failed. It will take longer to stop the vehicle. You could have a collision. Have the vehicle checked immediately.**

Vehicles equipped with the ABS, are also equipped with Electronic Brake Force Distribution (EBD). In the event of an EBD failure, the Brake Warning Light will turn on along with the ABS Light. Immediate repair to the ABS system is required.

Operation of the Brake Warning Light can be checked by turning the ignition switch from the OFF position to the ON/RUN position. The light should illuminate for approximately two seconds. The light should then turn off unless the parking brake is applied or a brake fault is detected. If the light does not illuminate, have the light inspected by an authorized dealer.

The light also will turn on when the parking brake is applied with the ignition switch in the ON/RUN position.

**NOTE:** This light shows only that the parking brake is applied. It does not show the degree of brake application.

### **7. High Beam Indicator**



This indicator shows that headlights are on high beam. Push the multifunction lever forward to switch the headlights to high beam, and pull toward yourself (normal position) to return to low beam.

### 8. *Seat Belt Reminder Light*



When the ignition switch is first turned to ON/RUN, this light will turn on for four to eight seconds as a bulb check. During the bulb check, if the driver's seat belt is unbuckled, a chime will sound. After the bulb check or when driving, if the driver's seat belt remains unbuckled, the seat belt reminder light will flash or remain on continuously. Refer to "Occupant Restraints" in "Things To Know Before Starting Your Vehicle" for further information.

### 9. *Air Bag Warning Light*



This light will turn on for four to eight seconds as a bulb check when the ignition switch is first turned to ON/RUN. If the light is either not on during starting, stays on, or turns on while driving, have the system inspected at an authorized

dealer as soon as possible. Refer to "Occupant Restraints" in "Things To Know Before Starting Your Vehicle" for further information.

### 10. *Engine Oil Pressure*

The pointer should always indicate some oil pressure when the engine is running. A continuous high or low reading under normal driving conditions may indicate a lubrication system malfunction. Immediate service should be obtained from an authorized dealer.

If the gauge pointer moves to either extreme of the gauge, the Check Gauges indicator will illuminate and a single chime will sound.

### 11. *Speedometer*

The speedometer shows the vehicle speed in miles per hour and/or kilometers per hour (mph/km/h).

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**12. Park/Headlight ON Indicator — If Equipped**



This indicator will illuminate when the park lights or headlights are turned on.

**13. Cargo Light**



The cargo light will illuminate when the cargo light is activated by pressing the cargo light button on the headlight switch.

**14. Fuel Gauge**

Shows level of fuel in tank when ignition switch is in the ON/RUN position.

**15. Vehicle Security Light — If Equipped**



This light will flash at a fast rate for approximately 15 seconds, when the vehicle security alarm is arming, and then will flash slowly until the vehicle is disarmed.

**16. Tire Pressure Monitoring Telltale Light**



Each tire, including the spare (if provided), should be checked monthly when cold and inflated to the inflation pressure recommended by the vehicle manufacturer on the vehicle placard or tire inflation pressure label. (If your vehicle has tires of a different size than the size indicated on the vehicle placard or tire inflation pressure label, you should determine the proper tire inflation pressure for those tires.)

As an added safety feature, your vehicle has been equipped with a Tire Pressure Monitoring System (TPMS) that illuminates a low tire pressure telltale when one or more of your tires is significantly under-inflated. Accordingly, when the low tire pressure telltale illuminates, you should stop and check your tires as soon as possible, and inflate them to the proper pressure. Driving on a significantly under-inflated tire causes the tire to overheat and can lead to tire failure. Under-inflation also

**UNDERSTANDING YOUR INSTRUMENT PANEL 171**

reduces fuel efficiency and tire tread life, and may affect the vehicle's handling and stopping ability.

Please note that the TPMS is not a substitute for proper tire maintenance, and it is the driver's responsibility to maintain correct tire pressure, even if under-inflation has not reached the level to trigger illumination of the TPMS low tire pressure telltale.

Your vehicle has also been equipped with a TPMS malfunction indicator to indicate when the system is not operating properly. The TPMS malfunction indicator is combined with the low tire pressure telltale. When the system detects a malfunction, the telltale will flash for approximately one minute and then remain continuously illuminated. This sequence will continue upon subsequent vehicle start-ups as long as the malfunction exists. When the malfunction indicator is illuminated, the system may not be able to detect or signal low tire pressure as intended. TPMS malfunctions may occur for a variety of reasons, including the installation of replacement or

alternate tires or wheels on the vehicle that prevent the TPMS from functioning properly. Always check the TPMS malfunction telltale after replacing one or more tires or wheels on your vehicle, to ensure that the replacement or alternate tires and wheels allow the TPMS to continue to function properly.

**CAUTION!**

**The TPMS has been optimized for the original equipment tires and wheels. TPMS pressures and warning have been established for the tire size equipped on your vehicle. Undesirable system operation or sensor damage may result when using replacement equipment that is not of the same size, type, and/or style. Aftermarket wheels can cause sensor damage. Using aftermarket tire sealants may cause the Tire Pressure Monitoring System (TPMS)**

*(Continued)*

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**CAUTION! (Continued)**

sensor to become inoperable. After using an after-market tire sealant it is recommended that you take your vehicle to an authorized dealership to have your sensor function checked.

**NOTE:** The TPMS telltale is also accompanied by a “Low Tire” message in the Driver Information Display (DID) screen indicating “Low Tire”.

**17. Front Fog Light Indicator — If Equipped**



This indicator will illuminate when the front fog lights are on.

**18. Driver Information Display (DID)**

The Driver Information Display (DID) features an interactive display that is located in the instrument cluster. For further information, refer to “Driver Information Display (DID)” in this section.

**19. Transmission Gear Position Indicator**

The Transmission Gear Position Indicator is self-contained within the instrument cluster. It displays the gear range of the automatic transmission.

**NOTE:** The highest available transmission gear is displayed in the lower right corner of the DID whenever the Electronic Range Select (ERS) feature is active. Use the +/- selector on the shift lever or steering wheel to activate ERS. Refer to “Automatic Transmission” in “Starting And Operating” for further information.

### 20. Driver Information Display (DID) Menu

Driver Information Display (DID) features an interactive display of the main menu's that is located in the instrument cluster. For further information, refer to "Driver Information Display (DID)" in this section.

### 21. Electronic Stability Control (ESC) OFF Indicator Light — If Equipped



This light indicates that the Electronic Stability Control (ESC) is in Partial Off or Full Off mode.

### 22. TOW/HAUL



The TOW HAUL button is located on the center stack upper switch bank. This light will illuminate when TOW HAUL mode is selected.

### 23. Electronic Stability Control (ESC) Activation/Malfunction Indicator Light — If Equipped



The "ESC Activation/Malfunction Indicator Light" in the instrument cluster will come on when the ignition switch is turned to the ON/RUN position. It should go out with the engine running. If the "ESC Activation/Malfunction Indicator Light" comes on continuously with the engine running, a malfunction has been detected in the ESC system. If this light remains on after several ignition cycles, and the vehicle has been driven several miles (kilometers) at speeds greater than 30 mph (48 km/h), see your authorized dealer as soon as possible to have the problem diagnosed and corrected.

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### NOTE:

- The “ESC Off Indicator Light” and the “ESC Activation/Malfunction Indicator Light” come on momentarily each time the ignition switch is turned to ON/RUN.
- Each time the ignition is turned to ON/RUN, the ESC system will be ON, even if it was turned off previously.
- The ESC system will make buzzing or clicking sounds when it is active. This is normal; the sounds will stop when ESC becomes inactive following the maneuver that caused the ESC activation.

### 24. DEF Gauge

The DEF Gauge displays the actual level of Diesel Exhaust Fluid in the DEF tank. Diesel Exhaust Fluid (DEF) is required to maintain normal vehicle operation and emissions compliance. More information is available in the Electronic Vehicle Information (EVIC) or Driver

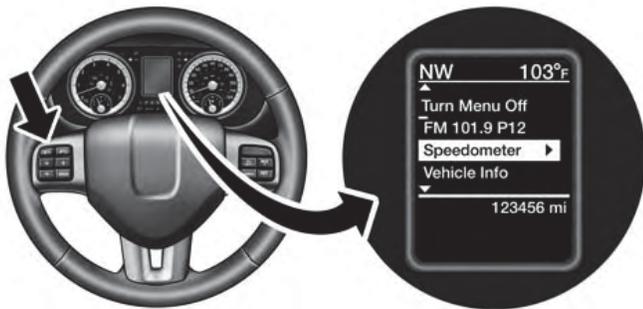
Information Display (DID) section under the heading of Diesel Exhaust Fluid (DEF) Warning Messages.

### NOTE:

- The gauge may take up to five seconds to update after adding a gallon or more of Diesel Exhaust Fluid (DEF) to the DEF tank. If you have a fault related to the DEF system, the gauge may not update to the new level. See your authorized dealer for service.
- The DEF gauge may also not immediately update after a refill if the temperature of the DEF fluid is below 12F (-11C). The DEF line heater will possibly warm up the DEF fluid and allow the gauge to update after a period of run time. Under very cold conditions, it is possible that the gauge may not reflect the new fill level for several drives.

### ELECTRONIC VEHICLE INFORMATION CENTER (EVIC)

The Electronic Vehicle Information Center (EVIC) features a driver-interactive display that is located in the instrument cluster.



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Electronic Vehicle Information Center (EVIC)

This system conveniently allows the driver to select a variety of useful information by pressing the switches mounted on the steering wheel.

Refer to “Electronic Vehicle Information Center – If Equipped” in the Owner’s Manual for further information.

### Instrument Cluster Messages

When the appropriate conditions exist, the Instrument Cluster Displays the following messages:

- System Setup Unavailable – Vehicle Not in Park
- System Setup Unavailable – Vehicle in Motion
- Service Air Filter
- Perform Service
- Exhaust Filter XX% Full Safely Drive at Highway Speeds To Remedy — If Equipped

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- Exhaust Filter Full – Power Reduced See Dealer — If Equipped
- Exhaust Service Required – See Dealer Now — If Equipped
- Exhaust System – Filter XX% Full Service Required See Dealer — If Equipped
- Exhaust System – Regeneration In Process Exhaust Filter XX% Full — If Equipped
- Exhaust System – Regeneration Completed — If Equipped
- DEF Low Refill Soon
- Speed Limited to 5 MPH in XXX mi Refill DEF
- 5 MPH Max Speed on Restart, Long Idle or Refuel Refill DEF
- 5 MPH Max Speed Refill DEF
- Service DEF System See Dealer
- 5 MPH Max Speed in XXX mi Service DEF System See Dealer
- 5 MPH Max Speed on Restart, Long Idle or Refuel Service DEF See Dealer
- 5 MPH Max Speed Service DEF System See Dealer
- Coolant Low
- Engine Power Reduced During Warmup
- Engine Power Reduced up to 30-sec During Warmup
- Engine Power Reduced up to 2-min During Warmup
- Active Airbox Service Required See Dealer

**Vehicle Information (Customer Information Features)**

Push and release the UP  arrow or DOWN  arrow button until "Vehicle Info" displays in the Cluster. Push the RIGHT  arrow or LEFT  arrow button to scroll through the available Vehicle Information sub menu(s) to display anyone of the following choices.



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Steering Wheels Buttons

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### Vehicle Information Sub Menus

- **Battery Voltage**

Displays the actual battery voltage.

**NOTE:** The battery voltage may show a fluctuation at various engine temperatures. This cycling operation is caused by the post-heat cycle of the intake manifold heater system. The number of cycles and the length of the cycling operation is controlled by the engine control module. Post-heat operation can run for several minutes, and then the electrical system and voltmeter needle will stabilize.

- **Coolant Temp**

Displays the actual coolant temperature.

- **Oil Pressure**

Displays the actual oil pressure.

- **Trans Temperature**

Displays the actual automatic transmission sump temperature.

- **Engine Hours**

Displays the total hours of engine operation, and the hours in drive and at idle.

- **Oil Life**

Displays the percentage of oil filter life remaining, and the miles since the last reset.

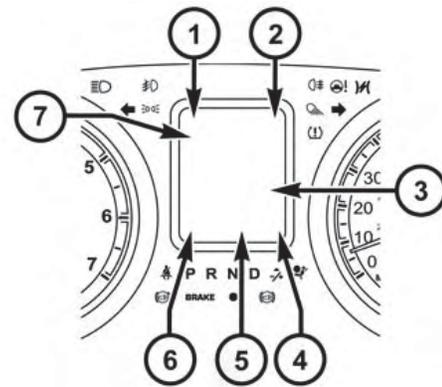
- **Fuel Filter Life**

Displays the percentage of fuel filter life remaining, and the miles since the last reset.

**NOTE:** Refer to Fuel Filter Life Reset in this section for further information.

**Electronic Vehicle Information Center (EVIC)  
Displays — 3.5" Display**

- **Exhaust Brake**  
Displays the actual exhaust brake power.
- **Turbo Boost**  
Displays the actual turbo boost value.
- **Tire Pressure Monitor System**  
Displays the actual tire pressure.
- **Gauge Summary**  
Displays the coolant, trans, oil temp and oil pressure.
- **Oil Temp**  
Displays the actual oil temperature.



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The EVIC displays are located in the center portion of the cluster and consists of seven sections:

### 1. *Compass Display*

Displays the current direction. For further information, refer to “Compass Settings” under “Customer Programmable Features — Uconnect® 5.0/8.4 Settings”.

### 2. *Temperature Display*

Displays the temperature in degrees Celsius or degrees Fahrenheit.

### 3. *Main Screen*

Displays main menu, sub-menus, settings.

### 4. *EVIC White Telltales*

- *Electronic Speed Control Ready*



This light will turn on when the electronic speed control is ON. For further information, refer to “Electronic Speed Control” in “Understanding The Features Of Your Vehicle.”

- *Electronic Speed Control SET*



This light will turn on when the electronic speed control is SET. For further information, refer to “Electronic Speed Control” in “Understanding The Features Of Your Vehicle.”

- *ERS Gear Limit*

The highest available transmission gear is displayed in the lower right corner of the Electronic Vehicle Information Center (EVIC) whenever the Electronic Range Select (ERS) feature is active. Use the +/- selector on the shift lever to activate ERS. Refer to “Automatic Transmission” in “Starting And Operating” for further information.

5. EVIC Amber Telltales

• *Low Fuel Telltale*



When the fuel level reaches approximately 3.0 gal (11.0 L) this light will turn on, and remain on until fuel is added.

• *Windshield Washer Fluid Low Indicator*



This telltale will turn on to indicate the windshield washer fluid is low.

• *Low Coolant Level Indicator*



This telltale will turn on to indicate the vehicle coolant level is low.

• *Transmission Temperature Warning Telltale*



This telltale indicates that the transmission fluid temperature is running hot. This may occur with severe usage, such as trailer towing.

If this telltale turns on, safely pull over and stop the vehicle. Then, shift the transmission into PARK and run the engine at idle or faster until the light turns off.

<b>CAUTION!</b>
<b>Continuous driving with the Transmission Temperature Warning Light illuminated will eventually cause severe transmission damage or transmission failure.</b>

<b>WARNING!</b>
<b>If you continue operating the vehicle when the Transmission Temperature Warning Light is illuminated you could cause the fluid to boil over, come in contact with hot engine or exhaust components and cause a fire.</b>

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- **Air Suspension Payload Protection Telltale — If Equipped**



This telltale will turn on to indicate that the maximum payload may have been exceeded or load leveling cannot be achieved at its current ride height.

Protection Mode will automatically be selected in order to “protect” the air suspension system, air suspension adjustment is limited due to payload.

- **Service Stop/Start System Telltale — If Equipped**



This telltale will turn on to indicate that the Stop/Start is Unavailable, service Stop/Start system.

- **Loose Fuel Filler Cap**



This telltale will turn on to indicate that the fuel filler cap may be loose.

- **Water In Fuel Indicator Light — Diesel Only**



The “Water In Fuel Indicator Light” will illuminate when there is water detected in the fuel filters. If this light remains on, DO NOT start the vehicle before you drain the water from the fuel filters to prevent engine damage. Refer to “Maintenance Procedures/Draining Fuel/Water Separator Filters” in “Maintaining Your Vehicle” for further information.

- **Wait To Start Light — Diesel Only**



The “Wait To Start” telltale will illuminate for approximately two seconds when the ignition is turned to the RUN position. It’s duration may be longer based on colder operating conditions. Vehicle will not initiate start until telltale is out. Refer to “Starting Procedures” in “Starting And Operating” for further information.

**NOTE:** The “Wait To Start” telltale may not illuminate if the intake manifold temperature is warm enough.

- **Low Diesel Exhaust Fluid Light — Diesel Only**



This telltale will turn on to indicate the Diesel Exhaust Fluid (DEF) is low.

#### 6. EVIC Red Telltales

- **Door Ajar**



This light will turn on to indicate that one or more doors may be ajar.

- **Oil Pressure Warning Light**



This telltale indicates low engine oil pressure. If the light turns on while driving, stop the vehicle and shut off the engine as soon as possible. A chime will sound when this light turns on.

Do not operate the vehicle until the cause is corrected. This light does not show how much oil is in the engine. The engine oil level must be checked under the hood.

- **Oil Temperature Warning Light**



This telltale indicates engine oil temperature is high. If the light turns on while driving, stop the vehicle and shut off the engine as soon as possible.

- **Charging System Light**



This light shows the status of the electrical charging system. If the light stays on or comes on while driving, turn off some of the vehicle's non-essential electrical devices or increase engine speed (if at idle). If the charging system light remains on, it means that the vehicle is experiencing a problem with the charging system. Obtain SERVICE IMMEDIATELY. See an authorized dealer.

If jump starting is required, refer to "Jump Starting Procedures" in "What To Do In Emergencies".

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- *Electronic Throttle Control (ETC) Light*



This light informs you of a problem with the Electronic Throttle Control (ETC) system. The light will come on when the ignition is first turned ON and remain on briefly as a bulb check. If the light does not come on during starting, have the system checked by an authorized dealer.

If a problem is detected, the light will come on while the engine is running. Cycle the ignition key when the vehicle has completely stopped and the shift lever is placed in the PARK position. The light should turn off.

If the light remains lit with the engine running, your vehicle will usually be drivable. However, see an authorized dealer for service as soon as possible. If the light is flashing when the engine is running, immediate service is required. You may experience reduced performance, an elevated/rough idle or engine stall and your vehicle may require towing.

- *Engine Temperature Warning Light*



This light warns of an overheated engine condition. As temperatures rise and the gauge approaches **H**, this indicator will illuminate and a single chime will sound after reaching a set threshold. Further overheating will cause the temperature gauge to pass **H**, a continuous chime will occur until the engine is allowed to cool.

If the light turns on while driving, safely pull over and stop the vehicle. If the A/C system is on, turn it off. Also, shift the transmission into PARK and idle the vehicle. If the temperature reading does not return to normal, turn the engine off immediately and call for service. Refer to "If Your Engine Overheats" in "What To Do In Emergencies" for further information.

• **Electric Power Steering Malfunction Warning Light**



This telltale is on when the Electric Power Steering is not operating and needs service.

• **Trailer Brake Disconnected Warning Light**



This telltale is on when the Trailer Brake has been disconnected.

**7. Audio/Phone Information And Sub-menu Information**

Whenever there are sub-menus available, the position within the sub-menu is shown here.

The main display area will normally display the main menu or the screens of a selected feature of the main menu. The main display area also displays “pop up” messages that consist of approximately 60 possible warning or information messages. These pop up messages fall into several categories:

• **Five Second Stored Messages**

When the appropriate conditions occur, this type of message takes control of the main display area for five seconds and then returns to the previous screen. Most of the messages of this type are then stored (as long as the condition that activated it remains active) and can be reviewed from the “Messages” main menu item. As long as there is a stored message, an “i” will be displayed in the EVIC’s compass/outside temp line. Examples of this message type are “Right Front Turn Signal Lamp Out” and “Low Tire Pressure”.

• **Unstored Messages**

This message type is displayed indefinitely or until the condition that activated the message is cleared. Examples of this message type are “Turn Signal On” (if a turn signal is left on) and “Lights On” (if driver leaves the vehicle).

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### • *Unstored Messages Until RUN*

These messages deal primarily with the Remote Start feature. This message type is displayed until the ignition is in the RUN state. Examples of this message type are “Remote Start Aborted - Door Ajar” and “Press Brake Pedal and Push Button to Start”.

### • *Five Second Unstored Messages*

When the appropriate conditions occur, this type of message takes control of the main display area for five seconds and then returns to the previous screen. An example of this message type is “Automatic High Beams On”.

## Warning Lights

### Water In Fuel Indicator Light



The “Water In Fuel Indicator Light” will illuminate when there is water detected in the fuel filters. If this light remains on, DO NOT start

the vehicle before you drain the water from the fuel filters to prevent engine damage. Refer to “Maintenance Procedures/Draining Fuel/Water Separator Filters” in “Maintaining Your Vehicle” for further information.

### Wait To Start Light



The “Wait To Start Light” will illuminate when the ignition is turned to the RUN position and the intake manifold temperature is below 66°F (19°C). Wait until the “Wait To Start Light” turns OFF, then start the vehicle. Refer to “Starting Procedures” in “Starting and Operating” for further information.

**NOTE:** The “Wait To Start Light” may not illuminate if the intake manifold temperature is warm enough.

### Low Coolant Level Indicator



This telltale will turn on to indicate the vehicle coolant level is low.

### Cold Ambient Derate Mode Messages

The vehicle will display messages when a derate (engine power reduction) is activated to protect the turbocharger during engine start up in cold ambient temperatures.

- **Engine Power Reduced During Warmup** — This message will display during start up when the ambient temperature is between 10° F (-12° C) and -10° F (-23° C).
- **Engine Power Reduced Up To 30 Sec (Seconds) During Warmup** — This message will display during start up when the ambient temperature is between -10° F (-23° C) and -25 F (-32° C).
- **Engine Power Reduced Up To 2 Min (Minutes) During Warmup** — This message will display during start up when the ambient temperature is -25° F (-32° C) and below.

- **Coolant Low** — This telltale will turn on to indicate the vehicle coolant level is low. See “Adding Coolant” under the section “Maintaining Your Vehicle” for more information.

### Diesel Particulate Filter (DPF) Messages

The Cummins® diesel engine meets all EPA Heavy Duty Diesel Engine Emissions Standards, resulting in one of the lowest emitting diesel engines ever produced. To achieve these emissions standards, your vehicle is equipped with a state-of-the-art engine and exhaust system. These systems are seamlessly integrated into your vehicle and managed by the Powertrain Control Module (PCM). The PCM manages engine combustion to allow the exhaust system’s catalyst to trap and burn Particulate Matter (PM) pollutants, with no input or interaction on your part.

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**WARNING!**

**A hot exhaust system can start a fire if you park over materials that can burn. Such materials might be grass or leaves coming into contact with your exhaust system. Do not park or operate your vehicle in areas where your exhaust system can contact anything that can burn.**

Your vehicle has the ability to alert you to additional maintenance required on your vehicle or engine. Refer to the following messages that may be displayed on your EVIC or DID:

- **Perform Service** — Your vehicle will require emissions maintenance at a set interval. To help remind you when this maintenance is due, the Cluster will display “Perform Service”. When the “Perform Service” message is displayed on the EVIC/DID it is necessary to have the emissions maintenance performed. Emissions

maintenance may include replacing the Closed Crankcase Ventilation (CCV) filter element. The procedure for clearing and resetting the “Perform Service” indicator message is located in the appropriate Service Information.

- **Exhaust System — Regeneration Required Now** — “Exhaust Filter XX% Full Safely Drive at Highway Speeds to Remedy” will be displayed in the Cluster if the exhaust particulate filter reaches 80% of its maximum storage capacity. Under conditions of exclusive short duration and low speed driving cycles, your Cummins® diesel engine and exhaust after-treatment system may never reach the conditions required to remove the trapped PM. If this occurs, the “Exhaust Filter XX% Full Safely Drive at Highway Speeds to Remedy” message will be displayed in the EVIC/DID. If this message is displayed, you will hear one chime to assist in alerting you of this condition

- By simply driving your vehicle at highway speeds for as little as 45 minutes, you can remedy the condition in the particulate filter system and allow your Cummins® diesel engine and exhaust after-treatment system to remove the trapped PM and restore the system to normal operating condition.
- **Exhaust System — Regeneration In Process Exhaust Filter XX% Full** — Indicates that the Diesel Particulate Filter (DPF) is self-cleaning. Maintain your current driving condition until regeneration is completed.
- **Exhaust System — Regeneration Completed** — This message indicates that the Diesel Particulate Filter (DPF) self-cleaning is completed. If this message is displayed, you will hear one chime to assist in alerting you of this condition.
- **Exhaust Service Required — See Dealer Now** — This message indicates regeneration has been disabled due to a system malfunction. At this point the engine Powertrain Control Module (PCM) will register a fault code, the instrument panel will display a MIL light.
- **Exhaust Filter Full — Power Reduced See Dealer** — This message indicates the PCM has derated the engine to limit the likelihood of permanent damage to the after-treatment system. If this condition is not corrected and a dealer service is not performed, extensive exhaust after-treatment damage can occur. To correct this condition it will be necessary to have your vehicle serviced by your local authorized dealer.

<b>CAUTION!</b>
<b>See your authorized dealer, as damage to the exhaust system could occur soon with continued operation.</b>

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**CAUTION!**

See your authorized dealer, as damage to the exhaust system could occur soon with continued operation.

**Diesel Exhaust Fluid (DEF) Warning Messages**

Your vehicle will begin displaying warning messages when the DEF level reaches a driving range of approximately 200 miles (322 km). If the following warning message sequence is ignored, your vehicle may be limited to a maximum speed of 5 MPH (8 km/H) unless DEF is added.

- **DEF Low Refill Soon** — This message will display when the low level is reached, during vehicle start up, and with increased frequency during vehicle operation. It will be accompanied by a single chime. Approximately 5 gallons (19 Liters) of DEF is required to refill the tank when this message is initially displayed.

on pickup applications, and approximately 7 gallons (28 Liters) are required on chassis-cab applications.

- **Speed Limited to 5 MPH in XXX mi Refill DEF** — This message will continuously display if the “DEF Low Refill Soon” message is ignored, and the frequency of occurrence of the chime will increase unless up to 2 gallons (7.5 Liters) of DEF is added to the tank.
- **5 MPH Max Speed on Restart, Long Idle or Refuel Refill DEF** — This message will continuously display when the counter reaches zero, and will be accompanied by a periodic chime.
- The vehicle will only be capable of a maximum speed of 5 MPH upon the first of the following conditions to occur:
  - If the vehicle is shutoff and restarted.
  - If the vehicle is idled for an extended period of time, approximately one hour or greater.

- If the system detects that the level of fuel in the tank has increased.
- Add a minimum of 2 gallons (9.5 Liters) of DEF to the tank in order to avoid vehicle operation at a maximum speed of 5 MPH (8 km/H).

**NOTE:** A minimum of 2 gallons (9.5 Liters) may be required to restore normal vehicle operation. Although the vehicle will start normally and can be placed in gear after this message has been initially displayed, extreme caution should be utilized since the vehicle will only be capable of maneuvering at a maximum speed of 5 MPH (8 km/H).

### Diesel Exhaust Fluid (DEF) Fault Warning Messages

There are four different messages which are displayed if the vehicle detects that the DEF system has been filled with a fluid other than DEF, has experienced component

failures, or when tampering has been detected. The vehicle may be limited to a maximum speed of 5 MPH (8 km/H) if the DEF system is not serviced within less than 200 miles (322 km) of the fault being detected.

When the DEF system needs to be serviced the following warnings will display:

- **Service DEF System See Dealer** — This message will display when the fault is initially detected, each time the vehicle is started, and periodically during driving. The message will be accompanied by a single chime. We recommend you drive to your nearest authorized dealer and have your vehicle serviced as soon as possible.
- **5 MPH Max Speed in 150 mi Service DEF System See Dealer** — This message will display if the DEF system has not been serviced after the “Service DEF System – See Dealer” message is displayed. This message will continuously display until the mileage counter reaches

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zero, and will be accompanied by a periodic chime. The message will continue to countdown until it reaches zero unless the vehicle is serviced. We recommend you drive to your nearest authorized dealer and have your vehicle serviced immediately.

**NOTE:** Under some circumstances this mileage counter may start with a value of less than 150 miles (241 km). For example, if recurring faults are detected in a time interval of less than 40 hours, the counter may restart at the value where it stopped when a previous fault was temporarily remedied, or at a minimum of 50 miles (80 km).

- **5 MPH Max Speed on Restart, Long Idle or Refuel Service DEF See Dealer** — This message will continuously display when the mileage counter reaches zero, and will be accompanied by a periodic chime.
- The vehicle will only be capable of a maximum speed of 5 MPH upon the first of the following conditions to occur:

- If the vehicle is shutoff and restarted.
- If the vehicle is idled for an extended period of time, approximately one hour or greater.
- If the system detects that the level of fuel in the tank has increased.
- **5 MPH Max Speed Service DEF System See Dealer** — This message will continuously display, and will be accompanied by a periodic chime. Although the vehicle can be started and placed in gear, the vehicle will only operate at a maximum speed of 5 MPH. Your vehicle will require towing, see your authorized dealer for service.

**NOTE:** When this message is displayed, the engine can still be started. However, the vehicle will only operate at a maximum speed of 5 MPH.

### RAM Active Air System

Your vehicle is equipped with an advanced Ram Active Air system that provides enhanced performance, especially when towing under demanding hot or high altitude conditions. If the EVIC/DID displays the message “Active Airbox Service Required See Dealer”, vehicle performance may be reduced until service is performed by an authorized RAM dealer.

### Fuel Filter Life Reset

The cluster will display the “Service Fuel Filter” message when the fuel filter maintenance life is less than 5%. To check the remaining fuel filter life, go to the “Fuel Filter Life” screen in the “Vehicle Info” menu. When this message appears, dealers should replace both frame mounted and engine mounted fuel filters.

**NOTE:** Use the steering wheel EVIC controls for the following procedure(s)

### Vehicles Equipped With Passive Entry

1. Without pressing the brake pedal, press the ENGINE START/STOP button and cycle the ignition to the ON/RUN position (do not start the engine.)
2. Press and release the **DOWN** arrow button to scroll downward through the main menu to “Vehicle Info”.
3. Press and release the **RIGHT** arrow button to access the “Fuel Filter Life” screen.
4. Press and release the **DOWN** arrow button to select “Reset”, then press and release the **Right** arrow button to select reset of the Fuel Filter Life to 100%.
5. Press and release the **Up** arrow button to exit the EVIC screen.

### Vehicles Not Equipped With Passive Entry

1. Without pressing the brake pedal, cycle the ignition to the ON/RUN position (do not start the engine.)

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2. Press and release the **DOWN** arrow button to scroll downward through the main menu to "Vehicle Info".
3. Press and release the **RIGHT** arrow button to access the "Fuel Filter Life" screen.
4. Press and release the **DOWN** arrow button to select "Reset", then press and release the **Right** arrow button to select reset of the Fuel Filter Life to 100%.
5. Press and release the **Up** arrow button to exit the EVIC screen.

**NOTE:** If the indicator message illuminates when you start the vehicle, the Fuel Filter indicator system did not reset. If necessary, repeat this procedure.

### Oil Life Reset

Your vehicle is equipped with an engine oil change indicator system. The "Oil Change Required" message will display in the EVIC display for approximately 10

seconds after a single chime has sounded, to indicate the next scheduled oil change interval. The engine oil change indicator system is duty cycle based, which means the engine oil change interval may fluctuate, dependent upon your personal driving style.

**NOTE:** Use the steering wheel EVIC controls for the following procedure(s).

### Vehicles Equipped With Passive Entry

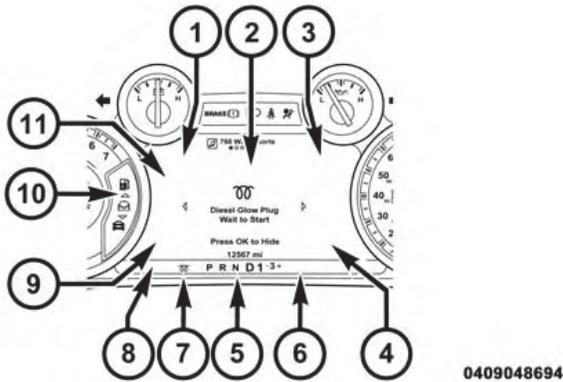
1. Without pressing the brake pedal, push the ENGINE START/STOP button and place the ignition to the ON/RUN position (do not start the engine).
2. Push and release the **DOWN** arrow button to scroll downward through the main menu to "Vehicle Info."
3. Push and release the **RIGHT** arrow button to access the "Oil Life" screen.

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4. Push and release the **DOWN** arrow button to select "Reset," then press and release the **Right** arrow button to select reset of the Oil Life to 100%.
  5. Push and release the **Up** arrow button to exit the EVIC screen.
- Vehicles Not Equipped With Passive Entry**
1. Without pushing the brake pedal, push the **ENGINE START/STOP** button and place the ignition to the **ON/RUN** position (do not start the engine).
  2. Push and release the **LEFT** arrow then press and release the **DOWN** arrow button to scroll downward through the main menu to "Vehicle Info."
  3. Push and release the **RIGHT** arrow button to access the "Vehicle Info" screen then scroll **UP** or **DOWN** to select "Oil Life."
  4. Push and hold the **RIGHT** arrow button to select "Reset," then select "NO" or "YES" by pressing the **RIGHT** arrow then press the **RIGHT** arrow button to select reset of the Oil Life to 100%.
  5. Push and release the **Up** arrow button to exit the EVIC screen.
- NOTE:** If the indicator message illuminates when you start the vehicle, the Fuel Filter indicator system did not reset. If necessary, repeat this procedure.

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Driver Information Display (DID) – 7” Display



The Driver Information Display (DID) display is located in the center portion of the cluster and consists of eight sections:

1. Main Screen — The inner ring of the display will illuminate in grey under normal conditions, yellow for non critical warnings, red for critical warnings and white for on demand information.
2. Audio Information and Submenu Information — Whenever there are submenus available, the position within the submenus is shown here.
3. Selectable Information (Compass, Temp, Range to Empty, Trip A, Trip B, Average MPG, Trailer Trip (distance only), Trailer Brake Gain).
4. Air Suspension Status – If Equipped
5. Transmission Gear Position Indicator (PRND)
6. Status Menu Icons
7. Telltales/Indicators
8. 4WD Status

9. Selectable Gauge (Trans Temp, Oil Temp, Oil Life, Trailer Brake, Current MPG, Fuel Filter Life, Turbo Boost, Exhaust Brake, Battery Voltage)
10. Main Menu Items (Digital Speedometer, Vehicle Info, Fuel Economy, Trip A, Trip B, Trailer Tow, Audio, Stored Messages, Screen Setup, Vehicle Settings)
11. Selectable Gauge (Trans Temp, Oil Temp, Oil Life, Trailer Brake, Current MPG, Fuel Filter Life, Turbo Boost, Exhaust Brake, Battery Voltage)

The main display area will normally display the main menu or the screens of a selected feature of the main menu. The main display area also displays “pop up” messages that consist of approximately 60 possible warning or information messages. These pop up messages fall into several categories:

- *Five Second Stored Messages*

When the appropriate conditions occur, this type of message takes control of the main display area for five seconds and then returns to the previous screen. Most of the messages of this type are then stored (as long as the condition that activated it remains active) and can be reviewed from the “Messages” main menu item. As long as there is a stored message, an “i” will be displayed in the DID’s compass/outside temp line. Examples of this message type are “Right Front Turn Signal Lamp Out” and “Low Tire Pressure”.

- *Unstored Messages*

This message type is displayed indefinitely or until the condition that activated the message is cleared. Examples of this message type are “Turn Signal On” (if a turn signal is left on) and “Lights On” (if driver leaves the vehicle).

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### • *Unstored Messages Until RUN*

These messages deal primarily with the Remote Start feature. This message type is displayed until the ignition is in the RUN state. Examples of this message type are “Remote Start Aborted - Door Ajar” and “Press Brake Pedal and Push Button to Start”.

### • *Five Second Unstored Messages*

When the appropriate conditions occur, this type of message takes control of the main display area for five seconds and then returns to the previous screen. An example of this message type is “Automatic High Beams On”.

### **DID Amber Telltales**

This area will show reconfigurable amber caution telltales. These telltales include:

### **Water In Fuel Indicator Light**



The “Water In Fuel Indicator Light” will illuminate when there is water detected in the fuel filters. If this light remains on, DO NOT start the vehicle before you drain the water from the fuel filters to prevent engine damage. Refer to “Maintenance Procedures/Draining Fuel/Water Separator Filters” in “Maintaining Your Vehicle” for further information.

### **Wait To Start Light**



The “Wait To Start” telltale will illuminate for approximately two seconds when the ignition is turned to the RUN position. It’s duration may be longer based on colder operating conditions. Vehicle will not initiate start until telltale is out. Refer to “Starting Procedures” in “Starting And Operating” for further information.

**NOTE:** The “Wait To Start” telltale may not illuminate if the intake manifold temperature is warm enough.

**Low Diesel Exhaust Fluid Light**



This telltale will turn on to indicate the Diesel Exhaust Fluid (DEF) is low.

**Cold Ambient Derate Mode Messages**

The vehicle will display messages when a derate (engine power reduction) is activated to protect the turbocharger during engine start up in cold ambient temperatures.

- **Engine Power Reduced During Warmup** — This message will display during start up when the ambient temperature is between 10° F (-12° C) and -10° F (-23° C).

- **Engine Power Reduced Up To 30 Sec (Seconds) During Warmup** — This message will display during start up when the ambient temperature is between -10° F (-23° C) and -25 F (-32° C).
- **Engine Power Reduced Up To 2 Min (Minutes) During Warmup** — This message will display during start up when the ambient temperature is -25° F (-32° C) and below.
- **Coolant Low** — This telltale will turn on to indicate the vehicle coolant level is low. See “Adding Coolant” under the section “Maintaining Your Vehicle” for more information.

**Diesel Particulate Filter (DPF) Messages**

The Cummins® diesel engine meets all EPA Heavy Duty Diesel Engine Emissions Standards, resulting in one of the lowest emitting diesel engines ever produced. To achieve these emissions standards, your vehicle is

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equipped with a state-of-the-art engine and exhaust system. These systems are seamlessly integrated into your vehicle and managed by the Powertrain Control Module (PCM). The PCM manages engine combustion to allow the exhaust system's catalyst to trap and burn Particulate Matter (PM) pollutants, with no input or interaction on your part.

### WARNING!

**A hot exhaust system can start a fire if you park over materials that can burn. Such materials might be grass or leaves coming into contact with your exhaust system. Do not park or operate your vehicle in areas where your exhaust system can contact anything that can burn.**

Your vehicle has the ability to alert you to additional maintenance required on your vehicle or engine. Refer to the following messages that may be displayed on your DID:

- **Perform Service** — Your vehicle will require emissions maintenance at a set interval. To help remind you when this maintenance is due, the Cluster will display "Perform Service". When the "Perform Service" message is displayed on the DID it is necessary to have the emissions maintenance performed. Emissions maintenance may include replacing the Closed Crankcase Ventilation (CCV) filter element. The procedure for clearing and resetting the "Perform Service" indicator message is located in the appropriate Service Information.
- **Exhaust System — Regeneration Required Now** — "Exhaust Filter XX% Full Safely Drive at Highway Speeds to Remedy" will be displayed in the Cluster if

the exhaust particulate filter reaches 80% of its maximum storage capacity. Under conditions of exclusive short duration and low speed driving cycles, your Cummins® diesel engine and exhaust after-treatment system may never reach the conditions required to remove the trapped PM. If this occurs, the “Exhaust Filter XX% Full Safely Drive at Highway Speeds to Remedy” message will be displayed in the DID. If this message is displayed, you will hear one chime to assist in alerting you of this condition

- By simply driving your vehicle at highway speeds for as little as 45 minutes, you can remedy the condition in the particulate filter system and allow your Cummins® diesel engine and exhaust after-treatment system to remove the trapped PM and restore the system to normal operating condition.
- **Exhaust System — Regeneration In Process Exhaust Filter XX% Full** — Indicates that the Diesel Particulate

Filter (DPF) is self-cleaning. Maintain your current driving condition until regeneration is completed.

- **Exhaust System — Regeneration Completed** — This message indicates that the Diesel Particulate Filter (DPF) self-cleaning is completed. If this message is displayed, you will hear one chime to assist in alerting you of this condition.
- **Exhaust Service Required — See Dealer Now** — This message indicates regeneration has been disabled due to a system malfunction. At this point the engine Powertrain Control Module (PCM) will register a fault code, the instrument panel will display a MIL light.

**CAUTION!**

See your authorized dealer, as damage to the exhaust system could occur soon with continued operation.



distance mileage, and it will be accompanied by a single chime. Stating at 100 miles, remaining range will be continuously displayed while operating the vehicle. Chimes will also accompany the 75, 50 and 25 mile remaining distances. The DEF Low telltale will be on continuously until DEF fluid is topped off.

- **Engine Will Not Restart Refill DEF** — This message will display when the DEF driving range is less than 1 mile, DEF fluid top off is required or the engine will not restart. The message will be displayed in the DID during vehicle start up, and it will be accompanied by a single chime. The DEF Low telltale will be illuminated continuously until DEF fluid tank is filled with a minimum of two gallons of DEF.

### **Diesel Exhaust Fluid (DEF) Fault Warning Messages**

There are four different messages which are displayed if the vehicle detects that the DEF system has been filled

with a fluid other than DEF, has experienced component failures, or when tampering has been detected. The vehicle may be limited to a maximum speed of 5 MPH (8 km/H) if the DEF system is not serviced within less than 200 miles (322 km) of the fault being detected.

When the DEF system needs to be serviced the following warnings will display:

- **Service DEF System See Dealer** — This message will display when the fault is initially detected, each time the vehicle is started, and periodically during driving. The message will be accompanied by a single chime. We recommend you drive to your nearest authorized dealer and have your vehicle serviced as soon as possible.
- **5 MPH Max Speed in 150 mi Service DEF System See Dealer** — This message will display if the DEF system has not been serviced after the “Service DEF System – See Dealer” message is displayed. This message will

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continuously display until the mileage counter reaches zero, and will be accompanied by a periodic chime. The message will continue to countdown until it reaches zero unless the vehicle is serviced. We recommend you drive to your nearest authorized dealer and have your vehicle serviced immediately.

**NOTE:** Under some circumstances this mileage counter may start with a value of less than 150 miles (241 km). For example, if recurring faults are detected in a time interval of less than 40 hours, the counter may restart at the value where it stopped when a previous fault was temporarily remedied, or at a minimum of 50 miles (80 km).

- **5 MPH Max Speed on Restart, Long Idle or Refuel Service DEF See Dealer** — This message will continuously display when the mileage counter reaches zero, and will be accompanied by a periodic chime.

- The vehicle will only be capable of a maximum speed of 5 MPH upon the first of the following conditions to occur:

- If the vehicle is shutdown and restarted.
- If the vehicle is idled for an extended period of time, approximately one hour or greater.
- If the system detects that the level of fuel in the tank has increased.

- **5 MPH Max Speed Service DEF System See Dealer** — This message will continuously display, and will be accompanied by a periodic chime. Although the vehicle can be started and placed in gear, the vehicle will only operate at a maximum speed of 5 MPH. Your vehicle will require towing, see your authorized dealer for service.

**NOTE:** When this message is displayed, the engine can still be started. However, the vehicle will only operate at a maximum speed of 5 MPH.

### RAM Active Air System

Your vehicle is equipped with an advanced Ram Active Air system that provides enhanced performance, especially when towing under demanding hot or high altitude conditions. If the DID displays the message “Active Airbox Service Required See Dealer”, vehicle performance may be reduced until service is performed by an authorized RAM dealer.

### Fuel Filter Life Reset

The cluster will display the “Service Fuel Filter” message when the fuel filter maintenance life is less than 5%. To check the remaining fuel filter life, go to the “Fuel Filter Life” screen in the “Vehicle Info” menu. When this message appears, dealers should replace both frame mounted and engine mounted fuel filters.

**NOTE:** Use the steering wheel EVIC controls for the following procedure(s)

### Vehicles Equipped With Passive Entry

1. Without pressing the brake pedal, press the ENGINE START/STOP button and place the ignition in the ON/RUN position (do not start the engine.)
2. Press and release the **DOWN** arrow button to scroll downward through the main menu to “Vehicle Info”.
3. Press and release the **RIGHT** arrow button to access the “Fuel Filter Life” screen.
4. Press and hold the **RIGHT** arrow button for one second to access the Reset Confirmation screen.
5. Press and release the **UP** or **DOWN** arrow button to select “Yes” or “No” then press and hold the **RIGHT** arrow button to reset the Fuel Filter Life.
6. Press and release the **Up** arrow button to exit the EVIC screen once the Fuel Filter Life is 100%

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### Vehicles Not Equipped With Passive Entry

1. Without pressing the brake pedal, cycle the ignition to the ON/RUN position (do not start the engine.)
2. Press and release the **DOWN** arrow button to scroll downward through the main menu to "Vehicle Info".
3. Press and release the **RIGHT** arrow button to access the "Fuel Filter Life" screen.
4. Press and hold the **RIGHT** arrow button for one second to access the "Fuel Filter Life Reset" screen.
5. Press and hold the **RIGHT** arrow button for one second to access the Reset Confirmation screen.
6. Press and release the **UP** or **DOWN** arrow button to select "Yes" or "No" then press and hold the **RIGHT** arrow button to reset the Fuel Filter Life.
7. Press and release the **Up** arrow button to exit the EVIC screen once the Fuel Filter Life is 100%

**NOTE:** If the indicator message illuminates when you start the vehicle, the oil change indicator system did not reset. If necessary, repeat this procedure.

### Oil Life Reset

Your vehicle is equipped with an engine oil change indicator system. The "Oil Change Required" message will flash in the DID display for approximately 10 seconds after a single chime has sounded, to indicate the next scheduled oil change interval. The engine oil change indicator system is duty cycle based, which means the engine oil change interval may fluctuate, dependent upon your personal driving style.

**NOTE:** Use the steering wheel DID controls for the following procedure(s)

### Vehicles Equipped With Passive Entry

1. Without pressing the brake pedal, press the ENGINE START/STOP button and cycle the ignition to the ON/RUN position (do not start the engine.)
2. Press and release the **DOWN** arrow button to scroll downward through the main menu to "Vehicle Info".
3. Press and release the **RIGHT** arrow button to access the "Oil Life" screen.
4. Press and hold the **RIGHT** arrow button for one second to access the "Oil Life Reset" screen.
5. Press and release the **DOWN** arrow button to select "Yes", then press and release the Right arrow button to select reset of the Oil Life.
6. Press and release the **Up** arrow button to exit the DID screen.

### Vehicles Not Equipped With Passive Entry

1. Without pressing the brake pedal, cycle the ignition to the ON/RUN position (do not start the engine.)
2. Press and release the **DOWN** arrow button to scroll downward through the main menu to " **Vehicle Info**".
3. Press and release the **RIGHT** arrow button to access the " **Oil Life**" screen.
4. Press and hold the **RIGHT** arrow button for one second to access the " **Oil Life Reset**" screen.
5. Press and release the **DOWN** arrow button to select "Yes", then press and release the Right arrow button to select reset of the Oil Life.
6. Press and release the **Up** arrow button to exit the DID screen.

**NOTE:** If the indicator message illuminates when you start the vehicle, the oil change indicator system did not reset. If necessary, repeat this procedure.



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## STARTING AND OPERATING

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**STARTING PROCEDURES**

Before starting your vehicle, adjust your seat, adjust both inside and outside mirrors, and fasten your seat belts.

The starter should not be operated for more than 15-second intervals. Waiting a few minutes between such intervals will protect the starter from overheating.

<b>WARNING!</b>
<ul style="list-style-type: none"> <li>• Do not leave children or animals inside parked vehicles in hot weather. Interior heat build up may cause serious injury or death.</li> <li>• When leaving the vehicle, always make sure the ignition is in the OFF position, remove the key fob from the vehicle, and lock the vehicle.</li> </ul>

<b>WARNING! (Continued)</b>
<ul style="list-style-type: none"> <li>• Never leave children alone in a vehicle, or with access to an unlocked vehicle. Allowing children to be in a vehicle unattended is dangerous for a number of reasons. A child or others could be seriously or fatally injured. Children should be warned not to touch the parking brake, brake pedal or the transmission gear selector. Do not leave the key fob in or near the vehicle (or in a location accessible to children), and do not leave the ignition (of a vehicle equipped with Keyless Enter-N-Go™) in the ACC or ON/RUN mode. A child could operate power windows, other controls, or move the vehicle.</li> </ul>

*(Continued)*

### Manual Transmission — If Equipped

Apply the parking brake, place the shift lever in NEUTRAL and press the clutch pedal to the floor before starting the vehicle. This vehicle is equipped with a clutch interlocking ignition system. It will not start unless the clutch is fully pressed.

### Automatic Transmission — If Equipped

Start the engine with the transmission in the NEUTRAL or PARK position. Apply the brake before shifting to any driving range.

### Tip Start Feature

**Do not** press the accelerator. Turn the ignition switch briefly to the START position and release it. The starter motor will continue to run but will automatically disengage when the engine is running.

### Keyless Enter-N-Go™ — If Equipped



This feature allows the driver to operate the ignition switch with the push of a button, as long as the Remote Start/Keyless Enter-N-Go™ Key Fob is in the passenger compartment.

### Normal Starting

#### *Using The ENGINE START/STOP Button*

1. The transmission must be in PARK or NEUTRAL.
2. Press and hold the brake pedal while pressing the ENGINE START/STOP button once.
3. The system takes over and attempts to start the vehicle. If the vehicle fails to start, the starter will disengage automatically after 10 seconds.

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4. If you wish to stop the cranking of the engine prior to the engine starting, remove your foot from the brake pedal and press the button again.

### NOTE:

- Normal starting of either a cold or a warm engine is obtained without pumping or pressing the accelerator pedal.
- Under cold weather conditions, the engine may not immediately crank if the "Wait To Start" telltale is illuminated. This is normal operation. For vehicles equipped with Keyless Enter-N-Go™, the vehicle will automatically crank when the "Wait To Start" time has elapsed. See the section "Starting Procedure Engine Manifold Air Temperature 0°F to 66°F (18° C to 19°C)" for more information.

### *To Turn Off The Engine Using ENGINE START/STOP Button*

1. Place the shift lever/gear selector in PARK, then press and release the ENGINE START/STOP button.
2. The ignition switch will return to the OFF position.
3. If the shift lever/gear selector is not in PARK, the ENGINE START/STOP button must be held for two seconds or three short presses in a row with the vehicle speed above 5 mph (8 km/h) before the engine will shut off. The ignition switch position will remain in the ACC position until the shift lever/gear selector is in PARK and the button is pressed twice to the OFF position. If the shift lever/gear selector is not in PARK and the ENGINE START/STOP button is pressed once, the EVIC/DID will display a "Vehicle Not In Park" message and the engine will remain running. Never leave a vehicle out of the PARK position, or it could roll.

**NOTE:** If the ignition switch is left in the ACC or RUN (engine not running) position and the transmission is in PARK, the system will automatically time out after 30 minutes of inactivity and the ignition will switch to the OFF position.

***ENGINE START/STOP Button Functions — With Driver's Foot OFF The Brake Pedal (In PARK Or NEUTRAL Position)***

The ENGINE START/STOP button operates similar to an ignition switch. It has three positions, OFF, ACC, RUN. To change the ignition switch positions without starting the vehicle and use the accessories follow these steps:

1. Starting with the ignition in the OFF position:
2. Press the ENGINE START/STOP button once to change the ignition to the ACC position.

3. Press the ENGINE START/STOP button a second time to change the ignition to the RUN position.
4. Press the ENGINE START/STOP button a third time to return the ignition to the OFF position.

**Keyless Enter-N-Go™ Starting Procedure — Engine Manifold Air Temperature 0° F To 66° F (–18° C to 19° C)**

**NOTE:** The temperature displayed in the Electronic Vehicle Information Center (EVIC) or Driver information Display (DID) does not necessarily reflect the engine manifold air temperature. Refer to “Electronic Vehicle Information Center (EVIC)” or Driver Information Display (DID)” in “Understanding Your Instrument Panel” for further information. When engine temperatures fall below 66°F (19°C) the “Wait To Start Light” will remain on indicating the intake manifold heater system is active.

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Follow the steps in the "Normal Starting" procedure except:

1. Pushing the engine start button with the driver's foot on the brake will move the ignition from OFF or ACC to RUN, and will illuminate the "Wait To Start" telltale. The engine will not immediately crank, this is normal operation.
2. The "Wait To Start" telltale will remain on for a period of time that varies depending on the engine temperature.
3. While the "Wait to Start" telltale is on, the EVIC/DID will additionally display a gauge or bar whose initial length represents the full "Wait to Start" time period. Its length will decrease until it disappears when the "Wait to Start" time has elapsed.

### CAUTION!

If the "Water in Fuel Indicator Light" remains on, DO NOT START engine before you drain the water from the fuel filters to avoid engine damage. Refer to "Maintenance Procedures/Draining Fuel/Water Separator Filter" in "Maintaining Your Vehicle" for further information.

4. After the engine "Wait To Start" telltale goes off, the engine will automatically crank.

### CAUTION!

The engine may automatically crank when the "Wait To Start" time has elapsed. To abort the automatic starting process, ensure the driver's foot is fully removed from the brake pedal prior to pushing the START/STOP button to cycle the ignition off.

5. After engine start-up, check to see that there is oil pressure.
6. Allow the engine to idle about three minutes until the manifold heaters have completed the post-heat cycle.
7. Release the parking brake and drive.

**NOTE:**

- Engine idle speed will automatically increase to 1,000 RPM and engage the Variable Geometry Turbocharger at low coolant temperatures to improve engine warm-up.
- The engine may not automatically crank after the engine "Wait To Start" telltale goes off if a door or the hood is ajar.
- If the engine stalls, or if the ignition switch is left ON for more than two minutes after the "Wait To Start Light" goes out, reset the grid heaters by turning the ignition switch to the OFF position for at least five

seconds and then back ON. Repeat steps 1 through 7 of "Keyless Enter-N-Go™ Starting Procedure – Engine Manifold Air Temperature Below 66° F (19° C)."

**Extreme Cold Weather**

The Cummins® diesel engine is equipped with several features designed to assist cold weather starting and operation:

- The engine block heater is a resistance heater installed in the water jacket of the engine just above and behind the oil filter. It requires a 110–115 Volt AC electrical outlet with a grounded, three-wire extension cord.

**NOTE:** The engine block heater cord is a factory installed option. If your vehicle is not equipped, heater cords are available from your authorized MOPAR® dealer.

- A 12 Volt heater built into the fuel filter housings aid in preventing fuel gelling. It is controlled by a built-in thermostat.

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- A heated intake air system both improves engine starting and reduces the amount of white smoke generated by a warming engine.

**Normal Starting Procedure — Engine Manifold Air Temperature Above 66° F (19° C)**

Observe the instrument panel cluster lights when starting the engine.

1. Always apply the parking brake.
2. Shift into PARK for an automatic transmission. For vehicles equipped with a manual transmission, fully press and hold the clutch pedal and shift into NEUTRAL.
3. Turn the ignition switch to the ON position and watch the instrument panel cluster lights.

**CAUTION!**

If the “Water in Fuel Indicator Light” remains on, DO NOT START the engine before you drain the water from the fuel filters to avoid engine damage. Refer to “Maintenance Procedures/Draining Fuel/Water Separator Filter” in “Maintaining Your Vehicle” for further information.

4. Turn the ignition switch to the START position and crank the engine. Do not press the accelerator during starting.

**CAUTION!**

Do not crank engine for more than 15 seconds at a time or starter motor damage may result. Turn the ignition switch to the OFF position and wait at least two minutes for the starter to cool before repeating start procedure.

5. When the engine starts, release the key fob.
6. Check that the oil pressure warning light has turned off.
7. Release the parking brake.

**Starting Procedure — Engine Manifold Air Temperature 0°F To 66°F (–18°C to 19°C)**

**NOTE:** The temperature displayed in the Electronic Vehicle Information Center (EVIC) or Driver Information Display (DID) does not necessarily reflect the engine manifold air temperature. Refer to “Electronic Vehicle Information Center (EVIC)” or “Driver Information Display (DID)” in “Understanding Your Instrument Panel” for further information. When engine temperatures fall below 66°F (19°C) the “Wait To Start Light” will remain on indicating the intake manifold heater system is active.

Follow the steps in the “Normal Starting” procedure except:

1. The “Wait To Start” telltale will remain on for a period of time that varies depending on the engine temperature.

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2. While the "Wait To Start" telltale is on, the EVIC/DID will additionally display a gauge or bar whose initial length represents the full "Wait To Start" time period. Its length will decrease until it disappears when the "Wait To Start" time has elapsed.

**CAUTION!**

**If the "Water in Fuel Indicator Light" remains on, DO NOT START engine before you drain the water from the fuel filters to avoid engine damage. Refer to "Maintenance Procedures/Draining Fuel/Water Separator Filter" in "Maintaining Your Vehicle" for further information.**

3. After the "Wait To Start" telltale goes off, turn the ignition switch to the START position. Do not press the accelerator during starting.

**CAUTION!**

**Do not crank engine for more than 15 seconds at a time or starter motor damage may result. Turn the ignition switch to the OFF position and wait at least two minutes for the starter to cool before repeating start procedure.**

4. After engine start-up, check that the oil pressure warning light has turned off.
5. Allow the engine to idle about three minutes until the manifold heaters have completed the post-heat cycle.
6. Release the parking brake and drive.

**NOTE:**

- Engine idle speed will automatically increase to 1,000 RPM and engage the Variable Geometry Turbocharger at low coolant temperatures to improve engine warm-up.

- Automatic equipped vehicles with optional Keyless Enter-N-Go™ – If the start button is pushed once while in park with the ignition off and driver’s foot on the brake pedal, the vehicle will automatically crank and start after the Wait to Start time has elapsed. If it is desired to abort the start process before it completes, the driver’s foot should be fully removed from the brake pedal prior to pushing the start button again in order for the ignition to move directly to off.
- If the engine stalls, or if the ignition switch is left ON for more than two minutes after the “Wait To Start” telltale goes out, reset the grid heaters by turning the ignition switch to the OFF position for at least five seconds and then back ON. Repeat steps 1 through 5 of “Starting Procedure – Engine Manifold Air Temperature Below 66°F (19°C).”

### **Starting Procedure — Engine Manifold Air Temperature Below 0°F (-18°C)**

In extremely cold weather below 0°F (-18°C) it may be beneficial to cycle the manifold heaters twice before attempting to start the engine. This can be accomplished by turning the ignition OFF for at least five seconds and then back ON after the “Wait To Start” telltale has turned off, but before the engine is started. However, excessive cycling of the manifold heaters will result in damage to the heater elements or reduced battery voltage.

**NOTE: If multiple pre-heat cycles are used before starting, additional engine run time may be required to maintain battery state of charge at a satisfactory level.**

1. If the engine stalls after the initial start, the ignition must be turned to the OFF position for at least five seconds and then to the ON position to recycle the manifold heaters.

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**NOTE:** Excessive white smoke and poor engine performance will result if manifold heaters are not recycled.

2. Heat generated by the manifold heaters dissipates rapidly in a cold engine. If more than two minutes pass between the time the "Wait To Start" telltale turns off and the engine is started, recycle the manifold heaters by turning the ignition switch to the OFF position for at least five seconds and then back ON.
3. If the vehicle is driven and vehicle speed exceeds 19 mph (31 km/h) before the manifold heater post-heat (after start) cycle is complete, the manifold heaters will shut off.
4. If the engine is started before the "Wait To Start" telltale turns off, the preheat cycle will turn off.
5. If the engine is cranked for more than 10 seconds, the post-heat cycle will turn off.

### **NOTE:**

- Engine idle speed will automatically increase to 1,000 RPM and engage the Variable Geometry Turbocharger at low coolant temperatures to improve engine warm-up.
- When a diesel engine is allowed to run out of fuel or the fuel gels at low temperatures, air is pulled into the fuel system. If your engine has run out of fuel, refer to "Maintenance Procedures/Priming If The Engine Has Run Out Of Fuel" in "Maintaining Your Vehicle" for further information.
- If the engine stalls, or if the ignition switch is left ON for more than two minutes after the "Wait To Start" telltale goes out, reset the grid heaters by turning the ignition switch to the OFF position for at least five seconds and then back ON. Repeat steps 1 through 5 of "Starting Procedure – Engine Manifold Air Temperature Below 66°F (19°C)."

### Starting Fluids

#### WARNING!

Starting fluids or flammable liquids must never be used in the Cummins® diesel engine (see Warning label). Never pour diesel fuel, flammable liquid, starting fluids (ether) into the air cleaner canister, air intake piping, or turbocharger inlet in an attempt to start the vehicle. This could result in a flash fire and explosion causing serious personal injury and engine damage.

#### WARNING!

- Do not leave children or animals inside parked vehicles in hot weather. Interior heat build up may cause serious injury or death.
- When leaving the vehicle, always make sure the ignition is in the OFF position, remove the key fob from the vehicle, and lock the vehicle.

*(Continued)*

The engine is equipped with an automatic electric air preheating system. If the instructions in this manual are followed, the engine should start in all conditions.

**WARNING! (Continued)**

- Never leave children alone in a vehicle, or with access to an unlocked vehicle. Allowing children to be in a vehicle unattended is dangerous for a number of reasons. A child or others could be seriously or fatally injured. Children should be warned not to touch the parking brake, brake pedal or the transmission gear selector. Do not leave the key fob in or near the vehicle (or in a location accessible to children), and do not leave the ignition (of a vehicle equipped with Keyless Enter-N-Go™) in the ACC or ON/RUN mode. A child could operate power windows, other controls, or move the vehicle.

**NORMAL OPERATION — DIESEL ENGINE**

Observe the following when the engine is operating.

- All message center lights are off.
- Malfunction Indicator Light (MIL) is off.
- Engine oil pressure is above 10 psi (69 kPa) at idle.
- Voltmeter operation:

The voltmeter may show a gauge fluctuation at various engine temperatures. This cycling operation is caused by the post-heat cycle of the intake manifold heater system. The number of cycles and the length of the cycling operation is controlled by the engine control module. Post-heat operation can run for several minutes, and then the electrical system and voltmeter needle will stabilize.

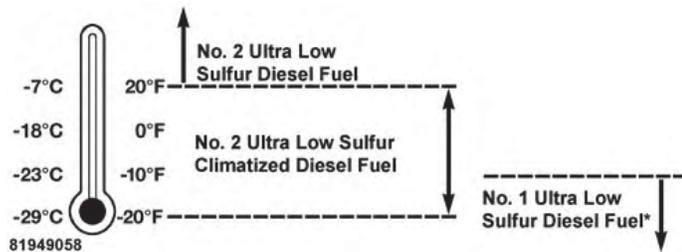
The cycling action will cause temporary dimming of the headlamps, interior lamps, and also a noticeable reduction in blower motor speed.

### Cold Weather Precautions

Operation in ambient temperature below 32°F (0°C) may require special considerations. The following charts suggest these options:

#### Fuel Operating Range

NOTE: Use "Ultra Low Sulfur Diesel Fuels" **ONLY**.



Fuel Operating Range Chart

\*No. 1 Ultra Low Sulfur Diesel Fuel should only be used where extended arctic conditions (-10°F/-23°C) exist.

### NOTE:

- Use of Climitized Ultra Low Sulfur Diesel Fuel or Number 1 Ultra Low Sulfur Diesel Fuel results in a noticeable decrease in fuel economy.
- Climitized Ultra Low Sulfur Diesel Fuel is a blend of Number 2 Ultra Low Sulfur and Number 1 Ultra Low Sulfur Diesel Fuels which reduces the temperature at which wax crystals form in fuel.
- The fuel grade should be clearly marked on the pump at the fuel station.
- The engine requires the use of "Ultra Low Sulfur Diesel Fuel". Use of incorrect fuel could result in engine and exhaust system damage. Refer to "Fuel Requirements" in "Starting And Operating" for further information.
- Commercially available fuel additives are not necessary for the proper operation of your Cummins®

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diesel engine. However, if seasonably adjusted fuel is not available and you are operating below 20°F (-6°C), Mopar® Premium Diesel Fuel Treatment (or equivalent) may be beneficial to avoid fuel gelling.

### Engine Oil Usage

Refer to “Maintenance Procedures” in “Maintaining Your Vehicle” for the correct engine oil viscosity.

### Winter Front Usage

A winter front or cold weather cover is to be used in ambient temperatures below 32°F (0°C), especially during extended idle conditions to reduce condensation build-up within engine crankcase. If a winter front or cold weather cover is to be used, a percentage of the total grille opening area must be left uncovered to provide sufficient air flow to the charge air cooler and automatic transmission oil cooler. The percentage of opening must be increased with the increasing ambient air temperature and/or engine load. If the cooling fan can be heard

cycling frequently, increase the size of the opening in the winter front. A suitable cold weather cover is available from your MOPAR® dealer.

### Battery Blanket Usage

A battery loses 60% of its cranking power as the battery temperature decreases to 0°F (-18°C). For the same decrease in temperature, the engine requires twice as much power to crank at the same RPM. The use of 120 VAC powered battery blankets will greatly increase starting capability at low temperatures. Suitable battery blankets are available from your authorized MOPAR® dealer.

### Engine Warm-Up

Avoid full throttle operation when the engine is cold. When starting a cold engine, bring the engine up to operating speed slowly to allow the oil pressure to stabilize as the engine warms up.

**NOTE:** High-speed, no-load running of a cold engine can result in excessive white smoke and poor engine performance. No-load engine speeds should be kept under 1,200 RPM during the warm-up period, especially in cold ambient temperature conditions.

Your vehicle is equipped with a turbo speed limiter, this feature limits the engine speed to 1,200 RPM when engine coolant temperatures are below 70°F (21°C). This feature is designed to protect the turbocharger from damage and will only operate in PARK or NEUTRAL.

If temperatures are below 32°F (0°C), operate the engine at moderate speeds for five minutes before full loads are applied.

**NOTE:** If ambient temperatures are low and the coolant temperature is below 180°F (82°C), the engine idle speed will slowly increase to 1,000 RPM after two minutes of idle, if the following conditions are met:

- Foot is off brake pedal and throttle pedal.
- Automatic transmission is in PARK.
- Vehicle speed is 0 mph (0 km/h).
- Applying the throttle will cancel fast idle.
- Operating the exhaust brake at idle will greatly improve warm up rate and will help keep the engine close to operating temperature during extended idle.

#### Engine Idling

Avoid prolonged idling, long periods of idling may be harmful to your engine because combustion chamber temperatures can drop so low that the fuel may not burn completely. Incomplete combustion allows carbon and

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varnish to form on piston rings, engine valves, and injector nozzles. Also, the unburned fuel can enter the crankcase, diluting the oil and causing rapid wear to the engine.

If the engine is allowed to idle, under some conditions the idle speed may increase to 900 RPM then return to normal idle speed. This is normal operation.

**NOTE:** For EVIC/DID messages related to the vehicle's exhaust system, refer to "Electronic Vehicle Information Center (EVIC)" or "Driver Information Display (DID)" for further information.

### Idle-Up Feature — Automatic Transmission Only

The driver-controlled high idle speed feature will help increase cylinder temperatures and provide additional cab heat, however, excessive idling may still cause the exhaust aftertreatment system to not properly regenerate. Extended periods of idle time should be avoided.

The Idle-Up feature uses the speed control switches to increase engine idle speed and quickly warm the vehicle's interior.

1. With the transmission in PARK, the parking brake applied, and the engine running, press the speed control switch to the ON position, then press the SET switch.
2. The engine RPM will go up to 1100 RPM. To increase the RPM, press and hold the ACCEL/RESUME switch and the idle speed will increase to approximately 1500 RPM. To decrease the RPM, press and hold the DECEL switch and the idle speed will decrease to approximately 1100 RPM.
3. To cancel the Idle-Up feature, either press the CANCEL switch, press the ON/OFF switch, or press the brake pedal.

### Stopping The Engine

Idle the engine a few minutes before routine shutdown. After full load operation, idle the engine three to five minutes before shutting it down. This idle period will allow the lubricating oil and coolant to carry excess heat away from the combustion chamber, bearings, internal components, and turbocharger. This is especially important for turbocharged, charge air-cooled engines.

#### NOTE:

- During engine shut down on vehicles equipped with manual transmissions, it is normal for the diesel engine to resonate heavily for a moment during engine shut off. When the engine is connected to a manual transmission, this resonance causes load gear rattle from the transmission. This is commonly referred to as “shut down rattle.” The manufacturer recommends performing engine shut down with the clutch pedal pushed to the floor (clutch disengaged). When engine shut down is performed in this manner the rattle is reduced (not eliminated).
- Refer to the following chart for proper engine shut-down.

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Driving Condition	Load	Turbo-charger Temperature	Idle Time (min.) Before Engine Shut-down
Stop and Go	Empty	Cool	Less than One
Stop and Go	Medium		One
Highway Speeds	Medium	Warm	Two
City Traffic	Maximum GCWR		Three
Highway Speeds	Maximum GCWR		Four
Uphill Grade	Maximum GCWR	Hot	Five

**Idle Shutdown**

This feature can be enabled so that the truck will automatically shutdown when the truck has been idling for a set period of time when the engine is at operating temperature. Idle time can be set in 5 minute increments between 5 and 60 minutes. See your local authorized dealer to enable this feature.

**Programmable Maximum Vehicle Speed (Chassis Cab Only)**

This feature allows the owner to set a maximum vehicle speed for the vehicle. The 3500 Series maximum vehicle speed can be set between 40 mph (64 km/h) and 87 mph (140 km/h). The 4500/5500 Series maximum vehicle speed can be set between 40 mph (64 km/h) and 85 mph (136 km/h). See your local authorized dealer to enable this feature.

**NOTE:** DO NOT set the maximum vehicle speed to a value greater than what the vehicle tires are rated for.

## Operating Precautions

### Avoid Overheating The Engine

The temperature of the engine coolant (antifreeze) (a mixture of 50% ethylene-glycol and 50% water) must not exceed the normal range of the temperature gauge 240°F (116°C) with a 21 psi (145 kPa) coolant pressure cap.

Usually the engine coolant (antifreeze) temperature indicated during operation will be to the left of center in the normal range of the gauge.

### Avoid Low Coolant Temperature Operation

Continual operation at low engine coolant (antifreeze) temperature below the normal range on the gauge 140°F (60°C) can be harmful to the engine. Low engine coolant (antifreeze) temperature can cause incomplete combustion which allows carbon and varnish to form on piston

rings and injector nozzles. Also, the unburned fuel can enter the crankcase, diluting the lubricating oil and causing rapid wear to the engine.

### Cooling System Tips — Automatic Transmission

To reduce potential for engine and transmission overheating in high ambient temperature conditions, take the following actions:

- **City Driving** —  
When stopped, shift the transmission into NEUTRAL and increase engine idle speed.
- **Highway Driving** —  
Reduce your speed.
- **Up Steep Hills** —  
Select a lower transmission gear.
- **Air Conditioning** —  
Turn it off temporarily.

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**Do Not Operate The Engine With Low Oil Pressure**

When the engine is at normal operating temperature, the minimum oil pressures required are:

Idle 700 to 800 RPM	10 psi (69 kPa)
Full speed and load	30 psi (207 kPa)

**CAUTION!**

**If oil pressure falls to less than normal readings, shut the engine off immediately. Failure to do so could result in immediate and severe engine damage.**

**Do Not Operate The Engine With Failed Parts**

All engine failures give some warning before the parts fail. Be on the alert for changes in performance, sounds, and visual evidence that the engine requires service. Some important clues are:

- engine misfiring or vibrating severely
- sudden loss of power
- unusual engine noises
- fuel, oil or coolant leaks
- sudden change, outside the normal operating range, in the engine operating temperature
- excessive smoke
- oil pressure drop

**ENGINE BLOCK HEATER — IF EQUIPPED**

The engine block heater warms engine coolant and permits quicker starts in cold weather. Connect the heater cord to a ground-fault interrupter protected 110–115 Volt AC electrical outlet with a grounded, three-wire extension cord.

The engine block heater cord is routed under the hood to the right side and can be located just behind the grille near the headlamp.

**NOTE:** The engine block heater cord is a factory installed option. If your vehicle is not equipped, heater cords are available from your authorized MOPAR® dealer.

The block heater must be plugged in at least one hour to have an adequate warming effect on the coolant.

**WARNING!**

**Remember to disconnect the cord before driving. Damage to the 110–115 Volt electrical cord could cause electrocution.**

**NOTE:** The block heater will require 110 Volts AC and 6.5 Amps to activate the heater element.

**Block Heater Usage**

For ambient temperatures below 0°F (-18°C), engine block heater usage is recommended.

For ambient temperatures below -20°F (-29°C), engine block heater usage is required.

**DIESEL EXHAUST BRAKE (ENGINE BRAKING)**

The purpose of the exhaust brake (engine braking) feature is to supply negative (braking) torque from the engine. Typically, the engine braking is used for, but not limited to, vehicle towing applications where vehicle braking can be achieved by the internal engine power, thereby sparing the mechanical brakes of the vehicle.

Benefits of the exhaust brake are:

- vehicle driving control
- reduced brake fade

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- longer brake life
- faster cab warm-up

The exhaust brake feature will only function when the driver toggles it on by pushing the exhaust brake button until the "Exhaust Brake Indicator" is illuminated. Normal (Full Strength) exhaust brake mode is indicated by a yellow "Exhaust Brake Indicator".



**Exhaust Brake Switch**

Once the "Exhaust Brake Indicator" is illuminated and the vehicle is moving faster than 5 mph (8 km/h); the exhaust brake will automatically operate when the driver removes pressure from the accelerator pedal. Exhaust braking is most effective when the engine RPM is higher.

The automatic transmission will downshift more aggressively in TOW/HAUL mode when the exhaust brake is enabled to increase brake performance.

**CAUTION!**

Use of aftermarket exhaust brakes is not recommended and could lead to engine damage

**WARNING!**

Do not use the exhaust brake feature when driving in icy or slippery conditions as the increased engine braking can cause the rear wheels to slide and the vehicle to swing around with the possible loss of vehicle control, which may cause an accident possibly resulting in personal injury or death.

**NOTE:** For optimum braking power it is recommended to use the exhaust brake while in TOW/HAUL mode.

The exhaust brake feature can also be used to reduce the engine warm up time. To use the exhaust brake as a warm-up device, the vehicle must be stopped or moving less than 5 mph (8 km/h), the "Exhaust Brake Indicator" must be on, and the coolant temperature must be below 180°F (82°C) and ambient temperature below 60°F (16°C).

**Automatic Smart Exhaust Brake**

Automatic Exhaust Brake technology delivers smoother, less aggressive exhaust braking characteristics during downhill descents. Although it can apply full exhaust braking force if needed, Automatic Exhaust Brake may not apply obvious braking if the vehicle speed is not increasing. Automatic Exhaust Brake is intended to maintain vehicle speed, while Full Exhaust Brake is intended to reduce vehicle speed.

Automatic Exhaust Brake can be enabled by pushing the exhaust brake button again anytime after the normal Full Exhaust Brake has been turned on. The "Exhaust Brake

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Indicator” in the EVIC/DID will change from Yellow to Green when Automatic Exhaust Brake is enabled. Pushing the exhaust brake button again will toggle the exhaust brake mode to off.

**AUTOMATIC TRANSMISSION — IF EQUIPPED**

**CAUTION!**

Damage to the transmission may occur if the following precautions are not observed:

- Shift into or out of PARK or REVERSE only after the vehicle has come to a complete stop.
- Do not shift between PARK, REVERSE, NEUTRAL, or DRIVE when the engine is above idle speed.
- Before shifting into any gear, make sure your foot is firmly pressing the brake pedal.

**WARNING!**

- It is dangerous to shift out of PARK or NEUTRAL if the engine speed is higher than idle speed. If your foot is not firmly pressing the brake pedal, the vehicle could accelerate quickly forward or in reverse. You could lose control of the vehicle and hit someone or something. Only shift into gear when the engine is idling normally and your foot is firmly pressing the brake pedal.

*(Continued)*

**WARNING! (Continued)**

- Unintended movement of a vehicle could injure those in or near the vehicle. As with all vehicles, you should never exit a vehicle while the engine is running. Before exiting a vehicle, always apply the parking brake, shift the transmission into PARK, turn the engine OFF, and remove the key fob. When the ignition is in the LOCK/OFF (key removal) position, the transmission is locked in PARK, securing the vehicle against unwanted movement.
- When leaving the vehicle, always make sure the ignition is in the OFF position, remove the key fob from the vehicle, and lock the vehicle.

(Continued)

**WARNING! (Continued)**

- Never leave children alone in a vehicle, or with access to an unlocked vehicle. Allowing children to be in a vehicle unattended is dangerous for a number of reasons. A child or others could be seriously or fatally injured. Children should be warned not to touch the parking brake, brake pedal or the transmission gear selector.
- Do not leave the key fob in or near the vehicle (or in a location accessible to children), and do not leave the ignition (of a vehicle equipped with Keyless Enter-N-Go™) in the ACC or ON/RUN mode. A child could operate power windows, other controls, or move the vehicle.

**NOTE:** You must press and hold the brake pedal while shifting out of PARK.

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### Key Ignition Park Interlock

This vehicle is equipped with a Key Ignition Park Interlock which requires the transmission to be in PARK before the ignition switch can be turned to the LOCK/OFF (key removal) position. The key fob can only be removed from the ignition when the ignition is in the LOCK/OFF position, and the transmission is locked in PARK whenever the ignition switch is in the LOCK/OFF position.

### Brake/Transmission Shift Interlock System

This vehicle is equipped with a Brake Transmission Shift Interlock System (BTSI) that holds the shift lever in PARK unless the brakes are applied. To shift the transmission out of PARK, the ignition switch must be turned to the ON/RUN position (engine running or not) and the brake pedal must be pressed.

### Six-Speed Automatic Transmission — If Equipped

Chassis Cab models (with automatic transmission) use the AS69RC transmission (which is equipped with a Power Take-Off [PTO] access cover on the side of the transmission case). Pickup models may use either the AS69RC transmission, or the 68RFE transmission (which has no PTO access cover).

The transmission gear position display (located in the instrument cluster) indicates the transmission gear range. The shift lever is mounted on the right side of the steering column. You must press the brake pedal to move the shift lever out of PARK (refer to “Brake/Transmission Shift Interlock System” in this section). To drive, move the shift lever from PARK or NEUTRAL to the DRIVE position. Pull the shift lever toward you when shifting into REVERSE or PARK, or when shifting out of PARK.

The electronically-controlled transmission provides a precise shift schedule. The transmission electronics are

self-calibrating; therefore, the first few shifts on a new vehicle may be somewhat abrupt. This is a normal condition, and precision shifts will develop within a few hundred miles (kilometers).

Only shift from DRIVE to PARK or REVERSE when the accelerator pedal is released and the vehicle is stopped. Be sure to keep your foot on the brake pedal when shifting between these gears.

The transmission shift lever has only PARK, REVERSE, NEUTRAL, and DRIVE shift positions. Manual downshifts can be made using the Electronic Range Select (ERS) shift control (refer to "Electronic Range Select (ERS) Operation" in this section for further information). Pressing the ERS (-/+ ) switches (on the shift lever) while in the DRIVE position will select the highest available transmission gear, and will display that gear in the instrument cluster as 1, 2, 3, etc.

### Gear Ranges

DO NOT race the engine when shifting from PARK or NEUTRAL into another gear range.

**NOTE:** After selecting any gear range, wait a moment to allow the selected gear to engage before accelerating. This is especially important when the engine is cold.

### PARK (P)

This range supplements the parking brake by locking the transmission. The engine can be started in this range. Never attempt to use PARK while the vehicle is in motion. Apply the parking brake when leaving the vehicle in this range.

When parking on a level surface, you may shift the transmission into PARK first, and then apply the parking brake.

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When parking on a hill, apply the parking brake before shifting the transmission to PARK, otherwise the load on the transmission locking mechanism may make it difficult to move the shift lever out of PARK. As an added precaution, turn the front wheels toward the curb on a downhill grade and away from the curb on an uphill grade.

On four-wheel drive vehicles be sure that the transfer case is in a drive position.

**WARNING!**

- Never use the PARK position as a substitute for the parking brake. Always apply the parking brake fully when parked to guard against vehicle movement and possible injury or damage.

*(Continued)*

**WARNING! (Continued)**

- Your vehicle could move and injure you and others if it is not in PARK. Check by trying to move the shift lever out of PARK with the brake pedal released. Make sure the transmission is in PARK before leaving the vehicle.
- It is dangerous to shift out of PARK or NEUTRAL if the engine speed is higher than idle speed. If your foot is not firmly pressing the brake pedal, the vehicle could accelerate quickly forward or in reverse. You could lose control of the vehicle and hit someone or something. Only shift into gear when the engine is idling normally and your foot is firmly pressing the brake pedal.

*(Continued)*

**WARNING! (Continued)**

- Unintended movement of a vehicle could injure those in or near the vehicle. As with all vehicles, you should never exit a vehicle while the engine is running. Before exiting a vehicle, always apply the parking brake, shift the transmission into PARK, turn the engine OFF, and remove the key fob. When the ignition is in the LOCK/OFF (key removal) position, the transmission is locked in PARK, securing the vehicle against unwanted movement.
- When leaving the vehicle, always make sure the ignition is in the OFF position, remove the key fob from the vehicle, and lock the vehicle.

(Continued)

**WARNING! (Continued)**

- Never leave children alone in a vehicle, or with access to an unlocked vehicle. Allowing children to be in a vehicle unattended is dangerous for a number of reasons. A child or others could be seriously or fatally injured. Children should be warned not to touch the parking brake, brake pedal or the shift lever.
- Do not leave the key fob in or near the vehicle (or in a location accessible to children), and do not leave the ignition (in a vehicle equipped with Keyless Enter-N-Go™) in the ACC or ON/RUN position. A child could operate power windows, other controls, or move the vehicle.

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**CAUTION!**

- Before moving the shift lever out of PARK, you must turn the ignition switch from the LOCK/OFF position to the ON/RUN position, and also press the brake pedal. Otherwise, damage to the shift lever could result.
- DO NOT race the engine when shifting from PARK or NEUTRAL into another gear range, as this can damage the drivetrain.

The following indicators should be used to ensure that you have engaged the transmission into the PARK position:

- When shifting into PARK, pull the shift lever toward you and move it all the way counterclockwise until it stops.

- Release the shift lever and make sure it is fully seated in the PARK gate.
- Look at the transmission gear position display and verify that it indicates the PARK position.
- With brake pedal released, verify that the shift lever will not move out of PARK.

**REVERSE (R)**

This range is for moving the vehicle backward. Shift into REVERSE only after the vehicle has come to a complete stop.

**NEUTRAL (N)**

Use this range when the vehicle is standing for prolonged periods with the engine running. The engine may be started in this range. Apply the parking brake and shift the transmission into PARK if you must leave the vehicle.

**WARNING!**

Do not coast in NEUTRAL and never turn off the ignition to coast down a hill. These are unsafe practices that limit your response to changing traffic or road conditions. You might lose control of the vehicle and have a collision.

**CAUTION!**

Towing the vehicle, coasting, or driving for any other reason with the transmission in NEUTRAL can cause severe transmission damage. Refer to "Recreational Towing" in "Starting And Operating" and "Towing A Disabled Vehicle" in "What To Do In Emergencies" for further information.

**DRIVE (D)**

This range should be used for most city and highway driving. It provides the smoothest upshifts and downshifts, and the best fuel economy. The transmission automatically upshifts through underdrive first, second, and third gears, direct fourth gear and overdrive fifth and sixth gears. The DRIVE position provides optimum driving characteristics under all normal operating conditions.

When frequent transmission shifting occurs (such as when operating the vehicle under heavy loading conditions, in hilly terrain, traveling into strong head winds, or while towing heavy trailers), use the Electronic Range Select (ERS) shift control (refer to "Electronic Range Select (ERS) Operation" in this section for further information) to select a lower gear range. Under these conditions, using a lower gear range will improve performance and extend transmission life by reducing excessive shifting and heat buildup.

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If the transmission temperature exceeds normal operating limits, the powertrain controller will modify the transmission shift schedule and expand the range of torque converter clutch engagement. This is done to prevent transmission damage due to overheating.

If the transmission becomes extremely hot or is in danger of overheating, the "Transmission Temperature Warning Light" may illuminate and the transmission may operate differently until the transmission cools down.

**NOTE:** Use caution when operating a heavily loaded vehicle at low speeds (such as towing a trailer up a steep grade, or in stop-and-go traffic) during hot weather. In these conditions, torque converter slip can impose a significant additional heat load on the cooling system. Downshifting the transmission to the lowest possible gear (when climbing a grade), or shifting to NEUTRAL (when stopped in heavy traffic) can help to reduce this excess heat generation.

During cold temperatures, transmission operation may be modified depending on engine and transmission temperature as well as vehicle speed. This feature improves warm up time of the engine and transmission to achieve maximum efficiency. Engagement of the torque converter clutch is inhibited until the transmission fluid is warm (refer to the "Note" under "Torque Converter Clutch" in this section). On Pickup models with 68RFE transmission, top overdrive gear is also inhibited until the transmission fluid is warm, and during extremely cold temperatures (-16°F [-27°C] or below), operation may briefly be limited to first and direct gears only. On trucks with AS69RC transmission, fifth and sixth gears may be inhibited briefly on cold starts below 41°F (5°C), and during very cold temperatures (-4°F [-20°C] or below), operation may briefly be limited to third gear only. During this condition, the ability of the vehicle to

accelerate under heavily loaded conditions may be reduced. In all cases, normal operation will resume once the transmission temperature has risen to a suitable level.

### Transmission Limp Home Mode

Transmission function is monitored electronically for abnormal conditions. If a condition is detected that could result in transmission damage, Transmission Limp Home Mode is activated. In this mode, the transmission remains in fourth gear (for 68RFE transmission) or third gear (for AS69RC transmission) regardless of which forward gear is selected. If an AS69RC-equipped truck enters Limp Home Mode at highway speeds, it will initially engage fifth gear, until the vehicle slows to a speed where third gear can be engaged. PARK, REVERSE, and NEUTRAL will continue to operate. The Malfunction Indicator Light (MIL) may be illuminated. Limp Home Mode allows the vehicle to be driven to an authorized dealer for service without damaging the transmission.

In the event of a momentary problem, the transmission can be reset to regain all forward gears by performing the following steps:

1. Stop the vehicle.
2. Shift the transmission into PARK.
3. Turn the ignition switch to the OFF position.
4. Wait approximately 10 seconds.
5. Restart the engine.
6. Shift into the desired gear range. If the problem is no longer detected, the transmission will return to normal operation.

**NOTE:** Even if the transmission can be reset, we recommend that you visit your authorized dealer at your earliest possible convenience. Your authorized dealer has diagnostic equipment to determine if the problem could recur.

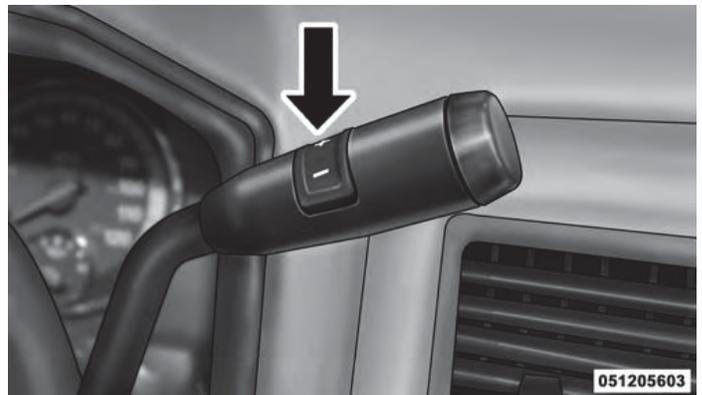
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If the transmission cannot be reset, authorized dealer service is required.

**Electronic Range Select (ERS) Operation**

The Electronic Range Select (ERS) shift control allows the driver to limit the highest available gear when the transmission is in DRIVE. For example, if you shift the transmission into 4 (fourth gear), the transmission will not shift above fourth gear, but will shift through the lower gears normally.

You can switch between DRIVE and ERS mode at any vehicle speed. When the shift lever is in the DRIVE position, the transmission will operate automatically, shifting between all available gears. Tapping the ERS (-) switch will activate ERS mode, display the current gear in the instrument cluster, and maintain that gear as the top available gear. Once in ERS mode, tapping the ERS (-) or (+) switch will change the top available gear.



**Column Shift Lever**

To exit ERS mode, simply press and hold the ERS (+) switch until "D" is once again displayed in the instrument cluster.

**WARNING!**

Do not downshift for additional engine braking on a slippery surface. The drive wheels could lose their grip and the vehicle could skid, causing a collision or personal injury.

**CAUTION!**

When using ERS for engine braking while descending steep grades, be careful not to overspeed the engine. Apply the brakes as needed to prevent engine overspeed.

Screen Display	1	2	3	4	5	6	D
Actual Gear(s) Allowed	1	1-2	1-3	1-4	1-5	1-6	1-6

**NOTE:** To select the proper gear position for maximum deceleration (engine braking), simply press and hold the ERS (-) switch. The transmission will shift to the range from which the vehicle can best be slowed down.

**Overdrive Operation**

The automatic transmission includes an electronically controlled Overdrive (fifth and sixth gears). The transmission will automatically shift into Overdrive if the following conditions are present:

- The shift lever is in the DRIVE position.
- The transmission fluid has reached an adequate temperature.
- The engine coolant has reached an adequate temperature.
- The vehicle speed is sufficiently high.
- The driver is not heavily pressing the accelerator.

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**When To Use TOW/HAUL Mode**

When driving in hilly areas, towing a trailer, carrying a heavy load, etc., and frequent transmission shifting occurs, press the TOW/HAUL switch to activate TOW/HAUL mode. This will improve performance and reduce the potential for transmission overheating or failure due to excessive shifting. When operating in TOW/HAUL mode, transmission upshifts are delayed, and the transmission will automatically downshift (for engine braking) when the throttle is closed and/or during steady braking maneuvers.



**TOW/HAUL Switch**

The "TOW/HAUL Indicator Light" will illuminate in the instrument cluster to indicate that TOW/HAUL mode has been activated. Pressing the switch a second time restores normal operation. Normal operation is always the default at engine start-up. If TOW/HAUL mode is desired, the switch must be pressed each time the engine is started.

**WARNING!**

Do not use the "TOW/HAUL" feature when driving in icy or slippery conditions. The increased engine braking could cause the rear wheels to slide, and the vehicle to swing around with the possible loss of vehicle control, which could cause an accident possibly resulting in personal injury or death.

**Torque Converter Clutch**

A feature designed to improve fuel economy has been included in the automatic transmission on your vehicle. A clutch within the torque converter engages automatically at calibrated speeds. This may result in a slightly different feeling or response during normal operation in the upper gears. When the vehicle speed drops or during some accelerations, the clutch automatically disengages.

**NOTE:**

- The torque converter clutch will not engage (and 68RFE-equipped trucks will not shift to sixth gear), until the transmission fluid and engine coolant are warm [usually after 1 to 3 miles (2 to 5 km) of driving]. Because the engine speed is higher when the torque converter clutch is not engaged, it may seem as if the transmission is not shifting properly when cold. This is normal. Using the Electronic Range Select (ERS) shift control, when the transmission is sufficiently warm, will demonstrate that the transmission is able to shift into and out of Overdrive.
- If the vehicle has not been driven for several days, the first few seconds of operation after shifting the transmission into gear may seem sluggish. This is due to the fluid partially draining from the torque converter into the transmission. This condition is normal and will not

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cause damage to the transmission. The torque converter will refill within five seconds after starting the engine.

**MANUAL TRANSMISSION — IF EQUIPPED**

**WARNING!**

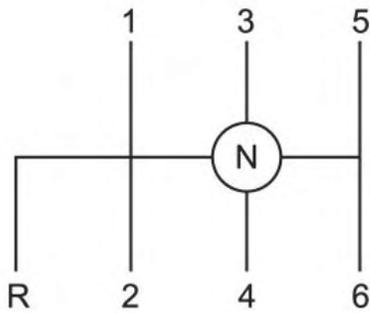
You or others could be injured if you leave the vehicle unattended without having the parking brake fully applied. The parking brake should always be applied when the driver is not in the vehicle, especially on an incline.

**CAUTION!**

Never drive with your foot resting on the clutch pedal, or attempt to hold the vehicle on a hill with the clutch pedal partially engaged, as this will cause abnormal wear on the clutch.

NOTE: During cold weather, you may experience increased effort in shifting until the transmission fluid warms up. This is normal.

### Shifting



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#### Shift Pattern

Truck models with manual transmission are equipped with a clutch interlocking ignition system. The clutch pedal must be fully pressed to start the vehicle.

Fully press the clutch pedal before shifting gears. As you release the clutch pedal, lightly press the accelerator pedal.

This transmission has a “creeper” first gear which should be used to start from a standing position when carrying a payload or towing a trailer. Damage to the clutch can result from starting in second or third gear with a loaded vehicle. An unloaded vehicle may be launched in second gear. Use each gear in numerical order – do not skip a gear.

**NOTE:** When loaded, pulling a trailer or on a grade, the truck should always start in first gear and not skip gears.

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**Recommended Vehicle Shift Speeds**

To utilize your manual transmission efficiently for both fuel economy and performance, it should be upshifted as listed in recommended shift speed chart. Shift at the

vehicle speeds listed for acceleration. When heavily loaded or pulling a trailer these recommended up-shift speeds may not apply.

**Maximum Recommended Up-Shift Speeds**

Gear Selection	1 to 2	2 to 3	3 to 4	4 to 5	5 to 6
Maximum Speed	7 mph (11 km/h)	15 mph (24 km/h)	25 mph (40 km/h)	40 mph (64 km/h)	45 mph (72 km/h)

**Downshifting**

Moving from a high gear down to a lower gear is recommended to preserve brakes when driving down steep hills. In addition, downshifting at the right time provides better acceleration when you desire to resume speed. Downshift progressively. Do not skip gears to avoid overspeeding the engine and clutch.

<b>WARNING!</b>
<b>Do not downshift for additional engine braking on a slippery surface. The drive wheels could lose their grip and the vehicle could skid.</b>

**CAUTION!**

When descending a hill, be very careful to downshift one gear at a time to prevent overspeeding the engine which can cause valve damage, and/or clutch disc damage even if the clutch pedal is pressed.

**Maximum Recommended Downshift Speeds**

**CAUTION!**

Failure to follow the recommended downshifting speeds may cause the engine to overspeed and/or damage the clutch disc even if the clutch pedal is pressed.

**Maximum Recommended Downshifting Speeds**

Gear Selection	6 to 5	5 to 4	4 to 3	3 to 2	2 to 1
Maximum Speed	68 mph (109 km/h)	50 mph (80 km/h)	32 mph (51 km/h)	19 mph (31 km/h)	10 mph ) (16 km/h

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**CAUTION!**

If you skip a gear while downshifting or downshift at too high of a vehicle speed, these conditions may cause the engine to overspeed if too low of a gear is selected and the clutch pedal is released. Damage to the clutch and the transmission can result from skipping a gear while downshifting or downshifting at too high of a vehicle speed even if the clutch pedal is held pressed (i.e., not released).

**Reverse Shifting**

To shift into REVERSE (R), bring the vehicle to a complete stop. Press the clutch and pause briefly to allow the gear train to stop rotating. Beginning from the NEUTRAL (N) position, move the shift lever in one quick smooth motion straight across and into the REVERSE (R) area

(the driver will feel a firm “click” as the shifter passes the “knock-over”). Complete the shift by pulling the shift lever into REVERSE (R).

The “knock-over” prevents the driver from accidentally entering the REVERSE (R) shift area and warns the driver that they are about to shift the transmission into REVERSE (R). Due to this feature, a slow shift to REVERSE (R) can be perceived as a high shift effort.

To shift out of REVERSE bring the vehicle to a complete stop and press the clutch. Shifting out of REVERSE prior to a complete stop may cause high shift effort.

**AUXILIARY SWITCHES – IF EQUIPPED**

There can be up to five auxiliary switches located in the lower switch bank of the instrument panel which can be used to power various electronic devices and PTO (Power Take Off) – If Equipped. Connections to the

switches are found under the hood in the connectors attached to the auxiliary Power Distribution Center.

You have the ability to configure the functionality of the auxiliary switches via the Electronic Vehicle Information Center (EVIC) or Driver Information Display (DID). All switches can now be configured for ignition or battery power, saving or not saving state across a key cycle, and momentary or latching switch operation.

For further information on using the auxiliary switches, please refer to the Ram Body Builders Guide by accessing [www.rambodybuilder.com](http://www.rambodybuilder.com) and choosing the appropriate links.

#### **POWER TAKE OFF OPERATION – IF EQUIPPED (CHASSIS CAB ONLY)**

This vehicle when equipped with PTO Prep and either the AS69RC automatic six-speed or G-56 manual six-speed transmissions, will allow for an aftermarket upfit

with a transmission driven PTO (power take off). The customer will have the ability to operate the PTO in either a “stationary” or “mobile” mode. The vehicles will be factory set to the “stationary” mode. To select ‘mobile mode’ You will need to enter the commercial vehicle menu on the EVIC/DID screen and select mobile PTO mode. Details of the PTO selection modes and further PTO information is available at the Ram Truck Body-builders web site. [www.rambodybuilder.com](http://www.rambodybuilder.com)

#### **AS69RC Six-Speed Automatic Transmission Only**

The PTO drive gear (part of the AS69RC) operates at torque converter turbine speed. The turbine speed will be less than engine speed when the torque converter clutch is not engaged and will be same as engine speed when the torque converter clutch is engaged.

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**Stationary Mode**

To operate the PTO in this mode the vehicle must meet the following conditions:

- Be in PARK position (vehicles equipped with automatic transmission.)
- PTO switch has been activated.
- Parking brake applied (vehicles equipped with manual transmission).
- Brake pedal must not be applied.
- Vehicle engine must be running.
- No vehicle, brake or clutch switch faults present.
- PTO must be correctly installed using the vehicle provided circuits.

The Electronic Vehicle Information Center (EVIC) or Driver Information Display (DID) will display a "PTO

On" message for five seconds if the above conditions are met. Otherwise, the EVIC/DID will display a message "To Operate PTO Shift To Park" indicating what operator action should be taken to engage the PTO mode.

The customer has the choice to operate the PTO by utilizing the cruise control switches or by utilizing a remote control (provided by the PTO supplier). To operate the feature using the cruise control switches, the customer must first activate the PTO switch which will turn on the PTO. In order to increase or decrease the engine idle speed, to optimize the PTO function, the "RESUME/ACCEL" and "DECEL" cruise switches can be used respectively. To disengage PTO operation and return to "standard vehicle operation" simply toggle the PTO switch to the OFF position.

The torque converter clutch (TCC) will automatically engage at engine speeds above 1,200 RPM (engine speed) in PTO stationary mode. Once engaged, the TCC will

remain applied and will not disengage until the engine speed falls below 1,000 RPM. TCC engagement is desirable for certain types of PTO applications (Automatic Transmission Only).

To operate the PTO via a remote switch, the customer must make sure the above conditions are met. It is vital for proper operation that the PTO and remote have been installed correctly, paying special attention to ensure the vehicle provided wiring has been connected properly. This is the responsibility of the installer of the PTO and switches/remote system. It is the responsibility of the PTO manufacturer to ensure that their electrical (switches and remote) system is compatible with the vehicle's electrical architecture and software functionality.

**NOTE:** Single set speed can be programmed via the PTO menu on the EVIC/DID screen. Further details are available at the Ram Truck Bodybuilders web site. [www.rambodybuilder.com](http://www.rambodybuilder.com) [www.ramtrucks.com](http://www.ramtrucks.com).

### Mobile Mode

To operate the PTO in this mode the vehicle must meet the following conditions:

- Mobile mode is activated via the menu on the EVIC/DID screen.
- (ON/OFF) switch has been activated.
- Vehicles with automatic transmission must be in PARK or DRIVE.
- Parking brake must not be applied.
- Brake pedal must not be applied.
- No vehicle, brake or clutch switch faults present.
- Vehicle engine must be running.
- PTO must be correctly installed using the vehicle provided circuits.



**WARNING! (Continued)**

The inlet for the engine air intake is located behind the passenger side headlamp and receives air through the grille.

periods, use climatized No. 2 diesel fuel or dilute the No. 2 diesel fuel with 50% No. 1 diesel fuel. This will provide better protection from fuel gelling or wax-plugging of the fuel filters.

**WARNING!**

Do not use alcohol or gasoline as a fuel blending agent. They can be unstable under certain conditions and hazardous or explosive when mixed with diesel fuel.

**FUEL REQUIREMENTS**

Use good quality diesel fuel from a reputable supplier in your vehicle. Federal law requires that you must fuel this vehicle with Ultra Low Sulfur Highway Diesel fuel (15 ppm Sulfur maximum) and prohibits the use of Low Sulfur Highway Diesel fuel (500 ppm Sulfur maximum) to avoid damage to the emissions control system.

For most year-round service, No. 2 diesel fuel meeting ASTM (formerly known as the American Society for Testing and Materials) specification D-975 Grade S15 will provide good performance. If the vehicle is exposed to extreme cold (below 20°F or -7°C), or is required to operate at colder-than-normal conditions for prolonged

Diesel fuel is seldom completely free of water. To prevent fuel system trouble, drain the accumulated water from the fuel/water separator using the fuel/water separator drain provided on both fuel filters. If you buy good quality fuel and follow the cold weather advice above, fuel conditioners should not be required in your vehicle. If available in your area, a high cetane "premium" diesel fuel may offer improved cold-starting and warm-up performance.

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**CAUTION!**

If the "Water in Fuel Indicator Light" remains on, DO NOT START engine before you drain the water from the fuel filter(s) to avoid engine damage. Refer to "Maintenance Procedures/Draining Fuel/Water Separator Filter" in "Maintaining Your Vehicle" for further information.

**Fuel Specifications**

The Cummins® diesel engine has been developed to take advantage of the high energy content and generally lower cost No. 2 Ultra Low Sulfur diesel fuel or No. 2 Ultra Low Sulfur climatized diesel fuels. Experience has shown that it also operates on No. 1 Ultra Low Sulfur diesel fuels or other fuels within specification.

**NOTE:**

- If you accidentally fill the fuel tank with gasoline on your diesel vehicle, Do not start the vehicle. If you restart your vehicle you risk damaging the engine and fuel system. Please call your local dealer for service.
- A maximum blend of 5% biodiesel meeting ASTM specification D-975 may be used with your Cummins® diesel engine. (Chassis Cab models not configured with B20 capability.)
- A maximum blend of 20% biodiesel meeting ASTM specification D-7467 may be used with your Cummins® diesel engine. (Pickup models and Chassis Cab models configured with B20 Capability.)
- In addition, commercially available fuel additives are not necessary for the proper operation of your Cummins® diesel engine. However, if seasonably adjusted fuel is not available and you are operating below 20°F

(-6°C), Mopar® Premium Diesel Fuel Treatment (or equivalent) may be beneficial to avoid fuel gelling.

- No. 1 Ultra Low Sulfur diesel fuel should only be used where extended arctic conditions (-10°F or -23°C) exist.

### Bio-Diesel Fuel Requirements

#### Chassis Cab Models

A maximum blend of 5% biodiesel meeting ASTM specification D975 may be used with your Cummins diesel engine. If operation with Biodiesel blends greater than 5% but not greater than 20% (B6-B20) is desired, the truck must first be reconfigured by an authorized Ram dealer and the provisions in the following section must be adhered to.

#### Pickup Models And Chassis Cab Models Ordered With B20 Option

Your vehicle has been validated and approved for the use of Biodiesel in blends up to 20% (B20) provided that you

comply with the requirements outlined below. It is important that you understand and comply with these requirements. Failure to comply with Oil Change requirements for vehicles operating on biodiesel blends up to B20 will result in premature engine wear. Such wear is not covered by the New Vehicle Limited Warranty.

Biodiesel is a fuel produced from renewable resources typically derived from animal fat, rapeseed oil (Rapeseed Methyl Ester (RME) base), or soybean oil (Soy Methyl Ester (SME or SOME) base). Biodiesel fuel has inherent limitations which require that you understand and adhere to the following requirements if you use blends of Biodiesel greater than 5% but not greater than 20% (B6-B20). There are no unique restrictions for the use of B5. Use of blends greater than 20% is not approved. Use of blends greater than 20% can result in engine damage. Such damage is not covered by the New Vehicle Limited Warranty.

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**Fuel Quality — Must Comply With ASTM Standards**

The quality of Biodiesel fuel may vary widely. Only fuel produced by a BQ9000 supplier to the following specifications may be blended to meet Biodiesel blend (B6–B20) fuel meeting ASTM specification D-7467:

- Pretrodiesel fuel meeting ASTM specification D-975 and Biodiesel fuel (B100) meeting ASTM specification D-6751.

**Fuel Oxidation Stability — Must Use Fuel Within Six Months Of Manufacture**

Biodiesel fuel has poor oxidation stability which can result in long term storage problems. Fuel produced to approved ASTM standards, if stored properly, provides for protection against fuel oxidation for up to six months.

**Fuel Water Separation — Must Use MOPAR®/Cummins® Approved Fuel Filter Elements**

You must use MOPAR®/Cummins® approved fuel filter elements in both your engine mounted filter and frame mounted filter.

Biodiesel fuel has a natural affinity to water and water accelerates microbial growth. Your MOPAR®/Cummins® filtration system is designed to provide adequate fuel water separation capabilities.

**Bio-Diesel Fuel Properties — Low Ambient Temperatures**

Biodiesel fuel may gel or solidify at low ambient temperatures, which may pose problems for both storage and operation. Precautions can be necessary at low ambient temperatures, such as storing the fuel in a heated building or a heated storage tank, or using cold temperature additives.

### Fuel In Oil Dilution — Must Adhere To Required Oil Change Interval

Fuel dilution of lubricating oil has been observed with the use of Biodiesel fuel. Fuel in oil must not exceed 5%. To ensure this limit is met your oil change interval must be maintained to the following schedule:

- Ram PickUp 2500/3500 Only — 15,000 Miles\*
- Ram 3500/4500/5500 Chassis Cab — 12,500 Miles\*

(\*unless otherwise notified with a oil service message)

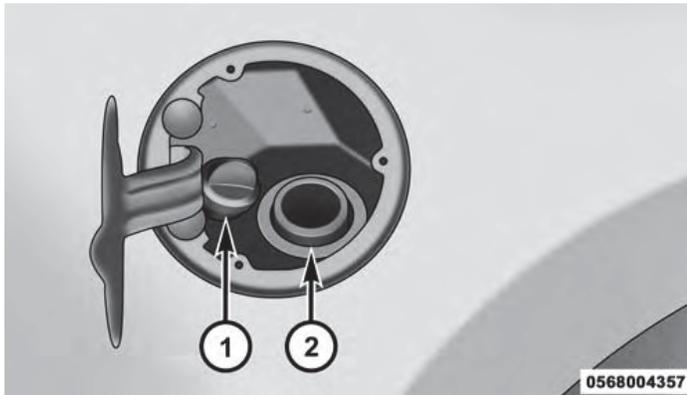
### CAUTION!

- Under no circumstances should oil change intervals exceed 15,000 miles (24 000 km) pickup or 12,500 miles (20 000 km) chassis cab if operation occurs with greater than 5% biodiesel blends. Oil change intervals should not exceed 6 months in either case. Failure to comply with these Oil Change requirements for vehicles operating on biodiesel blends up to B20 may result in premature engine wear. Such wear is not covered by the New Vehicle Limited Warranty.
- B20 Biodiesel capable: The engine may suffer severe damage if operated with concentrations of Biodiesel higher than 20%.

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**ADDING FUEL — 2500/3500 DIESEL MODELS**

1. Open the fuel filler door.



**Diesel Fuel And Diesel Exhaust Fluid Fill Location**

- 1 — Diesel Exhaust Fluid Fill Location
- 2 — Diesel Fuel Fill Location

**NOTE:** There is no fuel filler cap. A flapper door inside the filler pipe seals the system.

2. Insert the fuel nozzle fully into the filler pipe – the nozzle opens and holds the flapper door while refueling.
3. Fill the vehicle with fuel – when the fuel nozzle “clicks” or shuts off the fuel tank is full.
4. Remove the fuel nozzle and close the fuel door.

### Emergency Fuel Can Refueling

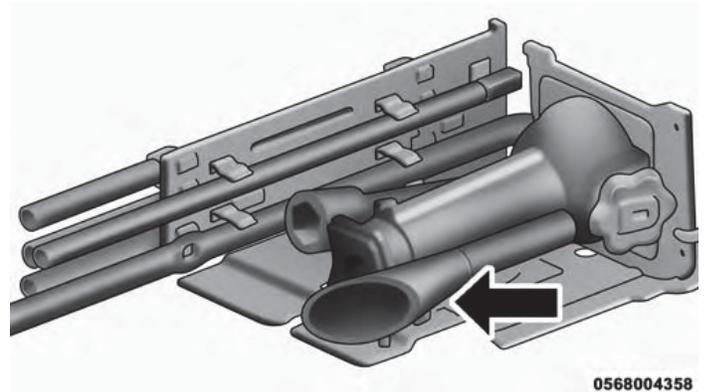
Most fuel cans will not open the flapper door.

A funnel is provided to open the flapper door to allow emergency refueling with a fuel can.



Diesel Fuel And DEF Fluid Filler Door

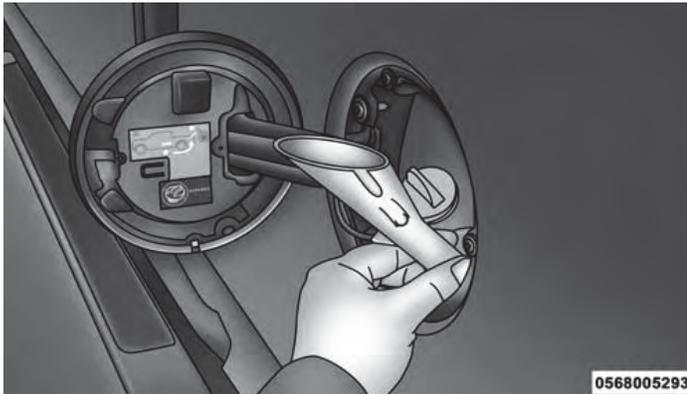
1. Retrieve fuel funnel from the jack kit located under the front passenger seat.



Fuel Fill Funnel Location 2500/3500 Models

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2. Insert funnel into same filler pipe opening as the fuel nozzle.



Emergency Fuel Fill Location

NOTE: Ensure funnel is inserted fully to hold flapper door open.

3. Pour fuel into funnel opening.

4. Remove funnel from filler pipe, clean off prior to putting back in the jack kit.

<b>CAUTION!</b>
To avoid fuel spillage and overfilling, do not "top off" the fuel tank after filling.

<b>WARNING!</b>
<ul style="list-style-type: none"> <li>• Never have any smoking materials lit in or near the vehicle when the fuel door is open or the tank is being filled.</li> <li>• Never add fuel when the engine is running. This is in violation of most state and federal fire regulations and may cause the "Malfunction Indicator Light" to turn on.</li> </ul>

(Continued)

**WARNING! (Continued)**

- A fire may result if fuel is pumped into a portable container that is inside of a vehicle. You could be burned. Always place fuel containers on the ground while filling.

- Tighten the fuel filler cap until you hear a “clicking” sound. This is an indication that the fuel filler cap is properly tightened.
- Make sure that the fuel filler cap is tightened each time the vehicle is refueled.

**ADDING FUEL – CHASSIS CAB MODELS**

**CAUTION!**

To avoid fuel spillage and overfilling, do not “top off” the fuel tank after filling.

**WARNING!**

A fire may result if fuel is pumped into a portable container that is on a truck bed. You could be burned. Always place fuel containers on the ground while filling.

4

**NOTE:**

- When the fuel nozzle “clicks” or shuts off, the fuel tank is full.

**Fuel Filler Cap**

If the fuel filler cap is lost or damaged, be sure the replacement cap is for use with this vehicle.

**CAUTION!**

Damage to the fuel system or emission control system could result from using an improper fuel tank filler tube cap. A poorly fitting cap could let impurities into the fuel system.

**WARNING!**

- Never have any smoking materials lit in or near the vehicle when the fuel filler cap is removed or the tank filled.
- Never add fuel to the vehicle when the engine is running.

**Avoid Using Contaminated Fuel**

Fuel that is contaminated by water or dirt can cause severe damage to the engine fuel system. Proper maintenance of the engine fuel filter and fuel tank is essential. Refer to "Maintenance Procedures" in "Maintaining Your Vehicle" for further information.

**Bulk Fuel Storage — Diesel Fuel**

If you store quantities of fuel, good maintenance of the stored fuel is also essential. Fuel contaminated with water will promote the growth of "microbes." These microbes form "slime" that will clog the fuel filtration system and lines. Drain condensation from the supply tank and change the line filter on a regular basis.

**NOTE:** When a diesel engine is allowed to run out of fuel, air is pulled into the fuel system.

If the vehicle will not start, refer to “Maintenance Procedures/Priming If The Engine Has Run Out Of Fuel” in “Maintaining Your Vehicle” for further information.

**WARNING!**

**Do not open the high pressure fuel system with the engine running. Engine operation causes high fuel pressure. High pressure fuel spray can cause serious injury or death.**

**Diesel Exhaust Fluid Storage**

Diesel Exhaust Fluid (DEF) is considered a very stable product with a long shelf life. If DEF is kept in temperatures between 10° and 90°F (-12° and 32°C), it will last a minimum of one year.

DEF is subject to freezing at the lowest temperatures. For example, DEF may freeze at temperatures at or below 12° F (-11° C). The system has been designed to operate in this environment.

**NOTE:** When working with DEF, it is important to know that:

- Any containers or parts that come into contact with DEF must be DEF compatible (plastic or stainless steel). Copper, brass, aluminum, iron or non-stainless steel should be avoided as they are subject to corrosion by DEF.
- If DEF is spilled, it should be wiped up completely.

**Adding Diesel Exhaust Fluid**

The DEF gauge (located on the instrument cluster) will display the level of DEF remaining in the tank. Refer to “Instrument Cluster” and “Instrument Cluster Descriptions” in “Understanding Your Instrument Panel” for further information.

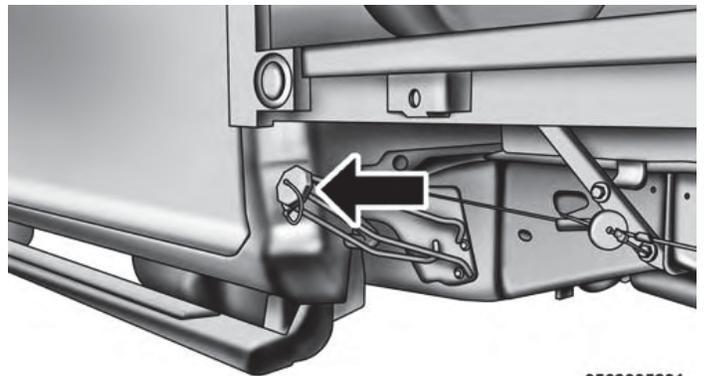
**270 STARTING AND OPERATING**

**NOTE:** Driving conditions (altitude, vehicle speed, load, etc.) will effect the amount of DEF that is used in your vehicle.

**DEF Fill Procedure**

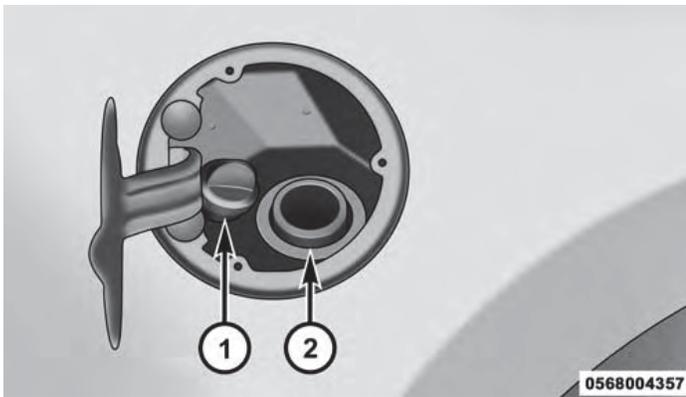
**NOTE:** Refer to “Fluids, Lubricants, and Genuine Parts” in “Maintaining Your Vehicle” for the correct fluid type.

1. Remove cap from DEF tank (located on drivers side of the vehicle or in fuel door).



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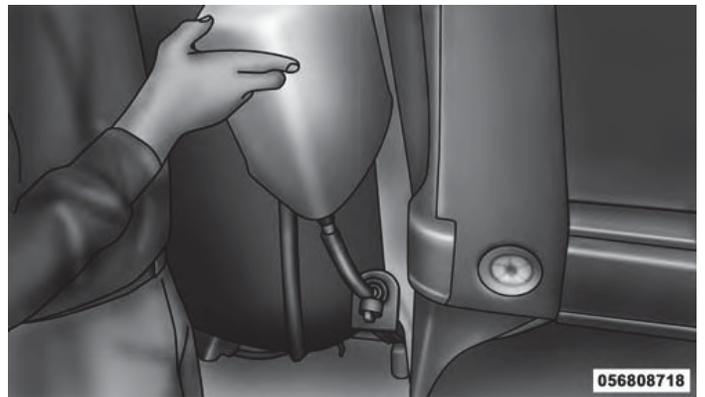
**DEF Filler Cap Chassis Cab Models**



DEF Filler Cap And Fuel Fill 1500/2500/3500 Models

- 1 — Diesel Exhaust Fluid Fill Location
- 2 — Diesel Fuel Fill Location

2. Insert DEF fill adapter/nozzle into DEF tank filler neck.



Filling The DEF Tank

**CAUTION!**

- To avoid DEF spillage, and possible damage to the DEF tank from overfilling, do not “top off” the DEF tank after filling.

*(Continued)*

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**CAUTION! (Continued)**

- **DO NOT OVERFILL.** DEF will freeze below 12°F (-11°C). The DEF system is designed to work in temperatures below the DEF freezing point, however, if the tank is overfilled and freezes, the system could be damaged.
- **When DEF is spilled, clean the area immediately with water and use an absorbent material to soak up the spills on the ground.**
- **Do not attempt to start your engine if DEF is accidentally added to the diesel fuel tank as it can result in severe damage to your engine, including but not limited to failure of the fuel pump and injectors.**

3. Stop filling the DEF tank immediately when any of the following happen: DEF stops flowing from the fill bottle into the DEF tank, DEF splashes out the filler neck, or a DEF pump nozzle automatically shuts off.

4. Reinstall cap onto DEF tank.

**Filling The Def Tank In Cold Climates**

Since DEF will begin to freeze at 12°F (-11°C), your vehicle is equipped with an automatic DEF heating system. This allows the DEF injection system to operate properly at temperatures below 12°F (-11°C). If your vehicle is not in operation for an extended period of time with temperatures below 12°F (-11°C), the DEF in the tank may freeze. If the tank is overfilled and freezes, it could be damaged. Therefore, do not overfill the DEF tank.

Extra care should be taken when filling with portable containers to avoid overfilling. Note the level of the DEF gauge in your instrument cluster. On pickup applications, you may safely add a maximum of 2 gallons of DEF

from portable containers when your DEF gauge is reading  $\frac{1}{2}$  full. On Chassis Cab applications a maximum of 2 gallons may be added when the DEF gauge is reading  $\frac{3}{4}$  full.

## DIESEL EXHAUST FLUID

Your vehicle is equipped with a Selective Catalytic Reduction system to meet the very stringent diesel emissions standards required by the Environmental Protection Agency.

The purpose of the SCR system is to reduce levels of NO<sub>x</sub> (oxides of nitrogen emitted from engines) that are harmful to our health and the environment to a near-zero level. Small quantities of Diesel Exhaust Fluid (DEF) is injected into the exhaust upstream of a catalyst where, when vaporized, it converts smog-forming nitrogen oxides (NO<sub>x</sub>) into harmless nitrogen (N<sub>2</sub>) and water vapor (H<sub>2</sub>O), two natural components of the air we breathe.

You can operate with the comfort that your vehicle is contributing to a cleaner, healthier world environment for this and generations to come.

### System Overview

This vehicle is equipped with a Diesel Exhaust Fluid (DEF) injection system and a Selective Catalytic Reduction (SCR) catalyst to meet the emission requirements.

The DEF injection system consists of the following components:

- DEF tank
- DEF pump
- DEF injector
- Electronically-heated DEF lines
- DEF control module
- NO<sub>x</sub> sensors

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- NH3 sensor
- Temperature sensors
- SCR catalyst

The DEF injection system and SCR catalyst enable the achievement of diesel emissions requirements; while maintaining outstanding fuel economy, drivability, torque and power ratings.

Refer to “Electronic Vehicle Information Center (EVIC) or “Driver Information Display (DID)” in “Understanding Your Instrument Panel” for system messages and warnings.

### NOTE:

- Your vehicle is equipped with a DEF injection system. You may occasionally hear an audible clicking noise. This is normal operation.
- The DEF pump will run for a period of time after engine shutdown to purge the DEF system. This is normal operation.

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## WHAT TO DO IN EMERGENCIES

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**JUMP STARTING**

**WARNING!**

- To prevent personal injury or damage to clothing, do not allow battery fluid to contact eyes, skin or fabrics. Do not lean over a battery when connecting jumper cables or allow cable clamps to touch each other. Keep open flames or sparks away from battery vent holes. Always wear eye protection when working with batteries.
- Do not use a booster battery or any other booster source that has a greater than 12 Volt system, i.e., do not use a 24 Volt power source.

**NOTE:** Replacement batteries should both be of equal size to prevent damage to the vehicle's charging system.

Your vehicle is equipped with two 12 Volt batteries. If it becomes necessary to use a booster battery with jumper

cables to start a vehicle's engine because its batteries are discharged, the following procedure should be used:

Set the parking brake and place an automatic transmission in PARK (or NEUTRAL for a manual transmission). Turn off lights, heater and other electrical loads. Observe charge indicator (if equipped) in both batteries. If the indicator (if equipped) is light or yellow on either battery, replace that battery.

**CAUTION!**

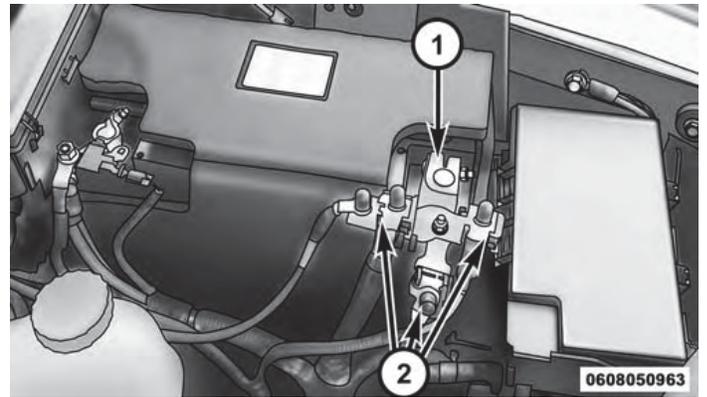
Use the jump start procedure only when the charge indicator (if equipped) in both batteries is dark in the center. Do not attempt jump starting when either battery charge indicator (if equipped) is bright or yellow. If the charge indicator (if equipped) has a green dot in the center, failure to start is not due to a discharged battery and cranking system should be checked.

1. Attach one jumper cable to the positive terminal of booster battery and the other end of the same cable to the positive terminal of the discharged battery.

**NOTE: Do not jump off fuses. Only jump directly off positive post.**

**WARNING!**

Do not permit vehicles to touch each other as this could establish a ground connection and personal injury could result.



**Battery (Diesel Model Shown)**

- 1 — Positive Battery Post
- 2 — Fuses

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2. Connect one end of the other jumper cable to negative (-) post of booster battery. Connect the other end of the jumper cable to a good ground on the engine block of the vehicle with the discharged battery. Make sure a good connection is made, free of dirt and grease.
3. Take care that the clamps from one cable do not inadvertently touch clamps from the other cable. Do not lean over the battery when making connection. The negative connection must provide good electrical conductivity and current carrying capacity.

### WARNING!

- Do not connect the cable to the negative post of the discharge battery. The resulting electrical spark could cause the battery to explode.
- During cold weather when temperatures are below freezing point, electrolyte in a discharged battery may freeze. Do not attempt jump starting because the battery could rupture or explode. The battery temperature must be brought up above freezing point before attempting to jump start.

4. After the engine is started or if the engine fails to start, cables must be disconnected in the following order:
  - Disconnect the negative cable at the engine ground.
  - Disconnect the negative cable at the negative post on booster battery.
  - Disconnect the cable from the positive post of both batteries.

**WARNING!**

Any procedure other than above could result in:

- Personal injury caused by electrolyte squirting out the battery vent.
- Personal injury or property damage due to battery explosion.
- Damage to charging system of booster vehicle or of immobilized vehicle.

**CAUTION!**

It is very important that the starting unit operating voltage does not exceed 12 Volts DC or damage to battery, starter motor, alternator, or electrical system may occur.

**With Portable Starting Unit**

There are many types of these units available. Follow the manufacturer's instructions for necessary precautions and operation.



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## MAINTAINING YOUR VEHICLE

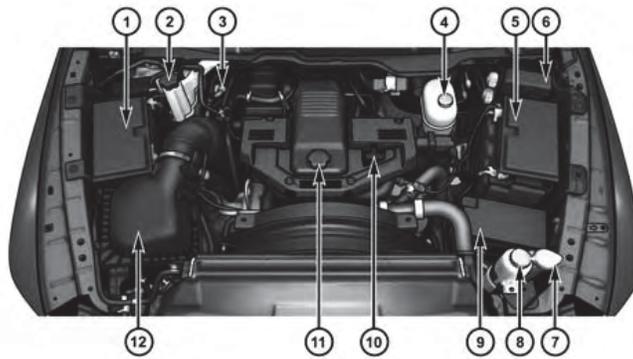
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**ENGINE COMPARTMENT — 6.7L DIESEL — SIX-SPEED 68RFE (2500/3500 Models)**



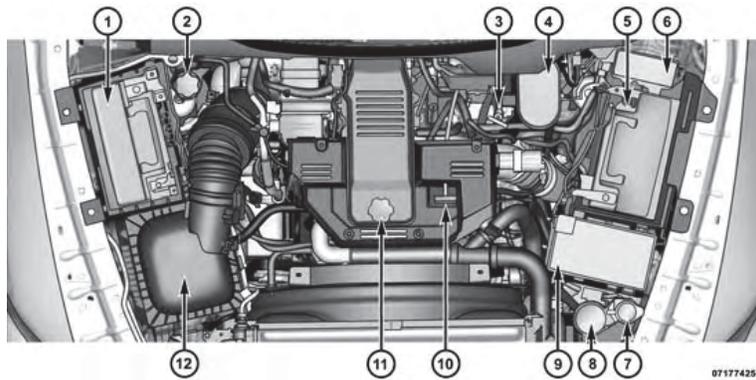
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- 1 — Battery
- 2 — Engine Coolant Reservoir
- 3 — Automatic Transmission Dipstick
- 4 — Brake Fluid Reservoir
- 5 — Battery
- 6 — Aux Power Distribution Center

- 7 — Washer Fluid Reservoir
- 8 — Power Steering Fluid Reservoir
- 9 — Power Distribution Center
- 10 — Engine Oil Dipstick
- 11 — Engine Oil Fill
- 12 — Air Cleaner Filter

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**ENGINE COMPARTMENT — 6.7L DIESEL — SIX-SPEED AS69RC HD (3500/CHASSIS CAB MODELS)**



- 1 — Battery
- 2 — Engine Coolant Reservoir
- 3 — Automatic Transmission Dipstick
- 4 — Brake Fluid Reservoir
- 5 — Battery
- 6 — Aux Power Distribution Center

- 7 — Washer Fluid Reservoir
- 8 — Power Steering Fluid Reservoir
- 9 — Power Distribution Center
- 10 — Engine Oil Dipstick
- 11 — Engine Oil Fill
- 12 — Air Cleaner Filter

## MAINTENANCE PROCEDURES

The pages that follow contain the **required** maintenance services determined by the engineers who designed your vehicle.

Besides those maintenance items specified in the fixed maintenance schedule, there are other components which may require servicing or replacement in the future.

### CAUTION!

- Failure to properly maintain your vehicle or perform repairs and service when necessary could result in more costly repairs, damage to other components or negatively impact vehicle performance. Immediately have potential malfunctions examined by an authorized Chrysler Group LLC dealership or qualified repair center.

*(Continued)*

### CAUTION! *(Continued)*

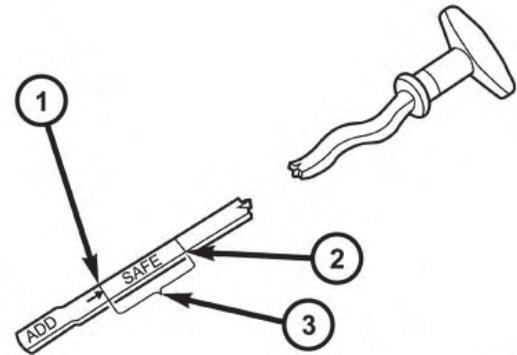
- Your vehicle has been built with improved fluids that protect the performance and durability of your vehicle and also allow extended maintenance intervals. Do not use chemical flushes in these components as the chemicals can damage your engine, transmission, power steering or air conditioning. Such damage is not covered by the New Vehicle Limited Warranty. If a flush is needed because of component malfunction, use only the specified fluid for the flushing procedure.

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### Engine Oil

#### Checking Oil Level

To assure proper lubrication of your vehicle's engine, the engine oil must be maintained at the correct level. Check the oil level at regular intervals. The best time to check the oil level is before starting the engine after it has been parked overnight. When checking oil after operating the engine, first ensure the engine is at full operating temperature, then wait for 30 minutes after engine shutdown to check the oil.



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Engine Oil Dipstick

- 1 — ADD Range
- 2 — Full Mark
- 3 — SAFE Range

Checking the oil while the vehicle is on level ground will improve the accuracy of the oil level readings. Add oil

only when the level on the dipstick is below the "ADD" mark. The total capacity from the ADD mark to the Full mark is 2 qts (1.9L).

**CAUTION!**

**Overfilling or underfilling the crankcase will cause oil aeration or loss of oil pressure. This could damage your engine.**

Never operate the engine with oil level below the "ADD" mark or above the upper "SAFE" mark.

**Change Engine Oil**

Refer to the "Maintenance Schedule" for the proper maintenance intervals.

**Engine Oil Selection**

For best performance and maximum protection under all types of operating conditions, the manufacturer only

recommends engine oils that are API CJ-4 certified and meet the requirements of Chrysler Group LLC. Use MOPAR® or an equivalent oil meeting Chrysler Material Standard MS-10902. Products meeting Cummins® CES 20081 may also be used. The identification of these engine oils are typically located on the back of the oil container.

**American Petroleum Institute (API) Engine Oil Identification Symbol**



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This symbol means that the oil has been certified by the American Petroleum Institute (API). The manufacturer only recommends API Certified engine oils.

Oils with a high ash content may produce damaging deposits on cylinder head valves and/or aftertreatment

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system damage. A maximum sulfated ash content of 1.00 mass % is recommended for all oil used in the engine.

The same oil change interval is to be followed for synthetic oil as for petroleum based oil. Also, synthetic oil must meet the same performance specifications as petroleum oil.

**CAUTION!**

**Do not use chemical flushes in your engine oil as the chemicals can damage your engine. Such damage is not covered by the New Vehicle Limited Warranty.**

**Engine Oil Viscosity (SAE Grade)**

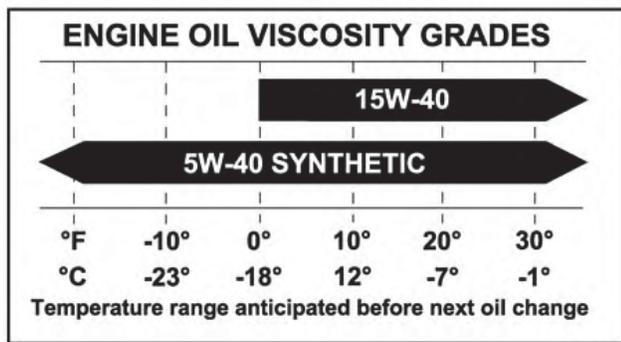
In ambient temperatures above 0°F (-18°C), we recommend you use SAE 15W-40 engine oil such as MOPAR®, Shell Rotella® and Shell Rimula® that meets Chrysler Material Standard MS-10902 and the API CJ-4 engine oil category is required. Products meeting Cummins® CES

20081 may also be used. The identification of these engine oils is typically located on the back of the oil container.

In ambient temperatures below 0°F (-18°C), SAE 5W-40 we recommend you use **synthetic** engine oil such as MOPAR®, Shell Rotella® and Shell Rimula® that meets Chrysler Materials Standard MS-10902 and the API CJ-4 engine oil category is required.

**CAUTION!**

**Failure to use SAE 5W-40 synthetic engine oil in ambient temperatures below 0°F (-18°C) could result in severe engine damage.**



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Engine oil not designated by the Chrysler or Cummins® Material Standards and API CJ-4 should not be used, as engine and exhaust system durability may be compromised. The engine oil filler cap also shows the recommended engine oil viscosity for your engine. For information on engine oil filler cap location, refer to “Engine Compartment” in “Maintaining Your Vehicle” for further information.

### Synthetic Engine Oils

You may use synthetic engine oils if the recommended oil quality requirements are met and the recommended maintenance intervals for oil and filter changes are followed.

### Materials Added To Engine Oil

The manufacturer strongly recommends against the addition of any additives (other than leak detection dyes) to

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the engine oil. Engine oil is an engineered product and its performance may be impaired by supplemental additives.

**Engine Oil Filter**

Refer to “Fluids, Lubricants, and Genuine Parts” in “Maintaining Your Vehicle” for further information. The engine oil filter should be changed at every engine oil change.

**Disposing Of Used Engine Oil And Oil Filters**

Care should be taken in disposing of used engine oil and oil filters from your vehicle. Used oil and oil filters, indiscriminately discarded, can present a problem to the environment. Contact your authorized dealer, service station or governmental agency for advice on how and where used oil and oil filters can be safely discarded in your area.

**Engine Air Cleaner Filter**

<b>CAUTION!</b>
All air entering the engine intake must be filtered. The abrasive particles in unfiltered air will cause rapid wear to engine components.

<b>WARNING!</b>
The air induction system (air cleaner, hoses, etc.) provides a measure of protection. Do not remove the air induction system (air cleaner, hoses, etc.) unless such removal is necessary for repair or maintenance. Make sure that no one is near the engine compartment before starting the vehicle with the air induction system (air cleaner, hoses, etc.) removed. Failure to do so can result in serious personal injury.

The condition of the air cleaner filter is monitored by the Engine Control Module. The "SERVICE AIR FILTER" message will display in the Electronic Vehicle Information Center (EVIC) or Driver Information Display (DID) when service is required. Refer to "Electronic Vehicle Information Center (EVIC)" or "Driver Information Display (DID)" in "Understanding Your Instrument Panel" for further information.

The "SERVICE AIR FILTER" message could be displayed periodically. This is because engine air flow requirements change based on driving conditions. As the filter becomes more restrictive and air flow requirements increase the "SERVICE AIR FILTER" message will be displayed. The message may not be displayed in subsequent drive cycles if the same conditions are not met. The air filter element should be replaced within 250 miles (402 km) from the first time this message is displayed to ensure proper engine operation during all driving conditions.

**CAUTION!**

**Driving with a restricted air filter can cause engine damage. Driving in dusty environments for extended periods will lead to rapid air filter plugging. Action should be taken as soon as the "SERVICE AIR FILTER" message is displayed.**

If the vehicle experiences a sudden loss of engine power while being driven in heavy snow or rain, or when plowing snow, and/or the "SERVICE AIR FILTER" message is displayed on the EVIC/DID along with a chime that repeats every 60 seconds, visually inspect the air filter for snow/ice build up or extreme water saturation. If the air filter is not damaged, remove all snow/ice and reinstall air filter. If the air filter is damaged, replace filter element.

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**NOTE:** The air filter housing contains a Mass Air Flow sensor. This sensor is critical to proper engine operation and component longevity. Any damage or modification to this sensor could result in major engine and/or exhaust aftertreatment damage. We recommend you use MOPAR® brand parts.

Even though your vehicle is equipped with an Air Filter Monitor, a visual inspection of the air cleaner filter element is recommended every 15,000 miles (24,000km) or 12 months – whichever occurs first. **Under no circumstances should the air cleaner filter element exceed 30,000 miles (48,000 km) or 24 months, whichever comes first.**

**CAUTION!**

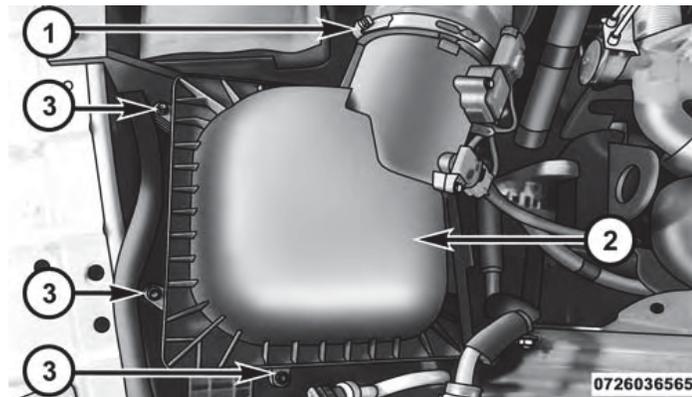
**Many aftermarket performance air filter elements do not adequately filter the air entering the engine. Use of such filters can severely damage your engine.**

**Engine Air Cleaner Filter Inspection and Replacement**

Inspect engine air cleaner filter for dirt and or debris, if you find evidence of either dirt or debris you should change your air cleaner filter.

### Engine Air Cleaner Filter Removal

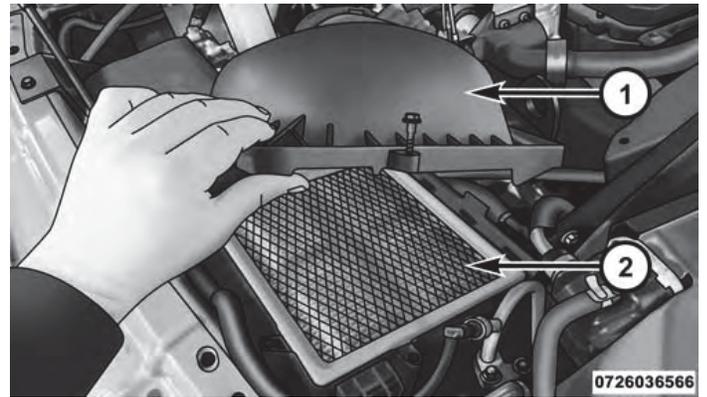
1. Remove the screws from the air cleaner cover.



Air Cleaner Filter Cover

- 1 — Clean Air Hose Clamp
- 2 — Air Cleaner Filter Cover
- 3 — Screws

2. Lift the air cleaner cover to access the air cleaner filter.

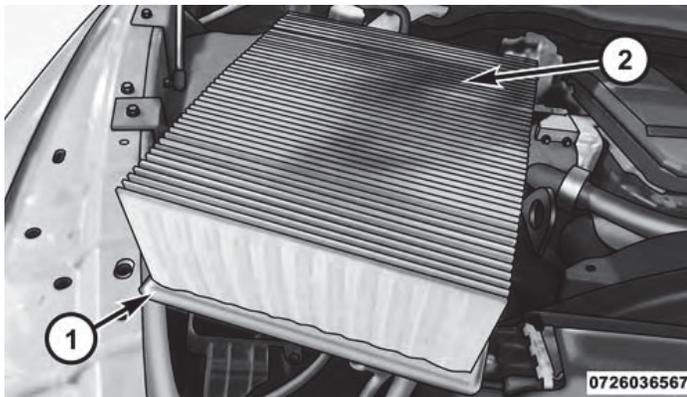


Open Air Cleaner Filter Assembly

- 1 — Air Cleaner Cover
- 2 — Air Cleaner Filter

3. Remove the air cleaner filter element from the housing assembly.

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Air Cleaner Filter

- 1 — Air Cleaner Filter
- 2 — Air Cleaner Filter Inspection Surface

### Engine Air Cleaner Filter Installation

**NOTE:** Inspect and clean the housing if dirt or debris is present before replacing the air filter element.

1. Install the air cleaner filter element into the housing assembly with the air cleaner filter inspection surface facing downward.
2. Install the air cleaner cover onto the housing assembly locating tabs.
3. Install screws to secure the air cleaner cover to the housing assembly.

### Draining Fuel/Water Separator Filter

There are two fuel filter assemblies. One is located on the driver's side of the engine. The best access to this water drain valve is from under the hood. The second one is on the under body, located in front of the rear axle above the drive shaft on pick-up models. The Chassis Cab models

second filter location is on the frame behind the front axle. The best access to this water drain valve is from under the vehicle.

**CAUTION!**

- Do not drain the fuel/water separator filters when the engine is running.
- Diesel fuel will damage blacktop paving surfaces. Drain the filters into an appropriate container.

If water is detected in the water separator while the engine is running, or while the ignition switch is in the ON position, the "Water In Fuel Indicator Light" will illuminate and an audible chime will be heard five times. At this point you should stop the engine and drain the water from both of the filters.

**CAUTION!**

**If the "Water In Fuel Indicator Light" remains on, DO NOT START the engine before you drain water from the fuel filters to avoid engine damage.**

If the "Water In Fuel Indicator Light" comes on and a single chime is heard while you are driving, or with the ignition switch in the ON position, there may be a problem with your water separator wiring or sensor. See your authorized dealer for service.

Upon proper draining of the water from both fuel filters, the "Water In Fuel Indicator Light" will remain illuminated for approximately 10 seconds. If the water was drained while the engine was running, the "Water In Fuel Indicator Light" may remain on for approximately three minutes.

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**NOTE:** Care should be taken in disposing of used fluids from your vehicle. Used fluids, indiscriminately discarded, can present a problem to the environment. Contact an authorized dealer, service station, or government agency for advice on recycling programs and for where used fluids and filters can be properly disposed of in your area.

Drain the fuel/water separator filters when the “Water In Fuel Indicator Light” is ON. Within 10 minutes of vehicle shutdown, turn the engine mounted filter drain valve (located on the side of the filter assembly) counterclockwise 1/4 turn, and turn the under body mounted filter drain valve (located on the bottom of the filter assembly) counterclockwise 1 full turn. Then turn the ignition switch to the ON position, and allow any accumulated water to drain. Leave the drain valve open until all water and contaminants have been removed. When clean fuel is visible, close the drain valves by turning them fully clockwise, and turn the ignition switch to OFF.

If more than a couple ounces/milliliters of fuel have been drained, follow the directions for “Priming If The Engine Has Run Out Of Fuel.”

### Engine Mounted Fuel Filter Replacement

**NOTE:**

- Using a fuel filter that does not meet the manufacturer’s filtration and water separating requirements can severely impact fuel system life and reliability.
- The engine mounted filter housing is equipped with a No-Filter-No-Run (NFNR) feature. Engine will not run if:
  1. No filter is installed.
  2. Inferior/Non-approved filter is used. Use of OEM filter is required to ensure vehicle will run.



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Engine Mounted Fuel Filter Assembly

1 — Drain Valve

**CAUTION!**

- Diesel fuel will damage blacktop paving surfaces. Drain the filter into an appropriate container.
- Do not prefill the fuel filter when installing a new fuel filter. There is a possibility debris could be introduced into the fuel filter during this action. It is best to install the filter dry and allow the in-tank lift pump to prime the fuel system.

1. Ensure engine is turned off.
2. Place drain pan under the fuel filter drain hose.
3. Open the water drain valve 1/4 turn counterclockwise and completely drain fuel and water into the approved container.
4. Close the water drain valve.

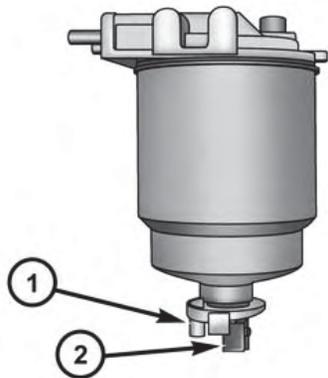
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5. Remove lid using a socket or strap wrench. Rotate counterclockwise for removal. Remove used o-ring and discard it.
  6. Remove the used filter cartridge from the housing and dispose of according to your local regulations.
  7. Wipe clean the sealing surfaces of the lid and housing.
  8. Install new o-ring back into ring groove on the filter housing and lubricate with clean engine oil.
  9. Remove new filter cartridge from plastic bag and install into housing.
- NOTE:** Do not remove cartridge from bag until you reach this step in order to keep cartridge clean.
10. Push down on the cartridge to ensure it is properly seated. **Do not pre-fill the filter housing with fuel.**
  11. Install lid onto housing and tighten to 22.5 ft lbs (30.5 N.m). Do not overtighten the lid.
  12. Prime the engine using the procedure in “Priming If The Engine Has Run Out Of Fuel.” Then start the engine and confirm there are no leaks.

### Underbody Mounted Fuel Filter Replacement

#### NOTE:

- Using a fuel filter that does not meet the manufacturer’s filtration and water separating requirements can severely impact fuel system life and reliability.
- The underbody mounted filter housing will cause the engine not to run if:
  1. No filter is installed.



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**Underbody Mounted Fuel Filter Assembly**

1 — Drain Valve

2 — WIF Sensor

**CAUTION!**

- Diesel fuel will damage blacktop paving surfaces. Drain the filter into an appropriate container.
- Do not prefill the fuel filter when installing a new fuel filter. There is a possibility debris could be introduced into the fuel filter during this action. It is best to install the filter dry and allow the in-tank lift pump to prime the fuel system.

1. Ensure engine is turned off.
2. Place drain pan under the fuel filter drain hose.
3. Open the water drain valve 1 full turn counterclockwise and completely drain fuel and water into the approved container.
4. Close the water drain valve.

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5. Remove lid using a socket or strap wrench. Rotate counterclockwise for removal. Remove used o-ring and discard it.
6. Remove the used filter cartridge from the housing and dispose of according to your local regulations.
7. Wipe clean the sealing surfaces of the lid and housing.
8. Install new o-ring back into ring groove on the filter housing and lubricate with clean engine oil.

**NOTE:** WIF sensor is re-usable. Service kit comes with new o-ring for filter canister and WIF sensor.

### Priming If The Engine Has Run Out Of Fuel

#### **WARNING!**

**Do not open the high pressure fuel system with the engine running. Engine operation causes high fuel pressure. High pressure fuel spray can cause serious injury or death.**

1. Add a substantial amount of fuel to the tank, approximately 2 to 5 gal (8L to 19L).
2. Turn ignition switch to the start position to engage starter for one second, return ignition switch to run position. This will activate in tank fuel pump for approximately 15 seconds. Repeat this process twice.
3. Start the engine using the "Normal Starting" procedure. Refer to "Starting Procedures" in "Starting and Operating" for further information.

**CAUTION!**

Do not engage the starter motor for more than 15 seconds at a time. Allow two minutes between the cranking intervals.

**NOTE:** The engine may run rough until the air is forced from all the fuel lines.

**WARNING!**

Do not use alcohol or gasoline as a fuel blending agent. They can be unstable under certain conditions and be hazardous or explosive when mixed with diesel fuel.

**CAUTION!**

Due to lack of lubricants in alcohol or gasoline, the use of these fuels can cause damage to the fuel system.

**NOTE:**

- A maximum blend of 5% biodiesel, meeting ASTM specification D-975 may be used with your Cummins® diesel engine. (Chassis Cab models not configured with B20 capability.)
- A maximum blend of 20% biodiesel, meeting ASTM specification D-7467 may be used with your Cummins® diesel engine. (Pickup models and Chassis Cab models configured with B20 capability.)

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- Use of biodiesel mixture in excess of 20% can negatively impact the fuel filter's ability to separate water from the fuel, resulting in high pressure fuel system corrosion or damage.
- Ethanol blends are not recommended or approved for use with your Cummins® diesel engine.
- In addition, commercially available fuel additives are not necessary for the proper operation of your Cummins® diesel engine.

#### **Intervention Regeneration Strategy – Message Process Flow**

The Cummins® diesel engine meets all EPA Heavy Duty Diesel Engine Emissions Standards, resulting in one of the lowest emitting diesel engines ever produced.

To achieve these emissions standards, your vehicle is equipped with a state-of-the-art engine and exhaust system. The engine and exhaust after-treatment system

work together to achieve the EPA Heavy Duty Diesel Engine Emissions Standards. These systems are seamlessly integrated into your vehicle and managed by the Cummins® Powertrain Control Module (PCM). The PCM manages engine combustion to allow the exhaust system's catalyst to trap and burn Particulate Matter (PM) pollutants, with no input or interaction on your part.

Additionally, your vehicle has the ability to alert you to additional maintenance required on your truck or engine.

Refer to "Electronic Vehicle Information Center (EVIC)" or "Driver Information Display (DID)" in "Understanding Your Instrument Panel" for further information.

**WARNING!**

A hot exhaust system can start a fire if you park over materials that can burn. Such materials might be grass or leaves coming into contact with your exhaust system. Do not park or operate your vehicle in areas where your exhaust system can contact anything that can burn.

**Diesel Exhaust Fluid**

Diesel Exhaust Fluid (DEF) sometimes known simply by the name of its active component, UREA—is a key component of selective catalytic reduction (SCR) systems, which help diesel vehicles meet stringent emission regulations. DEF is a liquid reducing agent that reacts with engine exhaust in the presence of a catalyst to convert smog-forming nitrogen oxides (NOx) into harmless nitrogen and water vapor.

Refer to “Fluids, Lubricants, and Genuine Parts” in “Maintaining Your Vehicle” for further information.

You can receive assistance in locating DEF in the United States by calling 866-RAM-INFO (866-726-4636). In Canada call 1-800-465-2001 (English) or 1-800-387-9983 (French)

**Maintenance-Free Batteries**

The top of the maintenance-free batteries are permanently sealed. You will never have to add water, nor is periodic maintenance required.

**NOTE:** Replacement batteries should both be of equal capacity to prevent damage to the vehicle’s charging system.

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**CAUTION!**

It is essential when replacing the cables on the battery that the positive cable is attached to the positive post and the negative cable is attached to the negative post. Battery posts are marked (+) positive and negative (-) and are identified on the battery case. Also, if a "fast charger" is used while the battery is in vehicle, disconnect both vehicle battery cables before connecting the charger to the battery. Do not use a "fast charger" to provide starting voltage.

**WARNING!**

Battery posts, terminals, and related accessories contain lead and lead compounds. Always wash hands after handling the battery.

**Battery Blanket Usage**

A battery loses 60% of its cranking power as the battery temperature decreases to 0°F (-18°). For the same decrease in temperature, the engine requires twice as much power to crank at the same RPM. The use of 120 Volt AC powered battery blankets will greatly increase starting capability at low temperatures. Suitable battery blankets are available from your authorized MOPAR® dealer.

**Cooling System**

**WARNING!**

You or others can be badly burned by hot engine coolant (antifreeze) or steam from your radiator. If you see or hear steam coming from under the hood, do not open the hood until the radiator has had time to cool. Never try to open a cooling system pressure cap when the radiator is hot.

### Engine Coolant Checks

Check the engine coolant (antifreeze) protection every 12 months (before the onset of freezing weather, where applicable). If the engine coolant (antifreeze) is dirty or rusty in appearance, the system should be drained, flushed and refilled with fresh coolant. Check the front of the A/C condenser (if equipped) or radiator for any accumulation of bugs, leaves, etc. If dirty, clean by gently spraying water from a garden hose vertically down the face of the A/C condenser (if equipped) or the back of the radiator core.

Check the engine cooling system hoses for brittle rubber, cracking, tears, cuts and tightness of the connection at the coolant recovery bottle and radiator. Inspect the entire system for leaks.

With the engine at normal operating temperature (but not running), check the cooling system pressure cap for proper vacuum sealing by draining a small amount of

engine coolant (antifreeze) from the radiator drain cock. The radiator drain cock is located in the lower radiator tank. If the cap is sealing properly, the engine coolant (antifreeze) will begin to drain from the coolant expansion bottle. **DO NOT REMOVE THE COOLANT PRESSURE CAP WHEN THE COOLING SYSTEM IS HOT.**

### Cooling System — Drain Flush And Refill

If the engine coolant (antifreeze) is dirty or contains a considerable amount of sediment, clean and flush with a reliable cooling system cleaner. Follow with a thorough rinsing to remove all deposits and chemicals. Properly dispose of old engine coolant (antifreeze).

Refer to the "Maintenance Schedule" for the proper maintenance intervals.

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Selection Of Coolant

Refer to "Fluids, Lubricants, and Genuine Parts" in "Maintaining Your Vehicle" for further information.

<b>CAUTION!</b>
<ul style="list-style-type: none"> <li>• Mixing of engine coolant (antifreeze) other than specified Organic Additive Technology (OAT) engine coolant (antifreeze), may result in engine damage and may decrease corrosion protection. Organic Additive Technology (OAT) engine coolant is different and should not be mixed with Hybrid Organic Additive Technology (HOAT) engine coolant (antifreeze) or any "globally compatible" coolant (antifreeze). If a non-OAT engine coolant (antifreeze) is introduced into the cooling system in an emergency, the cooling system will need to be drained, flushed, and refilled with fresh</li> </ul>

(Continued)

<b>CAUTION! (Continued)</b>
<p>OAT coolant (conforming to MS.90032), by an authorized dealer as soon as possible.</p> <ul style="list-style-type: none"> <li>• Do not use water alone or alcohol-based engine coolant (antifreeze) products. Do not use additional rust inhibitors or antirust products, as they may not be compatible with the radiator engine coolant and may plug the radiator.</li> <li>• This vehicle has not been designed for use with propylene glycol-based engine coolant (antifreeze). Use of propylene glycol-based engine coolant (antifreeze) is not recommended.</li> </ul>

Adding Coolant

Your vehicle has been built with an improved engine coolant (OAT coolant conforming to MS.90032) that allows extended maintenance intervals. This engine coolant (antifreeze) can be used up to ten years or

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150,000 miles (240,000 km) before replacement. To prevent reducing this extended maintenance period, it is important that you use the same engine coolant (OAT coolant conforming to MS.90032) throughout the life of your vehicle.

Please review these recommendations for using Organic Additive Technology (OAT) engine coolant (antifreeze) that meets the requirements of Chrysler Material Standard MS.90032. When adding engine coolant (antifreeze):

- We recommend using MOPAR® Antifreeze/Coolant 10 Year/150,000 Mile Formula OAT (Organic Additive Technology) that meets the requirements of Chrysler Material Standard MS.90032.
- Mix a minimum solution of 50% OAT engine coolant that meets the requirements of Chrysler Material Standard MS.90032 and distilled water. Use higher concentrations (not to exceed 70%) if temperatures below -34° F (-37° C) are anticipated.

- Use only high purity water such as distilled or deionized water when mixing the water/engine coolant (antifreeze) solution. The use of lower quality water will reduce the amount of corrosion protection in the engine cooling system.

Please note that it is the owner's responsibility to maintain the proper level of protection against freezing according to the temperatures occurring in the area where the vehicle is operated.

**NOTE:**

- Some vehicles require special tools to add coolant properly. Failure to fill these systems properly could lead to severe internal engine damage. If any coolant is needed to be added to the system please contact your local authorized dealer.

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- Mixing engine coolant (antifreeze) types is not recommended and can result in cooling system damage. If HOAT and OAT coolant are mixed in an emergency, have a authorized dealer drain, flush, and refill with OAT coolant (conforming to MS.90032) as soon as possible.

**Cooling System Pressure Cap**

The cap must be fully tightened to prevent loss of engine coolant (antifreeze), and to ensure that the engine coolant (antifreeze) will return to the radiator from the coolant expansion bottle.

The cap should be inspected and cleaned if there is any accumulation of foreign material on the sealing surfaces.

**WARNING!**

- **Do not open hot engine cooling system. Never add engine coolant (antifreeze) when the engine is overheated. Do not loosen or remove the cap to cool an overheated engine. Heat causes pressure to build up in the cooling system. To prevent scalding or injury, do not remove the pressure cap while the system is hot or under pressure.**
- **Do not use a pressure cap other than the one specified for your vehicle. Personal injury or engine damage may result.**

**Disposal Of Used Engine Coolant**

Used ethylene glycol-based engine coolant (antifreeze) is a regulated substance requiring proper disposal. Check with your local authorities to determine the disposal rules for your community. To prevent ingestion by animals or children, do not store ethylene glycol-based

engine coolant (antifreeze) in open containers or allow it to remain in puddles on the ground. If ingested by a child or pet, seek emergency assistance immediately. Clean up any ground spills immediately.

**Points To Remember**

**NOTE:** When the vehicle is stopped after a few miles/kilometers of operation, you may observe vapor coming from the front of the engine compartment. This is normally a result of moisture from rain, snow, or high humidity accumulating on the radiator and being vaporized when the thermostat opens, allowing hot engine coolant (antifreeze) to enter the radiator.

If an examination of your engine compartment shows no evidence of radiator or hose leaks, the vehicle may be safely driven. The vapor will soon dissipate.

- Do not overfill the coolant expansion bottle.

- Check the coolant freeze point in the radiator and in the coolant expansion bottle. If engine coolant (antifreeze) needs to be added, the contents of the coolant expansion bottle must also be protected against freezing.
- If frequent engine coolant (antifreeze) additions are required, the cooling system should be pressure tested for leaks.
- Maintain engine coolant (antifreeze) concentration at a minimum of 50% OAT coolant (conforming to MS.90032) and distilled water for proper corrosion protection of your engine which contains aluminum components.
- Make sure that the coolant expansion bottle overflow hoses are not kinked or obstructed.
- Keep the front of the radiator clean. If your vehicle is equipped with air conditioning, keep the front of the condenser clean.

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- Do not change the thermostat for Summer or Winter operation. If replacement is ever necessary, install ONLY the correct type thermostat. Other designs may result in unsatisfactory engine coolant (antifreeze) performance, poor gas mileage, and increased emissions.

#### Charge Air Cooler — Inter-Cooler

The charge air cooler is positioned below the radiator and the air conditioner condenser. Air enters the engine through the air cleaner and passes through the turbo-charger, where it is pressurized. This pressurized air rapidly reaches high temperature. The air is then directed through a hose to the charge air cooler and through another hose to the intake manifold of the engine. The air entering the engine has been cooled by about 50° to 100°F (10° to 38°C). This cooling process enables more efficient burning of fuel resulting in fewer emissions.

To guarantee optimum performance of the system, keep the surfaces of the charge air cooler, condenser and radiator clean and free of debris. Periodically check the hoses leading to and from the charge air cooler for cracks or loose clamps resulting in loss of pressure and reduced engine performance.

#### Brake System

##### Brake Master Cylinder — Brake Fluid Level Check

The fluid level of the master cylinder should be checked when performing under the hood service, or immediately if the “Brake System Warning Light” indicates system failure.

The brake master cylinder has a translucent plastic reservoir. On the outboard side of the reservoir, there is a “MAX” mark and a “MIN” mark. The fluid level must be kept within these two marks. Do not add fluid above the full mark because leakage may occur at the cap.

With disc brakes, the fluid level can be expected to fall as the brake linings wear. However, an unexpected drop in fluid level may be caused by a leak and a system check should be conducted.

Refer to “Fluids, Lubricants, and Genuine Parts” in “Maintaining Your Vehicle” for further information.

**WARNING!**

- Use only manufacturer’s recommended brake fluid. Refer to “Fluids, Lubricants, and Genuine Parts” in “Maintaining Your Vehicle” for further information. Using the wrong type of brake fluid can severely damage your brake system and/or impair its performance. The proper type of brake fluid for your vehicle is also identified on the original factory installed hydraulic master cylinder reservoir.

*(Continued)*

**WARNING! (Continued)**

- To avoid contamination from foreign matter or moisture, use only new brake fluid or fluid that has been in a tightly closed container. Keep the master cylinder reservoir cap secured at all times. Brake fluid in an open container absorbs moisture from the air resulting in a lower boiling point. This may cause it to boil unexpectedly during hard or prolonged braking, resulting in sudden brake failure. This could result in an accident.
- Overfilling the brake fluid reservoir can result in spilling brake fluid on hot engine parts, causing the brake fluid to catch fire. Brake fluid can also damage painted and vinyl surfaces, care should be taken to avoid its contact with these surfaces.

*(Continued)*

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**WARNING! (Continued)**

- Do not allow petroleum based fluid to contaminate the brake fluid. Brake seal components could be damaged, causing partial or complete brake failure. This could result in an accident.

**Clutch Hydraulic System**

The clutch hydraulic system is a sealed maintenance-free system. In the event of leakage or other malfunction, the system must be replaced.

**Transfer Case — If Equipped**

**Drain And Refill**

Refer to the "Maintenance Schedule" for the proper maintenance intervals.

**Selection of Lubricant**

Refer to "Fluids, Lubricants, and Genuine Parts" in "Maintaining Your Vehicle" for fluid specifications.

**Fluid Level Check**

This fluid level can be checked by removing the filler plug. The fluid level should be to the bottom edge of the filler plug hole with the vehicle in a level position.

**Manual Transmission — If Equipped**

**Selection of Lubricant**

Refer to "Fluids, Lubricants, and Genuine Parts" in "Maintaining Your Vehicle" for fluid specifications.

**Fluid Level Check**

The fluid level can be checked by removing the filler plug. If the level of the lubricant is more than 1/2 in (12 mm) below the bottom of the filler hole while the

vehicle is on level ground, enough lubricant should be added to bring the level to 1/4 in (6 mm) below the bottom of the filler hole.

### Automatic Transmission — If Equipped

#### Selection of Lubricant

It is important to use the proper transmission fluid to ensure optimum transmission performance and life. Use only the manufacturer's specified transmission fluid. Refer to "Fluids, Lubricants, and Genuine Parts" in this section for fluid specifications. It is important to maintain the transmission fluid at the correct level using the recommended fluid.

No chemical flushes should be used in any transmission; only the approved lubricant should be used.

#### CAUTION!

Using a transmission fluid other than the manufacturer's recommended fluid may cause deterioration in transmission shift quality and/or torque converter shudder, and will require more frequent fluid and filter changes. Refer to "Fluids, Lubricants, and Genuine Parts" in this section for fluid specifications.

#### Special Additives

The manufacturer strongly recommends against using any special additives in the transmission. Automatic Transmission Fluid (ATF) is an engineered product and its performance may be impaired by supplemental additives. Therefore, do not add any fluid additives to the transmission. The only exception to this policy is the use of special dyes for diagnosing fluid leaks. Avoid using transmission sealers as they may adversely affect seals.

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**CAUTION!**

**Do not use chemical flushes in your transmission as the chemicals can damage your transmission components. Such damage is not covered by the New Vehicle Limited Warranty.**

**Fluid Level Check**

It is best to check the fluid level when the transmission is at normal operating temperature (170-180°F / 77-82°C for 68RFE transmission, or 158-176°F / 70-80°C for AS69RC transmission). This normally occurs after at least 15 miles (25 km) of driving. At normal operating temperature the fluid cannot be held comfortably between the fingertips. You can read the transmission sump temperature in the EVIC/DID screen (refer to “Electronic Vehicle Information Center [EVIC]” or “Driver Information Display [DID]” for further information).

Use the following procedure to check the transmission fluid level properly:

1. Monitor the transmission temperature using the EVIC/DID screen, and operate the vehicle as required to reach the normal operating temperature. If the transmission is not functioning properly, or the vehicle cannot be driven, see the NOTE and CAUTION below about checking the fluid level at colder temperatures.
2. Park the vehicle on level ground.
3. Run the engine at normal idle speed for at least 60 seconds, and leave the engine running for the rest of this procedure.
4. Fully apply the parking brake and press the brake pedal.

5. Place the shift lever momentarily into each gear position (allowing time for the transmission to fully engage in each position), ending with the transmission in PARK.
6. Remove the dipstick, wipe it clean and reinsert it until seated.
7. Remove the dipstick again and note the fluid level on both sides. The fluid level reading is only valid if there is a solid coating of oil on both sides of the dipstick. Note that the holes in the dipstick will be full of fluid if the actual level is at or above the hole. The fluid level should be between the "HOT" (upper) reference holes on the dipstick at normal operating temperature. If the fluid level is low, add fluid through the dipstick tube to bring it to the proper level. **Do not overfill.** Use **ONLY** the specified fluid (see "Fluids, Lubricants, and Genuine Parts" for fluid specifications). After adding any quantity of oil through the dipstick tube, wait a

minimum of two minutes for the oil to fully drain into the transmission before rechecking the fluid level.

**NOTE:** If it is necessary to check the transmission **below** the operating temperature, the fluid level should be between the two "COLD" (lower) holes on the dipstick with the fluid at 60-70°F / 16-21°C for 68RFE transmission, or 68-86°F / 20-30°C for AS69RC transmission. Only use the COLD region of the dipstick as a rough reference when setting the fluid level after a transmission service or fluid change. Re-check the fluid level, and adjust as required, once the transmission reaches normal operating temperature.

**CAUTION!**

**If the fluid temperature is below 50°F (10°C) it may not register on the dipstick. Do not add fluid until the temperature is elevated enough to produce an**

*(Continued)*

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**CAUTION! (Continued)**

accurate reading. Run the engine at idle, in PARK, to warm the fluid.

8. Reinsert the dipstick. Check for leaks. Release the parking brake.

**NOTE:** To prevent dirt and water from entering the transmission after checking or replenishing fluid, make sure that the dipstick cap is properly reseated. It is normal for the dipstick cap to spring back slightly from its fully seated position, as long as its seal remains engaged in the dipstick tube.

**Fluid And Filter Changes**

Refer to the "Maintenance Schedule" for the proper maintenance intervals.

In addition, change the fluid and filter(s) if the fluid becomes contaminated (with water, etc.), or if the transmission is disassembled for any reason.

**Noise Control System Required Maintenance & Warranty**

All vehicles built over 10,000 lbs. (4 535 kg) Gross Vehicle Weight Rating and manufactured for sale and use in the United States are required to comply with the Federal Government's Exterior Noise Regulations. These vehicles can be identified by the Noise Emission Control Label located in the operator's compartment.

**Vehicle Noise Emission Control Information**  
Date of Vehicle Manufacture

\_\_\_\_\_

This vehicle conforms to U.S. EPA regulations for noise emission applicable to medium and heavy duty trucks.

The following acts or the causing thereof by any person are prohibited by the Noise Control Act of 1972: (A) the removal or rendering inoperative, other than for purposes of maintenance, repair, or replacement, of any noise control device or element of design (listed in the Owner's Manual) incorporated into this vehicle in compliance with the Noise Control Act (B) the use of this vehicle after such device or element of design has been removed or rendered inoperative.

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### Required Maintenance For Noise Control Systems

The following maintenance services must be performed every six months or 7,500 miles (12 000 km) whichever comes first, to assure proper operation of the noise control systems. In addition, inspection and service should be performed anytime a malfunction is observed

or suspected. Proper maintenance of the entire vehicle will help the effectiveness of the noise control systems.

### Exhaust System

Inspect the entire exhaust system for leaks and damaged parts. Devices such as hangers, clamps, and U-bolts should be tight and in good condition. Damaged components, burned or blown out mufflers, burned or rusted out exhaust pipes should be replaced according to the procedures and specifications outlined in the appropriate service manual.

### Air Cleaner Assembly

Inspect air cleaner housing for proper assembly and fit. Make certain that the air cleaner is properly positioned and that the cover is tight. Check all hoses leading to the air cleaner for tightness. The air filter element must also be clean and serviced according to the instructions outlined in the Maintenance Schedule section of this manual.

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**Tampering With Noise Control System Prohibited**

Federal law prohibits the following acts or the causing thereof: (1) the removal or rendering inoperative by any person, other than for purposes of maintenance, repair, or replacement, of any device or element of design incorporated into any new vehicle for the purpose of noise control prior to its sale or delivery to the ultimate purchaser or while it is in use, or (2) the use of the vehicle after such device or element of design has been removed or rendered inoperative by any person.

Among those acts presumed to constitute tampering are the acts listed below.

**AIR CLEANER**

- Removal of the air cleaner.
- Removal of the air cleaner filter element from the air cleaner housing.
- Removal of the air ducting.

**EXHAUST SYSTEM**

- Removal or rendering inoperative exhaust system components including the muffler or tailpipe.

**ENGINE COOLING SYSTEM**

- Removal or rendering inoperative the fan clutch.
- Removal of the fan shroud.

**Noise Emission Warranty**

The manufacturer warrants that this vehicle as manufactured by the manufacturer, was designed, built and equipped to conform at the time it left the manufacturer's control with all applicable U.S. EPA Noise Control Regulations.

This warranty covers this vehicle as designed, built and equipped by the manufacturer, and is not limited to any particular part, component or system of the vehicle manufactured by the manufacturer. Defects in design,

assembly or in any part, component or system of the vehicle as manufactured by the manufacturer, which, at the time it left the manufacturer's control, caused noise emissions to exceed Federal standards, are covered by this warranty for the life of the vehicle.

**Maintenance Log and Service Chart (Diesel Engines)**

Noise Systems Maintenance Chart and Service Log — Insert Month, Day, Year under column mileage closest to the mileage at which service was performed.

MILES	7,500	15,000	22,500	30,000	37,500	45,000	52,500	60,000
KILOMETERS	12 000	24 000	36 000	48 000	60 000	72 000	84 000	96 000
Exhaust system-inspect								
Air cleaner assembly-inspect								
ODOMETER READING								
PERFORMED BY								
PERFORMED AT								



**FLUID CAPACITIES**

	U.S.	Metric
<b>Fuel (Approximate)</b>		
2500/3500 Standard Cab Longbed Models	28 Gallons	106 Liters
2500/3500 Crew/Mega Cab Shortbed Models	31 Gallons	129 Liters
2500/3500 Crew Cab Longbed Models	32 Gallons	132 Liters
Standard Rear Tank – Chassis Cab Only	52 Gallons	197 Liters
Optional Midship Tank – Chassis Cab Only	22 Gallons	83 Liters
Diesel Exhaust Fluid Tank (Approximate) – 2500/3500 Models	5.5 Gallons	21 Liters
Diesel Exhaust Fluid Tank (Approximate) – Chassis Cab	9 Gallons	34 Liters
<b>Engine Oil With Filter</b>		
6.7L Turbo Diesel Engine	12 Quarts	11.4 Liters
<b>Cooling System</b>		
6.7L Turbo Diesel Engine (MOPAR® Engine Coolant/Antifreeze 10 Year/150,000 Mile Formula)	5.7 Gallons	21.4 Liters

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**FLUIDS, LUBRICANTS AND GENUINE PARTS**

**Engine**

Component	Fluid, Lubricant, or Genuine Part
Engine Coolant	We recommend you use MOPAR® Antifreeze/Coolant 10 Year/150,000 Mile Formula OAT (Organic Additive Technology).
Engine Oil	<p>In ambient temperatures above 0°F (-18°C), we recommend you use 15W-40 engine oil such as MOPAR®, Shell Rotella® and Shell Rimula® that meets Chrysler Materials Standard MS-10902 and the API CJ-4 engine oil category is required. Products meeting Cummins® CES 20081 may also be used. The identification of these engine oils is typically located on the back of the oil container.</p> <p>In ambient temperatures below 0°F (-18°C), we recommend you use 5W-40 <b>synthetic</b> engine oil such as MOPAR®, Shell Rotella® and Shell Rimula® that meets Chrysler Materials Standard MS-10902 and the API CJ-4 engine oil category is required.</p>
Engine Oil Filter	We recommend you use MOPAR® Engine Oil Filters.
Fuel Filters	We recommend you use MOPAR® Fuel Filter. Must meet 3 micron rating. <b>Using a fuel filter that does not meet the manufacturers filtration and water separating requirements can severely impact fuel system life and reliability.</b>

Component	Fluid, Lubricant, or Genuine Part
Crankcase Ventilation Filter	We recommend you use MOPAR® CCV Filter.
Fuel Selection	<p>Use good quality diesel fuel from a reputable supplier in your vehicle. Federal law requires that you must fuel this vehicle with Ultra Low Sulfur Highway Diesel fuel (15 ppm Sulfur maximum) and prohibits the use of Low Sulfur Highway Diesel fuel (500 ppm Sulfur maximum) to avoid damage to the emissions control system.</p> <p>For most year-round service, No. 2 diesel fuel meeting ASTM specification D-975 Grade S15 will provide good performance.</p> <p>If the vehicle is exposed to extreme cold (below 20°F or -7°C), or is required to operate at colder-than-normal conditions for prolonged periods, use climatized No. 2 diesel fuel or dilute the No. 2 diesel fuel with 50% No. 1 diesel fuel. This will provide better protection from fuel gelling or wax-plugging of the fuel filters.</p> <p><b>This vehicle is fully compatible with biodiesel blends up to 5% biodiesel meeting ASTM specification D-975.</b> Pickup models, and Chassis Cab models configured with optional B20 capability, are additionally compatible with 20% biodiesel meeting ASTM specification D-7467.</p>

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Component	Fluid, Lubricant, or Genuine Part
Diesel Exhaust Fluid	MOPAR® Diesel Exhaust Fluid (API Certified) (DEF) or equivalent that has been API Certified to the ISO 22241 standard. Use of fluids not API Certified to ISO 22241 may result in system damage. You can receive assistance in locating DEF in the United States by calling 866-RAM-INFO (866-726-4636). In Canada call 1-800-465-2001 (English) or 1-800-387-9983 (French).

**Chassis**

Component	Fluid, Lubricant, or Genuine Part
Automatic Transmission – If Equipped (Six-Speed 68RFE) – Pickup models without PTO	Only use ATF+4® Automatic Transmission Fluid. Failure to use ATF+4® fluid may affect the function or performance of your transmission. We recommend MOPAR® ATF+4® fluid.
Automatic Transmission – If Equipped (Six-Speed AS69RC) – Pickup models with PTO, and all Chassis Cab models	Only use MOPAR® ASRC Automatic Transmission Fluid or equivalent. Failure to use the proper fluid may affect the function or performance of your transmission.

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Component	Fluid, Lubricant, or Genuine Part
Transfer Case	We recommend you use MOPAR® BW44-44 Transfer Case Fluid.
Front and Rear Axle Fluid (2500/3500)	We recommend you use Synthetic, GL-5 SAE 75W-85. Limited slip additive is not required for Limited-Slip Rear Axles.
Front and Rear Axle Fluid (4500/5500)	We recommend you use Synthetic, GL-5 SAE 75W-90. Limited slip additive is not required for Limited-Slip Rear Axles.
Clutch Linkage	We recommend you use MOPAR® Multi-Purpose Grease, NLGI Grade 2 E.P. or equivalent.
Manual Transmission (G-56) – If Equipped	We recommend you use MOPAR® ATF+4® Automatic Transmission Fluid or equivalent licensed ATF+4® product.



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## MAINTENANCE SCHEDULE

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328 MAINTENANCE SCHEDULE

**MAINTENANCE SCHEDULE – DIESEL ENGINE**

<b>CAUTION!</b>
Failure to perform the required maintenance items may result in damage to the vehicle.

**At Each Stop For Fuel**

- Check the engine oil level at least 30 minutes after a fully warmed engine is shut off. Checking the oil level while the vehicle is on level ground will improve the accuracy of the oil level reading. Add oil only when the level is at or below the ADD or MIN mark.

**Once A Month**

- Inspect the batteries, and clean and tighten the terminals as required.
- Check the fluid levels of the coolant reservoir, brake master cylinder, and automatic transmission (if equipped), and add as needed.

**At Each Oil Change**

- Change the engine oil filter.
- Inspect the exhaust system.
- Check the coolant level, hoses, and clamps.
- Lubricate outer tie rod ends.

Inspection and service should also be performed anytime a malfunction is observed or suspected. Retain all receipts.

**Oil Change Indicator System – Cummins® Diesel**

Your vehicle is equipped with an engine oil change indicator system. This system will alert you when it is time to change your engine oil by displaying the words “Oil Change Due” on your Electronic Vehicle Information Center (EVIC) or Driver Information Display (DID). The oil change reminder will remind the owner to change

the engine oil every 15,000 miles or 500 hours, whichever comes first, except for the Chassis Cab models that are using B20 biodiesel, which are 12,500 miles or 400 hours, whichever comes first. Failure to change the engine oil per the maintenance schedule can result in internal engine damage.

Your authorized dealer will reset the oil change indicator message after completing the scheduled oil change. If a scheduled oil change is performed by someone other than your authorized dealer, the message can be reset by referring to the steps described under "Electronic Vehicle Information Center (EVIC)" or "Driver Information Display (DID)" in "Understanding Your Instrument Panel" for further information.

**Replace the engine oil and oil filter every 15,000 miles (24 000 km) or six months, or sooner if prompted by the oil change indicator system. Under no circumstances should oil change intervals exceed 15,000 miles (24 000 km) or six months, whichever comes first.**

**NOTE:**

- **Under no circumstances should oil change intervals exceed 15,000 miles (24,000 km) or six months or 500 Hours, whichever comes first.**
- Replace the engine oil and oil filter every 12,500 miles (20 000 km) when running B20 fuel (Chassis Cab Only).

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If Chassis Cab models are operated with greater than 5% levels of Biodiesel, the oil change interval must not exceed 12,500 miles (20 000 km) under any circumstances. See the Fuel Requirements section for more information regarding operation of Chassis Cab models configured for use with Biodiesel blend (B6-B20) fuel meeting ASTM specification D-7467.

#### **Perform Service Indicator — Cummins® Diesel**

Your vehicle will require emissions maintenance at a set interval. To help remind you when this maintenance is due, the Electronic Vehicle Information Center (EVIC) or Driver Information Display (DID) will display “Perform Service”. When the “Perform Service” message is displayed on the EVIC/DID it is necessary to have the emissions maintenance performed. Emissions maintenance may include replacing the Closed Crankcase Ventilation (CCV) filter element. The procedure for clearing and resetting the “Perform Service” indicator message is located in the appropriate Service Information.

**Maintenance Chart — Cummins® Diesel Engine**

Mileage or time passed (whichever comes first):	7,500	15,000	22,500	30,000	37,500	45,000	52,500	60,000	67,500	75,000	82,500	90,000	97,500	105,000	112,500	120,000	127,000	135,000	142,500	150,000
Or Months:	6	12	18	24	30	36	42	48	54	60	66	72	78	84	90	96	102	108	114	120
Or Kilometers:	12,000	24,000	36,000	48,000	60,000	72,000	84,000	96,000	108,000	120,000	132,000	144,000	156,000	168,000	180,000	192,000	204,000	216,000	228,000	240,000
Change engine oil every 15,000 miles (24 000 km) or six months or 500 Hours or sooner if prompted by the oil change indicator system, whichever comes first. **	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
<b>Additional Inspections</b>																				
Check the Diesel Exhaust Fluid (DEF) tank, refill if necessary.	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Rotate the tires.	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X



**MAINTENANCE SCHEDULE 333**

Mileage or time passed (whichever comes first):	7,500	15,000	22,500	30,000	37,500	45,000	52,500	60,000	67,500	75,000	82,500	90,000	97,500	105,000	112,500	120,000	127,000	135,000	142,500	150,000
Or Months:	6	12	18	24	30	36	42	48	54	60	66	72	78	84	90	96	102	108	114	120
Or Kilometers:	12,000	24,000	36,000	48,000	60,000	72,000	84,000	96,000	108,000	120,000	132,000	144,000	156,000	168,000	180,000	192,000	204,000	216,000	228,000	240,000
Inspect wheel bearings.				X				X				X				X				X
<b>Additional Maintenance</b>																				
Replace engine fuel filter element.		X		X		X		X		X		X		X		X		X		X
Replace chassis mounted fuel filter element.		X		X		X		X		X		X		X		X		X		X
Inspect the front and rear axle surfaces. If gear oil leakage is suspected, check the fluid level. If using your vehicle for police, taxi, fleet, off-road or frequent trailer towing change the axle fluid. *																				

334 MAINTENANCE SCHEDULE

Mileage or time passed (whichever comes first):	7,500	15,000	22,500	30,000	37,500	45,000	52,500	60,000	67,500	75,000	82,500	90,000	97,500	105,000	112,500	120,000	127,000	135,000	142,500	150,000
Or Months:	6	12	18	24	30	36	42	48	54	60	66	72	78	84	90	96	102	108	114	120
Or Kilometers:	12,000	24,000	36,000	48,000	60,000	72,000	84,000	96,000	108,000	120,000	132,000	144,000	156,000	168,000	180,000	192,000	204,000	216,000	228,000	240,000
Inspect the transfer case fluid (4x4), change for any of the following: police, taxi, fleet, or frequent trailer towing.				X				X				X				X				X
Change the transfer case fluid (4x4).								X								X				
Change automatic transmission fluid (AS69RC transmission only).				X				X				X				X				X
Change automatic transmission fluid and filter(s) if using your vehicle for any of the following: police, fleet, or frequent trailer towing (68RFE transmission only).								X								X				

**MAINTENANCE SCHEDULE 335**

Mileage or time passed (whichever comes first):	7,500	15,000	22,500	30,000	37,500	45,000	52,500	60,000	67,500	75,000	82,500	90,000	97,500	105,000	112,500	120,000	127,000	135,000	142,500	150,000
Or Months:	6	12	18	24	30	36	42	48	54	60	66	72	78	84	90	96	102	108	114	120
Or Kilometers:	12,000	24,000	36,000	48,000	60,000	72,000	84,000	96,000	108,000	120,000	132,000	144,000	156,000	168,000	180,000	192,000	204,000	216,000	228,000	240,000
Change automatic transmission fluid and filter(s).																X				
Change the manual transmission fluid if using your vehicle for any of the following: police, fleet, or frequent trailer towing.								X								X				
Replace Crankcase Ventilation Filter (CCV).									X									X		
Flush and replace power steering fluid.													X							
Flush and replace engine coolant. ***																				X
Adjust valve lash clearance.																				X

### 336 MAINTENANCE SCHEDULE

Inspection and service should also be performed anytime a malfunction is observed or suspected. Retain all receipts.

\* Inspect the front and rear axle surfaces every 20,000 miles (32,000 km). If gear oil leakage is suspected, check the fluid level. If using your vehicle for police, taxi, fleet, off-road or frequent trailer towing change the axle fluid every 20,000 miles (32,000 km).

\*\* Under no circumstances should oil change intervals exceed 15,000 miles (24 000 km) or six months or 500 Hours, whichever comes first.

#### CAUTION!

\*\*\*The manufacturer highly recommends that all cooling system service, maintenance, and repairs be performed by your local authorized dealer.

#### WARNING!

- You can be badly injured working on or around a motor vehicle. Do only service work for which you have the knowledge and the right equipment. If you have any doubt about your ability to perform a service job, take your vehicle to a competent mechanic.
- Failure to properly inspect and maintain your vehicle could result in a component malfunction and effect vehicle handling and performance. This could cause an accident.

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## **INSTALLATION OF RADIO TRANSMITTING EQUIPMENT**

Special design considerations are incorporated into this vehicle's electronic system to provide immunity to radio frequency signals. Mobile two-way radios and telephone equipment must be installed properly by trained personnel. The following must be observed during installation.

The positive power connection should be made directly to the battery and fused as close to the battery as possible. The negative power connection should be made to body sheet metal adjacent to the negative battery connection. This connection should not be fused.

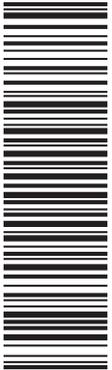
Antennas for two-way radios should be mounted on the roof or the rear area of the vehicle. Care should be used in mounting antennas with magnet bases. Magnets may affect the accuracy or operation of the compass on vehicles so equipped.

The antenna cable should be as short as practical and routed away from the vehicle wiring when possible. Use only fully shielded coaxial cable.

Carefully match the antenna and cable to the radio to ensure a low Standing Wave Ratio (SWR).

Mobile radio equipment with output power greater than normal may require special precautions.

All installations should be checked for possible interference between the communications equipment and the vehicle's electronic systems.



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# Exhibit 7



**RAM**

**2016**

**RAM TRUCK**

**DIESEL SUPPLEMENT**

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**OWNER'S MANUAL**

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**RAM 1500**



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## 12 THINGS TO KNOW BEFORE STARTING YOUR VEHICLE

### REMOTE STARTING SYSTEM



This system uses the Remote Keyless Entry (RKE) transmitter to start the engine conveniently from outside the vehicle while still maintaining security. The system has a range of approximately 300 ft (91 m).

#### NOTE:

- The vehicle must be equipped with an automatic transmission to be equipped with Remote Start.
- Obstructions between the vehicle and the RKE transmitter may reduce this range.
- The Remote Start system will wait for the “Wait To Start” amber telltale to extinguish before cranking the engine. This allows time for the engine pre-heat cycle to pre-heat the cylinder air, and is normal in cold

weather. Refer to “Electronic Vehicle Information Display (EVIC)” in “Understanding Your Instrument Panel” for further information on the “Wait To Start” amber telltale and the pre-heat cycle.

#### How To Use Remote Start

All of the following conditions must be met before the engine will remote start:

- Shift lever in PARK
- Doors closed
- Hood closed
- HAZARD switch off
- BRAKE switch inactive (brake pedal not pressed)
- Battery at an acceptable charge level
- RKE PANIC button not pressed

**THINGS TO KNOW BEFORE STARTING YOUR VEHICLE 13**

- Fuel meets minimum requirement
- System not disabled from previous remote start event
- Vehicle security alarm not active
- Water In Fuel Indicator Light is not illuminated
- “Wait To Start” telltale is not illuminated

**WARNING!**

- **Do not start or run an engine in a closed garage or confined area. Exhaust gas contains Carbon Monoxide (CO) which is odorless and colorless. Carbon Monoxide is poisonous and can cause serious injury or death when inhaled.**
- **Keep Remote Keyless Entry (RKE) transmitters away from children. Operation of the Remote Start System, windows, door locks or other controls could cause serious injury or death.**

**ENGINE BREAK-IN RECOMMENDATIONS**

The diesel engine does not require a break-in period due to its construction. Normal operation is allowed, providing the following recommendations are followed:

- Warm up the engine before placing it under load.
- Do not operate the engine at idle for prolonged periods.
- Use the appropriate transmission gear to prevent engine lugging.
- Observe vehicle oil pressure and temperature indicators.
- Check the coolant and oil levels frequently.
- Vary throttle position at highway speeds when carrying or towing significant weight.

#### 14 THINGS TO KNOW BEFORE STARTING YOUR VEHICLE

---

**NOTE:** Light duty operation such as light trailer towing or no load operation will extend the time before the engine is at full efficiency. Reduced fuel economy and power may be seen at this time.

The engine oil installed in the engine at the factory is a high-quality energy conserving type lubricant. Oil changes should be consistent with anticipated climate conditions under which vehicle operations will occur. The recommended viscosity and quality grades are shown under "Fluids, Lubricants and Genuine Parts", under "Maintaining Your Vehicle" in this manual. NON-DETERGENT OR STRAIGHT MINERAL OILS MUST NEVER BE USED.

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## UNDERSTANDING YOUR INSTRUMENT PANEL

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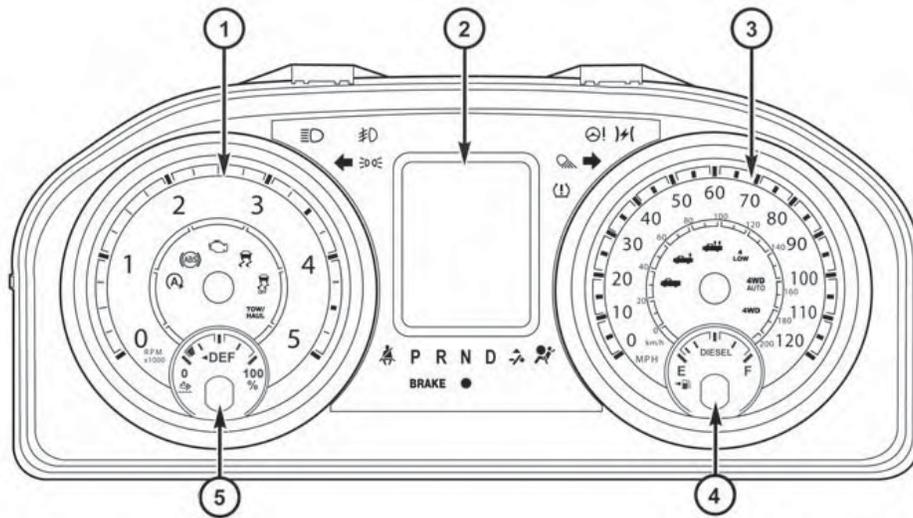
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**INSTRUMENT CLUSTER — BASE (EVIC)**



3

0403084407US

Base EVIC Instrument Cluster — If Equipped

## 18 UNDERSTANDING YOUR INSTRUMENT PANEL

### 1. Tachometer

- Indicates the engine speed in revolutions per minute (RPM x 1000).

### 2. Electronic Vehicle Information Center (EVIC) Display

- When the appropriate conditions exist, this display shows the Electronic Vehicle Information Center (EVIC) messages. Refer to “Electronic Vehicle Information Center” in “Understanding Your Instrument Panel” for further information.

### 3. Speedometer

- Indicates vehicle speed.

### 4. Fuel Gauge

- The pointer shows the level of fuel in the fuel tank when the ignition switch is in the ON/RUN position.

### 5. DEF Gauge

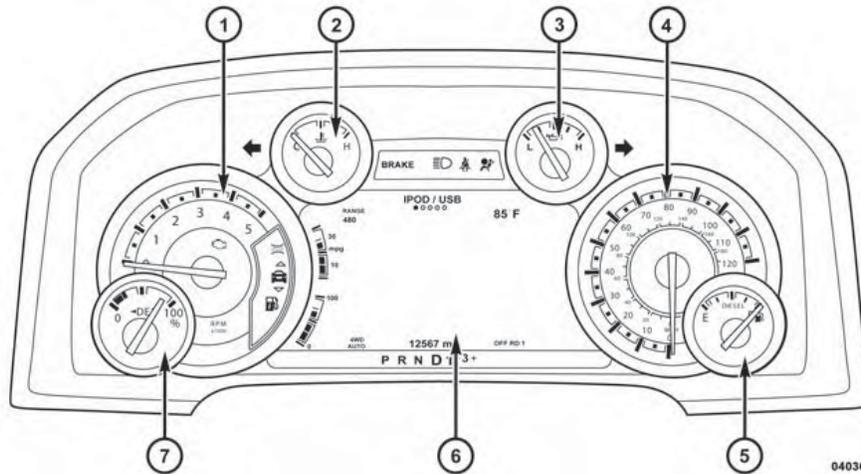
- The DEF Gauge displays the actual level of Diesel Exhaust Fluid in the DEF tank. Diesel Exhaust Fluid (DEF) is required to maintain normal vehicle operation and emissions compliance. If something is wrong with the gauge, a DEF Warning Message or Malfunction Indicator Light (MIL) will be displayed. More information is available in the Electronic Vehicle Information (EVIC) or Driver Information Display (DID) section under the heading of Diesel Exhaust Fluid (DEF) Warning Messages.

**NOTE:**

- The gauge may take up to five seconds to update after adding a gallon or more of Diesel Exhaust Fluid (DEF) to the DEF tank. If you have a fault related to the DEF system, the gauge may not update to the new level. See your authorized dealer for service.
- The DEF gauge may also not immediately update after a refill if the temperature of the DEF fluid is below 12F (-11C). The DEF line heater will possibly warm up the DEF fluid and allow the gauge to update after a period of run time. Under very cold conditions, it is possible that the gauge may not reflect the new fill level for several drives.
- Outside temperature can affect DEF consumption. In cold conditions, 12° F (-11° C) and below, the DEF gauge needle can stay on a fixed position and may not move for extended periods of time. This is a normal function of the system.

20 UNDERSTANDING YOUR INSTRUMENT PANEL

**INSTRUMENT CLUSTER — PREMIUM (DID)**



0403084413US

**Premium DID Instrument Cluster — If Equipped**

1. Tachometer
  - Indicates the engine speed in revolutions per minute (RPM x 1000).
2. Engine Coolant Temperature
  - This gauge shows the engine coolant temperature. The gauge pointer will likely show higher temperatures when driving in hot weather, up mountain grades, or in heavy stop and go traffic. If the red Warning Light turns on while driving, safely bring the vehicle to a stop, and turn off the engine. DO NOT operate the vehicle until the cause is corrected.

<b>CAUTION!</b>
Driving with a hot engine cooling system could damage your vehicle. If the temperature gauge reads "H" pull over and stop the vehicle. Idle the vehicle with the air conditioner turned off until the pointer

<b>CAUTION! (Continued)</b>
drops back into the normal range. If the pointer remains on the "H", turn the engine off immediately and call an authorized dealer for service.

<b>WARNING!</b>
A hot engine cooling system is dangerous. You or others could be badly burned by steam or boiling coolant. You may want to call an authorized dealer for service if your vehicle overheats. If you decide to look under the hood yourself, see "Maintaining Your Vehicle." Follow the warnings under the "Cooling System Pressure Cap" paragraph.

(Continued)

## 22 UNDERSTANDING YOUR INSTRUMENT PANEL

### 3. Oil Pressure Gauge

- The pointer should always indicate some oil pressure when the engine is running. A continuous high or low reading under normal driving conditions may indicate a lubrication system malfunction. Immediate service should be obtained from an authorized dealer.

### 4. Speedometer

- Indicates vehicle speed.

### 5. Fuel Gauge

- The pointer shows the level of fuel in the fuel tank when the ignition switch is in the ON/RUN position.

### 6. Driver Information Display (DID)

- When the appropriate conditions exist, this display shows the Driver Information Display (DID) messages. Refer to “Driver Information Display” in “Understanding Your Instrument Panel” for further information.

### 7. DEF Gauge

- The DEF Gauge displays the actual level of Diesel Exhaust Fluid in the DEF tank. Diesel Exhaust Fluid (DEF) is required to maintain normal vehicle operation and emissions compliance. If something is wrong with the gauge, a DEF Warning Message or Malfunction Indicator Light (MIL) will be displayed. More information is available in the Electronic Vehicle Information (EVIC) or Driver Information Display (DID) section under the heading of Diesel Exhaust Fluid (DEF) Warning Messages.

**NOTE:**

- The gauge may take up to five seconds to update after adding a gallon or more of Diesel Exhaust Fluid (DEF) to the DEF tank. If you have a fault related to the DEF system, the gauge may not update to the new level. See your authorized dealer for service.
- The DEF gauge may also not immediately update after a refill if the temperature of the DEF fluid is below 12F (-11C). The DEF line heater will possibly warm up the DEF fluid and allow the gauge to update after a period of run time. Under very cold conditions, it is possible that the gauge may not reflect the new fill level for several drives.
- Outside temperature can affect DEF consumption. In cold conditions, 12° F (-11° C) and below, the DEF gauge needle can stay on a fixed position and may not move for extended periods of time. This is a normal function of the system.

**WARNING AND INDICATOR LIGHTS**

**IMPORTANT:** The warning / indicator light switches on in the instrument panel together with a dedicated message and/or acoustic signal when applicable. These indications are indicative and precautionary and as such must not be considered as exhaustive and/or alternative to the information contained in the Owner Manual, which you are advised to read carefully in all cases. Always refer to the information in this chapter in the event of a failure indication.

All active telltales will display first if applicable. The system check menu may appear different based upon equipment options and current vehicle status. Some telltales are optional and may not appear.

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**Red Telltale Indicator Lights**

**Seat Belt Reminder Warning Light**

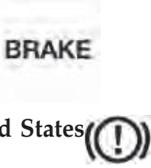
Red Telltale Light	What It Means
	<p><b>Seat Belt Reminder Warning Light</b> When the ignition switch is first turned to ON/RUN, this light will turn on for four to eight seconds as a bulb check. During the bulb check, if the driver's seat belt is unbuckled, a chime will sound. After the bulb check or when driving, if the driver seat belt remains unbuckled, the Seat Belt Reminder Light will flash or remain on continuously and a chime will sound. Refer to "Occupant Restraints" in "Things To Know Before Starting Your Vehicle" for further information.</p>

**Air Bag Warning Light**

Red Telltale Light	What It Means
	<p><b>Air Bag Warning Light</b>                      This light will turn on for four to eight seconds as a bulb check when the ignition switch is first turned to ON/RUN. If the light is either not on during starting, stays on, or turns on while driving, have the system inspected at an authorized dealer as soon as possible. This light will illuminate with a single chime when a fault with the Air Bag Warning Light has been detected, it will stay on until the fault is cleared. If the light comes on intermittently or remains on while driving, have an authorized dealer service the vehicle immediately. Refer to "Occupant Restraints" in "Things To Know Before Starting Your Vehicle" for further information.</p>

26 UNDERSTANDING YOUR INSTRUMENT PANEL

Brake Warning Light

Red Telltale Light	What It Means
 <p>United States</p> <p>Canada</p>	<p><b>Brake Warning Light</b>                      This light monitors various brake functions, including brake fluid level and parking brake application. If the brake light turns on it may indicate that the parking brake is applied, that the brake fluid level is low, or that there is a problem with the anti-lock brake system reservoir.</p> <p>If the light remains on when the parking brake has been disengaged, and the fluid level is at the full mark on the master cylinder reservoir, it indicates a possible brake hydraulic system malfunction or that a problem with the Brake Booster has been detected by the Anti-Lock Brake System (ABS) / Electronic Stability Control (ESC) system. In this case, the light will remain on until the condition has been corrected. If the problem is related to the brake booster, the ABS pump will run when applying the brake, and a brake pedal pulsation may be felt during each stop.</p>

The dual brake system provides a reserve braking capacity in the event of a failure to a portion of the hydraulic system. A leak in either half of the dual brake system is indicated by the Brake Warning Light, which will turn on when the brake fluid level in the master cylinder has dropped below a specified level.

**UNDERSTANDING YOUR INSTRUMENT PANEL 27**

The light will remain on until the cause is corrected.

**NOTE:** The light may flash momentarily during sharp cornering maneuvers, which change fluid level conditions. The vehicle should have service performed, and the brake fluid level checked.

If brake failure is indicated, immediate repair is necessary.

**WARNING!**

**Driving a vehicle with the red brake light on is dangerous. Part of the brake system may have failed. It will take longer to stop the vehicle. You could have a collision. Have the vehicle checked immediately.**

Vehicles equipped with the Anti-Lock Brake System (ABS) are also equipped with Electronic Brake Force Distribution (EBD). In the event of an EBD failure, the

Brake Warning Light will turn on along with the ABS Light. Immediate repair to the ABS system is required.

Operation of the Brake Warning Light can be checked by turning the ignition switch from the OFF position to the ON/RUN position. The light should illuminate for approximately two seconds. The light should then turn off unless the parking brake is applied or a brake fault is detected. If the light does not illuminate, have the light inspected by an authorized dealer.

The light also will turn on when the parking brake is applied with the ignition switch in the ON/RUN position.

**NOTE:** This light shows only that the parking brake is applied. It does not show the degree of brake application.

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Vehicle Security Warning Light — If Equipped

Red Telltale Light	What It Means
	<b>Vehicle Security Warning Light</b> This light will flash at a fast rate for approximately 15 seconds when the vehicle security alarm is arming, and then will flash slowly until the vehicle is disarmed.

**Engine Temperature Warning Light**

Red Warning Light	What It Means
	<p><b>Engine Temperature Warning Light</b>                      This light warns of an overheated engine condition. As engine coolant temperatures rise and the gauge approaches <b>H</b>, this indicator will illuminate and a single chime will sound after reaching a set threshold.                      If the light turns on while driving, safely pull over and stop the vehicle. If the A/C system is on, turn it off. Also, shift the transmission into NEUTRAL and idle the vehicle. If the temperature reading does not return to normal, turn the engine off immediately and call for service. Refer to “If Your Engine Overheats” in “What To Do In Emergencies” for further information.</p>

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Charging System Warning Light

Red Telltale Light	What It Means
	<p><b>Charging System Warning Light</b></p> <p>This light shows the status of the electrical charging system. If the light stays on or comes on while driving, turn off some of the vehicle's nonessential electrical devices or increase engine speed (if at idle). If the charging system light remains on, it means that the vehicle is experiencing a problem with the charging system. Obtain SERVICE IMMEDIATELY. See an authorized dealer.</p> <p>If jump starting is required, refer to "Jump Starting Procedures" in "What To Do In Emergencies."</p>

### Oil Pressure Warning Light

Red Telltale Light	What It Means
	<p><b>Oil Pressure Warning Light</b></p> <p>This light indicates low engine oil pressure. If the light turns on while driving, stop the vehicle and shut off the engine as soon as possible. A chime will sound when this light turns on.</p> <p>Do not operate the vehicle until the cause is corrected. This light does not indicate how much oil is in the engine. The engine oil level must be checked under the hood.</p>

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Electronic Throttle Control (ETC) Warning Light

Red Telltale Light	What It Means
	<p><b>Electronic Throttle Control (ETC) Warning Light</b>                      This light informs you of a problem with the Electronic Throttle Control (ETC) system. If a problem is detected while the engine is running, the light will either stay on or flash depending on the nature of the problem. Cycle the ignition key when the vehicle is safely and completely stopped and the transmission is placed in the PARK position. The light should turn off. If the light remains on with the engine running, your vehicle will usually be drivable; however, see an authorized dealer for service as soon as possible.</p> <p>If the light continues to flash when the engine is running, immediate service is required and you may experience reduced performance, an elevated/rough idle, or engine stall and your vehicle may require towing. The light will come on when the ignition is first turned to ON/RUN and remain on briefly as a bulb check. If the light does not come on during starting, have the system checked by an authorized dealer.</p>

**Electric Power Steering Fail Warning — If Equipped**

Red Telltale Light	What It Means
	<p><b>Electric Power Steering Fail Warning</b>                      This light is used to manage the electrical warning of the EPS (Power Steering System). Refer to “Power Steering” in “Starting and Operating” for further information.</p>

**3**

**Trailer Brake Disconnected Warning Light**

Red Warning Light	What It Means
	<p><b>Trailer Brake Disconnected Warning Light</b>                      This telltale is on when the Trailer Brake has been disconnected.</p>

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Oil Pressure Warning Light

Red Telltale Light	What It Means
	<p><b>Oil Pressure Warning Light</b> This light indicates low engine oil pressure. If the light turns on while driving, stop the vehicle and shut off the engine as soon as possible. A chime will sound when this light turns on. Do not operate the vehicle until the cause is corrected. This light does not indicate how much oil is in the engine. The engine oil level must be checked under the hood.</p>

### Door Open Warning Light

Red Telltale Light	What It Means
	<b>Door Open Warning Light</b> This indicator will illuminate when a door is ajar/open and not fully closed.

**NOTE:** Door Open Warning Light will differ depending on the equipped instrument cluster display

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**Yellow Telltale Indicator Lights**

**Engine Check/Malfunction Indicator Light (MIL)**

Yellow Telltale Light	What It Means
	<p><b>Engine Check/Malfunction Indicator Light (MIL)</b>                      The Engine Check/Malfunction Indicator Light (MIL) is a part of an Onboard Diagnostic System called OBD II that monitors engine and automatic transmission control systems. The light will illuminate when the ignition is in the ON position before engine start. If the bulb does not come on when turning the key from OFF to ON/RUN, have the condition checked promptly.</p> <p>Certain conditions, such as a loose or missing gas cap, poor quality fuel, etc., may illuminate the light after engine start. The vehicle should be serviced if the light stays on through several typical driving styles. In most situations, the vehicle will drive normally and will not require towing.</p> <p>When the engine is running, the MIL may flash to alert serious conditions that could lead to immediate loss of power or severe catalytic converter damage. The vehicle should be serviced as soon as possible if this occurs.</p>

**CAUTION!**

Prolonged driving with the Malfunction Indicator Light (MIL) on could cause damage to the engine control system. It also could affect fuel economy and driveability. If the MIL is flashing, severe catalytic converter damage and power loss will soon occur. Immediate service is required.

**WARNING!**

A malfunctioning catalytic converter, as referenced above, can reach higher temperatures than in normal operating conditions. This can cause a fire if you drive slowly or park over flammable substances such as dry plants, wood, cardboard, etc. This could result in death or serious injury to the driver, occupants or others.

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Electronic Stability Control (ESC) Indicator Light — If Equipped

Yellow Telltale Light	What It Means
	<p><b>Electronic Stability Control (ESC) Indicator Light</b></p> <p>The “ESC Indicator Light” in the instrument cluster will come on when the ignition switch is turned to the ON/RUN position. It should go out with the engine running. If the “ESC Indicator Light” comes on continuously with the engine running, a malfunction has been detected in the ESC system. If this light remains on after several ignition cycles, and the vehicle has been driven several miles (kilometers) at speeds greater than 30 mph (48 km/h), see your authorized dealer as soon as possible to have the problem diagnosed and corrected.</p> <ul style="list-style-type: none"> <li>• The “ESC Off Indicator Light” and the “ESC Indicator Light” come on momentarily each time the ignition switch is turned to ON/RUN.</li> <li>• Each time the ignition is turned to ON/RUN, the ESC system will be ON, even if it was turned off previously.</li> <li>• The ESC system will make buzzing or clicking sounds when it is active. This is normal; the sounds will stop when ESC becomes inactive following the maneuver that caused the ESC activation.</li> </ul>

**Electronic Stability Control (ESC) OFF Indicator Light — If Equipped**

Yellow Telltale Light	What It Means
	<b>Electronic Stability Control (ESC) OFF Indicator Light</b> This light indicates the Electronic Stability Control (ESC) is off.

3

**Low Washer Fluid Indicator Light — If Equipped**

Yellow Telltale Light	What It Means
	<b>Low Washer Fluid Indicator Light</b> This indicator will illuminate when the windshield washer fluid is low.

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Tire Pressure Monitoring Indicator Light

Yellow Telltale Light	What It Means
	<p><b>Tire Pressure Monitoring Indicator Light</b></p> <p>The warning light switches on and a message is displayed to indicate that the tire pressure is lower than the recommended value and/or that slow pressure loss is occurring. In these cases, optimal tire duration and fuel consumption may not be guaranteed.</p> <p>Should one or more tires be in the condition mentioned above, the display will show the indications corresponding to each tire in sequence.</p> <p>In any situation in which the message on the display is "See manual", it is <b>ESSENTIAL</b> to refer to the contents of the "Wheels" paragraph in the "Technical data" chapter, strictly complying with the indications that you find there.</p>

**IMPORTANT:** Do not continue driving with one or more flat tires as handling may be compromised. Stop the vehicle, avoiding sharp braking and steering. Repair immediately using the dedicated tire repair kit and contact your authorized dealership as soon as possible.

Each tire, including the spare (if provided), should be checked monthly when cold and inflated to the inflation pressure recommended by the vehicle manufacturer on the vehicle placard or tire inflation pressure label. If your vehicle has tires of a different size than the size indicated

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on the vehicle placard or tire inflation pressure label, you should determine the proper tire inflation pressure for those tires.

As an added safety feature, your vehicle has been equipped with a Tire Pressure Monitoring System (TPMS) that illuminates a low tire pressure telltale when one or more of your tires is significantly under-inflated. Accordingly, when the low tire pressure telltale illuminates, you should stop and check your tires as soon as possible and inflate them to the proper pressure. Driving on a significantly under-inflated tire causes the tire to overheat and can lead to tire failure. Under-inflation also reduces fuel efficiency and tire tread life, and may affect the vehicle's handling and stopping ability.

Please note that the TPMS is not a substitute for proper tire maintenance, and it is the driver's responsibility to maintain correct tire pressure, even if under-inflation has not reached the level to trigger illumination of the TPMS low tire pressure telltale.

Your vehicle has also been equipped with a TPMS malfunction indicator to indicate when the system is not operating properly. The TPMS malfunction indicator is combined with the low tire pressure telltale. When the system detects a malfunction, the telltale will flash for approximately one minute and then remain continuously illuminated. This sequence will continue upon subsequent vehicle start-ups as long as the malfunction exists. When the malfunction indicator is illuminated, the system may not be able to detect or signal low tire pressure as intended. TPMS malfunctions may occur for a variety of reasons, including the installation of replacement or alternate tires or wheels on the vehicle that prevent the TPMS from functioning properly. Always check the TPMS malfunction telltale after replacing one or more tires or wheels on your vehicle, to ensure that the replacement or alternate tires and wheels allow the TPMS to continue to function properly.

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**CAUTION!**

The TPMS has been optimized for the original equipment tires and wheels. TPMS pressures and warning have been established for the tire size equipped on your vehicle. Undesirable system operation or sensor damage may result when using replacement equipment that is not of the same size, type, and/or style. Aftermarket wheels can cause sensor damage. Using aftermarket tire sealants may cause the Tire Pressure Monitoring System (TPMS) sensor to become inoperable. After using an aftermarket tire sealant it is recommended that you take your vehicle to an authorized dealership to have your sensor function checked.

### Low Fuel Indicator Light

Yellow Telltale Light	What It Means
	<b>Low Fuel Indicator Light</b> When the fuel level reaches approximately 3.0 gal (11.0 L) this light will turn on, and remain on until fuel is added.

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Anti-Lock Brake (ABS) Indicator Light

Yellow Telltale Light	What It Means
	<p><b>Anti-Lock Brake (ABS) Indicator Light</b></p> <p>After the ignition is turned on, the Anti-Lock Brake System (ABS) light illuminates to indicate function check at vehicle startup. If the light remains on after startup or comes on and stays on at road speeds, it may indicate that the ABS has detected a malfunction or has become inoperative. The system reverts to standard non-anti-lock brakes.</p> <p>If both the Brake Warning Light and the ABS Warning Light are on, see an authorized dealer immediately. Refer to "Anti-Lock Brake System" in "Starting And Operating" for further information.</p>

**Transmission Temperature Indicator Light**

Red Telltale Light	What It Means
	<p><b>Transmission Temperature Indicator Light</b>                      This light indicates that the transmission fluid temperature is running hot. This may occur with severe usage, such as trailer towing. If this light turns on, safely pull over and stop the vehicle. Then, shift the transmission into NEUTRAL and run the engine at idle or faster until the light turns off.</p>

**3**

**CAUTION!**

Continuous driving with the Transmission Temperature Warning Light illuminated will eventually cause severe transmission damage or transmission failure.

**WARNING!**

If you continue operating the vehicle when the Transmission Temperature Warning Light is illuminated you could cause the fluid to boil over, come in contact with hot engine or exhaust components and cause a fire.

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Rear Fog Light Indicator — If Equipped

Yellow Telltale Light	What It Means
	<b>Rear Fog Light Indicator</b> This indicator will illuminate when the rear fog lights are on.

Low Coolant Level Indicator Light

Yellow Telltale Light	What It Means
	<b>Low Coolant Level Indicator Light</b> This telltale will turn on to indicate the vehicle coolant level is low.

**Air Suspension Payload Protection Telltale — If Equipped**

Yellow Telltale Light	What It Means
	<p><b>Air Suspension Payload Protection Telltale</b>                      This telltale will turn on to indicate that the maximum payload may have been exceeded or load leveling cannot be achieved at its current ride height. Protection Mode will automatically be selected in order to “protect” the air suspension system, air suspension adjustment is limited due to payload.</p>

3

**TOW/HAUL Indicator Light**

Yellow Telltale Light	What It Means
	<p><b>TOW/HAUL Indicator Light</b>                      This light will illuminate when TOW HAUL mode is selected.</p>

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**Cargo Light — If Equipped**

Yellow Tell-tale Light	What It Means
	<b>Cargo Light</b> The cargo light will illuminate when the cargo light is activated by pressing the cargo light button on the headlight switch.

**Loose Fuel Filler Cap Indicator Light — If Equipped**

Yellow Telltale Light	What It Means
	<b>Loose Fuel Filler Cap Indicator Light</b> This light will illuminate when fuel filler cap is loose. Properly close the filler cap to disengage the light. If the light does not turn off, please see your authorized dealer.

**Service Stop/Start System Indicator Light — If Equipped**

Yellow Telltale Light	What It Means
	<p><b>Service Stop/Start System Indicator Light</b>                      This telltale will turn on to indicate the Stop/Start system is not functioning properly and service is required.</p>

3

**Air Suspension Off-Road 1 Indicator Light — If Equipped**

Yellow Telltale Light	What It Means
	<p><b>Air Suspension Off-Road 1 Indicator Light</b>                      This light will illuminate when the air suspension system is set to the Off-Road 1 setting. For further information, refer to “Air Suspension System” in “Starting And Operating”.</p>

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**Air Suspension Off-Road 2 Indicator Light — If Equipped**

Yellow Telltale Light	What It Means
	<b>Air Suspension Off-Road 2 Indicator Light</b> This light will illuminate when the air suspension system is set to the Off-Road 2 setting. For further information, refer to “Air Suspension System” in “Starting And Operating”.

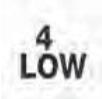
**Air Suspension Ride Height Raising Indicator Light— If Equipped**

Yellow Telltale Light	What It Means
	<b>Air Suspension Ride Height Raising Indicator Light</b> This light will blink and alert the driver that the vehicle is changing to a higher ride height.



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4 Low Indicator Light — If Equipped

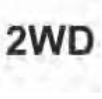
Yellow Telltale Light	What It Means
	<p><b>4 Low Indicator Light</b></p> <p>This light alerts the driver that the vehicle is in the four-wheel drive LOW mode. The front and rear driveshafts are mechanically locked together forcing the front and rear wheels to rotate at the same speed. Low range provides a greater gear reduction ratio to provide increased torque at the wheels.</p> <p>Refer to “Four-Wheel Drive Operation — If Equipped” in “Starting And Operating” for further information on four-wheel drive operation and proper use.</p>

**Service 4WD Indicator Light — If Equipped**

Yellow Telltale Light	What It Means
	<p><b>Service 4WD Indicator Light</b>                      If the light stays on or comes on during driving, it means that the 4WD system is not functioning properly and that service is required. We recommend you drive to the nearest service center and have the vehicle serviced immediately.</p>

**3**

**2WD Indicator Light — If Equipped**

Yellow Telltale Light	What It Means
	<p><b>2WD Indicator Light</b>                      This light alerts the driver that the vehicle is in the two-wheel drive mode.</p>

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Wait To Start Light — If Equipped

Yellow Telltale Light	What It Means
	<p><b>Wait To Start Light</b> The “Wait To Start” telltale will illuminate for approximately two seconds when the ignition is turned to the RUN position. It’s duration may be longer based on colder operating conditions. Vehicle will not initiate start until telltale is out. Refer to “Starting Procedures” in “Starting and Operating” for further information.</p> <p><b>NOTE:</b> The “Wait To Start” telltale may not illuminate if the intake manifold temperature is warm enough.</p>

**Water in Fuel Indicator Light — If Equipped**

Yellow Telltale Light	What It Means
	<p><b>Water in Fuel Indicator Light</b>                      The “Water In Fuel Indicator Light” will illuminate when there is water detected in the fuel filters. If this light remains on, DO NOT start the vehicle before you drain the water from the fuel filters to prevent engine damage. Refer to “Maintenance Procedures” in “Maintaining Your Vehicle” for further information.</p>

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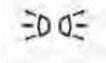
**Low Diesel Exhaust Fluid (DEF) Indicator Light — If Equipped**

Yellow Telltale Light	What It Means
	<p><b>Low Diesel Exhaust Fluid (DEF) Indicator Light</b>                      The Low Diesel Exhaust Fluid (DEF) Indicator will illuminate if the vehicle is low on Diesel Exhaust Fluid (DEF). Refer to “Starting And Operating” for further information.</p>

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**Green Telltale Indicator Lights**

**Park/Headlight ON Indicator Light**

Green Telltale Light	What It Means
	<b>Park/Headlight ON Indicator Light</b> This indicator will illuminate when the park lights or headlights are turned on.

**Front Fog Indicator Light — If Equipped**

Green Telltale Light	What It Means
	<b>Front Fog Indicator Light</b> This indicator will illuminate when the front fog lights are on.

Turn Signal Indicator Lights

Green Tell-tale Light	What It Means
	<p><b>Turn Signal Indicator Lights</b>                      The instrument cluster arrow will flash independently for the LEFT or RIGHT turn signal as selected, as well as the exterior turn signal lamp(s) (front and rear) as selected when the multi-function lever is moved down (LEFT) or up (RIGHT).</p> <p><b>NOTE:</b></p> <ul style="list-style-type: none"> <li>• A continuous chime will sound if the vehicle is driven more than 1 mile (1.6 km) with either turn signal on.</li> <li>• Check for an inoperative outside light bulb if either indicator flashes at a rapid rate.</li> </ul>

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Stop/Start Active Indicator Light — If Equipped

Green Telltale Light	What It Means
	<b>Stop/Start Active Indicator Light</b> This telltale will illuminate when the Stop/Start function is in “Autostop” mode.

Electronic Speed Control Set Indicator Light — If Equipped

Green Telltale Light	What It Means
	<b>Electronic Speed Control Set Indicator Light</b> This light will turn on when the electronic speed control has been set.

### 4WD AUTO Indicator Light — If Equipped

Green Telltale Light	What It Means
	<p><b>4WD AUTO Indicator Light</b></p> <p>This light alerts the driver that the vehicle is in the four-wheel drive auto mode, and the front axle is engaged, but the vehicle's power is sent to the rear wheels. Four-wheel drive will be automatically engaged when the vehicle senses a loss of traction.</p> <p>For further information on four-wheel drive operation and proper use, refer to "Four-Wheel Drive Operation — If Equipped" in "Starting And Operating."</p>

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**White Telltale Indicator Light**

**Electronic Speed Control ON Indicator Light**

White Telltale Light	What It Means
	<p><b>Electronic Speed Control ON Indicator Light</b>                      This light will turn on when the electronic speed control is ON.</p>

**Electronic Speed Control SET Indicator Light — If Equipped**

White Telltale Light	What It Means
	<p><b>Electronic Speed Control SET Indicator Light</b>                      This light will turn on when the electronic speed control is set. Refer to “Electronic Speed Control” in “Understanding The Features Of Your Vehicle” for further information.</p>

**Hill Decent Control (HDC) Indicator Light — If Equipped**

White Telltale Light	What It Means
	<p><b>Hill Decent Control (HDC) Indicator Light</b> This indicator will illuminate when Hill Decent Control (HDC) has been selected using the Hill Decent Control Switch. Refer to “Electronic Brake Control” in “Starting And Operating” for further information.</p>

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**Blue Telltale Indicator Light**

**High Beam Indicator Light**

Blue Telltale Light	What It Means
	<p><b>High Beam Indicator Light</b> This indicator shows that the high beam headlights are on. Push the multifunction control lever away from you to switch the headlights to high beam. Pull the lever toward you to switch the headlights back to low beam. Pull the lever toward you for a temporary high beam on, "flash to pass" scenario.</p>

### ELECTRONIC VEHICLE INFORMATION CENTER (EVIC)

The Electronic Vehicle Information Center (EVIC) features a driver-interactive display that is located in the instrument cluster.

This system conveniently allows the driver to select a variety of useful information by pressing the switches mounted on the steering wheel.

Refer to “Electronic Vehicle Information Center – If Equipped” in the Owner’s Manual for further information.

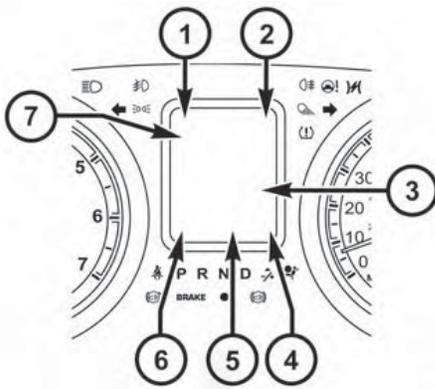


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Electronic Vehicle Information Center (EVIC)

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**Electronic Vehicle Information Center (EVIC) Displays — 3.5” Display**



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The EVIC displays are located in the center portion of the cluster and consists of seven sections:

**1. Compass Display**

Displays the current direction. For further information, refer to “Compass Settings” under “Customer Programmable Features — Uconnect 5.0/8.4 Settings”.

**2. Temperature Display**

Displays the temperature in degrees Celsius or degrees Fahrenheit.

**3. Main Screen**

Displays main menu, submenus, settings.

4. EVIC White Telltales

• *Electronic Speed Control Ready*



This light will turn on when the electronic speed control is ON. For further information, refer to “Electronic Speed Control” in “Understanding The Features Of Your Vehicle.”

• *Electronic Speed Control SET*



This light will turn on when the electronic speed control is SET. For further information, refer to “Electronic Speed Control” in “Understanding The Features Of Your Vehicle.”

• *ERS Gear Limit*

The highest available transmission gear is displayed in the lower right corner of the Electronic Vehicle Information Center (EVIC) whenever the Electronic Range Select (ERS) feature is active. Use the +/- selector on the shift lever or steering wheel to activate ERS. Refer to “Automatic Transmission” in “Starting And Operating” for further information.

5. EVIC Amber Telltales

• *Low Fuel Telltale*



When the fuel level reaches approximately 3.0 gal (11.0 L) this light will turn on, and remain on until fuel is added.

• *Windshield Washer Fluid Low Indicator*



This telltale will turn on to indicate the windshield washer fluid is low.

• *Low Coolant Level Indicator*



This telltale will turn on to indicate the vehicle coolant level is low.

• *Transmission Temperature Warning Telltale*



This telltale indicates that the transmission fluid temperature is running hot. This may occur with severe usage, such as trailer towing.

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If this telltale turns on, safely pull over and stop the vehicle. Then, shift the transmission into PARK and run the engine at idle or faster until the light turns off.

**CAUTION!**

Continuous driving with the Transmission Temperature Warning Light illuminated will eventually cause severe transmission damage or transmission failure.

**WARNING!**

If you continue operating the vehicle when the Transmission Temperature Warning Light is illuminated you could cause the fluid to boil over, come in contact with hot engine or exhaust components and cause a fire.

• *Air Suspension Payload Protection Telltale — If Equipped*



This telltale will turn on to indicate that the maximum payload may have been exceeded or load leveling cannot be achieved at its current ride height.

Protection Mode will automatically be selected in order to “protect” the air suspension system, air suspension adjustment is limited due to payload.

• *Water In Fuel Indicator Light — Diesel Only*



The “Water In Fuel Indicator Light” will illuminate when there is water detected in the fuel filters. If this light remains on, DO NOT start the vehicle before you drain the water from the fuel filters to prevent engine damage. Refer to “Maintenance Procedures/Draining Fuel/Water Separator Filters” in “Maintaining Your Vehicle” for further information.

- **Wait To Start Light**

 The “Wait To Start” telltale will illuminate for approximately two seconds when the ignition is turned to the RUN position. It’s duration may be longer based on colder operating conditions. Vehicle will not initiate start until telltale is out. Refer to “Starting Procedures” in “Starting And Operating” for further information.

**NOTE:** The “Wait To Start” telltale may not illuminate if the intake manifold temperature is warm enough.

- **Low Diesel Exhaust Fluid Light**

 This telltale will turn on to indicate the Diesel Exhaust Fluid (DEF) is low.

### 6. EVIC Red Telltales

- **Door Ajar**



This light will turn on to indicate that one or more doors may be ajar.

- **Oil Pressure Warning Light**



This telltale indicates low engine oil pressure. If the light turns on while driving, stop the vehicle and shut off the engine as soon as possible. A chime will sound when this light turns on.

Do not operate the vehicle until the cause is corrected. This light does not show how much oil is in the engine. The engine oil level must be checked under the hood.

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- *Oil Temperature Warning Light*



This telltale indicates engine oil temperature is high. If the light turns on while driving, stop the vehicle and shut off the engine as soon as possible.

- *Charging System Light*



This light shows the status of the electrical charging system. If the light stays on or comes on while driving, turn off some of the vehicle's non-essential electrical devices or increase engine speed (if at idle). If the charging system light remains on, it means that the vehicle is experiencing a problem with the charging system. Obtain SERVICE IMMEDIATELY. See an authorized dealer.

If jump starting is required, refer to "Jump Starting Procedures" in "What To Do In Emergencies".

- *Electronic Throttle Control (ETC) Light*



This light informs you of a problem with the Electronic Throttle Control (ETC) system. The light will come on when the ignition is first turned ON and remain on briefly as a bulb check. If the light does not come on during starting, have the system checked by an authorized dealer.

If a problem is detected, the light will come on while the engine is running. Cycle the ignition key when the vehicle has completely stopped and the transmission is in the PARK position. The light should turn off.

If the light remains lit with the engine running, your vehicle will usually be drivable. However, see an authorized dealer for service as soon as possible. If the light is flashing when the engine is running, immediate service is required. You may experience reduced performance, an elevated/rough idle or engine stall and your vehicle may require towing.

• *Engine Temperature Warning Light*

 This light warns of an overheated engine condition. As temperatures rise and the gauge approaches **H**, this indicator will illuminate and a single chime will sound after reaching a set threshold. Further overheating will cause the temperature gauge to pass **H**, a continuous chime will occur until the engine is allowed to cool.

If the light turns on while driving, safely pull over and stop the vehicle. If the A/C system is on, turn it off. Also, shift the transmission into PARK and idle the vehicle. If the temperature reading does not return to normal, turn the engine off immediately and call for service. Refer to “If Your Engine Overheats” in “What To Do In Emergencies” for further information.

• *Electric Power Steering Malfunction Warning Light*

 This telltale is on when the Electric Power Steering is not operating and needs service.

• *Trailer Brake Disconnected Warning Light*

 This telltale is on when the Trailer Brake has been disconnected.

7. *Audio/Phone Information And Sub-menu Information*

Whenever there are sub-menus available, the position within the sub-menu is shown here.

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The main display area will normally display the main menu or the screens of a selected feature of the main menu. The main display area also displays “pop up” messages that consist of approximately 60 possible warning or information messages. These pop up messages fall into several categories:

- *Five Second Stored Messages*

When the appropriate conditions occur, this type of message takes control of the main display area for five seconds and then returns to the previous screen. Most of the messages of this type are then stored (as long as the condition that activated it remains active) and can be reviewed from the “Messages” main menu item. As long as there is a stored message, an “i” will be displayed in the EVIC’s compass/outside temp line. Examples of this message type are “Right Front Turn Signal Lamp Out” and “Low Tire Pressure”.

- *Unstored Messages*

This message type is displayed indefinitely or until the condition that activated the message is cleared. Examples of this message type are “Turn Signal On” (if a turn signal is left on) and “Lights On” (if driver leaves the vehicle).

- *Unstored Messages Until RUN*

These messages deal primarily with the Remote Start feature. This message type is displayed until the ignition is in the RUN state. Examples of this message type are “Remote Start Aborted - Door Ajar” and “Press Brake Pedal and Push Button to Start”.

- *Five Second Unstored Messages*

When the appropriate conditions occur, this type of message takes control of the main display area for five seconds and then returns to the previous screen. An example of this message type is “Automatic High Beams On”.

### Diesel Particulate Filter (DPF) Messages

This engine meets all required diesel engine emissions standards. To achieve these emissions standards, your vehicle is equipped with a state-of-the-art engine and exhaust system. These systems are seamlessly integrated into your vehicle and managed by the Powertrain Control Module (PCM). The PCM manages engine combustion to allow the exhaust system's catalyst to trap and burn Particulate Matter (PM) pollutants, with no input or interaction on your part.

**WARNING!**

**A hot exhaust system can start a fire if you park over materials that can burn. Such materials might be grass or leaves coming into contact with your exhaust system. Do not park or operate your vehicle in areas where your exhaust system can contact anything that can burn.**

Your vehicle has the ability to alert you to additional maintenance required on your vehicle or engine. Refer to the following messages that may be displayed on your Electronic Vehicle Information Center (EVIC):

- **Exhaust Filter XX% Full Safely Drive at Highway Speeds to Remedy** — This message will be displayed in the Electronic Vehicle Information Center (EVIC) if the exhaust particulate filter reaches 80% of its maximum storage capacity. Under conditions of exclusive short duration and low speed driving cycles, your diesel engine and exhaust after-treatment system may never reach the conditions required to cleanse the filter to remove the trapped PM. If this occurs, the "Exhaust Filter XX% Full Safely Drive at Highway Speeds to Remedy" message will be displayed in the EVIC. If this message is displayed, you will hear one chime to assist in alerting you of this condition. By simply driving your vehicle at highway speeds for up to 20

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minutes, you can remedy the condition in the particulate filter system and allow your diesel engine and exhaust after-treatment system to cleanse the filter to remove the trapped PM and restore the system to normal operating condition.

- **Exhaust System — Regeneration In Process Exhaust Filter XX% Full** — This message indicates that the Diesel Particulate Filter (DPF) is self-cleaning. Maintain your current driving condition until regeneration is completed.
- **Exhaust System — Regeneration Completed** — This message indicates that the Diesel Particulate Filter (DPF) self-cleaning is completed. If this message is displayed, you will hear one chime to assist in alerting you of this condition.
- **Exhaust Service Required — See Dealer Now** — This message indicates regeneration has been disabled due to a system malfunction. At this point the engine

Powertrain Control Module (PCM) will register a fault code, the instrument panel will display a MIL light.

### CAUTION!

See your authorized dealer, as damage to the exhaust system could occur soon with continued operation.

- **Exhaust Filter Full — Power Reduced See Dealer** — This message indicates the PCM has derated the engine to limit the likelihood of permanent damage to the after-treatment system. If this condition is not corrected and a dealer service is not performed, extensive exhaust after-treatment damage can occur. To correct this condition it will be necessary to have your vehicle serviced by your local authorized dealer.

**CAUTION!**

See your authorized dealer, as damage to the exhaust system could occur soon with continued operation.

**Diesel Exhaust Fluid (DEF) Warning Messages**

Your vehicle will begin displaying warning messages when the DEF level reaches a driving range of approximately 500 miles (800 km). If the following warning message sequence is ignored, your vehicle may not restart unless DEF is added with in the displayed mileage shown in the Cluster message.

- **Engine Will Not Restart in XXXX mi DEF Low Refill Soon** — This message will display when DEF driving range is less than 500 miles, DEF fluid top off is required with in the displayed mileage. The message will be displayed in the cluster during vehicle start up with the current allowed mileage and accompanied by

a single chime. The remaining mileage can be pulled up anytime by way of the “Messages” list within the EVIC/DID

- **Engine Will Not Restart in XXXX mi Refill DEF** — This message will display when DEF driving range is less than 200 miles. It is also displayed at 150 miles and 100 miles. DEF fluid top off is required with in the displayed mileage. The message will be displayed in the EVIC/DID during vehicle start up with an updated distance mileage, and it will be accompanied by a single chime. Starting at 100 miles, remaining range will be continuously displayed while operating the vehicle. Chimes will also accompany the 75, 50 and 25 mile remaining distances. The DEF Low telltale will be on continuously until DEF fluid is topped off.
- **Engine Will Not Restart Refill DEF** — This message will display when the DEF driving range is less than 1 mile, DEF fluid top off is required or the engine will not restart. The message will be displayed in the

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EVIC/DID during vehicle start up, and it will be accompanied by a single chime. The DEF Low telltale will be illuminated continuously until DEF fluid tank is filled with a minimum of two gallons of DEF.

### **Diesel Exhaust Fluid (DEF) Fault Warning Messages**

There are different messages which are displayed if the vehicle detects that the DEF system has been filled with a fluid other than DEF, has experienced component failures, or when tampering has been detected.

When the DEF system needs to be serviced the following warnings will display:

- **Service DEF System See Dealer** — This message will display when the fault is initially detected and each time the vehicle is started. The message will be accompanied by a single chime and the Malfunction Indicator Light. We recommend you drive to your nearest

authorized dealer and have your vehicle serviced immediately. If not corrected in 50 miles, vehicle will enter the “Engine Will not restart in XXXmi Service DEF See dealer” warning stage and message.

- **Engine Will Not Restart in XXX mi Service DEF See Dealer** — This message is first displayed if the fault detected is not serviced after 50 miles of operation. It is also displayed at 150 miles 125 miles and 100 miles. System service is required within the displayed mileage. The message will be displayed during vehicle start up with an updated distance mileage, and it will be accompanied by a single chime. Starting at 100 miles, remaining range will be continuously displayed while operating the vehicle. Chimes will also accompany the 75, 50 and 25 mile remaining distances. We recommend you drive to your nearest authorized dealer and have your vehicle serviced immediately.

- **Engine Will Not Restart Service DEF System See Dealer** — This message will display if DEF system issue detected is not serviced during the allowed period. Your engine will not restart unless your vehicle is serviced by your authorized dealer. This message will be displayed when under 1 mile until engine will not start and each time the vehicle is started, and will be continuously displayed. The message will be accompanied by a single chime. Your Malfunction Indicator Light will be continuously illuminated. We highly recommend you drive to your nearest authorized dealer if the message appears while engine is running.
- **Engine Will Not Start Service DEF System See Dealer** — This message will display when the fault detected is not serviced after the Engine will not restart Service DEF System See Dealer message is displayed on the next subsequent restart. Your engine will not start unless your vehicle is serviced by your authorized dealer. The message will be accompanied by a

single chime. Your Malfunction Indicator Light will be continuously illuminated. If the message appears and you can not start the engine, we recommend you have your vehicle towed to your nearest authorized dealer immediately.

### **EVIC/DID Displays**

When the appropriate conditions exist, the EVIC/DID displays the following messages:

- System Setup Unavailable – Vehicle Not in Park
- System Setup Unavailable – Vehicle in Motion
- Exhaust Filter Full Safely Drive at Highway Speeds To Remedy
- Exhaust Filter XX% Full – Power Reduced See Dealer
- Exhaust Service Required – See Dealer Now

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- Exhaust System – Filter XX% Full Service Required See Dealer
- Exhaust System – Regeneration In Process Exhaust Filter XX% Full
- Exhaust System – Regeneration Completed
- Engine Will Not Restart in XXXX mi DEF Low Refill Soon
- Engine Will Not Restart in XXXX mi Refill DEF
- Engine Will Not Restart Refill DEF
- Service DEF System See Dealer
- Incorrect DEF Detected See Dealer
- Engine Will Not Restart in XXX mi Service DEF See Dealer
- Engine Will Not Restart Service DEF System See Dealer

### Oil Life Reset

Your vehicle is equipped with an engine oil change indicator system. The “Oil Change Required” message will display in the EVIC after a single chime has sounded, to indicate the next scheduled oil change interval. The engine oil change indicator system is duty cycle based, which means the engine oil change interval may fluctuate, dependent upon your personal driving style.

**NOTE:** Use the steering wheel EVIC controls for the following procedure(s).

### Vehicles Equipped With Passive Entry

1. Without pressing the brake pedal, push the ENGINE START/STOP button and place the ignition to the ON/RUN position (do not start the engine).
2. Push and release the **DOWN** arrow button to scroll downward through the main menu to “Vehicle Info.”

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3. Push and release the **RIGHT** arrow button to access the "Vehicle Info" screen, then scroll UP or DOWN to select "Oil Life."
4. Push and hold the **RIGHT** arrow button to select "Reset," then push and release the **Right** arrow button to select "NO" or "YES" to reset the Oil Life to 100%.
5. Push and release the **UP** arrow button to exit the EVIC screen.
4. Push and hold the **RIGHT** arrow button to select "Reset," then select "NO" or "YES" by pushing the **RIGHT** arrow then push the **RIGHT** arrow button to select reset of the Oil Life to 100%.
5. Push and release the **UP** arrow button to exit the EVIC screen.

**NOTE:** If the indicator message illuminates when you start the vehicle, the Oil Life indicator system did not reset. If necessary, repeat this procedure.

**Vehicles Not Equipped With Passive Entry**

1. Without depressing the brake pedal, cycle the ignition to the ON/RUN position (do not start the engine).
2. Push and release the **DOWN** arrow button to scroll downward through the main menu to "Vehicle Info."
3. Push and release the **RIGHT** arrow button to access the "Vehicle Info" screen then scroll **UP** or **DOWN** to select "Oil Life."

**Vehicle Information (Customer Information Features)**

Push and release the **UP**  arrow or **DOWN**  arrow button until "Vehicle Info" displays in the EVIC. Push the **RIGHT**  arrow or **LEFT**  arrow button to scroll through the available Vehicle Information submenu(s) to display anyone of the following choices.

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EVIC Controls

Vehicle Information Submenus

- *Battery Voltage*  
Displays the actual battery voltage.
- *Fuel Filter Life*  
Displays the life of the fuel filter.

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- *Oil Pressure*  
Displays the actual oil pressure.
  - *Oil Temperature*  
Displays the actual oil temperature.
  - *Trans Temperature*  
Displays the actual transmission sump temperature.
  - *Coolant Temp*  
Displays the actual coolant temperature.
  - *Tire Pressure Monitor System*  
Displays the actual tire pressure.
  - *Engine Hours*  
Displays the actual engine hours.
- Gauge Summary (Coolant Temp, Trans Temp, Oil Temp, Oil Pressure)

**DRIVER INFORMATION DISPLAY (DID)**

The Driver Information Display (DID) features an interactive display that is located in the instrument cluster.

This system conveniently allows the driver to select a variety of useful information by pressing the switches mounted on the steering wheel. Refer to “Driver Information Display– If Equipped” in the Owner’s Manual for further information.

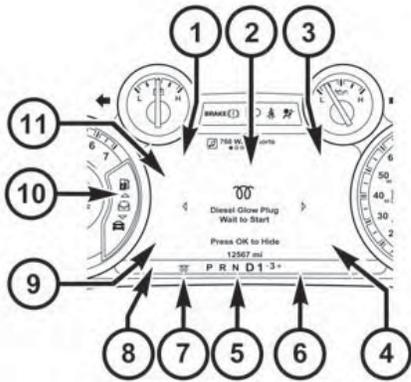


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Driver Information Display (DID)

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Driver Information Display (DID) — 7” Display



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The Driver Information Display (DID) display is located in the center portion of the cluster and consists of eight sections:

1. Main Screen — The inner ring of the display will illuminate in grey under normal conditions, yellow for non critical warnings, red for critical warnings and white for on demand information.
2. Audio Information and Submenu Information — Whenever there are submenus available, the position within the submenus is shown here.
3. Selectable Information (Compass, Temp, Range to Empty, Trip A, Trip B, Average MPG, Trailer Trip (distance only), Trailer Brake Gain).
4. Air Suspension Status – If Equipped

5. Transmission Gear Position Indicator (PRND)
6. Status Menu Icons
7. Telltales/Indicators
8. 4WD Status
9. Selectable Gauge (Trans Temp, Oil Temp, Oil Life, Trailer Brake, Current MPG, Fuel Filter Life, Turbo Boost, Exhaust Brake, Battery Voltage)
10. Main Menu Items (Digital Speedometer, Vehicle Info, Fuel Economy, Trip A, Trip B, Trailer Tow, Audio, Stored Messages, Screen Setup, Vehicle Settings)
11. Selectable Gauge (Trans Temp, Oil Temp, Oil Life, Trailer Brake, Current MPG, Fuel Filter Life, Turbo Boost, Exhaust Brake, Battery Voltage)

The main display area will normally display the main menu or the screens of a selected feature of the main menu. The main display area also displays “pop up” messages that consist of approximately 60 possible warning or information messages. These pop up messages fall into several categories:

- *Five Second Stored Messages*

When the appropriate conditions occur, this type of message takes control of the main display area for five seconds and then returns to the previous screen. Most of the messages of this type are then stored (as long as the condition that activated it remains active) and can be reviewed from the “Messages” main menu item. As long as there is a stored message, an “i” will be displayed in the DID’s compass/outside temp line. Examples of this message type are “Right Front Turn Signal Lamp Out” and “Low Tire Pressure”.

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- *Unstored Messages*

This message type is displayed indefinitely or until the condition that activated the message is cleared. Examples of this message type are “Turn Signal On” (if a turn signal is left on) and “Lights On” (if driver leaves the vehicle).

- *Unstored Messages Until RUN*

These messages deal primarily with the Remote Start feature. This message type is displayed until the ignition is in the RUN state. Examples of this message type are “Remote Start Aborted - Door Ajar” and “Press Brake Pedal and Push Button to Start”.

- *Five Second Unstored Messages*

When the appropriate conditions occur, this type of message takes control of the main display area for five seconds and then returns to the previous screen. An example of this message type is “Automatic High Beams On”.

### Diesel Indicator Lights

This area will show reconfigurable amber telltales that relate to your diesel. These telltales include:

**NOTE:** “Refer to your OM on DVD for additional telltale information”

### Water In Fuel Indicator Light



The “Water In Fuel Indicator Light” will illuminate when there is water detected in the fuel filters. If this light remains on, DO NOT start the vehicle before you drain the water from the fuel filters to prevent engine damage. Refer to “Maintenance Procedures/Draining Fuel/Water Separator Filters” in “Maintaining Your Vehicle” for further information.

### Wait To Start Light

 The “Wait To Start” telltale will illuminate for approximately two seconds when the ignition is turned to the RUN position. It’s duration may be longer based on colder operating conditions. Vehicle will not initiate start until telltale is out. Refer to “Starting Procedures” in “Starting And Operating” for further information.

**NOTE:** The “Wait To Start” telltale may not illuminate if the intake manifold temperature is warm enough.

### Low Diesel Exhaust Fluid Light

 This telltale will turn on to indicate the Diesel Exhaust Fluid (DEF) is low.

### Diesel Particulate Filter (DPF) Messages

The diesel engine meets all EPA Heavy Duty Diesel Engine Emissions Standards, resulting in one of the lowest emitting diesel engines ever produced. To achieve these emissions standards, your vehicle is equipped with a state-of-the-art engine and exhaust system. These systems are seamlessly integrated into your vehicle and managed by the Powertrain Control Module (PCM). The PCM manages engine combustion to allow the exhaust system’s catalyst to trap and burn Particulate Matter (PM) pollutants, with no input or interaction on your part.

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**WARNING!**

A hot exhaust system can start a fire if you park over materials that can burn. Such materials might be grass or leaves coming into contact with your exhaust system. Do not park or operate your vehicle in areas where your exhaust system can contact anything that can burn.

Your vehicle has the ability to alert you to additional maintenance required on your vehicle or engine. Refer to the following messages that may be displayed on your DID:

- **Perform Service** — Your vehicle will require emissions maintenance at a set interval. To help remind you when this maintenance is due, the Cluster will display “Perform Service”. When the “Perform Service” message is displayed on the DID it is necessary to have the

emissions maintenance performed. Emissions maintenance may include replacing the Closed Crankcase Ventilation (CCV) filter element. The procedure for clearing and resetting the “Perform Service” indicator message is located in the appropriate Service Information.

- **Exhaust System — Regeneration Required Now** — “Exhaust Filter XX% Full Safely Drive at Highway Speeds to Remedy” will be displayed in the Cluster if the exhaust particulate filter reaches 80% of its maximum storage capacity. Under conditions of exclusive short duration and low speed driving cycles, your diesel engine and exhaust after-treatment system may never reach the conditions required to remove the trapped PM. If this occurs, the “Exhaust Filter XX% Full Safely Drive at Highway Speeds to Remedy” message will be displayed in the DID. If this message is displayed, you will hear one chime to assist in alerting you of this condition

- By simply driving your vehicle at highway speeds for as little as 45 minutes, you can remedy the condition in the particulate filter system and allow your diesel engine and exhaust after-treatment system to remove the trapped PM and restore the system to normal operating condition.
- **Exhaust System — Regeneration In Process Exhaust Filter XX% Full** — Indicates that the Diesel Particulate Filter (DPF) is self-cleaning. Maintain your current driving condition until regeneration is completed.
- **Exhaust System — Regeneration Completed** — This message indicates that the Diesel Particulate Filter (DPF) self-cleaning is completed. If this message is displayed, you will hear one chime to assist in alerting you of this condition.
- **Exhaust Service Required — See Dealer Now** — This message indicates regeneration has been disabled due to a system malfunction. At this point the engine

Powertrain Control Module (PCM) will register a fault code, the instrument panel will display a MIL light.

**CAUTION!**

**See your authorized dealer, as damage to the exhaust system could occur soon with continued operation.**

**3**

- **Exhaust Filter Full — Power Reduced See Dealer** — This message indicates the PCM has derated the engine to limit the likelihood of permanent damage to the after-treatment system. If this condition is not corrected and a dealer service is not performed, extensive exhaust after-treatment damage can occur. To correct this condition it will be necessary to have your vehicle serviced by your local authorized dealer.

**CAUTION!**

See your authorized dealer, as damage to the exhaust system could occur soon with continued operation.

**Diesel Exhaust Fluid (DEF) Warning Messages**

Your vehicle will begin displaying warning messages when the DEF level reaches a driving range of approximately 500 miles (800 km). If the following warning message sequence is ignored, your vehicle may not restart unless DEF is added with in the displayed mileage shown in the Cluster message.

- **Engine Will Not Restart in XXXX mi DEF Low Refill Soon** — This message will display when DEF driving range is less than 500 miles, DEF fluid top off is required with in the displayed mileage. The message will be displayed in the cluster during vehicle start up with the current allowed mileage and accompanied by

a single chime. The remaining mileage can be pulled up anytime by way of the “Messages” list within the DID

- **Engine Will Not Restart in XXXX mi Refill DEF** — This message will display when DEF driving range is less than 200 miles. It is also displayed at 150 miles and 100 miles. DEF fluid top off is required with in the displayed mileage. The message will be displayed in the DID during vehicle start up with an updated distance mileage, and it will be accompanied by a single chime. Starting at 100 miles, remaining range will be continuously displayed while operating the vehicle. Chimes will also accompany the 75, 50 and 25 mile remaining distances. The DEF Low telltale will be on continuously until DEF fluid is topped off.
- **Engine Will Not Restart Refill DEF** — This message will display when the DEF driving range is less than 1 mile, DEF fluid top off is required or the engine will

not restart. The message will be displayed in the DID during vehicle start up, and it will be accompanied by a single chime. The DEF Low telltale will be illuminated continuously until DEF fluid tank is filled with a minimum of two gallons of DEF.

- **Speed Limited to 5 MPH in XXX mi Refill DEF** — This message will continuously display if the “DEF Low Refill Soon” message is ignored, and the frequency of occurrence of the chime will increase unless up to 2 gallons (7.5 Liters) of DEF is added to the tank.
- **5 MPH Max Speed on Restart, Long Idle or Refuel Refill DEF** — This message will continuously display when the counter reaches zero, and will be accompanied by a periodic chime.

- The vehicle will only be capable of a maximum speed of 5 MPH upon the first of the following conditions to occur:
  - If the vehicle is shutoff and restarted.
  - If the vehicle is idled for an extended period of time, approximately one hour or greater
  - If the system detects that the level of fuel in the tank has increased.
- Add a minimum of 2 gallons (9.5 Liters) of DEF to the tank in order to avoid vehicle operation at a maximum speed of 5 MPH (8 km/H).

**NOTE:** A minimum of 2 gallons (9.5 Liters) may be required to restore normal vehicle operation. Although the vehicle will start normally and can be placed in gear after this message has been initially displayed, extreme caution should be utilized since the vehicle will only be capable of maneuvering at a maximum speed of 5 MPH (8 km/H).

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### Diesel Exhaust Fluid (DEF) Fault Warning Messages

There are four different messages which are displayed if the vehicle detects that the DEF system has been filled with a fluid other than DEF, has experienced component failures, or when tampering has been detected. The vehicle may be limited to a maximum speed of 5 MPH (8 km/H) if the DEF system is not serviced within less than 200 miles (322 km) of the fault being detected.

When the DEF system needs to be serviced the following warnings will display:

- **Service DEF System See Dealer** — This message will display when the fault is initially detected, each time the vehicle is started, and periodically during driving. The message will be accompanied by a single chime. We recommend you drive to your nearest authorized dealer and have your vehicle serviced as soon as possible.

- **5 MPH Max Speed in 150 mi Service DEF System See Dealer** — This message will display if the DEF system has not been serviced after the “Service DEF System – See Dealer” message is displayed. This message will continuously display until the mileage counter reaches zero, and will be accompanied by a periodic chime. The message will continue to countdown until it reaches zero unless the vehicle is serviced. We recommend you drive to your nearest authorized dealer and have your vehicle serviced immediately.

**NOTE:** Under some circumstances this mileage counter may start with a value of less than 150 miles (241 km). For example, if recurring faults are detected in a time interval of less than 40 hours, the counter may restart at the value where it stopped when a previous fault was temporarily remedied, or at a minimum of 50 miles (80 km).

- **5 MPH Max Speed on Restart, Long Idle or Refuel Service DEF See Dealer** — This message will continuously display when the mileage counter reaches zero, and will be accompanied by a periodic chime.
- The vehicle will only be capable of a maximum speed of 5 MPH upon the first of the following conditions to occur:
  - If the vehicle is shutoff and restarted.
  - If the vehicle is idled for an extended period of time, approximately one hour or greater.
  - If the system detects that the level of fuel in the tank has increased.
- **5 MPH Max Speed Service DEF System See Dealer** — This message will continuously display, and will be accompanied by a periodic chime. Although the vehicle can be started and placed in gear, the vehicle will

only operate at a maximum speed of 5 MPH. Your vehicle will require towing, see your authorized dealer for service.

- **Engine Will Not Restart Service DEF System See Dealer** — This message will display if DEF system issue detected is not serviced during the allowed period. Your engine will not restart unless your vehicle is serviced by your authorized dealer. This message will be displayed when under 1 mile until engine will not start and each time the vehicle is started, and will be continuously displayed. The message will be accompanied by a single chime. Your Malfunction Indicator Light will be continuously illuminated. We highly recommend you drive to your nearest authorized dealer if the message appears while engine is running.

**NOTE:** When this message is displayed, the engine can still be started. However, the vehicle will only operate at a maximum speed of 5 MPH.

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### DID Displays

When the appropriate conditions exist, the DID displays the following messages:

- System Setup Unavailable – Vehicle Not in Park
- System Setup Unavailable – Vehicle in Motion
- Exhaust Filter Full Safely Drive at Highway Speeds To Remedy
- Exhaust Filter XX% Full – Power Reduced See Dealer
- Exhaust Service Required – See Dealer Now
- Exhaust System – Filter XX% Full Service Required See Dealer
- Exhaust System – Regeneration In Process Exhaust Filter XX% Full
- Exhaust System – Regeneration Completed

- Engine Will Not Restart in XXXX mi DEF Low Refill Soon
- Engine Will Not Restart in XXXX mi Refill DEF
- Engine Will Not Restart Refill DEF
- Service DEF System See Dealer
- Incorrect DEF Detected See Dealer
- Engine Will Not Restart in XXX mi Service DEF See Dealer
- Engine Will Not Restart Service DEF System See Dealer

### Oil Life Reset

Your vehicle is equipped with an engine oil change indicator system. The “Oil Change Required” message will flash in the DID display for approximately 10 seconds after a single chime has sounded, to indicate the

next scheduled oil change interval. The engine oil change indicator system is duty cycle based, which means the engine oil change interval may fluctuate, dependent upon your personal driving style.

**NOTE:** Use the steering wheel DID controls for the following procedure(s)

#### Vehicles Equipped With Passive Entry

1. Without Pushing the brake pedal, push the ENGINE START/STOP button and cycle the ignition to the ON/RUN position (do not start the engine.)
2. Push and release the **DOWN** arrow button to scroll downward through the main menu to "Vehicle Info".
3. Push and release the **RIGHT** arrow button to access the "Oil Life" screen.

4. Push and hold the **RIGHT** arrow button for one second to access the "Oil Life Reset" screen.
5. Push and release the **DOWN** arrow button to select "Yes", then push and release the **Right** arrow button to select reset of the Oil Life.
6. Push and release the **Up** arrow button to exit the DID screen.

#### Vehicles Not Equipped With Passive Entry

1. Without pushing the brake pedal, cycle the ignition to the ON/RUN position (do not start the engine.)
2. Push and release the **DOWN** arrow button to scroll downward through the main menu to " **Vehicle Info**".
3. Push and release the **RIGHT** arrow button to access the " **Oil Life**" screen.

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4. Push and hold the **RIGHT** arrow button for one second to access the " **Oil Life Reset**" screen.
5. Push and release the **DOWN** arrow button to select "Yes", then push and release the **Right** arrow button to select reset of the Oil Life.
6. Push and release the **Up** arrow button to exit the DID screen.

**NOTE:** If the indicator message illuminates when you start the vehicle, the oil change indicator system did not reset. If necessary, repeat this procedure.

### Vehicle Information (Customer Information Features)

Push and release the **UP**  $\triangle$  arrow or **DOWN**  $\nabla$  arrow button until "Vehicle Info" displays in the Driver Information Display (DID). Push the **RIGHT**  $\triangleright$  arrow or

**LEFT**  $\triangleleft$  arrow button to scroll through the available Vehicle Information sub menu(s) to display any of the following choices.



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DID Steering Wheels Buttons

**Vehicle Information Sub Menus**

- *Battery Voltage*

Displays the actual battery voltage.

- *Coolant Temp*

Displays the actual coolant temperature.

- *Trans Temperature*

Displays the actual transmission sump temperature.

- *Tire Pressure Monitor System*

Displays the actual tire pressure.

- *Oil Life*

Displays the actual oil life.

- *Engine Hours*

Displays the actual engine hours.



# STARTING AND OPERATING

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## STARTING PROCEDURES

Before starting your vehicle, adjust your seat, both inside and outside mirrors, and fasten your seat belts.

The starter is allowed to crank for up to 30-second intervals. Waiting a few minutes between such intervals will protect the starter from overheating.

### WARNING!

- Before exiting a vehicle, always apply the parking brake, shift the automatic transmission into PARK or the manual transmission into REVERSE. Always make sure the keyless ignition node is in the "OFF" mode, remove the Key Fob from the vehicle and lock the vehicle.

*(Continued)*

### WARNING! *(Continued)*

- Never leave children alone in a vehicle, or with access to an unlocked vehicle. Leaving children in a vehicle unattended is dangerous for a number of reasons. A child or others could be seriously or fatally injured. Children should be warned not to touch the parking brake, brake pedal or the gear selector.
- Do not leave the Key Fob in or near the vehicle (or in a location accessible to children), and do not leave the ignition of a vehicle equipped with Keyless Enter-N-Go in the ACC or ON/RUN mode. A child could operate power windows, other controls, or move the vehicle.

NOTE: Engine start up in very low ambient temperature could result in evident white smoke. This condition will disappear as the engine warms up.

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**CAUTION!**

- The engine is allowed to crank as long as 30 seconds. If the engine fails to start during this period, please wait at least two minutes for the starter to cool before repeating start procedure.
- If the “Water in Fuel Indicator Light” remains on, DO NOT START engine before you drain the water from the fuel filters to avoid engine damage. Refer to “Maintenance Procedures/Draining Fuel/Water Separator Filter” in “Maintaining Your Vehicle” for further information.

**Normal Starting**

Normal starting of either a warm or cold engine is obtained without pumping or pressing the accelerator pedal. Turn the key fob to the START position and release

when the engine starts. If the engine fails to start, turn the key fob to the OFF position, wait five seconds, then repeat the “Normal Starting” procedure.

**Automatic Transmission**

Start the engine with the transmission gear selector in the PARK position. Apply the brake before shifting to any driving range.

**Tip Start Feature**

Do not press the accelerator. Cycle the ignition switch briefly to the START position and release it. The starter motor will continue to run but will automatically disengage when the engine is running.

### Keyless Enter-N-Go



This feature allows the driver to operate the ignition switch with the push of a button, as long as the Remote Start/Keyless Enter-N-Go Key Fob is in the passenger compartment.

### Normal Starting Procedure — Keyless Enter-N-Go

Observe the instrument panel cluster lights when starting the engine.

**NOTE:** Normal starting of either a cold or a warm engine is obtained without pumping or pressing the accelerator pedal

1. Always apply the parking brake.

2. Press and hold the brake pedal while pushing the ENGINE START/STOP button once.

**NOTE:** A delay of the start of up to five seconds is possible under very cold conditions. The "Wait to Start" telltale will be illuminated during the pre-heat process. When the engine Wait To Start light goes off the engine will automatically crank.

### CAUTION!

If the "Water in Fuel Indicator Light" remains on, **DO NOT START** the engine before you drain the water from the fuel filters to avoid engine damage. Refer to "Maintenance Procedures/Draining Fuel/Water Separator Filter" in "Maintaining Your Vehicle" for further information.

## 100 STARTING AND OPERATING

3. The system will automatically engage the starter to crank the engine. If the vehicle fails to start, the starter will disengage automatically after 25 seconds.
4. If you wish to stop the cranking of the engine prior to the engine starting, push the button again.
5. Check that the oil pressure warning light has turned off.
6. Release the parking brake.

### Extreme Cold Weather

The engine block heater is a resistance heater installed in the water jacket of the engine. It requires a 110–115 Volt AC electrical outlet with a grounded, three-wire extension cord. Its use is recommended for environments that routinely fall below -10°F (-23°C). It should be used when the vehicle has not been running overnight or longer

periods and should be plugged in two hours prior to start. Its use is required for cold starts with temperatures under -20°F (-28°C).

**NOTE: The engine block heater cord is a factory installed option. If your vehicle is not equipped, heater cords are available from your authorized MOPAR dealer.**

- A 12 Volt heater built into the fuel filter housing aids in preventing fuel gelling. It is controlled by a built-in thermostat.
- A Diesel Pre-Heat system both improves engine starting and reduces the amount of white smoke generated by a warming engine.

### Starting Fluids

The engine is equipped with a glow plug preheating system. If the instructions in this manual are followed,

the engine should start in all conditions and no type of starting fluid should be used.

**WARNING!**

- Do not leave children or animals inside parked vehicles in hot weather. Interior heat build up may cause serious injury or death.
- When leaving the vehicle, always remove the key fob from the ignition and lock your vehicle. If equipped with Keyless Enter-N-Go, always make sure the keyless ignition node is in "OFF" mode, remove the Key Fob from the vehicle and lock the vehicle.

*(Continued)*

**WARNING! (Continued)**

- Never leave children alone in a vehicle, or with access to an unlocked vehicle. Allowing children to be in a vehicle unattended is dangerous for a number of reasons. A child or others could be seriously or fatally injured. Children should be warned not to touch the parking brake, brake pedal or the gear selector.
- Do not leave the key fob in or near the vehicle (or in a location accessible to children), and do not leave the ignition (of a vehicle equipped with Keyless Enter-N-Go) in the ACC or ON/RUN mode. A child could operate power windows, other controls, or move the vehicle.

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**NORMAL OPERATION**

Observe the following when the diesel engine is operating.

- All message center lights are off.
- Malfunction Indicator Light (MIL) is off.
- Engine Oil Pressure telltale is not illuminated.
- Voltmeter operation:

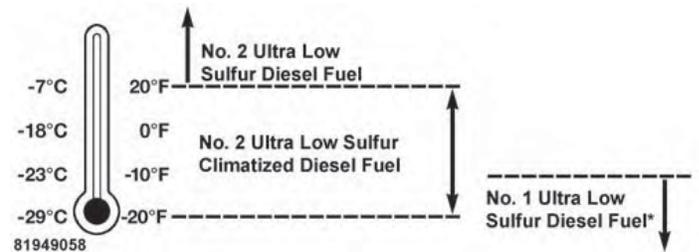
The voltmeter may show a gauge fluctuation at various engine temperatures. This is caused by the glow plug heating system. The number of cycles and the length of the cycling operation is controlled by the engine control module. Glow plug heater operation can run for several minutes, once the heater operation is complete the voltmeter needle will stabilize.

**Cold Weather Precautions**

Operation in ambient temperature below 32°F (0°C) may require special considerations. The following charts suggest these options:

**Fuel Operating Range**

**NOTE:** Use "Ultra Low Sulfur Diesel Fuels" **ONLY**.



**Fuel Operating Range Chart**

\*No. 1 Ultra Low Sulfur Diesel Fuel should only be used where extended arctic conditions (-10°F/-23°C) exist.

**NOTE:**

- Use of Climatized Ultra Low Sulfur Diesel Fuel or Number 1 Ultra Low Sulfur Diesel Fuel results in a noticeable decrease in fuel economy.
- Climatized Ultra Low Sulfur Diesel Fuel is a blend of Number 2 Ultra Low Sulfur and Number 1 Ultra Low Sulfur Diesel Fuels which reduces the temperature at which wax crystals form in fuel.
- The fuel grade should be clearly marked on the pump at the fuel station.
- The engine requires the use of **“Ultra Low Sulfur Diesel Fuel”**. Use of incorrect fuel could result in engine and exhaust system damage. Refer to “Fuel Requirements” in “Starting And Operating” for further information.
- Commercially available fuel additives are not necessary for the proper operation of your diesel engine.

However, if seasonably adjusted fuel is not available and you are operating below 20°F (-6°C), MOPAR Premium Diesel Fuel Treatment (or equivalent) may be beneficial to avoid fuel gelling.

**Engine Oil Usage**

Refer to “Maintenance Procedures” in “Maintaining Your Vehicle” for the correct engine oil viscosity.

**Winter Front Usage**

A winter front or cold weather cover is to be used in ambient temperatures below 32°F (0°C), especially during extended idle conditions to reduce condensation build-up within engine crankcase. If a winter front or cold weather cover is to be used, a percentage of the total grille opening area must be left uncovered to provide sufficient air flow to the charge air cooler and automatic transmission oil cooler. The percentage of opening must be increased with the increasing ambient air temperature and/or engine load. If the cooling fan can be heard

## 104 STARTING AND OPERATING

cycling frequently, increase the size of the opening in the winter front. A suitable cold weather cover is available from your MOPAR dealer.

### Engine Warm-Up

Avoid full throttle operation when the engine is cold. When starting a cold engine, bring the engine up to operating speed slowly to allow the oil pressure to stabilize as the engine warms up.

If temperatures are below 32°F (0°C), operate the engine at moderate speeds for five minutes before full loads are applied.

### Engine Idling

Avoid prolonged idling, long periods of idling may be harmful to your engine because combustion chamber

temperatures can drop so low that the fuel may not burn completely. Incomplete combustion allows carbon and varnish to form on piston rings, cylinder head valves, and injector nozzles. Also, the unburned fuel can enter the crankcase, diluting the oil and causing rapid wear to the engine.

### Stopping The Engine

After full load operation, idle the engine for a few minutes before shutting it down. This idle period will allow the lubricating oil and coolant to carry excess heat away from the turbocharger.

**NOTE:** Refer to the following chart for proper engine shutdown.

Driving Condition	Load	Turbocharger Temperature	Idle Time (min.) Before Engine Shutdown
Stop and Go	Empty	Cool	None
Stop and Go	Medium		0.5
Highway Speeds	Medium	Warm	1.0
City Traffic	Maximum GCWR		1.5
Highway Speeds	Maximum GCWR		2.0
Uphill Grade	Maximum GCWR	Hot	2.5

**NOTE:** Under certain conditions the engine fan will run after the engine is turned off. These conditions are under high load and high temperature conditions.

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**Cooling System Tips — Automatic Transmission**

To reduce the potential for engine and transmission overheating in high ambient temperature conditions, take the following actions:

- City Driving — When stopped, shift the transmission into NEUTRAL and increase engine idle speed.
- Highway Driving — Reduce your speed.
- Up Steep Hills — Select a lower transmission gear.
- Air Conditioning — Turn it off temporarily.

**NOTE:** If the coolant temperature is too high the A/C will automatically turn off.

**Do Not Operate The Engine With Low Oil Pressure**

If the low oil pressure warning light turns on while driving, stop the vehicle and shut down the engine as soon as possible. A chime will sound when the light turns on.

**NOTE:** Do not operate the vehicle until the cause is corrected. This light does not show how much oil is in the engine. The engine oil level must be checked under the hood.

**CAUTION!**

**If oil pressure falls to less than normal readings, shut the engine off immediately. Failure to do so could result in immediate and severe engine damage.**

### Do Not Operate The Engine With Failed Parts

All engine failures give some warning before the parts fail. Be on the alert for changes in performance, sounds, and visual evidence that the engine requires service. Some important clues are:

- Engine misfiring or vibrating severely.
- Sudden loss of power.
- Unusual engine noises.
- Fuel, oil or coolant leaks.
- Sudden change, outside the normal operating range, in the engine operating temperature.
- Excessive smoke.
- Oil pressure drop.

### ENGINE BLOCK HEATER — IF EQUIPPED

The engine block heater warms engine coolant and permits quicker starts in cold weather. Connect the heater cord to a ground-fault interrupter protected 110–115 Volt AC electrical outlet with a grounded, three-wire extension cord.

Its use is recommended for environments that routinely fall below  $-10^{\circ}\text{F}$  ( $-23^{\circ}\text{C}$ ). It should be used when the vehicle has not been running for long periods of time and should be plugged in two hours prior to start. Its use is required for cold starts with temperatures under  $-20^{\circ}\text{F}$  ( $-28^{\circ}\text{C}$ ).

To ensure reliable starting at these temperatures, use of an externally powered electric engine block heater (available from your authorized dealer) is recommended.

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**WARNING!**

**Remember to disconnect the cord before driving. Damage to the 110–115 Volt electrical cord could cause electrocution.**

**NOTE:** The block heater will require 110 Volts AC and 6.5 Amps to activate the heater element.

**FUEL REQUIREMENTS**

Use good quality diesel fuel from a reputable supplier in your vehicle. Federal law requires that you must fuel this vehicle with Ultra Low Sulfur Highway Diesel fuel (15 ppm Sulfur maximum) and prohibits the use of Low Sulfur Highway Diesel fuel (500 ppm Sulfur maximum) to avoid damage to the emissions control system.

For most year-round service, No. 2 diesel fuel meeting ASTM (formerly known as the American Society for Testing and Materials) specification D-975 Grade S15 will

provide good performance. If the vehicle is exposed to extreme cold (below 20°F or -7°C), or is required to operate at colder-than-normal conditions for prolonged periods, use climatized No. 2 diesel fuel or dilute the No. 2 diesel fuel with 50% No. 1 diesel fuel. This will provide better protection from fuel gelling or wax-plugging of the fuel filters.

**WARNING!**

**Do not use alcohol or gasoline as a fuel blending agent. They can be unstable under certain conditions and hazardous or explosive when mixed with diesel fuel.**

Diesel fuel is seldom completely free of water. To prevent fuel system trouble, drain the accumulated water from the fuel/water separator using the fuel/water separator drain provided on the fuel filter housing. If you buy good quality fuel and follow the cold weather advice above,

fuel conditioners should not be required in your vehicle. If available in your area, a high cetane “premium” diesel fuel may offer improved cold-starting and warm-up performance.

**CAUTION!**

If the “Water in Fuel Indicator Light” remains on, DO NOT START engine before you drain the water from the fuel filter(s) to avoid engine damage. Refer to “Maintenance Procedures/Draining Fuel/Water Separator Filter” in “Maintaining Your Vehicle” for further information.

**Fuel Specifications**

This diesel engine has been developed to take advantage of the high energy content and generally lower cost No. 2 Ultra Low Sulfur diesel fuel or No. 2 Ultra Low Sulfur climatized diesel fuels.

**NOTE:**

- If you accidentally fill the fuel tank with gasoline on your diesel vehicle, do not start the engine. Damage to the engine and fuel system could occur. Please call your authorized dealer for service.
- A maximum blend of 5% biodiesel meeting ASTM specification D-975 may be used with your diesel engine without any adjustments to regular service schedules.
- Commercially available fuel additives are not necessary for the proper operation of your diesel engine.
- No. 1 Ultra Low Sulfur diesel fuel should only be used where extended arctic conditions (-10°F or -23°C) exist.

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**Biodiesel Fuel Requirements**

A maximum blend of 5% biodiesel meeting ASTM specification D975 is recommended for use with your diesel engine. If frequent operation with Biodiesel blends that are between 6% and 20% (B6–B20) is desired, the maintenance schedule is subject to shorter intervals.

The oil and filter change along with fuel filter replacement is subject to shorter intervals when operating your engine on biodiesel greater than 5%. Do not use biodiesel greater than 20%.

For regular use of biodiesel blends between 6% and 20% (B6–B20) it is important that you understand and comply with these requirements. Refer to the “Maintenance Chart” in the “Maintenance Schedules” section for further direction.

**CAUTION!**

**Failure to comply with Oil Change requirements for vehicles operating on biodiesel blends between 6% and 20% (B6–B20) will result in premature engine wear. Such wear is not covered by the New Vehicle Limited Warranty.**

Biodiesel is a fuel produced from renewable resources typically derived from animal fat, rapeseed oil (Rapeseed Methyl Ester (RME) base), or soybean oil (Soy Methyl Ester (SME or SOME) base).

Biodiesel fuel has inherent limitations which require that you understand and adhere to the following requirements if you use blends of Biodiesel between 6% and 20% (B6–B20). There are no unique restrictions for the use of B5.

**CAUTION!**

Use of blends greater than 20% is not approved. Use of blends greater than 20% can result in engine damage. Such damage is not covered by the New Vehicle Limited Warranty.

**Biodiesel Fuel Properties — Low Ambient Temperatures**

Biodiesel fuel may gel or solidify at low ambient temperatures, which may pose problems for both storage and operation. Precautions can be necessary at low ambient temperatures, such as storing the fuel in a heated building or a heated storage tank, or using cold temperature additives.

**Fuel Quality — Must Comply With ASTM Standards**

The quality of Biodiesel fuel may vary widely. Only fuel produced by a BQ9000 supplier to the following specifications may be blended to meet Biodiesel blend B6 – B20 fuel meeting ASTM specification D-7467:

- Petrodiesel fuel meeting ASTM specification D-975 and Biodiesel fuel (B100) meeting ASTM specification D-6751

**Fuel Oxidation Stability — Must Use Fuel Within Six Months Of Manufacture**

Biodiesel fuel has poor oxidation stability which can result in long term storage problems. Fuel produced to approved ASTM standards, if stored properly, provides for protection against fuel oxidation for up to six months.

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### **Fuel Water Separation — Must Use MOPAR Approved Fuel Filter Elements**

Biodiesel fuel has a natural affinity to water and water accelerates microbial growth. Your MOPAR filtration system is designed to provide adequate fuel water separation capabilities.

### **Fuel In Oil Dilution — Must Adhere To Required Oil Change Interval**

Fuel dilution of lubricating oil has been observed with the use of Biodiesel fuel. Fuel in oil must not exceed 5%. To ensure this limit is met your oil change interval must be maintained with in the suggested schedule. The regular use of biodiesel between 6% and 20% requires intervals shorter than the outlined 10,000 miles and must not exceed the suggested schedule. When routinely operating on biodiesel between 6% and 20%, oil and filter replacement intervals must not exceed 8,000 Miles or 6 months, which ever comes first.

### **Biodiesel Fuel Filter Change Intervals**

The use of biodiesel requires intervals shorter than the outlined 30,000 miles (48 280 km) and must not exceed the suggested schedule. When operating on biodiesel between 6% and 20%, fuel filter replacement intervals must not exceed 20,000 Miles (40 233 km).

**NOTE:** Under no circumstances should oil change intervals exceed 8,000 miles (12 875 km) or 6 months, if regular operation occurs with 6% - 20% biodiesel blends. Under no circumstances should fuel filter intervals exceed 20,000 miles (40 233 km), if regular operation occurs with 6% - 20% biodiesel blends. Failure to comply with these Oil Change and fuel filter requirements for vehicles operating on biodiesel blends up to B20 may result in premature engine wear. Such wear is not covered by the New Vehicle Limited Warranty. The engine may suffer severe damage if operated with concentrations of biodiesel higher than 20%.

## DIESEL EXHAUST FLUID

Your vehicle is equipped with a Selective Catalytic Reduction system to meet the very stringent diesel emissions standards required by the Environmental Protection Agency.

The purpose of the SCR system is to reduce levels of NO<sub>x</sub> (oxides of nitrogen emitted from engines) that are harmful to our health and the environment to a near-zero level. Small quantities of Diesel Exhaust Fluid (DEF) is injected into the exhaust upstream of a catalyst where, when vaporized, it converts smog-forming nitrogen oxides (NO<sub>x</sub>) into harmless nitrogen (N<sub>2</sub>) and water vapor (H<sub>2</sub>O), two natural components of the air we breathe. You can operate with the comfort that your vehicle is contributing to a cleaner, healthier world environment for this and generations to come.

## System Overview

This vehicle is equipped with a Diesel Exhaust Fluid (DEF) injection system and a Selective Catalytic Reduction (SCR) catalyst to meet the emission requirements.

The DEF injection system consists of the following components:

- DEF tank
- DEF pump
- DEF injector
- Electronically-heated DEF lines
- NO<sub>x</sub> sensors
- Temperature sensors
- SCR catalyst

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The DEF injection system and SCR catalyst enable the achievement of diesel emissions requirements; while maintaining outstanding fuel economy, drivability, torque and power ratings.

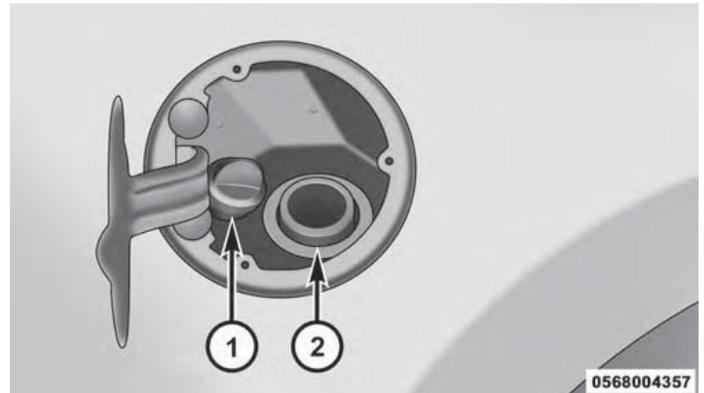
Refer to “Electronic Vehicle Information Center (EVIC)” or “Driver Information Display (DID)” in “Understanding Your Instrument Panel” for system messages and warnings.

### NOTE:

- Your vehicle is equipped with a DEF injection system. You may occasionally hear an audible clicking noise from under the vehicle at a stop. This is normal operation.
- The DEF pump will run for a period of time after engine shutdown to purge the DEF system. This is normal operation and may be audible from the rear of the vehicle.

## ADDING FUEL — 1500 DIESEL MODELS

1. Open the fuel filler door.



### Diesel Fuel And Diesel Exhaust Fluid Fill Location

- 1 — Diesel Exhaust Fluid Fill Location
- 2 — Diesel Fuel Fill Location

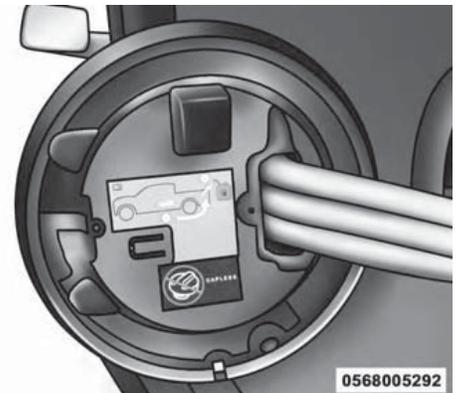
**NOTE:** There is no fuel filler cap. A flapper door inside the filler pipe seals the system.

2. Insert the fuel nozzle fully into the filler pipe – the nozzle opens and holds the flapper door while refueling.
3. Fill the vehicle with fuel – when the fuel nozzle “clicks” or shuts off the fuel tank is full.
4. Remove the fuel nozzle and close the fuel door.

### Emergency Fuel Can Refueling

Most fuel cans will not open the flapper door.

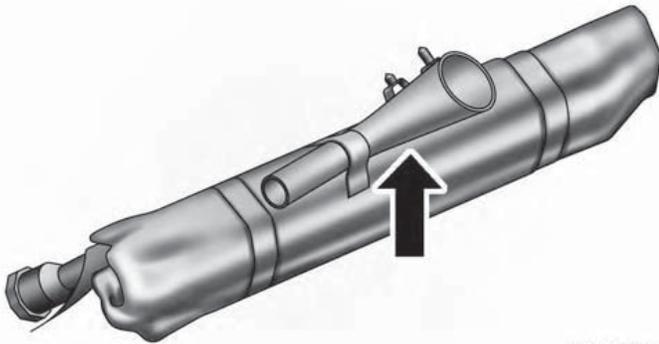
A funnel is provided to open the flapper door to allow emergency refueling with a fuel can.



Diesel Fuel And DEF Fluid Filler Door

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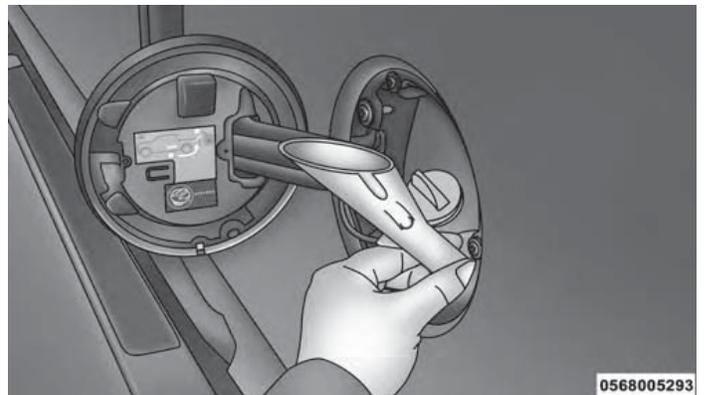
1. Retrieve fuel funnel from the jack kit located under the front passenger seat.



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**Fuel Fill Funnel Location 1500 Models**

2. Insert funnel into same filler pipe opening as the fuel nozzle.



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**Emergency Fuel Fill Location**

**NOTE:** Ensure funnel is inserted fully to hold flapper door open.

3. Pour fuel into funnel opening.
4. Remove funnel from filler pipe, clean off prior to putting back in the jack kit.

**CAUTION!**

To avoid fuel spillage and overfilling, do not “top off” the fuel tank after filling.

**WARNING!**

- Never have any smoking materials lit in or near the vehicle when the fuel door is open or the tank is being filled.
- Never add fuel when the engine is running. This is in violation of most state and federal fire regulations and may cause the “Malfunction Indicator Light” to turn on.
- A fire may result if fuel is pumped into a portable container that is inside of a vehicle. You could be burned. Always place fuel containers on the ground while filling.

**Avoid Using Contaminated Fuel**

Fuel that is contaminated by water or dirt can cause severe damage to the engine fuel system. Proper maintenance of the engine fuel filter and fuel tank is essential. Refer to “Maintenance Procedures” in “Maintaining Your Vehicle” for further information.

**Bulk Fuel Storage — Diesel Fuel**

If you store quantities of fuel, good maintenance of the stored fuel is also essential. Fuel contaminated with water will promote the growth of “microbes.” These microbes form “slime” that will clog the fuel filtration system and lines. Drain condensation from the supply tank and change the line filter on a regular basis.

**NOTE:** When a diesel engine is allowed to run out of fuel, air is pulled into the fuel system.

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If the vehicle will not start, refer to “Maintenance Procedures/Priming If The Engine Has Run Out Of Fuel” in “Maintaining Your Vehicle” for further information.

### **WARNING!**

**Do not open the high pressure fuel system with the engine running. Engine operation causes high fuel pressure. High pressure fuel spray can cause serious injury or death.**

### **Diesel Exhaust Fluid Storage**

Diesel Exhaust Fluid (DEF) is considered a very stable product with a long shelf life. If DEF is kept in temperatures between 10° and 90°F (-12° and 32°C), it will last a minimum of one year.

DEF is subject to freezing at the lowest temperatures. For example, DEF may freeze at temperatures at or below 12° F (-11° C). The system has been designed to operate in this environment.

**NOTE:** When working with DEF, it is important to know that:

- Any containers or parts that come into contact with DEF must be DEF compatible (plastic or stainless steel). Copper, brass, aluminum, iron or non-stainless steel should be avoided as they are subject to corrosion by DEF.
- If DEF is spilled, it should be wiped up completely.

### **Adding Diesel Exhaust Fluid**

The DEF gauge (located on the instrument cluster) will display the level of DEF remaining in the tank. Refer to

“Instrument Cluster” and “Instrument Cluster Descriptions” in “Understanding Your Instrument Panel” for further information.

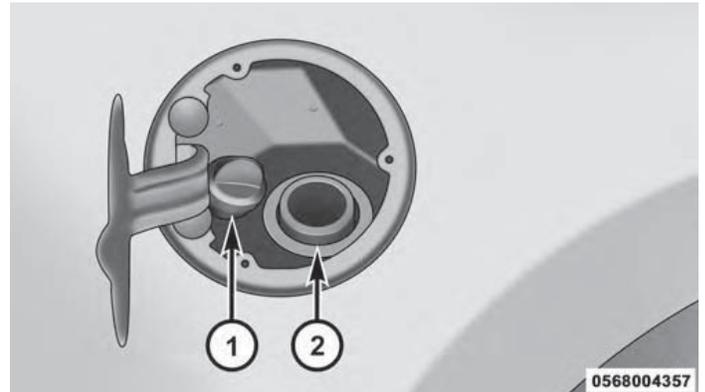
**NOTE:** Driving conditions (altitude, vehicle speed, load, etc.) will effect the amount of DEF that is used in your vehicle.

Another factor is that outside temperature can affect DEF consumption. In cold conditions, 12° F (-11° C) and below, the DEF gauge needle can stay on a fixed position and may not move for extended periods of time. This is a normal function of the system.

#### DEF Fill Procedure

**NOTE:** Refer to “Fluids, Lubricants, and Genuine Parts” in “Maintaining Your Vehicle” for the correct fluid type.

1. Remove cap from DEF tank (located on drivers side of the vehicle or in fuel door).



DEF Filler Cap And Fuel Fill 1500/2500/3500 Models

- 1 — Diesel Exhaust Fluid Fill Location
- 2 — Fuel Fill Location

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2. Insert DEF fill adapter/nozzle into DEF tank filler neck.

**NOTE:**

- The DEF gauge may take up to five seconds to update after adding a gallon or more of Diesel Exhaust Fluid (DEF) to the DEF tank. If you have a fault related to the DEF system, the gauge may not update to the new level. See your authorized dealer for service.
- The DEF gauge may also not immediately update after a refill if the temperature of the DEF fluid is below 12F (-11C). The DEF line heater will possibly warm up the DEF fluid and allow the gauge to update after a period of run time. Under very cold conditions, it is possible that the gauge may not reflect the new fill level for several drives.

**CAUTION!**

- To avoid DEF spillage, and possible damage to the DEF tank from overfilling, do not “top off” the DEF tank after filling.
- **DO NOT OVERFILL.** DEF will freeze below 12°F (-11°C). The DEF system is designed to work in temperatures below the DEF freezing point, however, if the tank is overfilled and freezes, the system could be damaged.
- When DEF is spilled, clean the area immediately with water and use an absorbent material to soak up the spills on the ground.
- Do not attempt to start your engine if DEF is accidentally added to the diesel fuel tank as it can result in severe damage to your engine, including but not limited to failure of the fuel pump and injectors.

*(Continued)*

**CAUTION! (Continued)**

- Never add anything other than DEF to the tank – especially any form of hydrocarbon such as diesel fuel, fuel system additives, gasoline, or any other petroleum-based product. Even a very small amount of these (less than 100 parts per million or less than 1 oz. per 78 gallons) will contaminate the entire DEF system and will require replacement. If owners use a container, funnel or nozzle when refilling the tank, it should either be new or one that is has only been used for adding DEF. MOPAR provides an attachable nozzle with its DEF for this purpose.

3. Stop filling the DEF tank immediately when any of the following happen: DEF stops flowing from the fill bottle into the DEF tank, DEF splashes out the filler neck, or a DEF pump nozzle automatically shuts off.

4. Reinstall cap onto DEF tank.

**Filling The Def Tank In Cold Climates**

Since DEF will begin to freeze at 12°F (-11°C), your vehicle is equipped with an automatic DEF heating system. This allows the DEF injection system to operate properly at temperatures below 12°F (-11°C). If your vehicle is not in operation for an extended period of time with temperatures below 12°F (-11°C), the DEF in the tank may freeze. If the tank is overfilled and freezes, it could be damaged. Therefore, do not overfill the DEF tank.

Extra care should be taken when filling with portable containers to avoid overfilling. Note the level of the DEF gauge in your instrument cluster. On pickup applications, you may safely add a maximum of 2 gallons of DEF from portable containers when your DEF gauge is reading ½ full.



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## MAINTAINING YOUR VEHICLE

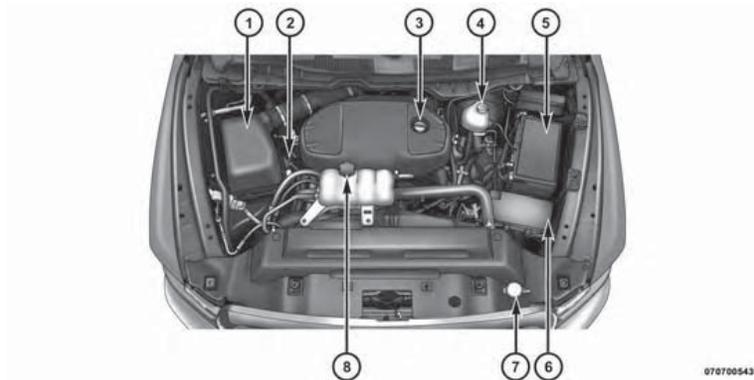
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**ENGINE COMPARTMENT — 3.0L DIESEL**



- 1 — Air Cleaner Filter
- 2 — Engine Oil Dipstick
- 3 — Engine Oil Fill
- 4 — Brake Fluid Reservoir

- 5 — Battery
- 6 — Power Distribution Center (PDC)
- 7 — Washer Fluid Reservoir
- 8 — Engine Coolant

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**MAINTENANCE PROCEDURES**

The pages that follow contain the **required** maintenance services determined by the engineers who designed your vehicle.

Besides those maintenance items specified in the fixed maintenance schedule, there are other components which may require servicing or replacement in the future.

**CAUTION!**

- Failure to properly maintain your vehicle or perform repairs and service when necessary could result in more costly repairs, damage to other components or negatively impact vehicle performance. Immediately have potential malfunctions examined by an authorized dealership or qualified repair center.

*(Continued)*

**CAUTION! (Continued)**

- Your vehicle has been built with improved fluids that protect the performance and durability of your vehicle and also allow extended maintenance intervals. Do not use chemical flushes in these components as the chemicals can damage your engine, transmission, power steering or air conditioning. Such damage is not covered by the New Vehicle Limited Warranty. If a flush is needed because of component malfunction, use only the specified fluid for the flushing procedure.

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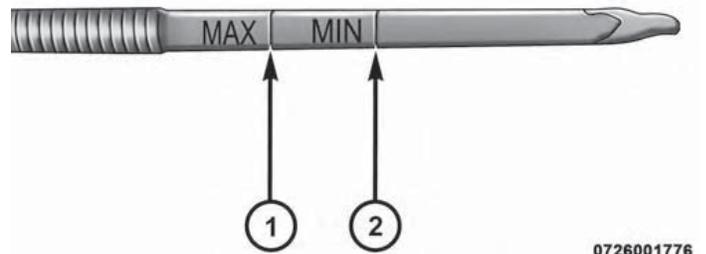
## Engine Oil

### Engine Oil Selection

For best performance and maximum protection under all types of operating conditions, the manufacturer recommends engine oils that meet the requirements of FCA Material Standard MS-11106, and that are approved to ACEA C3.

### Checking Oil Level

To assure proper lubrication of your vehicle's engine, the engine oil must be maintained at the correct level. Check the oil level at regular intervals. The best time to check the oil level is before starting the engine after it has been parked overnight. When checking oil after operating the engine, first ensure the engine is at full operating temperature, then wait for five minutes after engine shut-down to check the oil.



Engine Oil Dipstick

- 1 — MAX Mark
- 2 — MIN Mark

Checking the oil while the vehicle is on level ground will improve the accuracy of the oil level readings. Add oil only when the level on the dipstick is below the "MIN"

mark. The total capacity from the MIN mark to the MAX mark is 1.3 qts (1.2 L).

**CAUTION!**

**Overfilling or underfilling the crankcase will cause oil aeration or loss of oil pressure. This could damage your engine.**

**NOTE:** It is possible for your oil level to be slightly higher than a previous check. This would be due to diesel fuel that may temporarily be in the crankcase due to operation of the diesel particulate filter regeneration strategy. This fuel will evaporate out under normal operation.

Never operate the engine with oil level below the "MIN" mark or above the upper "MAX" mark.

**Change Engine Oil**

Refer to the "Maintenance Schedule" for the proper maintenance intervals.

**Engine Oil Viscosity (SAE Grade)**

**CAUTION!**

**Your vehicle is equipped with an advanced technology Diesel Engine and an emission device designed to limit Diesel Particulate Emissions from being released into the atmosphere. The durability of your engine and life expectancy of this diesel particulate filter emission device is highly dependent on the use of the correct engine oil.**

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Only use ACEA C3 SAE 5W-30 Synthetic Low Ash engine oil meeting FCA Material Standard MS-11106 or Pennzoil Ultra Euro L full synthetic 5W-30 motor oil, which is recommended for all operating temperatures. This engine oil improves low temperature starting and vehicle fuel economy.

### Materials Added To Engine Oil

The manufacturer strongly recommends against the addition of any additives (other than leak detection dyes) to the engine oil. Engine oil is an engineered product and its performance may be impaired by supplemental additives.

### Engine Oil Filter

Refer to “Fluids, Lubricants, And Genuine Parts” in “Maintaining Your Vehicle” for further information. The engine oil filter should be changed at every engine oil change.

### Disposing Of Used Engine Oil And Oil Filters

Care should be taken in disposing of used engine oil and oil filters from your vehicle. Used oil and oil filters, indiscriminately discarded, can present a problem to the environment. Contact your authorized dealer, service station or governmental agency for advice on how and where used oil and oil filters can be safely discarded in your area.

### Engine Air Cleaner Filter

Refer to the “Maintenance Schedule” for the proper maintenance intervals.

<b>CAUTION!</b>
<b>All air entering the engine intake must be filtered. The abrasive particles in unfiltered air will cause rapid wear to engine components.</b>

**WARNING!**

The air induction system (air cleaner, hoses, etc.) provides a measure of protection. Do not remove the air induction system (air cleaner, hoses, etc.) unless such removal is necessary for repair or maintenance. Make sure that no one is near the engine compartment before starting the vehicle with the air induction system (air cleaner, hoses, etc.) removed. Failure to do so can result in serious personal injury.

**CAUTION!**

Many aftermarket performance air filter elements do not adequately filter the air entering the engine. Use of such filters can severely damage your engine.

**Engine Air Cleaner Filter Selection**

The quality of replacement engine air cleaner filters varies considerably. Only high quality filters should be used to assure most efficient service. MOPAR engine air cleaner filters are a high quality filter and are recommended.

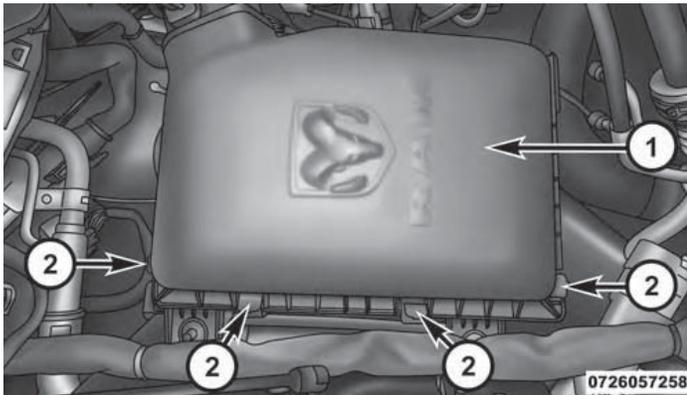
**Engine Air Cleaner Filter Inspection and Replacement**

Inspect engine air cleaner filter for dirt and or debris, if you find evidence of either dirt or debris you should change your air cleaner filter.

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Engine Air Cleaner Filter Removal

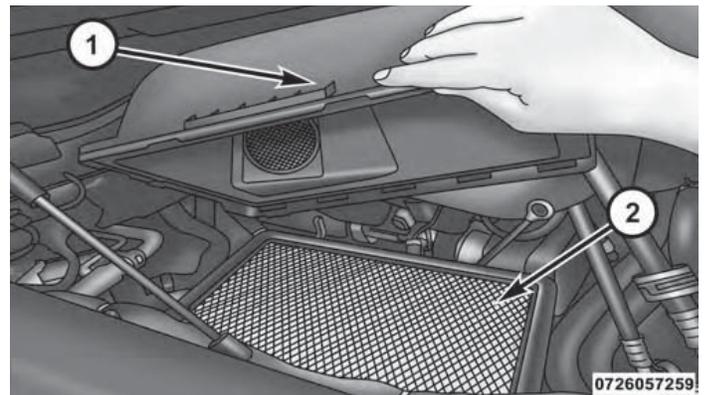
1. Release the spring clips from the air cleaner cover.



3.0 Diesel Air Cleaner Filter Cover

- 1 — Air Cleaner Filter Cover
- 2 — Spring Clips

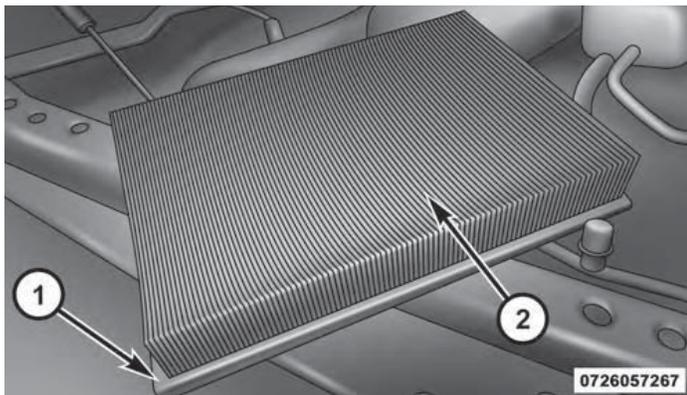
2. Lift the air cleaner cover to access the air cleaner filter.



Open Air Cleaner Filter Assembly

- 1 — Air Cleaner Cover
- 2 — Air Cleaner Filter

3. Remove the air cleaner filter element from the housing assembly.



**Air Cleaner Filter**

- 1 — Air Cleaner Filter
- 2 — Air Cleaner Filter Inspection Surface

### Engine Air Cleaner Filter Installation

**NOTE:** Inspect and clean the housing if dirt or debris is present before replacing the air filter element.

1. Install the air cleaner filter element into the housing assembly with the air cleaner filter inspection surface facing downward.
2. Install the air cleaner cover onto the housing assembly locating tabs.
3. Latch the spring clips and lock the air cleaner cover to the housing assembly.

5

### Draining Fuel/Water Separator Filter

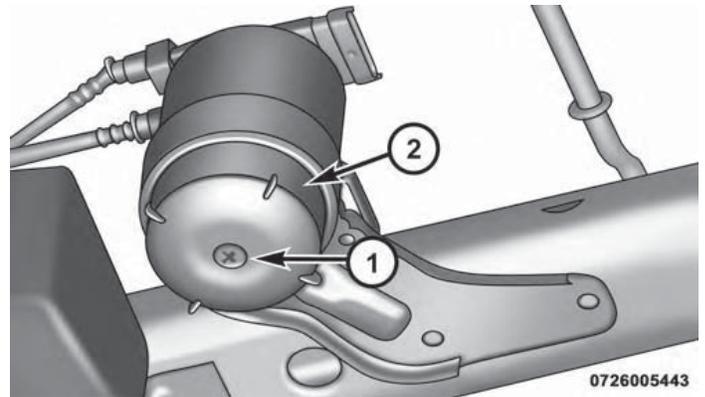
The fuel filter/water separator filter housing is located above the rear axle next to the fuel tank. The best access to this water drain valve is from under the vehicle.

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**CAUTION!**

- Do not drain the fuel/water separator filters when the engine is running.
- Diesel fuel will damage blacktop paving surfaces. Drain the filters into an appropriate container.

If water is detected in the water separator while the engine is running, or while the ignition switch is in the ON position, the “Water In Fuel Indicator Light” will illuminate and an audible chime will be heard. At this point you should stop the engine and drain the water from the filter housing.



**Fuel Filter Assembly**

- 1 — Water in Fuel Drain
- 2 — Fuel Filter Access

**CAUTION!**

**If the “Water In Fuel Indicator Light” remains on, DO NOT START the engine before you drain water from the fuel filters to avoid engine damage.**

If the “Water In Fuel Indicator Light” comes on and a single chime is heard while you are driving, or with the ignition in the ON position, there may be a problem with your water separator wiring or sensor. See your authorized dealer for service.

Upon proper draining of the water from the fuel filter, the “Water In Fuel Indicator Light” will remain illuminated for approximately 10 seconds. If the water was drained while the engine was running, the “Water In Fuel Indicator Light” may remain on for approximately three minutes.

**NOTE:** Care should be taken in disposing of used fluids from your vehicle. Used fluids, indiscriminately discarded, can present a problem to the environment. Contact an authorized dealer, service station, or government agency for advice on recycling programs and for where used fluids and filters can be properly disposed of in your area.

Drain the fuel/water separator filter when the “Water In Fuel Indicator Light” is ON. Within 10 minutes of vehicle shutdown, turn the filter drain valve (located on the bottom of the filter housing) counterclockwise to drain fuel/water, then turn the ignition switch to the ON position, and allow any accumulated water to drain. Leave the drain valve open until all water and contaminants have been removed. When clean fuel is visible, close the drain valve by turning it clockwise, and turn the ignition switch to OFF.

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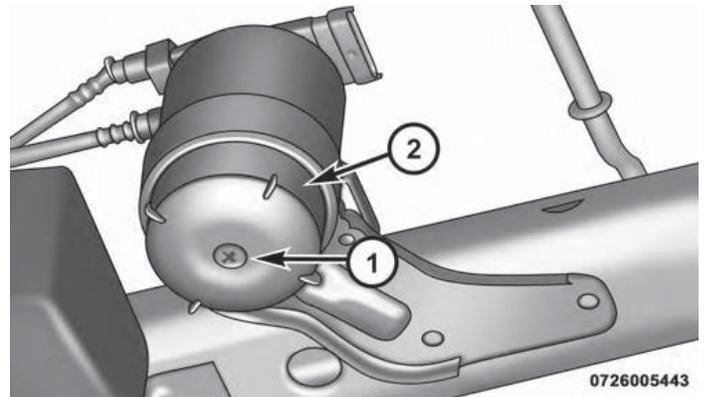
If more than two ounces or 60 milliliters of fuel have been drained, follow the directions for “Priming If The Engine Has Run Out Of Fuel.”

**Underbody Mounted Fuel Filter Replacement**

**NOTE:** Using a fuel filter that does not meet the manufacturer’s filtration and water separating requirements can severely impact fuel system life and reliability.

**CAUTION!**

- Diesel fuel will damage blacktop paving surfaces. Drain the filter into an appropriate container.
- Do not prefill the fuel filter when installing a new fuel filter. There is a possibility debris could be introduced into the fuel filter during this action. It is best to install the filter dry and allow the in-tank lift pump to prime the fuel system.



Fuel Filter Assembly

- 1 — Water in Fuel Drain
- 2 — Fuel Filter Access

1. Turn engine off.
2. Place a drain pan under the fuel filter assembly.

3. Open the water drain valve, and let any accumulated water drain.
4. Close the water drain valve.
5. Remove bottom cover using a strap wrench. Rotate counterclockwise for removal. Remove the used o-ring and discard it.
6. Remove the used filter cartridge from the housing and dispose of it according to your local regulations.
7. Wipe the sealing surfaces of the lid and housing clean.
8. Install a new o-ring into the ring groove on the filter housing and lubricate with clean engine oil.

**NOTE:** WIF (Water In Fuel) sensor is re-usable. Service kit comes with new o-ring for filter canister and WIF sensor.

### Priming If The Engine Has Run Out Of Fuel

#### WARNING!

**Do not open the high pressure fuel system with the engine running. Engine operation causes high fuel pressure. High pressure fuel spray can cause serious injury or death.**

1. Add a substantial amount of fuel to the tank, approximately 2 to 5 gal (8L to 19L).
2. Press ignition switch twice without your foot on brake to put vehicle in Run position. This will activate the in tank fuel pump for approximately 30 seconds. Repeat this process twice.
3. Start the engine using the "Normal Starting" procedure. Refer to "Starting Procedures" in "Starting and Operating" for further information.

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**CAUTION!**

The starter motor will engage for approximately 30 seconds at a time. Allow two minutes between cranking intervals.

**NOTE:** The engine may run rough until the air is forced from all the fuel lines.

**WARNING!**

Do not use alcohol or gasoline as a fuel blending agent. They can be unstable under certain conditions and be hazardous or explosive when mixed with diesel fuel.

**CAUTION!**

Due to lack of lubricants in alcohol or gasoline, the use of these fuels can cause damage to the fuel system.

**NOTE:**

- We recommend you use a blend of up to 5% biodiesel, that meets ASTM specification D-975 with your diesel engine. Use of biodiesel mixture in excess of 20% can negatively impact the fuel filter's ability to separate water from the fuel, resulting in high pressure fuel system corrosion or damage.
- In addition, commercially available fuel additives are not necessary for the proper operation of your diesel engine.

### Intervention Regeneration Strategy — Message Process Flow

This engine meets all required diesel engine emissions standards. To achieve these emissions standards, your vehicle is equipped with a state-of-the-art engine and exhaust system. These systems are seamlessly integrated into your vehicle and managed by the Powertrain Control Module (PCM). The PCM manages engine combustion to allow the exhaust system's catalyst to trap and burn Particulate Matter (PM) pollutants, with no input or interaction on your part.

Additionally, your vehicle has the ability to alert you to additional maintenance required on your vehicle or engine.

Refer to "Electronic Vehicle Information Center (EVIC)" or "Driver Information Display (DID)" in "Understanding Your Instrument Panel" for further information.

#### WARNING!

**A hot exhaust system can start a fire if you park over materials that can burn. Such materials might be grass or leaves coming into contact with your exhaust system. Do not park or operate your vehicle in areas where your exhaust system can contact anything that can burn.**

### Maintenance-Free Batteries

Your vehicle is equipped with a maintenance-free battery. The top of the maintenance-free battery is permanently sealed. You will never have to add water, nor is periodic maintenance required.

**CAUTION!**

It is essential when replacing the cables on the battery that the positive cable is attached to the positive post and the negative cable is attached to the negative post. Battery posts are marked (+) positive and negative (-) and are identified on the battery case. Also, if a "fast charger" is used while the battery is in vehicle, disconnect both vehicle battery cables before connecting the charger to the battery. Do not use a "fast charger" to provide starting voltage.

**WARNING!**

Battery posts, terminals, and related accessories contain lead and lead compounds. Always wash hands after handling the battery.

**Cooling System**

**WARNING!**

You or others can be badly burned by hot engine coolant (antifreeze) or steam from your radiator. If you see or hear steam coming from under the hood, do not open the hood until the radiator has had time to cool. Never try to open a cooling system pressure cap when the radiator is hot.

**Engine Coolant Checks**

Check the engine coolant (antifreeze) protection every 12 months (before the onset of freezing weather, where applicable). If the engine coolant (antifreeze) is dirty or rusty in appearance, the system should be drained, flushed and refilled with fresh coolant. Check the front of the A/C condenser (if equipped) or radiator for any accumulation of bugs, leaves, etc. If dirty, clean by gently

spraying water from a garden hose vertically down the face of the A/C condenser (if equipped) or the back of the radiator core.

Check the engine cooling system hoses for brittle rubber, cracking, tears, cuts and tightness of the connection at the coolant recovery bottle and radiator. Inspect the entire system for leaks.

With the engine at normal operating temperature (but not running), check the cooling system pressure cap for proper vacuum sealing by draining a small amount of engine coolant (antifreeze) from the radiator drain cock. The radiator drain cock is located in the lower radiator tank. If the cap is sealing properly, the engine coolant (antifreeze) will begin to drain from the coolant expansion bottle. **DO NOT REMOVE THE COOLANT PRESSURE CAP WHEN THE COOLING SYSTEM IS HOT.**

### Cooling System — Drain Flush And Refill

If the engine coolant (antifreeze) is dirty or contains a considerable amount of sediment, clean and flush with a reliable cooling system cleaner. Follow with a thorough rinsing to remove all deposits and chemicals. Properly dispose of old engine coolant (antifreeze).

Refer to the “Maintenance Schedule” for the proper maintenance intervals.

### Selection Of Coolant

Refer to “Fluids, Lubricants, And Genuine Parts” in “Maintaining Your Vehicle” for further information.

**CAUTION!**

- Mixing of engine coolant (antifreeze) other than specified Organic Additive Technology (OAT) engine coolant (antifreeze), may result in engine damage and may decrease corrosion protection. Organic Additive Technology (OAT) engine coolant is different and should not be mixed with Hybrid Organic Additive Technology (HOAT) engine coolant (antifreeze) or any “globally compatible” coolant (antifreeze). If a non-OAT engine coolant (antifreeze) is introduced into the cooling system in an emergency, the cooling system will need to be drained, flushed, and refilled with fresh OAT coolant (conforming to MS.90032), by an authorized dealer as soon as possible.

*(Continued)*

**CAUTION! (Continued)**

- Do not use water alone or alcohol-based engine coolant (antifreeze) products. Do not use additional rust inhibitors or antirust products, as they may not be compatible with the radiator engine coolant and may plug the radiator.
- This vehicle has not been designed for use with propylene glycol-based engine coolant (antifreeze). Use of propylene glycol-based engine coolant (antifreeze) is not recommended.

**Adding Coolant**

Your vehicle has been built with an improved engine coolant (OAT coolant conforming to MS.90032) that allows extended maintenance intervals. This engine coolant (antifreeze) can be used up to ten years or 150,000 miles (240,000 km) before replacement. To prevent reducing this extended maintenance period, it is important that

you use the same engine coolant (OAT coolant conforming to MS.90032) throughout the life of your vehicle.

Please review these recommendations for using Organic Additive Technology (OAT) engine coolant (antifreeze) that meets the requirements of FCA Material Standard MS.90032. When adding engine coolant (antifreeze):

- We recommend using MOPAR Antifreeze/Coolant 10 Year/150,000 Mile Formula OAT (Organic Additive Technology) that meets the requirements of FCA Material Standard MS.90032.
- Mix a minimum solution of 50% OAT engine coolant that meets the requirements of FCA Material Standard MS.90032 and distilled water. Use higher concentrations (not to exceed 70%) if temperatures below  $-34^{\circ}\text{F}$  ( $-37^{\circ}\text{C}$ ) are anticipated.

- Use only high purity water such as distilled or deionized water when mixing the water/engine coolant (antifreeze) solution. The use of lower quality water will reduce the amount of corrosion protection in the engine cooling system.

Please note that it is the owner's responsibility to maintain the proper level of protection against freezing according to the temperatures occurring in the area where the vehicle is operated.

**NOTE:**

- Some vehicles require special tools to add coolant properly. Failure to fill these systems properly could lead to severe internal engine damage. If any coolant is needed to be added to the system, please contact your local authorized dealer.

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- Mixing engine coolant (antifreeze) types is not recommended and can result in cooling system damage. If HOAT and OAT coolant are mixed in an emergency, have a authorized dealer drain, flush, and refill with OAT coolant (conforming to MS.90032) as soon as possible.

### Cooling System Pressure Cap

The cap must be fully tightened to prevent loss of engine coolant (antifreeze), and to ensure that the engine coolant (antifreeze) will return to the radiator from the coolant expansion bottle.

The cap should be inspected and cleaned if there is any accumulation of foreign material on the sealing surfaces.

### WARNING!

- Do not open hot engine cooling system. Never add engine coolant (antifreeze) when the engine is overheated. Do not loosen or remove the cap to cool an overheated engine. Heat causes pressure to build up in the cooling system. To prevent scalding or injury, do not remove the pressure cap while the system is hot or under pressure.
- Do not use a pressure cap other than the one specified for your vehicle. Personal injury or engine damage may result.

### Disposal Of Used Engine Coolant

Used ethylene glycol-based engine coolant (antifreeze) is a regulated substance requiring proper disposal. Check with your local authorities to determine the disposal rules for your community. To prevent ingestion by animals or children, do not store ethylene glycol-based

engine coolant (antifreeze) in open containers or allow it to remain in puddles on the ground. If ingested by a child or pet, seek emergency assistance immediately. Clean up any ground spills immediately.

#### Points To Remember

**NOTE:** When the vehicle is stopped after a few miles/kilometers of operation, you may observe vapor coming from the front of the engine compartment. This is normally a result of moisture from rain, snow, or high humidity accumulating on the radiator and being vaporized when the thermostat opens, allowing hot engine coolant (antifreeze) to enter the radiator.

If an examination of your engine compartment shows no evidence of radiator or hose leaks, the vehicle may be safely driven. The vapor will soon dissipate.

- Do not overfill the coolant expansion bottle.

- Check the coolant freeze point in the radiator and in the coolant expansion bottle. If engine coolant (antifreeze) needs to be added, the contents of the coolant expansion bottle must also be protected against freezing.
- If frequent engine coolant (antifreeze) additions are required, the cooling system should be pressure tested for leaks.
- Maintain engine coolant (antifreeze) concentration at a minimum of 50% OAT coolant (conforming to MS.90032) and distilled water for proper corrosion protection of your engine which contains aluminum components.
- Make sure that the coolant expansion bottle overflow hoses are not kinked or obstructed.
- Keep the front of the radiator clean. If your vehicle is equipped with air conditioning, keep the front of the condenser clean.

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- Do not change the thermostat for Summer or Winter operation. If replacement is ever necessary, install ONLY the correct type thermostat. Other designs may result in unsatisfactory engine coolant (antifreeze) performance, poor gas mileage, and increased emissions.

#### Charge Air Cooler — Inter-Cooler

The charge air cooler is positioned in front of the radiator and the air conditioner condenser. Air enters the engine through the air cleaner and passes through the turbo-charger, where it is pressurized. This pressurized air rapidly reaches high temperature. The air is then directed through a hose to the charge air cooler and through another hose to the intake manifold of the engine. This cooling process enables more efficient burning of fuel resulting in fewer emissions.

To guarantee optimum performance of the system, keep the surfaces of the charge air cooler, condenser and radiator clean and free of debris. Periodically check the hoses leading to and from the charge air cooler for cracks or loose clamps resulting in loss of pressure and reduced engine performance.

#### Brake System

##### Brake Master Cylinder — Brake Fluid Level Check

The fluid level of the master cylinder should be checked when performing under the hood service, or immediately if the “Brake System Warning Light” indicates system failure.

The brake master cylinder has a translucent plastic reservoir. On the outboard side of the reservoir, there is a “MAX” mark and a “MIN” mark. The fluid level must be kept within these two marks. Do not add fluid above the full mark because leakage may occur at the cap.

With disc brakes, the fluid level can be expected to fall as the brake linings wear. However, an unexpected drop in fluid level may be caused by a leak and a system check should be conducted.

Refer to "Fluids, Lubricants, And Genuine Parts" in "Maintaining Your Vehicle" for further information.

**WARNING!**

- Use only manufacturer's recommended brake fluid. Refer to "Fluids, Lubricants, and Genuine Parts" in "Maintaining Your Vehicle" for further information. Using the wrong type of brake fluid can severely damage your brake system and/or impair its performance. The proper type of brake fluid for your vehicle is also identified on the original factory installed hydraulic master cylinder reservoir.

(Continued)

**WARNING! (Continued)**

- To avoid contamination from foreign matter or moisture, use only new brake fluid or fluid that has been in a tightly closed container. Keep the master cylinder reservoir cap secured at all times. Brake fluid in an open container absorbs moisture from the air resulting in a lower boiling point. This may cause it to boil unexpectedly during hard or prolonged braking, resulting in sudden brake failure. This could result in an accident.
- Overfilling the brake fluid reservoir can result in spilling brake fluid on hot engine parts, causing the brake fluid to catch fire. Brake fluid can also damage painted and vinyl surfaces, care should be taken to avoid its contact with these surfaces.
- Do not allow petroleum based fluid to contaminate the brake fluid. Brake seal components could be damaged, causing partial or complete brake failure. This could result in an accident.

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**FLUID CAPACITIES**

	<b>U.S.</b>	<b>Metric</b>
<b>Fuel (Approximate)</b>		
3.0L Diesel Engine	26 Gallons	98.5 Liters
Diesel Exhaust Fluid Tank	8 Gallons	30.3 Liters
<b>Engine Oil With Filter</b>		
3.0L Liter Diesel Engine (SAE 5W-30 Synthetic, API Certified Low Ash)	10.5 Quarts	10 Liters
<b>Cooling System</b>		
3.0L Turbo Diesel Engine (MOPAR Engine Coolant/Antifreeze 10 Year/150,000 Mile Formula OAT (Organic Additive Technology))	11.6 Quarts	11 Liters

## FLUIDS, LUBRICANTS AND GENUINE PARTS

### Engine

Component	Fluid, Lubricant, or Genuine Part
Engine Coolant	We recommend you use MOPAR Antifreeze/Coolant 10 Year/150,000 Mile Formula OAT (Organic Additive Technology).
Engine Oil	Only use ACEA C3 5W-30 Synthetic Low Ash engine oil meeting FCA Material Standard MS-11106 or Pennzoil Ultra Euro L full synthetic 5W-30 motor oil.
Engine Oil Filter	We recommend you use MOPAR Engine Oil Filters.
Fuel Filters	We recommend you use MOPAR Fuel Filter. Must meet 3 micron rating. <b>Using a fuel filter that does not meet the manufacturers filtration and water separating requirements can severely impact fuel system life and reliability.</b>

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Component	Fluid, Lubricant, or Genuine Part
Fuel Selection	Use good quality diesel fuel from a reputable supplier in your vehicle. Federal law requires that you must fuel this vehicle with Ultra Low Sulfur Highway Diesel fuel (15 ppm Sulfur maximum) and prohibits the use of Low Sulfur Highway Diesel fuel (500 ppm Sulfur maximum) to avoid damage to the emissions control system. For most year-round service, No. 2 diesel fuel meeting ASTM specification D-975 Grade S15 will provide good performance. We recommend you use a blend of up to 5% biodiesel, meeting ASTM specification D-975 with your diesel engine. <b>This vehicle is compatible with biodiesel blends greater than 5% but no greater than 20% biodiesel meeting ASTM specification D-7467 provided the shortened maintenance intervals are followed as directed.</b>
Diesel Exhaust Fluid	MOPAR Diesel Exhaust Fluid (API Certified) (DEF) or equivalent that has been API Certified to the ISO 22241 standard. Use of fluids not API Certified to ISO 22241 may result in system damage.

**NOTE:** If the vehicle is exposed to extreme cold (below 20°F or -7°C), or is required to operate at colder-than-normal conditions for prolonged periods, use climatized No. 2 diesel fuel or dilute the No. 2 diesel fuel with 50% No. 1 diesel fuel. This will provide better protection from fuel gelling or wax-plugging of the fuel filter.

**CAUTION!**

- Mixing of engine coolant (antifreeze) other than specified Organic Additive Technology (OAT) engine coolant (antifreeze), may result in engine damage and may decrease corrosion protection. Organic Additive Technology (OAT) engine coolant is different and should not be mixed with Hybrid Organic Additive Technology (HOAT) engine coolant (antifreeze) or any “globally compatible” coolant (antifreeze). If a non-OAT engine coolant (antifreeze) is introduced into the cooling system in an emergency, the cooling system will need to be drained, flushed, and refilled with fresh OAT coolant (conforming to MS.90032), by an authorized dealer as soon as possible.

*(Continued)*

**CAUTION! (Continued)**

- Do not use water alone or alcohol-based engine coolant (antifreeze) products. Do not use additional rust inhibitors or antirust products, as they may not be compatible with the radiator engine coolant and may plug the radiator.
- This vehicle has not been designed for use with propylene glycol-based engine coolant (antifreeze). Use of propylene glycol-based engine coolant (antifreeze) is not recommended.

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**Chassis**

Component	Fluid, Lubricant, or Genuine Part
Automatic Transmission	Only use MOPAR ZF 8&9 Speed ATF Automatic Transmission Fluid or equivalent. Failure to use the correct fluid may affect the function or performance of your transmission.
Transfer Case	We recommend you use MOPAR BW44-44 Transfer Case Fluid.
Front Axle – 1500 Four-Wheel Drive Models	We recommend you use MOPAR GL-5 Synthetic Axle Lubricant SAE 75W-85.
Rear Axle	We recommend you use MOPAR Synthetic Gear Lubricant SAE 75W-140 (MS-8985). Limited-Slip Rear Axles require the addition of 5 oz. (148 ml) MOPAR Limited Slip Additive (MS-10111).
Brake Master Cylinder	We recommend you use MOPAR DOT 3 Brake Fluid, SAE J1703 should be used. If DOT 3, SAE J1703 brake fluid is not available, then DOT 4 is acceptable.

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## MAINTENANCE SCHEDULE

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### MAINTENANCE SCHEDULE

Your vehicle is equipped with an automatic oil change indicator system. The oil change indicator system will remind you that it is time to take your vehicle in for scheduled maintenance.

Based on engine operation conditions, the oil change indicator message will illuminate. This means that service is required for your vehicle. Operating conditions such as frequent short-trips, trailer tow, extremely hot or cold ambient temperatures will influence when the "Oil Change Required" message is displayed. Severe Operating Conditions can cause the change oil message to illuminate as early as 3,500 miles (5,600 km) since last reset. Have your vehicle serviced as soon as possible, within the next 500 miles (805 km).

Your authorized dealer will reset the oil change indicator message after completing the scheduled oil change. If a scheduled oil change is performed by someone other

than your authorized dealer, the message can be reset by referring to the steps described under "Electronic Vehicle Information Center (EVIC)" or "Driver Information Display (DID)" in "Understanding Your Instrument Panel" for further information.

**NOTE:** Under no circumstances should oil change intervals exceed 10,000 miles (16,000 km) or twelve months, whichever comes first.

#### Once A Month Or Before A Long Trip:

- Check engine oil level
- Check windshield washer fluid level
- Check the tire inflation pressures and look for unusual wear or damage
- Check the fluid levels of the coolant reservoir, brake master cylinder and power steering, and fill as needed
- Check function of all interior and exterior lights

**Required Maintenance**

Refer to the Maintenance Schedules on the following pages for required maintenance.

At Every Oil Change Interval As Indicated By Oil Change Indicator System:
• Change oil and filter.
• Completely fill the Diesel Exhaust Fluid tank.
• Drain water from fuel filter assembly.
• Rotate the tires. <b>Rotate at the first sign of irregular wear, even if it occurs before the oil indicator system turns on.</b>
• Inspect battery and clean and tighten terminals as required.
• Inspect brake pads, shoes, rotors, drums, hoses and park brake.
• Inspect engine cooling system protection and hoses.
• Inspect exhaust system.
• Inspect engine air cleaner if using in dusty or off-road conditions.



**MAINTENANCE SCHEDULE 155**

Mileage or time passed (whichever comes first)	10,000	20,000	30,000	40,000	50,000	60,000	70,000	80,000	90,000	100,000	110,000	120,000	130,000	140,000	150,000
Or Years:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Or Kilometers:	16,000	32,000	48,000	64,000	80,000	96,000	112,000	128,000	144,000	160,000	176,000	192,000	208,000	224,000	240,000
Inspect the transfer case fluid.			X						X						X
<b>Additional Maintenance</b>															
Drain water from fuel filter assembly.	X	X		X	X		X	X		X	X		X	X	
Replace fuel filter and drain water from the fuel filter assembly.			X			X			X			X			X
Replace engine air filter.			X			X			X			X			X
Flush and replace the engine coolant at 10 years or 150,000 miles (240,000 km) whichever comes first.										X					X
Replace accessory drive belt(s).										X					

156 MAINTENANCE SCHEDULE

Mileage or time passed (whichever comes first)	10,000	20,000	30,000	40,000	50,000	60,000	70,000	80,000	90,000	100,000	110,000	120,000	130,000	140,000	150,000
Or Years:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Or Kilometers:	16,000	32,000	48,000	64,000	80,000	96,000	112,000	128,000	144,000	160,000	176,000	192,000	208,000	224,000	240,000
Inspect the transfer case fluid, change for any of the following: police, taxi, fleet, or frequent trailer towing.						X						X			
Change transfer case fluid.												X			

**WARNING!**

- You can be badly injured working on or around a motor vehicle. Do only service work for which you have the knowledge and the right equipment. If you have any doubt about your ability to perform a service job, take your vehicle to a competent mechanic.
- Failure to properly inspect and maintain your vehicle could result in a component malfunction and effect vehicle handling and performance. This could cause an accident.

**Additional Maintenance — B6 To B20 Biodiesel**

**NOTE:**

- Under no circumstances should oil change intervals exceed 8,000 miles (12 875 km) or six months, whichever comes first when using Biodiesel blends greater than 5% (B5).
- The owner is required to monitor mileage for B6-B20 biodiesel, the automatic oil change indicator system does not reflect the use of biofuels.



**WARNING!**

- You can be badly injured working on or around a motor vehicle. Do only service work for which you have the knowledge and the right equipment. If you have any doubt about your ability to perform a service job, take your vehicle to a competent mechanic.
- Failure to properly inspect and maintain your vehicle could result in a component malfunction and effect vehicle handling and performance. This could cause an accident.

160 MAINTENANCE SCHEDULE

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# INTRODUCTION

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166 INTRODUCTION

**A MESSAGE FROM FCA US LLC**

FCA US LLC and Cummins welcome you as a Cummins turbocharged diesel-powered truck owner. Your diesel truck will sound, feel, drive, and operate differently from a gasoline-powered truck. It is important that you read and understand this manual.

Almost 100% of the heavy duty trucks in the United States and Canada are diesel-powered because of the fuel economy, rugged durability, and high torque which permits pulling heavy loads. Cummins engines power well over half of these trucks. Now this same technology and proven performance is yours in your truck equipped with the Cummins turbocharged diesel engine.

You may find that some of the starting, operating, and maintenance procedures are different. However, they are simple to follow and careful adherence to them will ensure that you take full advantage of the features of this engine.

**NOTE:** Some aftermarket products may cause severe engine/transmission and/or exhaust system damage. Your vehicle's Powertrain Control Systems can detect and store information about vehicle modifications that increase horsepower and torque output such as whether or not performance-enhancing powertrain components, commonly referred to as downloaders, power boxes, or performance chips have been used.

This information cannot be erased and will stay in the system's memory even if the modification is removed. This information can be retrieved by FCA US LLC, and service and repair facilities, when servicing your vehicle. This information may be used to determine if repair will be covered by the New Vehicle Limited Warranty.

There is a probability that the use of a "performance chip" will prohibit the engine from starting. In this instance, the vehicle will need to be serviced by a authorized dealer in order to return the vehicle to it's factory settings.

When it comes to service, remember that your authorized dealer knows your vehicle best, has factory-trained technicians and genuine MOPAR® parts, and cares about your satisfaction.



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# THINGS TO KNOW BEFORE STARTING YOUR VEHICLE

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## 170 THINGS TO KNOW BEFORE STARTING YOUR VEHICLE

### REMOTE STARTING SYSTEM — IF EQUIPPED



This system uses the Remote Keyless Entry (RKE) transmitter to start the engine conveniently from outside the vehicle while still maintaining security. The system has a range of approximately 300 ft (91 m).

#### NOTE:

- The vehicle must be equipped with an automatic transmission to be equipped with Remote Start.
- The Remote Start system will wait for the “Wait To Start” telltale to extinguish before cranking the engine. This allows time for the intake heater to pre-heat the incoming air, and is normal operation in cold weather. Refer to “Wait To Start” in “Understanding Your Instrument Panel”.

### How To Use Remote Start

All of the following conditions must be met before the engine will remote start:

- Transmission in PARK
- Doors closed
- Hood closed
- HAZARD switch off
- BRAKE switch inactive (brake pedal not pushed)
- Ignition key removed from ignition switch
- Battery at an acceptable charge level
- RKE PANIC button not pushed

- Fuel meets minimum requirement
- Water In Fuel Indicator Light is not illuminated
- Wait To Start Light is not illuminated

**WARNING!**

- Do not start or run an engine in a closed garage or confined area. Exhaust gas contains Carbon Monoxide (CO) which is odorless and colorless. Carbon Monoxide is poisonous and can cause serious injury or death when inhaled.
- Keep Remote Keyless Entry (RKE) transmitters away from children. Operation of the Remote Start System, windows, door locks or other controls could cause serious injury or death.

**THINGS TO KNOW BEFORE STARTING YOUR VEHICLE 171**

**Remote Start Abort Message**

The following messages will display in the EVIC/DID if the vehicle fails to remote start or exits remote start prematurely:

- Remote Start Aborted - Door Ajar
- Remote Start Aborted - Hood Ajar
- Remote Start Aborted - Fuel Low
- Remote Start Aborted - System Fault

The EVIC/DID message stays active until the ignition is turned to the ON/RUN position.

**To Enter Remote Start Mode**



Push and release the REMOTE START button on the RKE transmitter twice, within five seconds. The parking lights will flash and the horn

## 172 THINGS TO KNOW BEFORE STARTING YOUR VEHICLE

will chirp twice (if programmed). In cold ambient temperature conditions, the diesel vehicle may delay crank up to 30 seconds for the fuel and grid heater. Once the vehicle has started, the engine will run for 15 minutes or 75 seconds in extreme cold and high elevation.

### NOTE:

- The park lamps will turn on and remain on during Remote Start mode.
- For security, power window and power sunroof operation (if equipped) are disabled when the vehicle is in the Remote Start mode.
- The engine can be started two consecutive times (two 15-minute cycles) with the RKE transmitter. However, the ignition switch must be cycled to the ON position before you can repeat the start sequence for a third cycle.

### To Exit Remote Start Mode Without Driving The Vehicle

Push and release the REMOTE START button one time or allow the engine to run for the entire fifteen minute cycle.

**NOTE:** To avoid unintentional shut downs, the system will disable the one time push of the REMOTE START button for two seconds after receiving a valid Remote Start request.

### To Exit Remote Start Mode And Drive The Vehicle

To exit Remote Start Mode and drive the vehicle before the end of the 15-minute cycle, push and release the unlock button on the RKE transmitter to unlock the door and disarm the Vehicle Security Alarm System (if equipped). Then, prior to the end of the 15-minute cycle, cycle the ignition to the ON/RUN position.

**NOTE:**

- The ignition switch must be in the ON/RUN position in order to drive the vehicle.
- For further information, refer to your Owners Manual.

**Remote Start Comfort Systems — If Equipped**

When remote start is activated, the heated steering wheel, and driver heated seat features will automatically turn on in cold weather. In warm weather, the driver vented seat feature will automatically turn on when the remote start is activated. These features will stay on through the duration of remote start or until the ignition switch is turned to the ON position.

**THINGS TO KNOW BEFORE STARTING YOUR VEHICLE 173**

The Remote Start Comfort System can be activated and deactivated through the EVIC/DID. For more information on Remote Start Comfort System operation refer to your Owners Manual.

**ENGINE BREAK-IN RECOMMENDATIONS**

The Cummins turbocharged diesel engine does not require a break-in period due to its construction. Normal operation is allowed, providing the following recommendations are followed:

- Warm up the engine before placing it under load.
- Do not operate the engine at idle for prolonged periods.

#### 174 THINGS TO KNOW BEFORE STARTING YOUR VEHICLE

- Use the appropriate transmission gear to prevent engine lugging.
- Observe vehicle oil pressure and temperature indicators.
- Check the coolant and oil levels frequently.
- Vary throttle position at highway speeds when carrying or towing significant weight.

**NOTE:** Light duty operation such as light trailer towing or no load operation will extend the time before the engine is at full efficiency. Reduced fuel economy and power may be seen at this time.

For additional vehicle break-in requirements, refer to "Trailer Towing" in "Starting And Operating" of the Owners Manual.

Because of the construction of the Cummins turbo-charged diesel engine, engine run-in is enhanced by loaded operating conditions which allow the engine parts to achieve final finish and fit during the first 6,000 miles (10 000 km).

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## UNDERSTANDING THE FEATURES OF YOUR VEHICLE

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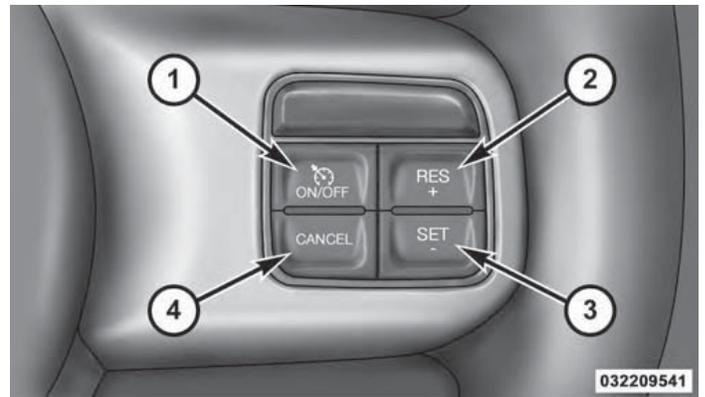
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176 UNDERSTANDING THE FEATURES OF YOUR VEHICLE

**ELECTRONIC SPEED CONTROL**

When engaged, the Electronic Speed Control takes over accelerator operations at speeds greater than 25 mph (40 km/h).

The Electronic Speed Control buttons are located on the right side of the steering wheel.



**Electronic Speed Control Switches**

- |            |            |
|------------|------------|
| 1 — ON/OFF | 3 — SET -  |
| 2 — RES +  | 4 — CANCEL |
-

**WARNING!**

Leaving the Electronic Speed Control system on when not in use is dangerous. You could accidentally set the system or cause it to go faster than you want. You could lose control and have an accident. Always leave the system OFF when you are not using it.

3

**NOTE:** In order to ensure proper operation, the Electronic Speed Control System has been designed to shut down if multiple Speed Control functions are operated at the same time. If this occurs, the Electronic Speed Control System can be reactivated by pushing the Electronic Speed Control ON/OFF button and resetting the desired vehicle set speed.

**To Activate**

Push the ON/OFF button. The Cruise Indicator Light in the instrument cluster will illuminate. To turn the system off, push the ON/OFF button a second time. The Cruise Indicator Light will turn off. The system should be turned off when not in use.

**To Set A Desired Speed**

Turn the Electronic Speed Control ON. When the vehicle has reached the desired speed, push the SET (-) button and release. Release the accelerator and the vehicle will operate at the selected speed.

**NOTE:** The vehicle should be traveling at a steady speed and on level ground before pushing the SET (-) button.

## 178 UNDERSTANDING THE FEATURES OF YOUR VEHICLE

### To Deactivate

A soft tap on the brake pedal, pushing the CANCEL button, or normal brake pressure while slowing the vehicle will deactivate the Electronic Speed Control without erasing the set speed from memory.

Pushing the ON/OFF button or turning the ignition switch OFF erases the set speed from memory.

### To Resume Speed

To resume a previously set speed, push the RES (+) button and release. Resume can be used at any speed above 25 mph (40 km/h).

### To Vary The Speed Setting

#### To Increase Speed

When the Electronic Speed Control is set, you can increase speed by pushing the RES (+) button.

The drivers preferred units can be selected through the instrument panel settings if equipped. Refer to "Understanding Your Instrument Panel" for more information. The speed increment shown is dependant on the chosen speed unit of U.S. (mph) or Metric (km/h):

#### *U.S. Speed (mph)*

- Pushing the RES (+) button once will result in a 1 mph increase in set speed. Each subsequent tap of the button results in an increase of 1 mph.
- If the button is continually pushed, the set speed will continue to increase until the button is released, then the new set speed will be established.

#### *Metric Speed (km/h)*

- Pushing the RES (+) button once will result in a 1 km/h increase in set speed. Each subsequent tap of the button results in an increase of 1 km/h.

- If the button is continually pushed, the set speed will continue to increase until the button is released, then the new set speed will be established.

### To Decrease Speed

When the Electronic Speed Control is set, you can decrease speed by pushing the SET (-) button.

The drivers preferred units can be selected through the instrument panel settings if equipped. Refer to "Understanding Your Instrument Panel" for more information. The speed decrement shown is dependant on the chosen speed unit of U.S. (mph) or Metric (km/h):

#### *U.S. Speed (mph)*

- Pushing the SET (-) button once will result in a 1 mph decrease in set speed. Each subsequent tap of the button results in a decrease of 1 mph.
- If the button is continually pushed, the set speed will continue to decrease until the button is released, then the new set speed will be established.

#### *Metric Speed (km/h)*

- Pushing the SET (-) button once will result in a 1 km/h decrease in set speed. Each subsequent tap of the button results in a decrease of 1 km/h.
- If the button is continually pushed, the set speed will continue to decrease until the button is released, then the new set speed will be established.

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**To Accelerate For Passing**

Press the accelerator as you would normally. When the pedal is released, the vehicle will return to the set speed.

**Using Electronic Speed Control On Hills**

The transmission may downshift on hills to maintain the vehicle set speed.

**NOTE:** The Electronic Speed Control system maintains speed up and down hills. A slight speed change on moderate hills is normal.

On steep hills, a greater speed loss or gain may occur so it may be preferable to drive without Electronic Speed Control.

**WARNING!**

**Electronic Speed Control can be dangerous where the system cannot maintain a constant speed. Your vehicle could go too fast for the conditions, and you could lose control and have an accident. Do not use Electronic Speed Control in heavy traffic or on roads that are winding, icy, snow-covered or slippery.**

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## UNDERSTANDING YOUR INSTRUMENT PANEL

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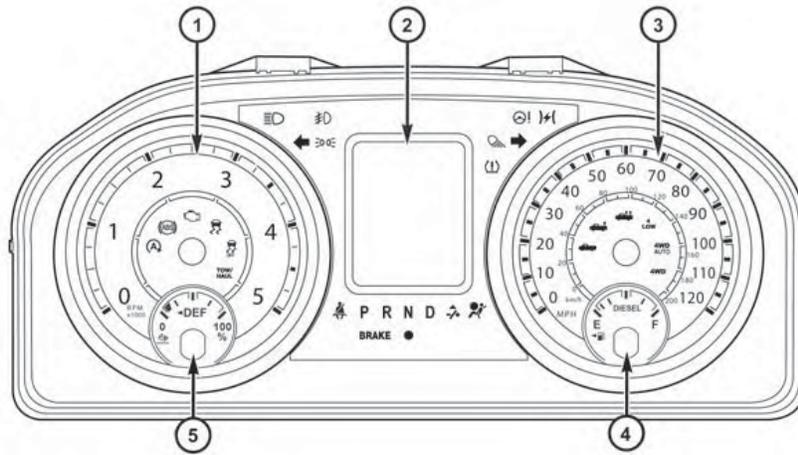
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**INSTRUMENT CLUSTER — BASE (EVIC)**



0403084407US

**Base EVIC Instrument Cluster — If Equipped**

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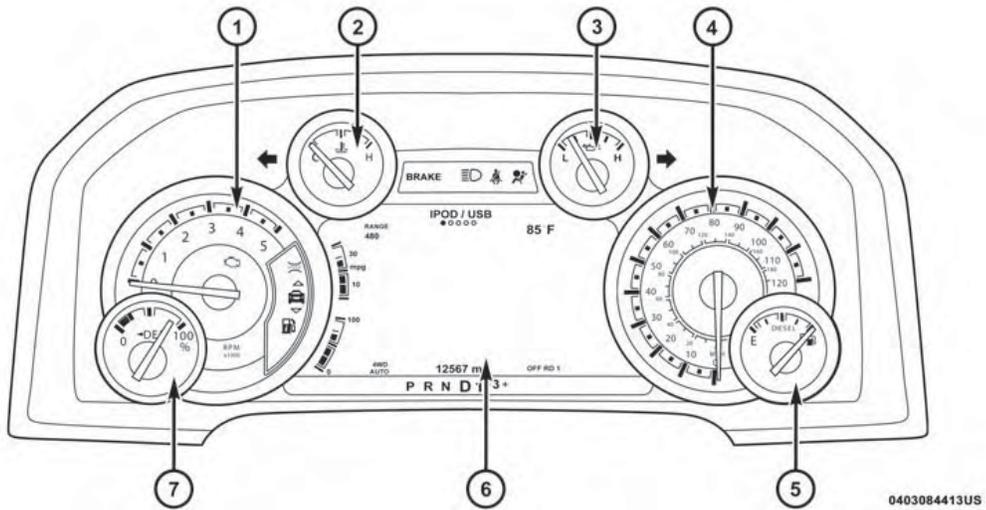
1. Tachometer
  - Indicates the engine speed in revolutions per minute (RPM x 1000).
2. Electronic Vehicle Information Center (EVIC) Display
  - When the appropriate conditions exist, this display shows the Electronic Vehicle Information Center (EVIC) messages. Refer to “Electronic Vehicle Information Center” in “Understanding Your Instrument Panel” for further information.
3. Speedometer
  - Indicates vehicle speed.
4. Fuel Gauge
  - The pointer shows the level of fuel in the fuel tank when the ignition switch is in the ON/RUN position.
5. DEF Gauge
  - The DEF Gauge displays the actual level of Diesel Exhaust Fluid in the DEF tank. Diesel Exhaust Fluid (DEF) is required to maintain normal vehicle operation and emissions compliance. If something is wrong with the gauge, a DEF Warning Message or Malfunction Indicator Light (MIL) will be displayed. More information is available in the Electronic Vehicle Information (EVIC) or Driver Information Display (DID) section under the heading of Diesel Exhaust Fluid (DEF) Warning Messages.

**NOTE:**

- The gauge may take up to five seconds to update after adding a gallon or more of Diesel Exhaust Fluid (DEF) to the DEF tank. If you have a fault related to the DEF system, the gauge may not update to the new level. See your authorized dealer for service.
- The DEF gauge may also not immediately update after a refill if the temperature of the DEF fluid is below 12F (-11C). The DEF line heater will possibly warm up the DEF fluid and allow the gauge to update after a period of run time. Under very cold conditions, it is possible that the gauge may not reflect the new fill level for several drives.
- Outside temperature can affect DEF consumption. In cold conditions, 12° F (-11° C) and below, the DEF gauge needle can stay on a fixed position and may not move for extended periods of time. This is a normal function of the system.

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**INSTRUMENT CLUSTER — PREMIUM (DID)**



0403084413US

**Premium DID Instrument Cluster — If Equipped**

1. Tachometer
  - Indicates the engine speed in revolutions per minute (RPM x 1000).
2. Engine Coolant Temperature
  - This gauge shows the engine coolant temperature. The gauge pointer will likely show higher temperatures when driving in hot weather, up mountain grades, or in heavy stop and go traffic. If the red Warning Light turns on while driving, safely bring the vehicle to a stop, and turn off the engine. DO NOT operate the vehicle until the cause is corrected.

**CAUTION!**

Driving with a hot engine cooling system could damage your vehicle. If the temperature gauge reads "H" pull over and stop the vehicle. Idle the vehicle with the air conditioner turned off until the pointer

*(Continued)*

**CAUTION! (Continued)**

drops back into the normal range. If the pointer remains on the "H", turn the engine off immediately and call an authorized dealer for service.

**WARNING!**

A hot engine cooling system is dangerous. You or others could be badly burned by steam or boiling coolant. You may want to call an authorized dealer for service if your vehicle overheats. If you decide to look under the hood yourself, see "Maintaining Your Vehicle." Follow the warnings under the "Cooling System Pressure Cap" paragraph.

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### 3. Oil Pressure Gauge

- The pointer should always indicate some oil pressure when the engine is running. A continuous high or low reading under normal driving conditions may indicate a lubrication system malfunction. Immediate service should be obtained from an authorized dealer.

### 4. Speedometer

- Indicates vehicle speed.

### 5. Fuel Gauge

- The pointer shows the level of fuel in the fuel tank when the ignition switch is in the ON/RUN position.

### 6. Driver Information Display (DID)

- When the appropriate conditions exist, this display shows the Driver Information Display (DID) messages. Refer to “Driver Information Display” in “Understanding Your Instrument Panel” for further information.

### 7. DEF Gauge

- The DEF Gauge displays the actual level of Diesel Exhaust Fluid in the DEF tank. Diesel Exhaust Fluid (DEF) is required to maintain normal vehicle operation and emissions compliance. If something is wrong with the gauge, a DEF Warning Message or Malfunction Indicator Light (MIL) will be displayed. More information is available in the Electronic Vehicle Information (EVIC) or Driver Information Display (DID) section under the heading of Diesel Exhaust Fluid (DEF) Warning Messages.

**NOTE:**

- The gauge may take up to five seconds to update after adding a gallon or more of Diesel Exhaust Fluid (DEF) to the DEF tank. If you have a fault related to the DEF system, the gauge may not update to the new level. See your authorized dealer for service.
- The DEF gauge may also not immediately update after a refill if the temperature of the DEF fluid is below 12F (-11C). The DEF line heater will possibly warm up the DEF fluid and allow the gauge to update after a period of run time. Under very cold conditions, it is possible that the gauge may not reflect the new fill level for several drives.
- Outside temperature can affect DEF consumption. In cold conditions, 12° F (-11° C) and below, the DEF gauge needle can stay on a fixed position and may not move for extended periods of time. This is a normal function of the system.

**WARNING AND INDICATOR LIGHTS**

**IMPORTANT:** The warning / indicator light switches on in the instrument panel together with a dedicated message and/or acoustic signal when applicable. These indications are indicative and precautionary and as such must not be considered as exhaustive and/or alternative to the information contained in the Owner Manual, which you are advised to read carefully in all cases. Always refer to the information in this chapter in the event of a failure indication.

All active telltales will display first if applicable. The system check menu may appear different based upon equipment options and current vehicle status. Some telltales are optional and may not appear.

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**Red Telltale Indicator Lights**

**Seat Belt Reminder Warning Light**

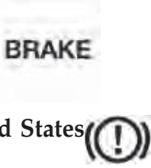
Red Telltale Light	What It Means
	<p><b>Seat Belt Reminder Warning Light</b> When the ignition switch is first turned to ON/RUN, this light will turn on for four to eight seconds as a bulb check. During the bulb check, if the driver's seat belt is unbuckled, a chime will sound. After the bulb check or when driving, if the driver seat belt remains unbuckled, the Seat Belt Reminder Light will flash or remain on continuously and a chime will sound. Refer to "Occupant Restraints" in "Things To Know Before Starting Your Vehicle" for further information.</p>

### Air Bag Warning Light

Red Telltale Light	What It Means
	<p><b>Air Bag Warning Light</b> This light will turn on for four to eight seconds as a bulb check when the ignition switch is first turned to ON/RUN. If the light is either not on during starting, stays on, or turns on while driving, have the system inspected at an authorized dealer as soon as possible. This light will illuminate with a single chime when a fault with the Air Bag Warning Light has been detected, it will stay on until the fault is cleared. If the light comes on intermittently or remains on while driving, have an authorized dealer service the vehicle immediately. Refer to "Occupant Restraints" in "Things To Know Before Starting Your Vehicle" for further information.</p>

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**Brake Warning Light**

Red Telltale Light	What It Means
 <p>United States</p> <p>Canada</p>	<p><b>Brake Warning Light</b>                      This light monitors various brake functions, including brake fluid level and parking brake application. If the brake light turns on it may indicate that the parking brake is applied, that the brake fluid level is low, or that there is a problem with the anti-lock brake system reservoir.</p> <p>If the light remains on when the parking brake has been disengaged, and the fluid level is at the full mark on the master cylinder reservoir, it indicates a possible brake hydraulic system malfunction or that a problem with the Brake Booster has been detected by the Anti-Lock Brake System (ABS) / Electronic Stability Control (ESC) system. In this case, the light will remain on until the condition has been corrected. If the problem is related to the brake booster, the ABS pump will run when applying the brake, and a brake pedal pulsation may be felt during each stop.</p>

The dual brake system provides a reserve braking capacity in the event of a failure to a portion of the hydraulic system. A leak in either half of the dual brake system is indicated by the Brake Warning Light, which will turn on when the brake fluid level in the master cylinder has dropped below a specified level.

The light will remain on until the cause is corrected.

**NOTE:** The light may flash momentarily during sharp cornering maneuvers, which change fluid level conditions. The vehicle should have service performed, and the brake fluid level checked.

If brake failure is indicated, immediate repair is necessary.

**WARNING!**

**Driving a vehicle with the red brake light on is dangerous. Part of the brake system may have failed. It will take longer to stop the vehicle. You could have a collision. Have the vehicle checked immediately.**

Vehicles equipped with the Anti-Lock Brake System (ABS) are also equipped with Electronic Brake Force Distribution (EBD). In the event of an EBD failure, the

Brake Warning Light will turn on along with the ABS Light. Immediate repair to the ABS system is required.

Operation of the Brake Warning Light can be checked by turning the ignition switch from the OFF position to the ON/RUN position. The light should illuminate for approximately two seconds. The light should then turn off unless the parking brake is applied or a brake fault is detected. If the light does not illuminate, have the light inspected by an authorized dealer.

The light also will turn on when the parking brake is applied with the ignition switch in the ON/RUN position.

**NOTE:** This light shows only that the parking brake is applied. It does not show the degree of brake application.

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Vehicle Security Warning Light — If Equipped

Red Telltale Light	What It Means
	<b>Vehicle Security Warning Light</b> This light will flash at a fast rate for approximately 15 seconds when the vehicle security alarm is arming, and then will flash slowly until the vehicle is disarmed.

**Engine Temperature Warning Light**

Red Warning Light	What It Means
	<p><b>Engine Temperature Warning Light</b>                      This light warns of an overheated engine condition. As engine coolant temperatures rise and the gauge approaches <b>H</b>, this indicator will illuminate and a single chime will sound after reaching a set threshold.                      If the light turns on while driving, safely pull over and stop the vehicle. If the A/C system is on, turn it off. Also, shift the transmission into NEUTRAL and idle the vehicle. If the temperature reading does not return to normal, turn the engine off immediately and call for service. Refer to “If Your Engine Overheats” in “What To Do In Emergencies” for further information.</p>

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Charging System Warning Light

Red Telltale Light	What It Means
	<p><b>Charging System Warning Light</b></p> <p>This light shows the status of the electrical charging system. If the light stays on or comes on while driving, turn off some of the vehicle's nonessential electrical devices or increase engine speed (if at idle). If the charging system light remains on, it means that the vehicle is experiencing a problem with the charging system. Obtain SERVICE IMMEDIATELY. See an authorized dealer.</p> <p>If jump starting is required, refer to "Jump Starting Procedures" in "What To Do In Emergencies."</p>

### Oil Pressure Warning Light

Red Telltale Light	What It Means
	<p><b>Oil Pressure Warning Light</b> This light indicates low engine oil pressure. If the light turns on while driving, stop the vehicle and shut off the engine as soon as possible. A chime will sound when this light turns on. Do not operate the vehicle until the cause is corrected. This light does not indicate how much oil is in the engine. The engine oil level must be checked under the hood.</p>

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Electronic Throttle Control (ETC) Warning Light

Red Telltale Light	What It Means
	<p><b>Electronic Throttle Control (ETC) Warning Light</b></p> <p>This light informs you of a problem with the Electronic Throttle Control (ETC) system. If a problem is detected while the engine is running, the light will either stay on or flash depending on the nature of the problem. Cycle the ignition key when the vehicle is safely and completely stopped and the transmission is placed in the PARK position. The light should turn off. If the light remains on with the engine running, your vehicle will usually be drivable; however, see an authorized dealer for service as soon as possible.</p> <p>If the light continues to flash when the engine is running, immediate service is required and you may experience reduced performance, an elevated/rough idle, or engine stall and your vehicle may require towing. The light will come on when the ignition is first turned to ON/RUN and remain on briefly as a bulb check. If the light does not come on during starting, have the system checked by an authorized dealer.</p>

**Electric Power Steering Fail Warning — If Equipped**

Red Telltale Light	What It Means
	<p><b>Electric Power Steering Fail Warning</b>                      This light is used to manage the electrical warning of the EPS (Power Steering System). Refer to “Power Steering” in “Starting and Operating” for further information.</p>

**Trailer Brake Disconnected Warning Light**

Red Warning Light	What It Means
	<p><b>Trailer Brake Disconnected Warning Light</b>                      This telltale is on when the Trailer Brake has been disconnected.</p>

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Oil Pressure Warning Light

Red Telltale Light	What It Means
	<p><b>Oil Pressure Warning Light</b> This light indicates low engine oil pressure. If the light turns on while driving, stop the vehicle and shut off the engine as soon as possible. A chime will sound when this light turns on. Do not operate the vehicle until the cause is corrected. This light does not indicate how much oil is in the engine. The engine oil level must be checked under the hood.</p>

### Door Open Warning Light

Red Telltale Light	What It Means
	<b>Door Open Warning Light</b> This indicator will illuminate when a door is ajar/open and not fully closed.

**NOTE:** Door Open Warning Light will differ depending on the equipped instrument cluster display

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**Yellow Telltale Indicator Lights**

**Engine Check/Malfunction Indicator Light (MIL)**

Yellow Telltale Light	What It Means
	<p><b>Engine Check/Malfunction Indicator Light (MIL)</b>                      The Engine Check/Malfunction Indicator Light (MIL) is a part of an Onboard Diagnostic System called OBD II that monitors engine and automatic transmission control systems. The light will illuminate when the ignition is in the ON position before engine start. If the bulb does not come on when turning the key from OFF to ON/RUN, have the condition checked promptly.</p> <p>Certain conditions, such as a loose or missing gas cap, poor quality fuel, etc., may illuminate the light after engine start. The vehicle should be serviced if the light stays on through several typical driving styles. In most situations, the vehicle will drive normally and will not require towing.</p> <p>When the engine is running, the MIL may flash to alert serious conditions that could lead to immediate loss of power or severe catalytic converter damage. The vehicle should be serviced as soon as possible if this occurs.</p>

**CAUTION!**

Prolonged driving with the Malfunction Indicator Light (MIL) on could cause damage to the engine control system. It also could affect fuel economy and driveability. If the MIL is flashing, severe catalytic converter damage and power loss will soon occur. Immediate service is required.

**WARNING!**

A malfunctioning catalytic converter, as referenced above, can reach higher temperatures than in normal operating conditions. This can cause a fire if you drive slowly or park over flammable substances such as dry plants, wood, cardboard, etc. This could result in death or serious injury to the driver, occupants or others.

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Electronic Stability Control (ESC) Indicator Light — If Equipped

Yellow Telltale Light	What It Means
	<p><b>Electronic Stability Control (ESC) Indicator Light</b></p> <p>The “ESC Indicator Light” in the instrument cluster will come on when the ignition switch is turned to the ON/RUN position. It should go out with the engine running. If the “ESC Indicator Light” comes on continuously with the engine running, a malfunction has been detected in the ESC system. If this light remains on after several ignition cycles, and the vehicle has been driven several miles (kilometers) at speeds greater than 30 mph (48 km/h), see your authorized dealer as soon as possible to have the problem diagnosed and corrected.</p> <ul style="list-style-type: none"> <li>• The “ESC Off Indicator Light” and the “ESC Indicator Light” come on momentarily each time the ignition switch is turned to ON/RUN.</li> <li>• Each time the ignition is turned to ON/RUN, the ESC system will be ON, even if it was turned off previously.</li> <li>• The ESC system will make buzzing or clicking sounds when it is active. This is normal; the sounds will stop when ESC becomes inactive following the maneuver that caused the ESC activation.</li> </ul>

**Electronic Stability Control (ESC) OFF Indicator Light — If Equipped**

Yellow Telltale Light	What It Means
 The icon shows a steering wheel with a wavy line through it, representing electronic stability control, and the word "OFF" below it.	<b>Electronic Stability Control (ESC) OFF Indicator Light</b> This light indicates the Electronic Stability Control (ESC) is off.

**Low Washer Fluid Indicator Light — If Equipped**

Yellow Telltale Light	What It Means
 The icon shows a windshield with a wiper and a low fluid level indicator.	<b>Low Washer Fluid Indicator Light</b> This indicator will illuminate when the windshield washer fluid is low.

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Tire Pressure Monitoring Indicator Light

Yellow Telltale Light	What It Means
	<p><b>Tire Pressure Monitoring Indicator Light</b></p> <p>The warning light switches on and a message is displayed to indicate that the tire pressure is lower than the recommended value and/or that slow pressure loss is occurring. In these cases, optimal tire duration and fuel consumption may not be guaranteed.</p> <p>Should one or more tires be in the condition mentioned above, the display will show the indications corresponding to each tire in sequence.</p> <p>In any situation in which the message on the display is "See manual", it is <b>ESSENTIAL</b> to refer to the contents of the "Wheels" paragraph in the "Technical data" chapter, strictly complying with the indications that you find there.</p>

**IMPORTANT:** Do not continue driving with one or more flat tires as handling may be compromised. Stop the vehicle, avoiding sharp braking and steering. Repair immediately using the dedicated tire repair kit and contact your authorized dealership as soon as possible.

Each tire, including the spare (if provided), should be checked monthly when cold and inflated to the inflation pressure recommended by the vehicle manufacturer on the vehicle placard or tire inflation pressure label. If your vehicle has tires of a different size than the size indicated

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on the vehicle placard or tire inflation pressure label, you should determine the proper tire inflation pressure for those tires.

As an added safety feature, your vehicle has been equipped with a Tire Pressure Monitoring System (TPMS) that illuminates a low tire pressure telltale when one or more of your tires is significantly under-inflated. Accordingly, when the low tire pressure telltale illuminates, you should stop and check your tires as soon as possible and inflate them to the proper pressure. Driving on a significantly under-inflated tire causes the tire to overheat and can lead to tire failure. Under-inflation also reduces fuel efficiency and tire tread life, and may affect the vehicle's handling and stopping ability.

Please note that the TPMS is not a substitute for proper tire maintenance, and it is the driver's responsibility to maintain correct tire pressure, even if under-inflation has not reached the level to trigger illumination of the TPMS low tire pressure telltale.

Your vehicle has also been equipped with a TPMS malfunction indicator to indicate when the system is not operating properly. The TPMS malfunction indicator is combined with the low tire pressure telltale. When the system detects a malfunction, the telltale will flash for approximately one minute and then remain continuously illuminated. This sequence will continue upon subsequent vehicle start-ups as long as the malfunction exists. When the malfunction indicator is illuminated, the system may not be able to detect or signal low tire pressure as intended. TPMS malfunctions may occur for a variety of reasons, including the installation of replacement or alternate tires or wheels on the vehicle that prevent the TPMS from functioning properly. Always check the



**Low Fuel Indicator Light**

Yellow Telltale Light	What It Means
	<p><b>Low Fuel Indicator Light</b> When the fuel level reaches approximately 3.0 gal (11.0 L) this light will turn on, and remain on until fuel is added.</p>

**Anti-Lock Brake (ABS) Indicator Light**

Yellow Telltale Light	What It Means
	<p><b>Anti-Lock Brake (ABS) Indicator Light</b> After the ignition is turned on, the Anti-Lock Brake System (ABS) light illuminates to indicate function check at vehicle startup. If the light remains on after startup or comes on and stays on at road speeds, it may indicate that the ABS has detected a malfunction or has become inoperative. The system reverts to standard non-anti-lock brakes. If both the Brake Warning Light and the ABS Warning Light are on, see an authorized dealer immediately. Refer to "Anti-Lock Brake System" in "Starting And Operating" for further information.</p>

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Transmission Temperature Indicator Light

Red Telltale Light	What It Means
	<p><b>Transmission Temperature Indicator Light</b>                      This light indicates that the transmission fluid temperature is running hot. This may occur with severe usage, such as trailer towing. If this light turns on, safely pull over and stop the vehicle. Then, shift the transmission into NEUTRAL and run the engine at idle or faster until the light turns off.</p>

**CAUTION!**

Continuous driving with the Transmission Temperature Warning Light illuminated will eventually cause severe transmission damage or transmission failure.

**WARNING!**

If you continue operating the vehicle when the Transmission Temperature Warning Light is illuminated you could cause the fluid to boil over, come in contact with hot engine or exhaust components and cause a fire.

### Rear Fog Light Indicator — If Equipped

Yellow Telltale Light	What It Means
	<b>Rear Fog Light Indicator</b> This indicator will illuminate when the rear fog lights are on.

### Low Coolant Level Indicator Light

Yellow Telltale Light	What It Means
	<b>Low Coolant Level Indicator Light</b> This telltale will turn on to indicate the vehicle coolant level is low.

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**Air Suspension Payload Protection Telltale — If Equipped**

Yellow Telltale Light	What It Means
	<p><b>Air Suspension Payload Protection Telltale</b>                      This telltale will turn on to indicate that the maximum payload may have been exceeded or load leveling cannot be achieved at its current ride height. Protection Mode will automatically be selected in order to “protect” the air suspension system, air suspension adjustment is limited due to payload.</p>

**TOW/HAUL Indicator Light**

Yellow Telltale Light	What It Means
	<p><b>TOW/HAUL Indicator Light</b>                      This light will illuminate when TOW HAUL mode is selected.</p>

**Cargo Light — If Equipped**

Yellow Tell-tale Light	What It Means
	<p><b>Cargo Light</b> The cargo light will illuminate when the cargo light is activated by pressing the cargo light button on the headlight switch.</p>

**Loose Fuel Filler Cap Indicator Light — If Equipped**

Yellow Telltale Light	What It Means
	<p><b>Loose Fuel Filler Cap Indicator Light</b> This light will illuminate when fuel filler cap is loose. Properly close the filler cap to disengage the light. If the light does not turn off, please see your authorized dealer.</p>

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**Service Stop/Start System Indicator Light — If Equipped**

Yellow Telltale Light	What It Means
	<p><b>Service Stop/Start System Indicator Light</b>                      This telltale will turn on to indicate the Stop/Start system is not functioning properly and service is required.</p>

**Air Suspension Off-Road 1 Indicator Light — If Equipped**

Yellow Telltale Light	What It Means
	<p><b>Air Suspension Off-Road 1 Indicator Light</b>                      This light will illuminate when the air suspension system is set to the Off-Road 1 setting. For further information, refer to “Air Suspension System” in “Starting And Operating”.</p>

**Air Suspension Off-Road 2 Indicator Light — If Equipped**

Yellow Telltale Light	What It Means
	<p><b>Air Suspension Off-Road 2 Indicator Light</b>                      This light will illuminate when the air suspension system is set to the Off-Road 2 setting. For further information, refer to “Air Suspension System” in “Starting And Operating”.</p>

**Air Suspension Ride Height Raising Indicator Light— If Equipped**

Yellow Telltale Light	What It Means
	<p><b>Air Suspension Ride Height Raising Indicator Light</b>                      This light will blink and alert the driver that the vehicle is changing to a higher ride height.</p>

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**Air Suspension Ride Height Lowering Indicator Light— If Equipped**

Yellow Telltale Light	What It Means
	<p><b>Air Suspension Ride Height Lowering Indicator Light</b>                      This light will blink and alert the driver that the vehicle is changing to a lower ride height.</p>

**4WD Indicator Light — If Equipped**

Yellow Telltale Light	What It Means
	<p><b>4WD Indicator Light</b>                      This light alerts the driver that the vehicle is in the four-wheel drive mode, and the front and rear driveshafts are mechanically locked together forcing the front and rear wheels to rotate at the same speed.</p>

**4 Low Indicator Light — If Equipped**

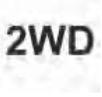
Yellow Telltale Light	What It Means
	<p><b>4 Low Indicator Light</b>                      This light alerts the driver that the vehicle is in the four-wheel drive LOW mode. The front and rear driveshafts are mechanically locked together forcing the front and rear wheels to rotate at the same speed. Low range provides a greater gear reduction ratio to provide increased torque at the wheels.                      Refer to “Four-Wheel Drive Operation — If Equipped” in “Starting And Operating” for further information on four-wheel drive operation and proper use.</p>

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Service 4WD Indicator Light — If Equipped

Yellow Telltale Light	What It Means
	<b>Service 4WD Indicator Light</b> If the light stays on or comes on during driving, it means that the 4WD system is not functioning properly and that service is required. We recommend you drive to the nearest service center and have the vehicle serviced immediately.

2WD Indicator Light — If Equipped

Yellow Telltale Light	What It Means
	<b>2WD Indicator Light</b> This light alerts the driver that the vehicle is in the two-wheel drive mode.

**Wait To Start Light — If Equipped**

Yellow Telltale Light	What It Means
	<p><b>Wait To Start Light</b>                      The “Wait To Start” telltale will illuminate for approximately two seconds when the ignition is turned to the RUN position. It’s duration may be longer based on colder operating conditions. Vehicle will not initiate start until telltale is out. Refer to “Starting Procedures” in “Starting and Operating” for further information.</p> <p><b>NOTE:</b> The “Wait To Start” telltale may not illuminate if the intake manifold temperature is warm enough.</p>

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**Water in Fuel Indicator Light — If Equipped**

Yellow Telltale Light	What It Means
	<p><b>Water in Fuel Indicator Light</b>                      The “Water In Fuel Indicator Light” will illuminate when there is water detected in the fuel filters. If this light remains on, DO NOT start the vehicle before you drain the water from the fuel filters to prevent engine damage. Refer to “Maintenance Procedures” in “Maintaining Your Vehicle” for further information.</p>

**Low Diesel Exhaust Fluid (DEF) Indicator Light — If Equipped**

Yellow Telltale Light	What It Means
	<p><b>Low Diesel Exhaust Fluid (DEF) Indicator Light</b>                      The Low Diesel Exhaust Fluid (DEF) Indicator will illuminate if the vehicle is low on Diesel Exhaust Fluid (DEF). Refer to “Starting And Operating” for further information.</p>

**Green Telltale Indicator Lights**

**Park/Headlight ON Indicator Light**

Green Telltale Light	What It Means
	<p><b>Park/Headlight ON Indicator Light</b>                      This indicator will illuminate when the park lights or headlights are turned on.</p>

**Front Fog Indicator Light — If Equipped**

Green Telltale Light	What It Means
	<p><b>Front Fog Indicator Light</b>                      This indicator will illuminate when the front fog lights are on.</p>

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Turn Signal Indicator Lights

Green Tell-tale Light	What It Means
	<p><b>Turn Signal Indicator Lights</b>                      The instrument cluster arrow will flash independently for the LEFT or RIGHT turn signal as selected, as well as the exterior turn signal lamp(s) (front and rear) as selected when the multi-function lever is moved down (LEFT) or up (RIGHT).</p> <p><b>NOTE:</b></p> <ul style="list-style-type: none"> <li>• A continuous chime will sound if the vehicle is driven more than 1 mile (1.6 km) with either turn signal on.</li> <li>• Check for an inoperative outside light bulb if either indicator flashes at a rapid rate.</li> </ul>

### Stop/Start Active Indicator Light — If Equipped

Green Telltale Light	What It Means
	<b>Stop/Start Active Indicator Light</b> This telltale will illuminate when the Stop/Start function is in “Autostop” mode.

### Electronic Speed Control Set Indicator Light — If Equipped

Green Telltale Light	What It Means
	<b>Electronic Speed Control Set Indicator Light</b> This light will turn on when the electronic speed control has been set.

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4WD AUTO Indicator Light — If Equipped

Green Telltale Light	What It Means
	<p><b>4WD AUTO Indicator Light</b></p> <p>This light alerts the driver that the vehicle is in the four-wheel drive auto mode, and the front axle is engaged, but the vehicle's power is sent to the rear wheels. Four-wheel drive will be automatically engaged when the vehicle senses a loss of traction.</p> <p>For further information on four-wheel drive operation and proper use, refer to "Four-Wheel Drive Operation — If Equipped" in "Starting And Operating."</p>

**White Telltale Indicator Light**

**Electronic Speed Control ON Indicator Light**

White Telltale Light	What It Means
	<p><b>Electronic Speed Control ON Indicator Light</b>                      This light will turn on when the electronic speed control is ON.</p>

**Electronic Speed Control SET Indicator Light — If Equipped**

White Telltale Light	What It Means
	<p><b>Electronic Speed Control SET Indicator Light</b>                      This light will turn on when the electronic speed control is set. Refer to “Electronic Speed Control” in “Understanding The Features Of Your Vehicle” for further information.</p>

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Hill Decent Control (HDC) Indicator Light — If Equipped

White Telltale Light	What It Means
	<p><b>Hill Decent Control (HDC) Indicator Light</b> This indicator will illuminate when Hill Decent Control (HDC) has been selected using the Hill Decent Control Switch. Refer to “Electronic Brake Control” in “Starting And Operating” for further information.</p>

**Blue Telltale Indicator Light**

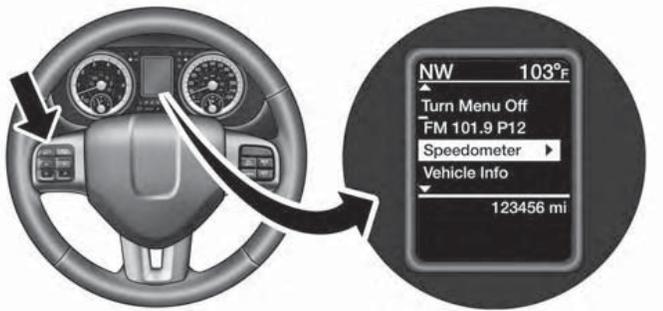
**High Beam Indicator Light**

Blue Telltale Light	What It Means
	<p><b>High Beam Indicator Light</b> This indicator shows that the high beam headlights are on. Push the multifunction control lever away from you to switch the headlights to high beam. Pull the lever toward you to switch the headlights back to low beam. Pull the lever toward you for a temporary high beam on, "flash to pass" scenario.</p>

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**ELECTRONIC VEHICLE INFORMATION CENTER (EVIC)**

The Electronic Vehicle Information Center (EVIC) features a driver-interactive display that is located in the instrument cluster.



Electronic Vehicle Information Center (EVIC)

This system conveniently allows the driver to select a variety of useful information by pressing the switches mounted on the steering wheel.

Refer to “Electronic Vehicle Information Center – If Equipped” in the Owner’s Manual for further information.

**Instrument Cluster Messages**

When the appropriate conditions exist, the Instrument Cluster Displays the following messages:

- System Setup Unavailable – Vehicle Not in Park
- System Setup Unavailable – Vehicle in Motion
- Service Air Filter
- Perform Service
- Exhaust Filter XX% Full Safely Drive at Highway Speeds To Remedy — If Equipped

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- Exhaust Filter Full – Power Reduced See Dealer — If Equipped
- Exhaust Service Required – See Dealer Now — If Equipped
- Exhaust System – Filter XX% Full Service Required See Dealer — If Equipped
- Exhaust System – Regeneration In Process Exhaust Filter XX% Full — If Equipped
- Exhaust System – Regeneration Completed — If Equipped
- DEF Low Refill Soon
- Speed Limited to 5 MPH in XXX mi Refill DEF
- 5 MPH Max Speed on Restart, Long Idle or Refuel Refill DEF
- 5 MPH Max Speed Refill DEF
- Service DEF System See Dealer
- 5 MPH Max Speed in XXX mi Service DEF System See Dealer
- 5 MPH Max Speed on Restart, Long Idle or Refuel Service DEF See Dealer
- 5 MPH Max Speed Service DEF System See Dealer
- Coolant Low
- Engine Power Reduced During Warmup
- Engine Power Reduced up to 30-sec During Warmup
- Engine Power Reduced up to 2-min During Warmup
- Active Airbox Service Required See Dealer

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**Vehicle Information (Customer Information Features)**

Push and release the UP  $\triangle$  arrow or DOWN  $\nabla$  arrow button until "Vehicle Info" displays in the Cluster. Push the RIGHT  $\triangleright$  arrow or LEFT  $\triangleleft$  arrow button to scroll through the available Vehicle Information sub menu(s) to display anyone of the following choices.



Steering Wheels Buttons

**Vehicle Information Sub Menus**

- *Battery Voltage*

Displays the actual battery voltage.

**NOTE:** The battery voltage may show a fluctuation at various engine temperatures. This cycling operation is caused by the post-heat cycle of the intake manifold heater system. The number of cycles and the length of the cycling operation is controlled by the engine control module. Post-heat operation can run for several minutes, and then the electrical system and voltmeter needle will stabilize.

- *Coolant Temp*

Displays the actual coolant temperature.

- *Oil Pressure*

Displays the actual oil pressure.

- *Trans Temperature*

Displays the actual automatic transmission sump temperature.

- *Engine Hours*

Displays the total hours of engine operation, and the hours in drive and at idle.

- *Oil Life*

Displays the percentage of oil filter life remaining, and the miles since the last reset.

- *Fuel Filter Life*

Displays the percentage of fuel filter life remaining, and the miles since the last reset.

**NOTE:** Refer to Fuel Filter Life Reset in this section for further information.

- *Exhaust Brake*

Displays the actual exhaust brake power.

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- **Turbo Boost**

Displays the actual turbo boost value.

- **Tire Pressure Monitor System**

Displays the actual tire pressure.

- **Gauge Summary**

Displays the coolant, trans, oil temp and oil pressure.

- **Oil Temp**

Displays the actual oil temperature.

### Diesel Indicator Lights

#### Water In Fuel Indicator Light



The “Water In Fuel Indicator Light” will illuminate when there is water detected in the fuel filters. If this light remains on, DO NOT start the vehicle before you drain the water from the

fuel filters to prevent engine damage. Refer to “Maintenance Procedures/Draining Fuel/Water Separator Filters” in “Maintaining Your Vehicle” for further information.

#### Wait To Start Light



The “Wait To Start Light” will illuminate when the ignition is turned to the RUN position and the intake manifold temperature is below 66°F (19°C). Wait until the “Wait To Start Light” turns OFF, then start the vehicle. Refer to “Starting Procedures” in “Starting and Operating” for further information.

**NOTE:** The “Wait To Start Light” may not illuminate if the intake manifold temperature is warm enough.

#### Low Coolant Level Indicator



This telltale will turn on to indicate the vehicle coolant level is low.

### Cold Ambient Derate Mode Messages

The vehicle will display messages when a derate (engine power reduction) is activated to protect the turbocharger during engine start up in cold ambient temperatures.

- **Engine Power Reduced During Warmup** — This message will display during start up when the ambient temperature is between 10° F (-12° C) and -10° F (-23° C).
- **Engine Power Reduced Up To 30 Sec (Seconds) During Warmup** — This message will display during start up when the ambient temperature is between -10° F (-23° C) and -25 F (-32° C).
- **Engine Power Reduced Up To 2 Min (Minutes) During Warmup** — This message will display during start up when the ambient temperature is -25° F (-32° C) and below.

- **Coolant Low** — This telltale will turn on to indicate the vehicle coolant level is low. See “Adding Coolant” under the section “Maintaining Your Vehicle” for more information.

### Diesel Particulate Filter (DPF) Messages

The Cummins diesel engine meets all diesel emissions standards, resulting in one of the lowest emitting diesel engines ever produced. To achieve these emissions standards, your vehicle is equipped with a state-of-the-art engine and exhaust system. These systems are seamlessly integrated into your vehicle and managed by the Powertrain Control Module (PCM). The PCM manages engine combustion to allow the exhaust system’s catalyst to trap and burn Particulate Matter (PM) pollutants, with no input or interaction on your part.

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**WARNING!**

A hot exhaust system can start a fire if you park over materials that can burn. Such materials might be grass or leaves coming into contact with your exhaust system. Do not park or operate your vehicle in areas where your exhaust system can contact anything that can burn.

Your vehicle has the ability to alert you to additional maintenance required on your vehicle or engine. Refer to the following messages that may be displayed on your EVIC or DID:

- **Perform Service** — Your vehicle will require emissions maintenance at a set interval. To help remind you when this maintenance is due, the Cluster will display "Perform Service". When the "Perform Service" message is displayed on the EVIC/DID it is necessary to have the emissions maintenance performed. Emissions

maintenance may include replacing the Closed Crankcase Ventilation (CCV) filter element. The procedure for clearing and resetting the "Perform Service" indicator message is located in the appropriate Service Information.

- **Exhaust System — Regeneration Required Now** — "Exhaust Filter XX% Full Safely Drive at Highway Speeds to Remedy" will be displayed in the Cluster if the exhaust particulate filter reaches 80% of its maximum storage capacity. Under conditions of exclusive short duration and low speed driving cycles, your Cummins diesel engine and exhaust after-treatment system may never reach the conditions required to remove the trapped PM. If this occurs, the "Exhaust Filter XX% Full Safely Drive at Highway Speeds to Remedy" message will be displayed in the EVIC/DID. If this message is displayed, you will hear one chime to assist in alerting you of this condition

- By simply driving your vehicle at highway speeds for as little as 45 minutes, you can remedy the condition in the particulate filter system and allow your Cummins diesel engine and exhaust after-treatment system to remove the trapped PM and restore the system to normal operating condition.
- **Exhaust System — Regeneration In Process Exhaust Filter XX% Full** — Indicates that the Diesel Particulate Filter (DPF) is self-cleaning. Maintain your current driving condition until regeneration is completed.
- **Exhaust System — Regeneration Completed** — This message indicates that the Diesel Particulate Filter (DPF) self-cleaning is completed. If this message is displayed, you will hear one chime to assist in alerting you of this condition.
- **Exhaust Service Required — See Dealer Now** — This message indicates regeneration has been disabled due to a system malfunction. At this point the engine

Powertrain Control Module (PCM) will register a fault code, the instrument panel will display a MIL light.

**CAUTION!**

**See your authorized dealer, as damage to the exhaust system could occur soon with continued operation.**

- **Exhaust Filter Full — Power Reduced See Dealer** — This message indicates the PCM has derated the engine to limit the likelihood of permanent damage to the after-treatment system. If this condition is not corrected and a dealer service is not performed, extensive exhaust after-treatment damage can occur. To correct this condition it will be necessary to have your vehicle serviced by your local authorized dealer.

**CAUTION!**

See your authorized dealer, as damage to the exhaust system could occur soon with continued operation.

**Diesel Exhaust Fluid (DEF) Warning Messages**

Your vehicle will begin displaying warning messages when the DEF level reaches a driving range of approximately 200 miles (322 km). If the following warning message sequence is ignored, your vehicle may be limited to a maximum speed of 5 MPH (8 km/H) unless DEF is added.

- **DEF Low Refill Soon** — This message will display when the low level is reached, during vehicle start up, and with increased frequency during vehicle operation. It will be accompanied by a single chime. Approximately 5 gallons (19 Liters) of DEF is required to refill the tank when this message is initially displayed.

on pickup applications, and approximately 7 gallons (28 Liters) are required on chassis-cab applications.

- **Speed Limited to 5 MPH in XXX mi Refill DEF** — This message will continuously display if the “DEF Low Refill Soon” message is ignored, and the frequency of occurrence of the chime will increase unless up to 2 gallons (7.5 Liters) of DEF is added to the tank.
- **5 MPH Max Speed on Restart, Long Idle or Refuel Refill DEF** — This message will continuously display when the counter reaches zero, and will be accompanied by a periodic chime.
- The vehicle will only be capable of a maximum speed of 5 MPH upon the first of the following conditions to occur:
  - If the vehicle is shutoff and restarted.
  - If the vehicle is idled for an extended period of time, approximately one hour or greater.

- If the system detects that the level of fuel in the tank has increased.
- Add a minimum of 2 gallons (9.5 Liters) of DEF to the tank in order to avoid vehicle operation at a maximum speed of 5 MPH (8 km/H).

**NOTE:** A minimum of 2 gallons (9.5 Liters) may be required to restore normal vehicle operation. Although the vehicle will start normally and can be placed in gear after this message has been initially displayed, extreme caution should be utilized since the vehicle will only be capable of maneuvering at a maximum speed of 5 MPH (8 km/H).

#### **Diesel Exhaust Fluid (DEF) Fault Warning Messages**

There are five different messages which are displayed if the vehicle detects that the DEF system has been filled with a fluid other than DEF, has experienced component

failures, or when tampering has been detected. The vehicle may be limited to a maximum speed of 5 MPH (8 km/H) if the DEF system is not serviced within less than 200 miles (322 km) of the fault being detected.

When the DEF system needs to be serviced the following warnings will display:

- **Service DEF System See Dealer** — This message will display when the fault is initially detected, each time the vehicle is started, and periodically during driving. The message will be accompanied by a single chime. We recommend you drive to your nearest authorized dealer and have your vehicle serviced as soon as possible.
- **5 MPH Max Speed in 150 mi Service DEF System See Dealer** — This message will display if the DEF system has not been serviced after the “Service DEF System – See Dealer” message is displayed. This message will continuously display until the mileage counter reaches

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zero, and will be accompanied by a periodic chime. The message will continue to countdown until it reaches zero unless the vehicle is serviced. We recommend you drive to your nearest authorized dealer and have your vehicle serviced immediately.

**NOTE:** Under some circumstances this mileage counter may start with a value of less than 150 miles (241 km). For example, if recurring faults are detected in a time interval of less than 40 hours, the counter may restart at the value where it stopped when a previous fault was temporarily remedied, or at a minimum of 50 miles (80 km).

- **5 MPH Max Speed on Restart, Long Idle or Refuel Service DEF See Dealer** — This message will continuously display when the mileage counter reaches zero, and will be accompanied by a periodic chime.
- The vehicle will only be capable of a maximum speed of 5 MPH upon the first of the following conditions to occur:
  - If the vehicle is shutoff and restarted.
  - If the vehicle is idled for an extended period of time, approximately one hour or greater.
  - If the system detects that the level of fuel in the tank has increased.
- **5 MPH Max Speed Service DEF System See Dealer** — This message will continuously display, and will be accompanied by a periodic chime. Although the vehicle can be started and placed in gear, the vehicle will only operate at a maximum speed of 5 MPH. Your vehicle will require towing, see your authorized dealer for service.

- **Incorrect DEF Detected See Dealer** — This message will display when the fault is initially detected, each time the vehicle is started, and periodically during driving. The message will be accompanied by a single chime. We recommend you drive to your nearest authorized dealer and have your vehicle serviced as soon as possible.

**NOTE:** When this message is displayed, the engine can still be started. However, the vehicle will only operate at a maximum speed of 5 MPH.

#### **RAM Active Air System**

Your vehicle is equipped with an advanced Ram Active Air system that provides enhanced performance, especially when towing under demanding hot or high altitude conditions. If the EVIC/DID displays the message “Active Airbox Service Required See Dealer”, vehicle performance may be reduced until service is performed by an authorized RAM dealer.

#### **Fuel Filter Life Reset**

The cluster will display the “Service Fuel Filter” message when the fuel filter maintenance life is less than 5%. To check the remaining fuel filter life, go to the “Fuel Filter Life” screen in the “Vehicle Info” menu. When this message appears, dealers should replace both frame mounted and engine mounted fuel filters.

**NOTE:** Use the steering wheel EVIC controls for the following procedure(s)

#### **Vehicles Equipped With Passive Entry**

1. Without pressing the brake pedal, press the ENGINE START/STOP button and cycle the ignition to the ON/RUN position (do not start the engine.)
2. Press and release the **DOWN** arrow button to scroll downward through the main menu to “Vehicle Info”.

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3. Press and release the **RIGHT** arrow button to access the "Fuel Filter Life" screen.
4. Press and release the **DOWN** arrow button to select "Reset", then press and release the **Right** arrow button to select reset of the Fuel Filter Life to 100%.
5. Press and release the **Up** arrow button to exit the EVIC screen.
4. Press and release the **DOWN** arrow button to select "Reset", then press and release the **Right** arrow button to select reset of the Fuel Filter Life to 100%.
5. Press and release the **Up** arrow button to exit the EVIC screen.

**NOTE:** If the indicator message illuminates when you start the vehicle, the Fuel Filter indicator system did not reset. If necessary, repeat this procedure.

### Vehicles Not Equipped With Passive Entry

1. Without pressing the brake pedal, cycle the ignition to the ON/RUN position (do not start the engine.)
2. Press and release the **DOWN** arrow button to scroll downward through the main menu to "Vehicle Info".
3. Press and release the **RIGHT** arrow button to access the "Fuel Filter Life" screen.

### Oil Life Reset

Your vehicle is equipped with an engine oil change indicator system. The "Oil Change Required" message will display in the EVIC after a single chime has sounded, to indicate the next scheduled oil change interval. The engine oil change indicator system is duty cycle based, which means the engine oil change interval may fluctuate, dependent upon your personal driving style.

**NOTE:** Use the steering wheel EVIC controls for the following procedure(s).

#### Vehicles Equipped With Passive Entry

1. Without pressing the brake pedal, push the ENGINE START/STOP button and place the ignition to the ON/RUN position (do not start the engine).
2. Push and release the **DOWN** arrow button to scroll downward through the main menu to "Vehicle Info."
3. Push and release the **RIGHT** arrow button to access the "Vehicle Info" screen, then scroll UP or DOWN to select "Oil Life."
4. Push and hold the **RIGHT** arrow button to select "Reset," then push and release the **Right** arrow button to select "**NO**" or "**YES**" to reset the Oil Life to 100%.
5. Push and release the **UP** arrow button to exit the EVIC screen.

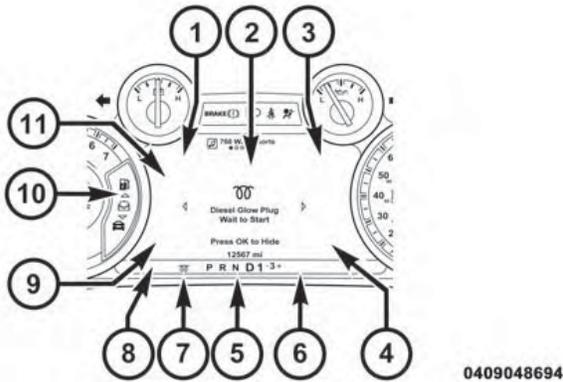
#### Vehicles Not Equipped With Passive Entry

1. Without depressing the brake pedal, cycle the ignition to the ON/RUN position (do not start the engine).
2. Push and release the **DOWN** arrow button to scroll downward through the main menu to "Vehicle Info."
3. Push and release the **RIGHT** arrow button to access the "Vehicle Info" screen then scroll **UP** or **DOWN** to select "Oil Life."
4. Push and hold the **RIGHT** arrow button to select "Reset," then select "**NO**" or "**YES**" by pushing the **RIGHT** arrow then push the **RIGHT** arrow button to select reset of the Oil Life to 100%.
5. Push and release the **UP** arrow button to exit the EVIC screen.

**NOTE:** If the indicator message illuminates when you start the vehicle, the Oil Life indicator system did not reset. If necessary, repeat this procedure.

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Driver Information Display (DID) — 7” Display



The Driver Information Display (DID) display is located in the center portion of the cluster and consists of eight sections:

1. Main Screen — The inner ring of the display will illuminate in grey under normal conditions, yellow for non critical warnings, red for critical warnings and white for on demand information.
2. Audio Information and Submenu Information — Whenever there are submenus available, the position within the submenus is shown here.
3. Selectable Information (Compass, Temp, Range to Empty, Trip A, Trip B, Average MPG, Trailer Trip (distance only), Trailer Brake Gain).
4. Air Suspension Status – If Equipped
5. Transmission Gear Position Indicator (PRND)
6. Status Menu Icons
7. Telltales/Indicators
8. 4WD Status

9. Selectable Gauge (Trans Temp, Oil Temp, Oil Life, Trailer Brake, Current MPG, Fuel Filter Life, Turbo Boost, Exhaust Brake, Battery Voltage)
10. Main Menu Items (Digital Speedometer, Vehicle Info, Fuel Economy, Trip A, Trip B, Trailer Tow, Audio, Stored Messages, Screen Setup, Vehicle Settings)
11. Selectable Gauge (Trans Temp, Oil Temp, Oil Life, Trailer Brake, Current MPG, Fuel Filter Life, Turbo Boost, Exhaust Brake, Battery Voltage)

The main display area will normally display the main menu or the screens of a selected feature of the main menu. The main display area also displays “pop up” messages that consist of approximately 60 possible warning or information messages. These pop up messages fall into several categories:

- *Five Second Stored Messages*

When the appropriate conditions occur, this type of message takes control of the main display area for five seconds and then returns to the previous screen. Most of the messages of this type are then stored (as long as the condition that activated it remains active) and can be reviewed from the “Messages” main menu item. As long as there is a stored message, an “i” will be displayed in the DID’s compass/outside temp line. Examples of this message type are “Right Front Turn Signal Lamp Out” and “Low Tire Pressure”.

- *Unstored Messages*

This message type is displayed indefinitely or until the condition that activated the message is cleared. Examples of this message type are “Turn Signal On” (if a turn signal is left on) and “Lights On” (if driver leaves the vehicle).

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- *Unstored Messages Until RUN*

These messages deal primarily with the Remote Start feature. This message type is displayed until the ignition is in the RUN state. Examples of this message type are “Remote Start Aborted - Door Ajar” and “Press Brake Pedal and Push Button to Start”.

- *Five Second Unstored Messages*

When the appropriate conditions occur, this type of message takes control of the main display area for five seconds and then returns to the previous screen. An example of this message type is “Automatic High Beams On”.

### **Diesel Indicator Lights**

This area will show reconfigurable amber telltales that relate to your diesel. These telltales include:

**NOTE:** “Refer to your OM on DVD for additional telltale information”

### **Water In Fuel Indicator Light**



The “Water In Fuel Indicator Light” will illuminate when there is water detected in the fuel filters. If this light remains on, DO NOT start the vehicle before you drain the water from the fuel filters to prevent engine damage. Refer to “Maintenance Procedures/Draining Fuel/Water Separator Filters” in “Maintaining Your Vehicle” for further information.

### **Wait To Start Light**



The “Wait To Start” telltale will illuminate for approximately two seconds when the ignition is turned to the RUN position. It’s duration may be longer based on colder operating conditions. Vehicle will not initiate start until telltale is out. Refer to “Starting Procedures” in “Starting And Operating” for further information.

**NOTE:** The “Wait To Start” telltale may not illuminate if the intake manifold temperature is warm enough.

### Low Diesel Exhaust Fluid Light



This telltale will turn on to indicate the Diesel Exhaust Fluid (DEF) is low.

### Cold Ambient Derate Mode Messages

The vehicle will display messages when a derate (engine power reduction) is activated to protect the turbocharger during engine start up in cold ambient temperatures.

- **Engine Power Reduced During Warmup** — This message will display during start up when the ambient temperature is between 10° F (-12° C) and -10° F (-23° C).

- **Engine Power Reduced Up To 30 Sec (Seconds) During Warmup** — This message will display during start up when the ambient temperature is between -10° F (-23° C) and -25 F (-32° C).
- **Engine Power Reduced Up To 2 Min (Minutes) During Warmup** — This message will display during start up when the ambient temperature is -25° F (-32° C) and below.
- **Coolant Low** — This telltale will turn on to indicate the vehicle coolant level is low. See “Adding Coolant” under the section “Maintaining Your Vehicle” for more information.

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**Diesel Particulate Filter (DPF) Messages**

The Cummins diesel engine meets all diesel emissions standards, resulting in one of the lowest emitting diesel engines ever produced. To achieve these emissions standards, your vehicle is equipped with a state-of-the-art engine and exhaust system. These systems are seamlessly integrated into your vehicle and managed by the Powertrain Control Module (PCM). The PCM manages engine combustion to allow the exhaust system's catalyst to trap and burn Particulate Matter (PM) pollutants, with no input or interaction on your part.

**WARNING!**  
A hot exhaust system can start a fire if you park over materials that can burn. Such materials might be grass or leaves coming into contact with your exhaust system. Do not park or operate your vehicle in areas

**WARNING! (Continued)**  
where your exhaust system can contact anything that can burn.

Your vehicle has the ability to alert you to additional maintenance required on your vehicle or engine. Refer to the following messages that may be displayed on your DID:

- **Perform Service** — Your vehicle will require emissions maintenance at a set interval. To help remind you when this maintenance is due, the Cluster will display "Perform Service". When the "Perform Service" message is displayed on the DID it is necessary to have the emissions maintenance performed. Emissions maintenance may include replacing the Closed Crankcase Ventilation (CCV) filter element. The procedure for

(Continued)

clearing and resetting the "Perform Service" indicator message is located in the appropriate Service Information.

- **Exhaust System — Regeneration Required Now** — "Exhaust Filter XX% Full Safely Drive at Highway Speeds to Remedy" will be displayed in the Cluster if the exhaust particulate filter reaches 80% of its maximum storage capacity. Under conditions of exclusive short duration and low speed driving cycles, your Cummins diesel engine and exhaust after-treatment system may never reach the conditions required to remove the trapped PM. If this occurs, the "Exhaust Filter XX% Full Safely Drive at Highway Speeds to Remedy" message will be displayed in the DID. If this message is displayed, you will hear one chime to assist in alerting you of this condition
- By simply driving your vehicle at highway speeds for as little as 45 minutes, you can remedy the condition in the particulate filter system and allow your Cummins diesel engine and exhaust after-treatment system to remove the trapped PM and restore the system to normal operating condition.
- **Exhaust System — Regeneration In Process Exhaust Filter XX% Full** — Indicates that the Diesel Particulate Filter (DPF) is self-cleaning. Maintain your current driving condition until regeneration is completed.
- **Exhaust System — Regeneration Completed** — This message indicates that the Diesel Particulate Filter (DPF) self-cleaning is completed. If this message is displayed, you will hear one chime to assist in alerting you of this condition.
- **Exhaust Service Required — See Dealer Now** — This messages indicates regeneration has been disabled due to a system malfunction. At this point the engine Powertrain Control Module (PCM) will register a fault code, the instrument panel will display a MIL light.

**CAUTION!**

See your authorized dealer, as damage to the exhaust system could occur soon with continued operation.

- **Exhaust Filter Full — Power Reduced See Dealer** — This message indicates the PCM has derated the engine to limit the likelihood of permanent damage to the after-treatment system. If this condition is not corrected and a dealer service is not performed, extensive exhaust after-treatment damage can occur. To correct this condition it will be necessary to have your vehicle serviced by your local authorized dealer.

**CAUTION!**

See your authorized dealer, as damage to the exhaust system could occur soon with continued operation.

**Diesel Exhaust Fluid (DEF) Warning Messages**

Your vehicle will begin displaying warning messages when the DEF level reaches a driving range of approximately 500 miles (800 km). If the following warning message sequence is ignored, your vehicle may not restart unless DEF is added within the displayed mileage shown in the Cluster message.

- **Engine Will Not Restart in XXXX mi DEF Low Refill Soon** — This message will display when DEF driving range is less than 500 miles, DEF fluid top off is required within the displayed mileage. The message will be displayed in the cluster during vehicle start up with the current allowed mileage and accompanied by a single chime. The remaining mileage can be pulled up anytime by way of the “Messages” list within the DID

- **Engine Will Not Restart in XXXX mi Refill DEF** — This message will display when DEF driving range is less than 200 miles. It is also displayed at 150 miles and 100 miles. DEF fluid top off is required with in the displayed mileage. The message will be displayed in the DID during vehicle start up with an updated distance mileage, and it will be accompanied by a single chime. Starting at 100 miles, remaining range will be continuously displayed while operating the vehicle. Chimes will also accompany the 75, 50 and 25 mile remaining distances. The DEF Low telltale will be on continuously until DEF fluid is topped off.
- **Engine Will Not Restart Refill DEF** — This message will display when the DEF driving range is less than 1 mile, DEF fluid top off is required or the engine will not restart. The message will be displayed in the DID during vehicle start up, and it will be accompanied by a single chime. The DEF Low telltale will be illuminated continuously until DEF fluid tank is filled with a minimum of two gallons of DEF.
- **Speed Limited to 5 MPH in XXX mi Refill DEF** — This message will continuously display if the “DEF Low Refill Soon” message is ignored, and the frequency of occurrence of the chime will increase unless up to 2 gallons (7.5 Liters) of DEF is added to the tank.
- **5 MPH Max Speed on Restart, Long Idle or Refuel Refill DEF** — This message will continuously display when the counter reaches zero, and will be accompanied by a periodic chime.

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- The vehicle will only be capable of a maximum speed of 5 MPH upon the first of the following conditions to occur:
  - If the vehicle is shutoff and restarted.
  - If the vehicle is idled for an extended period of time, approximately one hour or greater
  - If the system detects that the level of fuel in the tank has increased.
- Add a minimum of 2 gallons (9.5 Liters) of DEF to the tank in order to avoid vehicle operation at a maximum speed of 5 MPH (8 km/H).

**NOTE:** A minimum of 2 gallons (9.5 Liters) may be required to restore normal vehicle operation. Although the vehicle will start normally and can be placed in gear after this message has been initially displayed, extreme caution should be utilized since the vehicle will only be capable of maneuvering at a maximum speed of 5 MPH (8 km/H).

### **Diesel Exhaust Fluid (DEF) Fault Warning Messages**

There are four different messages which are displayed if the vehicle detects that the DEF system has been filled with a fluid other than DEF, has experienced component failures, or when tampering has been detected. The vehicle may be limited to a maximum speed of 5 MPH (8 km/H) if the DEF system is not serviced within less than 200 miles (322 km) of the fault being detected.

When the DEF system needs to be serviced the following warnings will display:

- **Service DEF System See Dealer** — This message will display when the fault is initially detected, each time the vehicle is started, and periodically during driving. The message will be accompanied by a single chime. We recommend you drive to your nearest authorized dealer and have your vehicle serviced as soon as possible.

- **5 MPH Max Speed in 150 mi Service DEF System See Dealer** — This message will display if the DEF system has not been serviced after the “Service DEF System – See Dealer” message is displayed. This message will continuously display until the mileage counter reaches zero, and will be accompanied by a periodic chime. The message will continue to countdown until it reaches zero unless the vehicle is serviced. We recommend you drive to your nearest authorized dealer and have your vehicle serviced immediately.
- **5 MPH Max Speed on Restart, Long Idle or Refuel Service DEF See Dealer** — This message will continuously display when the mileage counter reaches zero, and will be accompanied by a periodic chime.
- The vehicle will only be capable of a maximum speed of 5 MPH upon the first of the following conditions to occur:
  - If the vehicle is shutoff and restarted.
  - If the vehicle is idled for an extended period of time, approximately one hour or greater.
  - If the system detects that the level of fuel in the tank has increased.
- **5 MPH Max Speed Service DEF System See Dealer** — This message will continuously display, and will be accompanied by a periodic chime. Although the vehicle can be started and placed in gear, the vehicle will

**NOTE:** Under some circumstances this mileage counter may start with a value of less than 150 miles (241 km). For example, if recurring faults are detected in a time interval of less than 40 hours, the counter may restart at the value where it stopped when a previous fault was temporarily remedied, or at a minimum of 50 miles (80 km).

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only operate at a maximum speed of 5 MPH. Your vehicle will require towing, see your authorized dealer for service.

- **Engine Will Not Restart Service DEF System See Dealer** — This message will display if DEF system issue detected is not serviced during the allowed period. Your engine will not restart unless your vehicle is serviced by your authorized dealer. This message will be displayed when under 1 mile until engine will not start and each time the vehicle is started, and will be continuously displayed. The message will be accompanied by a single chime. Your Malfunction Indicator Light will be continuously illuminated. We highly recommend you drive to your nearest authorized dealer if the message appears while engine is running.

**NOTE:** When this message is displayed, the engine can still be started. However, the vehicle will only operate at a maximum speed of 5 MPH.

### **RAM Active Air System**

Your vehicle is equipped with an advanced Ram Active Air system that provides enhanced performance, especially when towing under demanding hot or high altitude conditions. If the DID displays the message “Active Airbox Service Required See Dealer”, vehicle performance may be reduced until service is performed by an authorized RAM dealer.

### **Fuel Filter Life Reset**

The cluster will display the “Service Fuel Filter” message when the fuel filter maintenance life is less than 5%. To check the remaining fuel filter life, go to the “Fuel Filter Life” screen in the “Vehicle Info” menu. When this message appears, dealers should replace both frame mounted and engine mounted fuel filters.

**NOTE:** Use the steering wheel EVIC controls for the following procedure(s)

### Vehicles Equipped With Passive Entry

1. Without pressing the brake pedal, press the ENGINE START/STOP button and place the ignition in the ON/RUN position (do not start the engine.)
2. Press and release the **DOWN** arrow button to scroll downward through the main menu to "Vehicle Info".
3. Press and release the **RIGHT** arrow button to access the "Fuel Filter Life" screen.
4. Press and hold the **RIGHT** arrow button for one second to access the Reset Confirmation screen.
5. Press and release the **UP** or **DOWN** arrow button to select "Yes" or "No" then press and hold the **RIGHT** arrow button to reset the Fuel Filter Life.
6. Press and release the **Up** arrow button to exit the EVIC screen once the Fuel Filter Life is 100%

### Vehicles Not Equipped With Passive Entry

1. Without pressing the brake pedal, cycle the ignition to the ON/RUN position (do not start the engine.)
2. Press and release the **DOWN** arrow button to scroll downward through the main menu to "Vehicle Info".
3. Press and release the **RIGHT** arrow button to access the "Fuel Filter Life" screen.
4. Press and hold the **RIGHT** arrow button for one second to access the "Fuel Filter Life Reset" screen.
5. Press and hold the **RIGHT** arrow button for one second to access the Reset Confirmation screen.
6. Press and release the **UP** or **DOWN** arrow button to select "Yes" or "No" then press and hold the **RIGHT** arrow button to reset the Fuel Filter Life.
7. Press and release the **Up** arrow button to exit the EVIC screen once the Fuel Filter Life is 100%

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**NOTE:** If the indicator message illuminates when you start the vehicle, the oil change indicator system did not reset. If necessary, repeat this procedure.

### Oil Life Reset

Your vehicle is equipped with an engine oil change indicator system. The "Oil Change Required" message will flash in the DID display for approximately 10 seconds after a single chime has sounded, to indicate the next scheduled oil change interval. The engine oil change indicator system is duty cycle based, which means the engine oil change interval may fluctuate, dependent upon your personal driving style.

**NOTE:** Use the steering wheel DID controls for the following procedure(s)

### Vehicles Equipped With Passive Entry

1. Without Pushing the brake pedal, push the ENGINE START/STOP button and cycle the ignition to the ON/RUN position (do not start the engine.)
2. Push and release the **DOWN** arrow button to scroll downward through the main menu to "Vehicle Info".
3. Push and release the **RIGHT** arrow button to access the "Oil Life" screen.
4. Push and hold the **RIGHT** arrow button for one second to access the "Oil Life Reset" screen.
5. Push and release the **DOWN** arrow button to select "Yes", then push and release the **Right** arrow button to select reset of the Oil Life.
6. Push and release the **Up** arrow button to exit the DID screen.

### Vehicles Not Equipped With Passive Entry

1. Without pushing the brake pedal, cycle the ignition to the ON/RUN position (do not start the engine.)
2. Push and release the **DOWN** arrow button to scroll downward through the main menu to "**Vehicle Info**".
3. Push and release the **RIGHT** arrow button to access the "**Oil Life**" screen.
4. Push and hold the **RIGHT** arrow button for one second to access the "**Oil Life Reset**" screen.
5. Push and release the **DOWN** arrow button to select "Yes", then push and release the **Right** arrow button to select reset of the Oil Life.
6. Push and release the **Up** arrow button to exit the DID screen.

**NOTE:** If the indicator message illuminates when you start the vehicle, the oil change indicator system did not reset. If necessary, repeat this procedure.



# STARTING AND OPERATING

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**STARTING PROCEDURES**

Before starting your vehicle, adjust your seat, adjust both inside and outside mirrors, and fasten your seat belts.

The starter should not be operated for more than 15-second intervals. Waiting a few minutes between such intervals will protect the starter from overheating.

**WARNING!**

- Do not leave children or animals inside parked vehicles in hot weather. Interior heat build up may cause serious injury or death.
- When leaving the vehicle, always remove the key fob from the ignition and lock your vehicle. If equipped with Keyless Enter-N-Go, always make sure the keyless ignition node is in "OFF" mode, remove the Key Fob from the vehicle and lock the vehicle.

**WARNING! (Continued)**

- Never leave children alone in a vehicle, or with access to an unlocked vehicle. Allowing children to be in a vehicle unattended is dangerous for a number of reasons. A child or others could be seriously or fatally injured. Children should be warned not to touch the parking brake, brake pedal or the gear selector.
- Do not leave the key fob in or near the vehicle (or in a location accessible to children), and do not leave the ignition (of a vehicle equipped with Keyless Enter-N-Go) in the ACC or ON/RUN mode. A child could operate power windows, other controls, or move the vehicle.

*(Continued)*

### Manual Transmission — If Equipped

Apply the parking brake, place the shift lever in NEUTRAL and press the clutch pedal to the floor before starting the vehicle. This vehicle is equipped with a clutch interlocking ignition system. It will not start unless the clutch is fully pressed.

### Automatic Transmission — If Equipped

Start the engine with the transmission in the NEUTRAL or PARK position. Apply the brake before shifting to any driving range.

### Tip Start Feature

**Do not** press the accelerator. Turn the ignition switch briefly to the START position and release it. The starter motor will continue to run but will automatically disengage when the engine is running.

### Keyless Enter-N-Go — If Equipped



This feature allows the driver to operate the ignition switch with the push of a button, as long as the Remote Start/Keyless Enter-N-Go Key Fob is in the passenger compartment.

### Normal Starting

#### *Using The ENGINE START/STOP Button*

1. The transmission must be in PARK or NEUTRAL.
2. Press and hold the brake pedal while pushing the ENGINE START/STOP button once.
3. The system takes over and attempts to start the vehicle. If the vehicle fails to start, the starter will disengage automatically after 25 seconds.

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4. If you wish to stop the cranking of the engine prior to the engine starting, remove your foot from the brake pedal and push the button again.

### NOTE:

- Normal starting of either a cold or a warm engine is obtained without pumping or pressing the accelerator pedal.
- Under cold weather conditions, the engine may not immediately crank if the "Wait To Start" telltale is illuminated. This is normal operation. For vehicles equipped with Keyless Enter-N-Go, the vehicle will automatically crank when the "Wait To Start" time has elapsed. See the section "Starting Procedure Engine Manifold Air Temperature 0°F to 66°F (18° C to 19°C)" for more information.

### *To Turn Off The Engine Using ENGINE START/STOP Button*

1. Place the shift lever/gear selector in PARK, then push and release the ENGINE START/STOP button.
2. The ignition switch will return to the OFF position.
3. If the shift lever/gear selector is not in PARK, the ENGINE START/STOP button must be held for two seconds or three short pushes in a row with the vehicle speed above 5 mph (8 km/h) before the engine will shut off. The ignition switch position will remain in the ACC position until the shift lever/gear selector is in PARK and the button is pushed twice to the OFF position. If the shift lever/gear selector is not in PARK and the ENGINE START/STOP button is pushed once, the EVIC/DID will display a "Vehicle Not In Park" message and the engine will remain running. Never leave a vehicle out of the PARK position, or it could roll.

**NOTE:** If the ignition switch is left in the ACC or RUN (engine not running) position and the transmission is in PARK, the system will automatically time out after 30 minutes of inactivity and the ignition will switch to the OFF position.

***ENGINE START/STOP Button Functions — With Driver's Foot OFF The Brake Pedal (In PARK Or NEUTRAL Position)***

The ENGINE START/STOP button operates similar to an ignition switch. It has three positions, OFF, ACC, RUN. To change the ignition switch positions without starting the vehicle and use the accessories follow these steps:

1. Starting with the ignition in the OFF position:
2. Push the ENGINE START/STOP button once to change the ignition to the ACC position.

3. Push the ENGINE START/STOP button a second time to change the ignition to the RUN position.
4. Push the ENGINE START/STOP button a third time to return the ignition to the OFF position.

**Keyless Enter-N-Go Starting Procedure — Engine Manifold Air Temperature 0° F To 66° F (–18° C to 19° C)**

**NOTE:** The temperature displayed in the Electronic Vehicle Information Center (EVIC) or Driver information Display (DID) does not necessarily reflect the engine manifold air temperature. Refer to “Electronic Vehicle Information Center (EVIC)” or Driver Information Display (DID)” in “Understanding Your Instrument Panel” for further information. When engine temperatures fall below 66°F (19°C) the “Wait To Start Light” will remain on indicating the intake manifold heater system is active.

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Follow the steps in the "Normal Starting" procedure except:

1. Pushing the engine start button with the driver's foot on the brake will move the ignition from OFF or ACC to RUN, and will illuminate the "Wait To Start" telltale. The engine will not immediately crank, this is normal operation.
2. The "Wait To Start" telltale will remain on for a period of time that varies depending on the engine temperature.
3. While the "Wait to Start" telltale is on, the EVIC/DID will additionally display a gauge or bar whose initial length represents the full "Wait to Start" time period. Its length will decrease until it disappears when the "Wait to Start" time has elapsed.

<b>CAUTION!</b>
<b>If the "Water in Fuel Indicator Light" remains on, DO NOT START engine before you drain the water from the fuel filters to avoid engine damage. Refer to "Maintenance Procedures/Draining Fuel/Water Separator Filter" in "Maintaining Your Vehicle" for further information.</b>

4. After the engine "Wait To Start" telltale goes off, the engine will automatically crank.

<b>CAUTION!</b>
<b>The engine may automatically crank when the "Wait To Start" time has elapsed. To abort the automatic starting process, ensure the driver's foot is fully removed from the brake pedal prior to pushing the START/STOP button to cycle the ignition off.</b>

5. After engine start-up, check to see that there is oil pressure.
6. Allow the engine to idle about three minutes until the manifold heaters have completed the post-heat cycle.
7. Release the parking brake and drive.

**NOTE:**

- Engine idle speed will automatically increase to 1,000 RPM and engage the Variable Geometry Turbocharger at low coolant temperatures to improve engine warm-up.
- The engine may not automatically crank after the engine "Wait To Start" telltale goes off if a door or the hood is ajar.
- If the engine stalls, or if the ignition switch is left ON for more than two minutes after the "Wait To Start Light" goes out, reset the grid heaters by turning the

ignition switch to the OFF position for at least five seconds and then back ON. Repeat steps 1 through 7 of "Keyless Enter-N-Go Starting Procedure – Engine Manifold Air Temperature Below 66° F (19° C)."

**Extreme Cold Weather**

The Cummins diesel engine is equipped with several features designed to assist cold weather starting and operation:

- The engine block heater is a resistance heater installed in the water jacket of the engine just above and behind the oil filter. It requires a 110–115 Volt AC electrical outlet with a grounded, three-wire extension cord.

**NOTE:** The engine block heater cord is a factory installed option. If your vehicle is not equipped, heater cords are available from your authorized MOPAR dealer.

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- A 12 Volt heater built into the fuel filter housings aid in preventing fuel gelling. It is controlled by a built-in thermostat.
- A heated intake air system both improves engine starting and reduces the amount of white smoke generated by a warming engine.

**Normal Starting Procedure — Engine Manifold Air Temperature Above 66° F (19° C)**

Observe the instrument panel cluster lights when starting the engine.

1. Always apply the parking brake.
2. Shift into PARK for an automatic transmission. For vehicles equipped with a manual transmission, fully press and hold the clutch pedal and shift into NEUTRAL.

3. Turn the ignition switch to the ON position and watch the instrument panel cluster lights.

**CAUTION!**

**If the “Water in Fuel Indicator Light” remains on, DO NOT START the engine before you drain the water from the fuel filters to avoid engine damage. Refer to “Maintenance Procedures/Draining Fuel/Water Separator Filter” in “Maintaining Your Vehicle” for further information.**

4. Turn the ignition switch to the START position and crank the engine. Do not press the accelerator during starting.

**CAUTION!**

Do not crank engine for more than 15 seconds at a time or starter motor damage may result. Turn the ignition switch to the OFF position and wait at least two minutes for the starter to cool before repeating start procedure.

5. When the engine starts, release the key fob.
6. Check that the oil pressure warning light has turned off.
7. Release the parking brake.

**Starting Procedure — Engine Manifold Air Temperature 0°F To 66°F (–18°C to 19°C)**

**NOTE:** The temperature displayed in the Electronic Vehicle Information Center (EVIC) or Driver Information Display (DID) does not necessarily reflect the engine manifold air temperature. Refer to “Electronic Vehicle Information Center (EVIC)” or “Driver Information Display (DID)” in “Understanding Your Instrument Panel” for further information. When engine temperatures fall below 66°F (19°C) the “Wait To Start Light” will remain on indicating the intake manifold heater system is active.

Follow the steps in the “Normal Starting” procedure except:

1. The “Wait To Start” telltale will remain on for a period of time that varies depending on the engine temperature.

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2. While the "Wait To Start" telltale is on, the EVIC/DID will additionally display a gauge or bar whose initial length represents the full "Wait To Start" time period. Its length will decrease until it disappears when the "Wait To Start" time has elapsed.

**CAUTION!**

**If the "Water in Fuel Indicator Light" remains on, DO NOT START engine before you drain the water from the fuel filters to avoid engine damage. Refer to "Maintenance Procedures/Draining Fuel/Water Separator Filter" in "Maintaining Your Vehicle" for further information.**

3. After the "Wait To Start" telltale goes off, turn the ignition switch to the START position. Do not press the accelerator during starting.

**CAUTION!**

**Do not crank engine for more than 15 seconds at a time or starter motor damage may result. Turn the ignition switch to the OFF position and wait at least two minutes for the starter to cool before repeating start procedure.**

4. After engine start-up, check that the oil pressure warning light has turned off.
5. Allow the engine to idle about three minutes until the manifold heaters have completed the post-heat cycle.
6. Release the parking brake and drive.

**NOTE:**

- Engine idle speed will automatically increase to 1,000 RPM and engage the Variable Geometry Turbocharger at low coolant temperatures to improve engine warm-up.

- Automatic equipped vehicles with optional Keyless Enter-N-Go – If the start button is pushed once while in park with the ignition off and driver's foot on the brake pedal, the vehicle will automatically crank and start after the Wait to Start time has elapsed. If it is desired to abort the start process before it completes, the driver's foot should be fully removed from the brake pedal prior to pushing the start button again in order for the ignition to move directly to off.
- If the engine stalls, or if the ignition switch is left ON for more than two minutes after the "Wait To Start" telltale goes out, reset the grid heaters by turning the ignition switch to the OFF position for at least five seconds and then back ON. Repeat steps 1 through 5 of "Starting Procedure – Engine Manifold Air Temperature Below 66°F (19°C)."

### Starting Procedure — Engine Manifold Air Temperature Below 0°F (-18°C)

In extremely cold weather below 0°F (-18°C) it may be beneficial to cycle the manifold heaters twice before attempting to start the engine. This can be accomplished by turning the ignition OFF for at least five seconds and then back ON after the "Wait To Start" telltale has turned off, but before the engine is started. However, excessive cycling of the manifold heaters will result in damage to the heater elements or reduced battery voltage.

**NOTE: If multiple pre-heat cycles are used before starting, additional engine run time may be required to maintain battery state of charge at a satisfactory level.**

1. If the engine stalls after the initial start, the ignition must be turned to the OFF position for at least five seconds and then to the ON position to recycle the manifold heaters.

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**NOTE:** Excessive white smoke and poor engine performance will result if manifold heaters are not recycled.

2. Heat generated by the manifold heaters dissipates rapidly in a cold engine. If more than two minutes pass between the time the "Wait To Start" telltale turns off and the engine is started, recycle the manifold heaters by turning the ignition switch to the OFF position for at least five seconds and then back ON.
3. If the vehicle is driven and vehicle speed exceeds 19 mph (31 km/h) before the manifold heater post-heat (after start) cycle is complete, the manifold heaters will shut off.
4. If the engine is started before the "Wait To Start" telltale turns off, the preheat cycle will turn off.
5. If the engine is cranked for more than 10 seconds, the post-heat cycle will turn off.

### **NOTE:**

- Engine idle speed will automatically increase to 1,000 RPM and engage the Variable Geometry Turbocharger at low coolant temperatures to improve engine warm-up.
- When a diesel engine is allowed to run out of fuel or the fuel gels at low temperatures, air is pulled into the fuel system. If your engine has run out of fuel, refer to "Maintenance Procedures/Priming If The Engine Has Run Out Of Fuel" in "Maintaining Your Vehicle" for further information.
- If the engine stalls, or if the ignition switch is left ON for more than two minutes after the "Wait To Start" telltale goes out, reset the grid heaters by turning the ignition switch to the OFF position for at least five seconds and then back ON. Repeat steps 1 through 5 of "Starting Procedure – Engine Manifold Air Temperature Below 66°F (19°C)."

### Starting Fluids

#### WARNING!

Starting fluids or flammable liquids must never be used in the Cummins diesel engine (see Warning label). Never pour diesel fuel, flammable liquid, starting fluids (ether) into the air cleaner canister, air intake piping, or turbocharger inlet in an attempt to start the vehicle. This could result in a flash fire and explosion causing serious personal injury and engine damage.

The engine is equipped with an automatic electric air preheating system. If the instructions in this manual are followed, the engine should start in all conditions.

#### WARNING!

- Do not leave children or animals inside parked vehicles in hot weather. Interior heat build up may cause serious injury or death.
- When leaving the vehicle, always remove the key fob from the ignition and lock your vehicle. If equipped with Keyless Enter-N-Go, always make sure the keyless ignition node is in "OFF" mode, remove the Key Fob from the vehicle and lock the vehicle.
- Never leave children alone in a vehicle, or with access to an unlocked vehicle. Allowing children to be in a vehicle unattended is dangerous for a number of reasons. A child or others could be seriously or fatally injured. Children should be warned not to touch the parking brake, brake pedal or the gear selector.

*(Continued)*

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**WARNING! (Continued)**

- Do not leave the key fob in or near the vehicle (or in a location accessible to children), and do not leave the ignition (of a vehicle equipped with Keyless Enter-N-Go) in the ACC or ON/RUN mode. A child could operate power windows, other controls, or move the vehicle.

**NORMAL OPERATION — DIESEL ENGINE**

Observe the following when the engine is operating.

- All message center lights are off.
- Malfunction Indicator Light (MIL) is off.
- Engine oil pressure is above 10 psi (69 kPa) at idle.

- Voltmeter operation:

The voltmeter may show a gauge fluctuation at various engine temperatures. This cycling operation is caused by the post-heat cycle of the intake manifold heater system. The number of cycles and the length of the cycling operation is controlled by the engine control module. Post-heat operation can run for several minutes, and then the electrical system and voltmeter needle will stabilize.

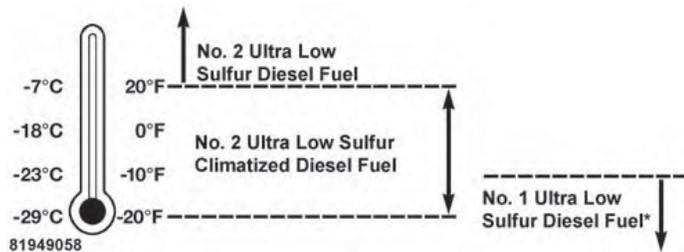
The cycling action will cause temporary dimming of the headlamps, interior lamps, and also a noticeable reduction in blower motor speed.

### Cold Weather Precautions

Operation in ambient temperature below 32°F (0°C) may require special considerations. The following charts suggest these options:

#### Fuel Operating Range

**NOTE:** Use "Ultra Low Sulfur Diesel Fuels" **ONLY**.



Fuel Operating Range Chart

\*No. 1 Ultra Low Sulfur Diesel Fuel should only be used where extended arctic conditions (-10°F/-23°C) exist.

### NOTE:

- Use of Climitized Ultra Low Sulfur Diesel Fuel or Number 1 Ultra Low Sulfur Diesel Fuel results in a noticeable decrease in fuel economy.
- Climitized Ultra Low Sulfur Diesel Fuel is a blend of Number 2 Ultra Low Sulfur and Number 1 Ultra Low Sulfur Diesel Fuels which reduces the temperature at which wax crystals form in fuel.
- The fuel grade should be clearly marked on the pump at the fuel station.
- The engine requires the use of "Ultra Low Sulfur Diesel Fuel". Use of incorrect fuel could result in engine and exhaust system damage. Refer to "Fuel Requirements" in "Starting And Operating" for further information.
- Commercially available fuel additives are not necessary for the proper operation of your Cummins diesel

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engine. However, if seasonably adjusted fuel is not available and you are operating below 20°F (-6°C), MOPAR Premium Diesel Fuel Treatment (or equivalent) may be beneficial to avoid fuel gelling.

### Engine Oil Usage

Refer to “Maintenance Procedures” in “Maintaining Your Vehicle” for the correct engine oil viscosity.

### Winter Front Usage

A winter front or cold weather cover is to be used in ambient temperatures below 32°F (0°C), especially during extended idle conditions to reduce condensation build-up within engine crankcase. If a winter front or cold weather cover is to be used, a percentage of the total grille opening area must be left uncovered to provide sufficient air flow to the charge air cooler and automatic transmission oil cooler. The percentage of opening must be increased with the increasing ambient air temperature and/or engine load. If the cooling fan can be heard

cycling frequently, increase the size of the opening in the winter front. A suitable cold weather cover is available from your MOPAR dealer.

### Battery Blanket Usage

A battery loses 60% of its cranking power as the battery temperature decreases to 0°F (-18°C). For the same decrease in temperature, the engine requires twice as much power to crank at the same RPM. The use of 120 VAC powered battery blankets will greatly increase starting capability at low temperatures. Suitable battery blankets are available from your authorized MOPAR dealer.

### Engine Warm-Up

Avoid full throttle operation when the engine is cold. When starting a cold engine, bring the engine up to operating speed slowly to allow the oil pressure to stabilize as the engine warms up.

**NOTE:** High-speed, no-load running of a cold engine can result in excessive white smoke and poor engine performance. No-load engine speeds should be kept under 1,200 RPM during the warm-up period, especially in cold ambient temperature conditions.

Your vehicle is equipped with a turbo speed limiter, this feature limits the engine speed to 1,200 RPM when engine coolant temperatures are below 70°F (21°C). This feature is designed to protect the turbocharger from damage and will only operate in PARK or NEUTRAL.

If temperatures are below 32°F (0°C), operate the engine at moderate speeds for five minutes before full loads are applied.

**NOTE:** If ambient temperatures are low and the coolant temperature is below 180°F (82°C), the engine idle speed will slowly increase to 1,000 RPM after two minutes of idle, if the following conditions are met:

- Foot is off brake pedal and throttle pedal.
- Automatic transmission is in PARK.
- Vehicle speed is 0 mph (0 km/h).
- Applying the throttle will cancel fast idle.
- Operating the exhaust brake at idle will greatly improve warm up rate and will help keep the engine close to operating temperature during extended idle.

### **Engine Idling**

Avoid prolonged idling, long periods of idling may be harmful to your engine because combustion chamber temperatures can drop so low that the fuel may not burn completely. Incomplete combustion allows carbon and

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varnish to form on piston rings, engine valves, and injector nozzles. Also, the unburned fuel can enter the crankcase, diluting the oil and causing rapid wear to the engine.

If the engine is allowed to idle, under some conditions the idle speed may increase to 900 RPM then return to normal idle speed. This is normal operation.

**NOTE:** For EVIC/DID messages related to the vehicle's exhaust system, refer to "Electronic Vehicle Information Center (EVIC)" or "Driver Information Display (DID)" for further information.

### Idle-Up Feature — Automatic Transmission Only

The driver-controlled high idle speed feature will help increase cylinder temperatures and provide additional cab heat, however, excessive idling may still cause the exhaust aftertreatment system to not properly regenerate. Extended periods of idle time should be avoided.

The Idle-Up feature uses the speed control switches to increase engine idle speed and quickly warm the vehicle's interior.

1. With the transmission in PARK, the parking brake applied, and the engine running, push the speed control switch to the ON position, then push the SET switch.
2. The engine RPM will go up to 1100 RPM. To increase the RPM, push and hold the ACCEL/RESUME switch and the idle speed will increase to approximately 1500 RPM. To decrease the RPM, push and hold the DECEL switch and the idle speed will decrease to approximately 1100 RPM.
3. To cancel the Idle-Up feature, either push the CANCEL switch, push the ON/OFF switch, or press the brake pedal.

### Stopping The Engine

Idle the engine a few minutes before routine shutdown. After full load operation, idle the engine three to five minutes before shutting it down. This idle period will allow the lubricating oil and coolant to carry excess heat away from the combustion chamber, bearings, internal components, and turbocharger. This is especially important for turbocharged, charge air-cooled engines.

#### NOTE:

- During engine shut down on vehicles equipped with manual transmissions, it is normal for the diesel engine to resonate heavily for a moment during engine shut off. When the engine is connected to a manual transmission, this resonance causes load gear rattle from the transmission. This is commonly referred to as "shut down rattle." The manufacturer recommends performing engine shut down with the clutch pedal pushed to the floor (clutch disengaged). When engine shut down is performed in this manner the rattle is reduced (not eliminated).
- Refer to the following chart for proper engine shut-down.

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Driving Condition	Load	Turbo-charger Temperature	Idle Time (min.) Before Engine Shut-down
Stop and Go	Empty	Cool	Less than One
Stop and Go	Medium		One
Highway Speeds	Medium	Warm	Two
City Traffic	Maximum GCWR		Three
Highway Speeds	Maximum GCWR		Four
Uphill Grade	Maximum GCWR	Hot	Five

**Idle Shutdown**

This feature can be enabled so that the truck will automatically shutdown when the truck has been idling for a set period of time when the engine is at operating temperature. Idle time can be set in 5 minute increments between 5 and 60 minutes. See your local authorized dealer to enable this feature.

**Programmable Maximum Vehicle Speed (Chassis Cab Only)**

This feature allows the owner to set a maximum vehicle speed for the vehicle. The 3500 Series maximum vehicle speed can be set between 40 mph (64 km/h) and 87 mph (140 km/h). The 4500/5500 Series maximum vehicle speed can be set between 40 mph (64 km/h) and 85 mph (136 km/h). See your local authorized dealer to enable this feature.

**NOTE:** DO NOT set the maximum vehicle speed to a value greater than what the vehicle tires are rated for.

## Operating Precautions

### Avoid Overheating The Engine

The temperature of the engine coolant (antifreeze) (a mixture of 50% ethylene-glycol and 50% water) must not exceed the normal range of the temperature gauge 240°F (116°C) with a 21 psi (145 kPa) coolant pressure cap.

Usually the engine coolant (antifreeze) temperature indicated during operation will be to the left of center in the normal range of the gauge.

### Avoid Low Coolant Temperature Operation

Continual operation at low engine coolant (antifreeze) temperature below the normal range on the gauge 140°F (60°C) can be harmful to the engine. Low engine coolant (antifreeze) temperature can cause incomplete combustion which allows carbon and varnish to form on piston

rings and injector nozzles. Also, the unburned fuel can enter the crankcase, diluting the lubricating oil and causing rapid wear to the engine.

### Cooling System Tips — Automatic Transmission

To reduce potential for engine and transmission overheating in high ambient temperature conditions, take the following actions:

- **City Driving** —

When stopped, shift the transmission into NEUTRAL and increase engine idle speed.

- **Highway Driving** —

Reduce your speed.

- **Up Steep Hills** —

Select a lower transmission gear.

- **Air Conditioning** —

Turn it off temporarily.

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**Do Not Operate The Engine With Low Oil Pressure**

When the engine is at normal operating temperature, the minimum oil pressures required are:

Idle 700 to 800 RPM	10 psi (69 kPa)
Full speed and load	30 psi (207 kPa)

**CAUTION!**

**If oil pressure falls to less than normal readings, shut the engine off immediately. Failure to do so could result in immediate and severe engine damage.**

**Do Not Operate The Engine With Failed Parts**

All engine failures give some warning before the parts fail. Be on the alert for changes in performance, sounds, and visual evidence that the engine requires service. Some important clues are:

- Engine misfiring or vibrating severely.
- Sudden loss of power.
- Unusual engine noises.
- Fuel, oil or coolant leaks.
- Sudden change, outside the normal operating range, in the engine operating temperature.
- Excessive smoke.
- Oil pressure drop.

**ENGINE BLOCK HEATER — IF EQUIPPED**

The engine block heater warms engine coolant and permits quicker starts in cold weather. Connect the heater cord to a ground-fault interrupter protected 110–115 Volt AC electrical outlet with a grounded, three-wire extension cord.

The engine block heater cord is routed under the hood to the right side and can be located just behind the grille near the headlamp.

**NOTE:** The engine block heater cord is a factory installed option. If your vehicle is not equipped, heater cords are available from your authorized MOPAR dealer.

The block heater must be plugged in at least one hour to have an adequate warming effect on the coolant.

**WARNING!**

**Remember to disconnect the cord before driving. Damage to the 110–115 Volt electrical cord could cause electrocution.**

**NOTE:** The block heater will require 110 Volts AC and 6.5 Amps to activate the heater element.

**Block Heater Usage**

For ambient temperatures below 0°F (-18°C), engine block heater usage is recommended.

For ambient temperatures below -20°F (-29°C), engine block heater usage is required.

**DIESEL EXHAUST BRAKE (ENGINE BRAKING)**

The purpose of the exhaust brake (engine braking) feature is to supply negative (braking) torque from the engine. Typically, the engine braking is used for, but not limited to, vehicle towing applications where vehicle braking can be achieved by the internal engine power, thereby sparing the mechanical brakes of the vehicle.

Benefits of the exhaust brake are:

- Vehicle driving control.
- Reduced brake fade.

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- Longer brake life.
- Faster cab warm-up.

The exhaust brake feature will only function when the driver toggles it on by pushing the exhaust brake button until the "Exhaust Brake Indicator" is illuminated. Normal (Full Strength) exhaust brake mode is indicated by a yellow "Exhaust Brake Indicator".



**Exhaust Brake Switch**

Once the "Exhaust Brake Indicator" is illuminated and the vehicle is moving faster than 5 mph (8 km/h); the exhaust brake will automatically operate when the driver removes pressure from the accelerator pedal. Exhaust braking is most effective when the engine RPM is higher.

The automatic transmission will downshift more aggressively in TOW/HAUL mode when the exhaust brake is enabled to increase brake performance.

**CAUTION!**

Use of aftermarket exhaust brakes is not recommended and could lead to engine damage

**WARNING!**

Do not use the exhaust brake feature when driving in icy or slippery conditions as the increased engine braking can cause the rear wheels to slide and the vehicle to swing around with the possible loss of vehicle control, which may cause an accident possibly resulting in personal injury or death.

**NOTE:** For optimum braking power it is recommended to use the exhaust brake while in TOW/HAUL mode.

The exhaust brake feature can also be used to reduce the engine warm up time. To use the exhaust brake as a warm-up device, the vehicle must be stopped or moving less than 5 mph (8 km/h), the "Exhaust Brake Indicator" must be on, and the coolant temperature must be below 180°F (82°C) and ambient temperature below 60°F (16°C).

**Automatic Smart Exhaust Brake**

Automatic Exhaust Brake technology delivers smoother, less aggressive exhaust braking characteristics during downhill descents. Although it can apply full exhaust braking force if needed, Automatic Exhaust Brake may not apply obvious braking if the vehicle speed is not increasing. Automatic Exhaust Brake is intended to maintain vehicle speed, while Full Exhaust Brake is intended to reduce vehicle speed.

Automatic Exhaust Brake can be enabled by pushing the exhaust brake button again anytime after the normal Full Exhaust Brake has been turned on. The "Exhaust Brake

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Indicator” in the EVIC/DID will change from Yellow to Green when Automatic Exhaust Brake is enabled. Pushing the exhaust brake button again will toggle the exhaust brake mode to off.

**AUTOMATIC TRANSMISSION — IF EQUIPPED**

**CAUTION!**

Damage to the transmission may occur if the following precautions are not observed:

- Shift into or out of PARK or REVERSE only after the vehicle has come to a complete stop.
- Do not shift between PARK, REVERSE, NEUTRAL, or DRIVE when the engine is above idle speed.
- Before shifting into any gear, make sure your foot is firmly pressing the brake pedal.

**WARNING!**

- It is dangerous to shift out of PARK or NEUTRAL if the engine speed is higher than idle speed. If your foot is not firmly pressing the brake pedal, the vehicle could accelerate quickly forward or in reverse. You could lose control of the vehicle and hit someone or something. Only shift into gear when the engine is idling normally and your foot is firmly pressing the brake pedal.

*(Continued)*

**WARNING! (Continued)**

- Unintended movement of a vehicle could injure those in or near the vehicle. As with all vehicles, you should never exit a vehicle while the engine is running. Before exiting a vehicle, always apply the parking brake, shift the transmission into PARK, turn the engine OFF, and remove the key fob. When the ignition is in the LOCK/OFF (key removal) position, the transmission is locked in PARK, securing the vehicle against unwanted movement.
- When leaving the vehicle, always remove the key fob from the ignition and lock your vehicle. If equipped with Keyless Enter-N-Go, always make sure the keyless ignition node is in "OFF" mode, remove the Key Fob from the vehicle and lock the vehicle.

(Continued)

**WARNING! (Continued)**

- Never leave children alone in a vehicle, or with access to an unlocked vehicle. Allowing children to be in a vehicle unattended is dangerous for a number of reasons. A child or others could be seriously or fatally injured. Children should be warned not to touch the parking brake, brake pedal or the gear selector.
- Do not leave the key fob in or near the vehicle (or in a location accessible to children), and do not leave the ignition (in a vehicle equipped with Keyless Enter-N-Go) in the ACC or ON/RUN position. A child could operate power windows, other controls, or move the vehicle.

NOTE: You must press and hold the brake pedal while shifting out of PARK.

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### Key Ignition Park Interlock

This vehicle is equipped with a Key Ignition Park Interlock which requires the transmission to be in PARK before the ignition switch can be turned to the LOCK/OFF (key removal) position. The key fob can only be removed from the ignition when the ignition is in the LOCK/OFF position, and the transmission is locked in PARK whenever the ignition switch is in the LOCK/OFF position.

### Brake/Transmission Shift Interlock System

This vehicle is equipped with a Brake Transmission Shift Interlock System (BTSI) that holds the shift lever in PARK unless the brakes are applied. To shift the transmission out of PARK, the ignition switch must be turned to the ON/RUN position (engine running or not) and the brake pedal must be pressed.

### Six-Speed Automatic Transmission — If Equipped

Chassis Cab models (with automatic transmission) use the AS69RC transmission (which is equipped with a Power Take-Off [PTO] access cover on the side of the transmission case). Pickup models may use either the AS69RC transmission, or the 68RFE transmission (which has no PTO access cover).

The transmission gear position display (located in the instrument cluster) indicates the transmission gear range. The shift lever is mounted on the right side of the steering column. You must press the brake pedal to move the shift lever out of PARK (refer to “Brake/Transmission Shift Interlock System” in this section). To drive, move the shift lever from PARK or NEUTRAL to the DRIVE position. Pull the shift lever toward you when shifting into REVERSE or PARK, or when shifting out of PARK.

The electronically-controlled transmission provides a precise shift schedule. The transmission electronics are

self-calibrating; therefore, the first few shifts on a new vehicle may be somewhat abrupt. This is a normal condition, and precision shifts will develop within a few hundred miles (kilometers).

Only shift from DRIVE to PARK or REVERSE when the accelerator pedal is released and the vehicle is stopped. Be sure to keep your foot on the brake pedal when shifting between these gears.

The transmission shift lever has only PARK, REVERSE, NEUTRAL, and DRIVE shift positions. Manual downshifts can be made using the Electronic Range Select (ERS) shift control (refer to "Electronic Range Select (ERS) Operation" in this section for further information). Pressing the ERS (-/+ ) switches (on the shift lever) while in the DRIVE position will select the highest available transmission gear, and will display that gear limit in the instrument cluster as 1, 2, 3, etc. Models with the Driver

Information Display (DID) will display both the selected gear limit, and the actual current gear, while in ERS mode.

#### **Gear Ranges**

DO NOT race the engine when shifting from PARK or NEUTRAL into another gear range.

**NOTE:** After selecting any gear range, wait a moment to allow the selected gear to engage before accelerating. This is especially important when the engine is cold.

#### **PARK (P)**

This range supplements the parking brake by locking the transmission. The engine can be started in this range. Never attempt to use PARK while the vehicle is in motion. Apply the parking brake when leaving the vehicle in this range.

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When parking on a level surface, you may shift the transmission into PARK first, and then apply the parking brake.

When parking on a hill, apply the parking brake before shifting the transmission to PARK, otherwise the load on the transmission locking mechanism may make it difficult to move the shift lever out of PARK. As an added precaution, turn the front wheels toward the curb on a downhill grade and away from the curb on an uphill grade.

**NOTE:** On four-wheel drive vehicles be sure that the transfer case is in a drive position.

**WARNING!**

- Never use the PARK position as a substitute for the parking brake. Always apply the parking brake fully when parked to guard against vehicle movement and possible injury or damage.
- Your vehicle could move and injure you and others if it is not in PARK. Check by trying to move the shift lever out of PARK with the brake pedal released. Make sure the transmission is in PARK before leaving the vehicle.

*(Continued)*

**WARNING! (Continued)**

- It is dangerous to shift out of PARK or NEUTRAL if the engine speed is higher than idle speed. If your foot is not firmly pressing the brake pedal, the vehicle could accelerate quickly forward or in reverse. You could lose control of the vehicle and hit someone or something. Only shift into gear when the engine is idling normally and your foot is firmly pressing the brake pedal.
- Unintended movement of a vehicle could injure those in or near the vehicle. As with all vehicles, you should never exit a vehicle while the engine is running. Before exiting a vehicle, always apply the parking brake, shift the transmission into PARK, turn the engine OFF, and remove the key fob. When the ignition is in the LOCK/OFF (key removal)

(Continued)

**WARNING! (Continued)**

- position, the transmission is locked in PARK, securing the vehicle against unwanted movement.
- When leaving the vehicle, always remove the key fob from the ignition and lock your vehicle. If equipped with Keyless Enter-N-Go, always make sure the keyless ignition node is in "OFF" mode, remove the Key Fob from the vehicle and lock the vehicle.
- Never leave children alone in a vehicle, or with access to an unlocked vehicle. Allowing children to be in a vehicle unattended is dangerous for a number of reasons. A child or others could be seriously or fatally injured. Children should be warned not to touch the parking brake, brake pedal or the gear selector.

(Continued)

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**WARNING!** *(Continued)*

- Do not leave the key fob in or near the vehicle (or in a location accessible to children), and do not leave the ignition (in a vehicle equipped with Keyless Enter-N-Go™) in the ACC or ON/RUN mode. A child could operate power windows, other controls, or move the vehicle.

**CAUTION!**

- Before moving the shift lever out of PARK, you must turn the ignition switch from the LOCK/OFF position to the ON/RUN position, and also press the brake pedal. Otherwise, damage to the shift lever could result.
- DO NOT race the engine when shifting from PARK or NEUTRAL into another gear range, as this can damage the drivetrain.

The following indicators should be used to ensure that you have engaged the transmission into the PARK position:

- When shifting into PARK, pull the shift lever toward you and move it all the way counterclockwise until it stops.
- Release the shift lever and make sure it is fully seated in the PARK gate.
- Look at the transmission gear position display and verify that it indicates the PARK position (P).
- With brake pedal released, verify that the shift lever will not move out of PARK.

**REVERSE (R)**

This range is for moving the vehicle backward. Shift into REVERSE only after the vehicle has come to a complete stop.

**NEUTRAL (N)**

Use this range when the vehicle is standing for prolonged periods with the engine running. The engine may be started in this range. Apply the parking brake and shift the transmission into PARK if you must leave the vehicle.

**WARNING!**

**Do not coast in NEUTRAL and never turn off the ignition to coast down a hill. These are unsafe practices that limit your response to changing traffic or road conditions. You might lose control of the vehicle and have a collision.**

**CAUTION!**

**Towing the vehicle, coasting, or driving for any other reason with the transmission in NEUTRAL can cause**

*(Continued)*

**CAUTION! (Continued)**

**severe transmission damage. Refer to "Recreational Towing" in "Starting And Operating" and "Towing A Disabled Vehicle" in "What To Do In Emergencies" for further information.**

**DRIVE (D)**

This range should be used for most city and highway driving. It provides the smoothest upshifts and downshifts, and the best fuel economy. The transmission automatically upshifts through underdrive first, second, and third gears, direct fourth gear and overdrive fifth and sixth gears. The DRIVE position provides optimum driving characteristics under all normal operating conditions.

When frequent transmission shifting occurs (such as when operating the vehicle under heavy loading conditions, in hilly terrain, traveling into strong head winds, or while towing heavy trailers), use the Electronic Range

## 292 STARTING AND OPERATING

Select (ERS) shift control (refer to “Electronic Range Select (ERS) Operation” in this section for further information) to select a lower gear range. Under these conditions, using a lower gear range will improve performance and extend transmission life by reducing excessive shifting and heat buildup.

If the transmission temperature exceeds normal operating limits, the powertrain controller will modify the transmission shift schedule and expand the range of torque converter clutch engagement. This is done to prevent transmission damage due to overheating.

If the transmission becomes extremely hot or is in danger of overheating, the “Transmission Temperature Warning Light” may illuminate and the transmission may operate differently until the transmission cools down.

**NOTE:** Use caution when operating a heavily loaded vehicle at low speeds (such as towing a trailer up a steep grade, or in stop-and-go traffic) during hot weather. In these conditions, torque converter slip can impose a significant additional heat load on the cooling system. Downshifting the transmission to the lowest possible gear (when climbing a grade), or shifting to NEUTRAL (when stopped in heavy traffic) can help to reduce this excess heat generation.

During cold temperatures, transmission operation may be modified depending on engine and transmission temperature as well as vehicle speed. This feature improves warm up time of the engine and transmission to achieve maximum efficiency. Engagement of the torque converter clutch is inhibited until the transmission fluid is warm (refer to the “Note” under “Torque Converter Clutch” in this section). On Pickup models with 68RFE transmission, top overdrive gear is also inhibited until the transmission fluid is warm, and during extremely

cold temperatures (-16°F [-27°C] or below), operation may briefly be limited to first and direct gears only. On trucks with AS69RC transmission, fifth and sixth gears may be inhibited briefly on cold starts below 41°F (5°C), and during very cold temperatures (-4°F [-20°C] or below), operation may briefly be limited to third gear only. During this condition, the ability of the vehicle to accelerate under heavily loaded conditions may be reduced. In all cases, normal operation will resume once the transmission temperature has risen to a suitable level.

#### Transmission Limp Home Mode

Transmission function is monitored electronically for abnormal conditions. If a condition is detected that could result in transmission damage, Transmission Limp Home Mode is activated. In this mode, the transmission remains in fourth gear (for 68RFE transmission) or third gear (for AS69RC transmission) regardless of which forward gear is selected. If an AS69RC-equipped truck enters Limp

Home Mode at highway speeds, it will initially engage fifth gear, until the vehicle slows to a speed where third gear can be engaged. PARK, REVERSE, and NEUTRAL will continue to operate. The Malfunction Indicator Light (MIL) may be illuminated. Limp Home Mode allows the vehicle to be driven to an authorized dealer for service without damaging the transmission.

In the event of a momentary problem, the transmission can be reset to regain all forward gears by performing the following steps:

1. Stop the vehicle.
2. Shift the transmission into PARK.
3. Turn the ignition switch to the OFF position.
4. Wait approximately 10 seconds.

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5. Restart the engine.
6. Shift into the desired gear range. If the problem is no longer detected, the transmission will return to normal operation.

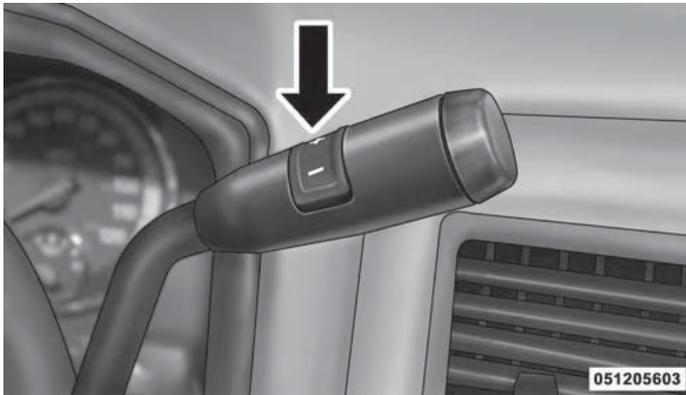
**NOTE:** Even if the transmission can be reset, we recommend that you visit your authorized dealer at your earliest possible convenience. Your authorized dealer has diagnostic equipment to determine if the problem could recur.

If the transmission cannot be reset, authorized dealer service is required.

### Electronic Range Select (ERS) Operation

The Electronic Range Select (ERS) shift control allows the driver to limit the highest available gear when the transmission is in DRIVE. For example, if you set the transmission gear limit to 4 (fourth gear), the transmission will not shift above fourth gear, but will shift through the lower gears normally.

You can switch between DRIVE and ERS mode at any vehicle speed. When the shift lever is in the DRIVE position, the transmission will operate automatically, shifting between all available gears. Tapping the ERS (-) switch will activate ERS mode, display the current gear in the instrument cluster, and set that gear as the top available gear. Once in ERS mode, tapping the ERS (-) or (+) switch will change the top available gear.



**Column Shift Lever**

To exit ERS mode, simply push and hold the ERS (+) switch until the gear limit display disappears from the instrument cluster.

**WARNING!**

Do not downshift for additional engine braking on a slippery surface. The drive wheels could lose their grip and the vehicle could skid, causing a collision or personal injury.

Transmission Gear Limit Display	1	2	3	4	5	6	D
Actual Gear(s) Allowed	1	1-2	1-3	1-4	1-5	1-6	1-6

**NOTE:** To select the proper gear position for maximum deceleration (engine braking), simply push and hold the ERS (-) switch. The transmission will shift to the range from which the vehicle can best be slowed down.

**CAUTION!**

When using ERS for engine braking while descending steep grades, be careful not to overspeed the engine. Apply the brakes as needed to prevent engine overspeed.

**Overdrive Operation**

The automatic transmission includes an electronically controlled Overdrive (fifth and sixth gears). The transmission will automatically shift into Overdrive if the following conditions are present:

- The shift lever is in the DRIVE position.
- The transmission fluid has reached an adequate temperature.
- The engine coolant has reached an adequate temperature.

- The vehicle speed is sufficiently high.
- The driver is not heavily pressing the accelerator.

**When To Use TOW/HAUL Mode**

When driving in hilly areas, towing a trailer, carrying a heavy load, etc., and frequent transmission shifting occurs, press the TOW/HAUL switch to activate TOW/HAUL mode. This will improve performance and reduce the potential for transmission overheating or failure due to excessive shifting. When operating in TOW/HAUL mode, transmission upshifts are delayed, and the transmission will automatically downshift (for engine braking) when the throttle is closed and/or during steady braking maneuvers.



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NOTE:

- The torque converter clutch will not engage (and 68RFE-equipped trucks will not shift to sixth gear), until the transmission fluid and engine coolant are warm [usually after 1 to 3 miles (2 to 5 km) of driving]. Because the engine speed is higher when the torque converter clutch is not engaged, it may seem as if the transmission is not shifting properly when cold. This is normal. Using the Electronic Range Select (ERS) shift control, when the transmission is sufficiently warm, will demonstrate that the transmission is able to shift into and out of Overdrive.
- If the vehicle has not been driven for several days, the first few seconds of operation after shifting the transmission into gear may seem sluggish. This is due to the fluid partially draining from the torque converter into the transmission. This condition is normal and will not cause

damage to the transmission. The torque converter will refill within five seconds after starting the engine.

**MANUAL TRANSMISSION — IF EQUIPPED**

**WARNING!**

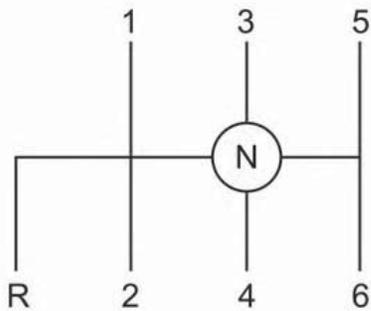
You or others could be injured if you leave the vehicle unattended without having the parking brake fully applied. The parking brake should always be applied when the driver is not in the vehicle, especially on an incline.

**CAUTION!**

Never drive with your foot resting on the clutch pedal, or attempt to hold the vehicle on a hill with the clutch pedal partially engaged, as this will cause abnormal wear on the clutch.

**NOTE:** During cold weather, you may experience increased effort in shifting until the transmission fluid warms up. This is normal.

**Shifting**



Shift Pattern

051740422

Truck models with manual transmission are equipped with a clutch interlocking ignition system. The clutch pedal must be fully pressed to start the vehicle.

Fully press the clutch pedal before shifting gears. As you release the clutch pedal, lightly press the accelerator pedal.

This transmission has a “creeper” first gear which should be used to start from a standing position when carrying a payload or towing a trailer. Damage to the clutch can result from starting in second or third gear with a loaded vehicle. An unloaded vehicle may be launched in second gear. Use each gear in numerical order – do not skip a gear.

**NOTE:** When loaded, pulling a trailer or on a grade, the truck should always start in first gear and not skip gears.

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**Recommended Vehicle Shift Speeds**

To utilize your manual transmission efficiently for both fuel economy and performance, it should be upshifted as listed in recommended shift speed chart. Shift at the

vehicle speeds listed for acceleration. When heavily loaded or pulling a trailer these recommended up-shift speeds may not apply.

**Maximum Recommended Up-Shift Speeds**

Gear Selection	1 to 2	2 to 3	3 to 4	4 to 5	5 to 6
Maximum Speed	7 mph (11 km/h)	15 mph (24 km/h)	25 mph (40 km/h)	40 mph (64 km/h)	45 mph (72 km/h)

**Downshifting**

Moving from a high gear down to a lower gear is recommended to preserve brakes when driving down steep hills. In addition, downshifting at the right time provides better acceleration when you desire to resume speed. Downshift progressively. Do not skip gears to avoid overspeeding the engine and clutch.

<b>WARNING!</b>
<b>Do not downshift for additional engine braking on a slippery surface. The drive wheels could lose their grip and the vehicle could skid.</b>



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**CAUTION!**

If you skip a gear while downshifting or downshift at too high of a vehicle speed, these conditions may cause the engine to overspeed if too low of a gear is selected and the clutch pedal is released. Damage to the clutch and the transmission can result from skipping a gear while downshifting or downshifting at too high of a vehicle speed even if the clutch pedal is held pressed (i.e., not released).

**Reverse Shifting**

To shift into REVERSE (R), bring the vehicle to a complete stop. Press the clutch and pause briefly to allow the gear train to stop rotating. Beginning from the NEUTRAL (N) position, move the shift lever in one quick smooth motion straight across and into the REVERSE (R) area

(the driver will feel a firm “click” as the shifter passes the “knock-over”). Complete the shift by pulling the shift lever into REVERSE (R).

The “knock-over” prevents the driver from accidentally entering the REVERSE (R) shift area and warns the driver that they are about to shift the transmission into REVERSE (R). Due to this feature, a slow shift to REVERSE (R) can be perceived as a high shift effort.

To shift out of REVERSE bring the vehicle to a complete stop and press the clutch. Shifting out of REVERSE prior to a complete stop may cause high shift effort.

**AUXILIARY SWITCHES — IF EQUIPPED**

There can be up to five auxiliary switches located in the lower switch bank of the instrument panel which can be used to power various electronic devices and PTO (Power Take Off) – If Equipped. If Power Take Off is equipped, it will take the place of the fifth Auxiliary

switch. Connections to the switches are found under the hood in the connectors attached to the auxiliary Power Distribution Center.

You have the ability to configure the functionality of the auxiliary switches via the Electronic Vehicle Information Center (EVIC) or Driver Information Display (DID). All switches can now be configured for setting the switch type operation to latching or momentary, power source of either battery or ignition, and ability to hold last state across key cycles.

**NOTE:** Holding last state conditions are met when switch type is set to latching and power source is set to ignition.

For further information on using the auxiliary switches, please refer to the Ram Body Builders Guide by accessing [www.rambodybuilder.com](http://www.rambodybuilder.com) and choosing the appropriate links.

### **POWER TAKE OFF OPERATION — IF EQUIPPED (CHASSIS CAB ONLY)**

This vehicle when equipped with PTO Prep and either the AS69RC automatic six-speed or G-56 manual six-speed transmissions, will allow for an aftermarket upfit with a transmission driven PTO (power take off). The customer will have the ability to operate the PTO in either a “stationary” or “mobile” mode. The vehicles will be factory set to the “stationary” mode. To select ‘mobile mode’ You will need to enter the commercial vehicle menu on the EVIC/DID screen and select mobile PTO mode. Details of the PTO selection modes and further PTO information is available at the Ram Truck Body-builders web site. [www.rambodybuilder.com](http://www.rambodybuilder.com)

#### **AS69RC Six-Speed Automatic Transmission Only**

The PTO drive gear (part of the AS69RC) operates at torque converter turbine speed. The turbine speed will be

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less than engine speed when the torque converter clutch is not engaged and will be same as engine speed when the torque converter clutch is engaged.

#### Stationary Mode

To operate the PTO in this mode the vehicle must meet the following conditions:

- Be in PARK position (vehicles equipped with automatic transmission.)
- PTO switch has been activated.
- Parking brake applied (vehicles equipped with manual transmission).
- Brake pedal must not be applied.
- Vehicle engine must be running.
- No vehicle, brake or clutch switch faults present.

- PTO must be correctly installed using the vehicle provided circuits.

The Electronic Vehicle Information Center (EVIC) or Driver Information Display (DID) will display a "PTO On" message for five seconds if the above conditions are met. Otherwise, the EVIC/DID will display a message "To Operate PTO Shift To Park" indicating what operator action should be taken to engage the PTO mode.

The customer has the choice to operate the PTO by utilizing the cruise control switches or by utilizing a remote control (provided by the PTO supplier). To operate the feature using the cruise control switches, the customer must first activate the PTO switch which will turn on the PTO. In order to increase or decrease the engine idle speed, to optimize the PTO function, the "RESUME/ACCEL" and "DECEL" cruise switches can

be used respectively. To disengage PTO operation and return to “standard vehicle operation” simply toggle the PTO switch to the OFF position.

The torque converter clutch (TCC) will automatically engage at engine speeds above 1,200 RPM (engine speed) in PTO stationary mode. Once engaged, the TCC will remain applied and will not disengage until the engine speed falls below 1,000 RPM. TCC engagement is desirable for certain types of PTO applications (Automatic Transmission Only).

To operate the PTO via a remote switch, the customer must make sure the above conditions are met. It is vital for proper operation that the PTO and remote have been installed correctly, paying special attention to ensure the vehicle provided wiring has been connected properly. This is the responsibility of the installer of the PTO and switches/remote system. It is the responsibility of the PTO manufacturer to ensure that their electrical (switches

and remote) system is compatible with the vehicle’s electrical architecture and software functionality.

**NOTE:** Single set speed can be programmed via the PTO menu on the EVIC/DID screen. Further details are available at the Ram Truck Bodybuilders web site located at [www.rambodybuilder.com](http://www.rambodybuilder.com).

#### Mobile Mode

To operate the PTO in this mode the vehicle must meet the following conditions:

- Mobile mode is activated via the menu on the EVIC/DID screen.
- (ON/OFF) switch has been activated.
- Vehicles with automatic transmission must be in PARK or DRIVE.
- Parking brake must not be applied.

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- Brake pedal must not be applied.
- No vehicle, brake or clutch switch faults present.
- Vehicle engine must be running.
- PTO must be correctly installed using the vehicle provided circuits.

The customer may choose to use the PTO while the vehicle is moving. To do so, the PTO function must be activated prior to taking the vehicle out of PARK. This is accomplished by activating the upfitter-provided PTO on/off switch. At this point, the customer may place the vehicle in a forward or reverse gear and have PTO operation once the vehicle begins to move. To disengage PTO operation and return to "standard vehicle operation" simply toggle the on/off switch to the OFF position.

**NOTE:** For application specific information with respect to PTO and pump requirements and additional vehicle information (wiring schematics, preset idle values, engine speed limits, and vehicle hardware and software requirements) please refer to the Body Builders Guide by accessing [www.rambodybuilder.com](http://www.rambodybuilder.com) and choosing the appropriate links.

### ENGINE RUNAWAY

Diesel engine runaway is a rare condition affecting diesel engines, where the engine consumes its own lubrication oil and runs at higher and higher RPM until it overspeeds to a point where it destroys itself due to either mechanical failure or engine seizure through lack of lubrication.

**WARNING!**

In case of engine runaway due to flammable fumes from fuel spills or turbocharger oil leaks being sucked into the engine, do the following to help avoid personal injury and/or vehicle damage:

1. Turn the ignition switch to the OFF position.
2. Using a CO2 or dry chemical type fire extinguisher, direct the spray from the fire extinguisher into the grille on the passenger side so that the spray enters the engine air intake.

The inlet for the engine air intake is located behind the passenger side headlamp and receives air through the grille.

**FUEL REQUIREMENTS**

Use good quality diesel fuel from a reputable supplier in your vehicle. Federal law requires that you must fuel this vehicle with Ultra Low Sulfur Highway Diesel fuel (15 ppm Sulfur maximum) and prohibits the use of Low Sulfur Highway Diesel fuel (500 ppm Sulfur maximum) to avoid damage to the emissions control system.

For most year-round service, No. 2 diesel fuel meeting ASTM (formerly known as the American Society for Testing and Materials) specification D-975 Grade S15 will provide good performance. If the vehicle is exposed to extreme cold (below 20°F or -7°C), or is required to operate at colder-than-normal conditions for prolonged periods, use climatized No. 2 diesel fuel or dilute the No. 2 diesel fuel with 50% No. 1 diesel fuel. This will provide better protection from fuel gelling or wax-plugging of the fuel filters.

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**WARNING!**

Do not use alcohol or gasoline as a fuel blending agent. They can be unstable under certain conditions and hazardous or explosive when mixed with diesel fuel.

Diesel fuel is seldom completely free of water. To prevent fuel system trouble, drain the accumulated water from the fuel/water separator using the fuel/water separator drain provided on both fuel filters. If you buy good quality fuel and follow the cold weather advice above, fuel conditioners should not be required in your vehicle. If available in your area, a high cetane "premium" diesel fuel may offer improved cold-starting and warm-up performance.

**CAUTION!**

If the "Water in Fuel Indicator Light" remains on, DO NOT START engine before you drain the water from the fuel filter(s) to avoid engine damage. Refer to "Maintenance Procedures/Draining Fuel/Water Separator Filter" in "Maintaining Your Vehicle" for further information.

**Fuel Specifications**

The Cummins diesel engine has been developed to take advantage of the high energy content and generally lower cost No. 2 Ultra Low Sulfur diesel fuel or No. 2 Ultra Low Sulfur climatized diesel fuels. Experience has shown that it also operates on No. 1 Ultra Low Sulfur diesel fuels or other fuels within specification.

**NOTE:**

- If you accidentally fill the fuel tank with gasoline on your diesel vehicle, Do not start the vehicle. If you restart your vehicle you risk damaging the engine and fuel system. Please call your local dealer for service.
- A maximum blend of 5% biodiesel meeting ASTM specification D-975 may be used with your Cummins diesel engine. (Chassis Cab models not configured with B20 capability.)
- A maximum blend of 20% biodiesel meeting ASTM specification D-7467 may be used with your Cummins diesel engine. (Pickup models and Chassis Cab models configured with B20 Capability.)
- In addition, commercially available fuel additives are not necessary for the proper operation of your Cummins diesel engine. However, if seasonably adjusted fuel is not available and you are operating below 20°F

(-6°C), MOPAR Premium Diesel Fuel Treatment (or equivalent) may be beneficial to avoid fuel gelling.

- No. 1 Ultra Low Sulfur diesel fuel should only be used where extended arctic conditions (-10°F or -23°C) exist.

**Bio-Diesel Fuel Requirements**

**Chassis Cab Models**

A maximum blend of 5% biodiesel meeting ASTM specification D975 may be used with your Cummins diesel engine. If operation with Biodiesel blends greater than 5% but not greater than 20% (B6-B20) is desired, the truck must first be reconfigured by an authorized Ram dealer and the provisions in the following section must be adhered to.



approved ASTM standards, if stored properly, provides for protection against fuel oxidation for up to six months.

**Fuel Water Separation — Must Use MOPAR/Cummins Approved Fuel Filter Elements**

You must use MOPAR/Cummins approved fuel filter elements in both your engine mounted filter and frame mounted filter.

Biodiesel fuel has a natural affinity to water and water accelerates microbial growth. Your MOPAR/Cummins filtration system is designed to provide adequate fuel water separation capabilities.

**Bio-Diesel Fuel Properties — Low Ambient Temperatures**

Biodiesel fuel may gel or solidify at low ambient temperatures, which may pose problems for both storage and operation. Precautions can be necessary at low ambient

temperatures, such as storing the fuel in a heated building or a heated storage tank, or using cold temperature additives.

**Fuel In Oil Dilution — Must Adhere To Required Oil Change Interval**

Fuel dilution of lubricating oil has been observed with the use of Biodiesel fuel. Fuel in oil must not exceed 5%. To ensure this limit is met your oil change interval must be maintained to the following schedule:

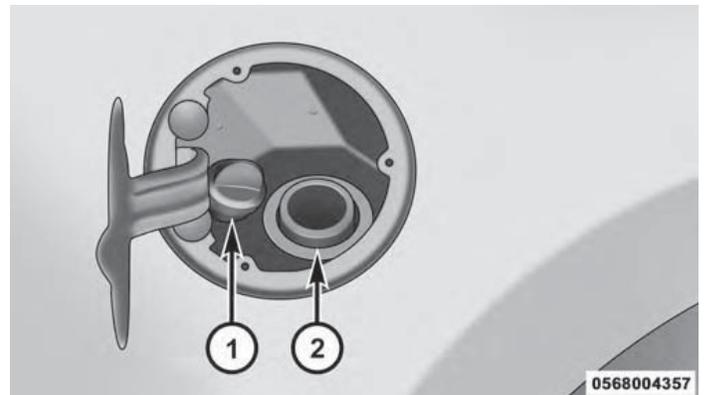
- Ram PickUp 2500/3500 Only — 15,000 Miles\*
- Ram 3500/4500/5500 Chassis Cab — 12,500 Miles\*

(\*unless otherwise notified with a oil service message)

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**CAUTION!**

- Under no circumstances should oil change intervals exceed 15,000 miles (24 000 km) pickup or 12,500 miles (20 000 km) chassis cab if operation occurs with greater than 5% biodiesel blends. Oil change intervals should not exceed 6 months in either case. Failure to comply with these Oil Change requirements for vehicles operating on biodiesel blends up to B20 may result in premature engine wear. Such wear is not covered by the New Vehicle Limited Warranty.
- B20 Biodiesel capable: The engine may suffer severe damage if operated with concentrations of Biodiesel higher than 20%.



**Diesel Fuel And Diesel Exhaust Fluid Fill Location**

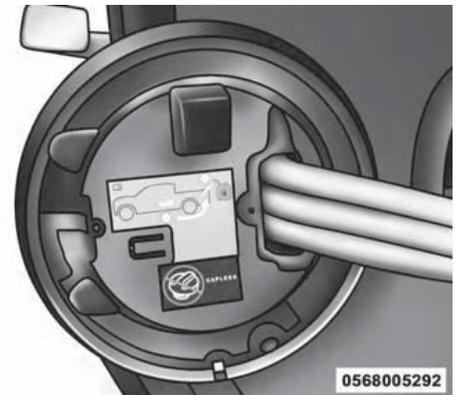
- 1 — Diesel Exhaust Fluid Fill Location
- 2 — Diesel Fuel Fill Location

**ADDING FUEL — 2500/3500 DIESEL MODELS**

1. Open the fuel filler door.

**NOTE:** There is no fuel filler cap. A flapper door inside the filler pipe seals the system.

2. Insert the fuel nozzle fully into the filler pipe – the nozzle opens and holds the flapper door while refueling.
3. Fill the vehicle with fuel – when the fuel nozzle “clicks” or shuts off the fuel tank is full.
4. Remove the fuel nozzle and close the fuel door.



### Emergency Fuel Can Refueling

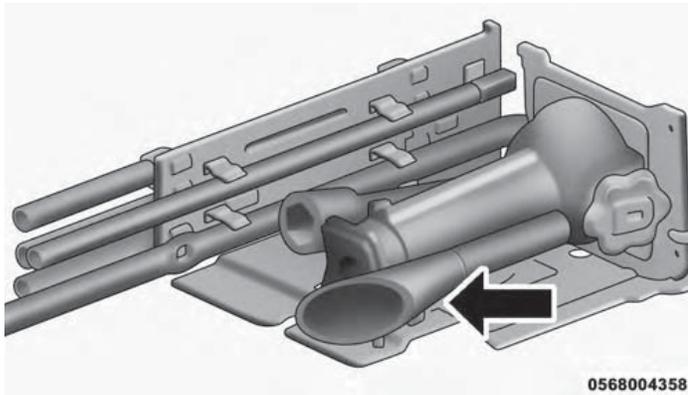
Most fuel cans will not open the flapper door.

A funnel is provided to open the flapper door to allow emergency refueling with a fuel can.

### Diesel Fuel And DEF Fluid Filler Door

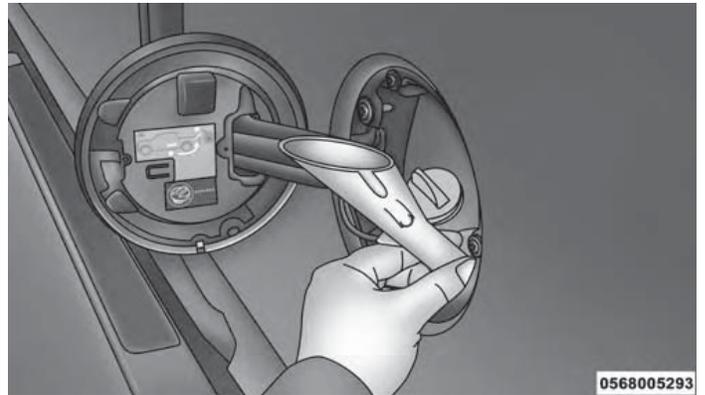
1. Retrieve fuel funnel from the jack kit located under the front passenger seat.

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Fuel Fill Funnel Location 2500/3500 Models

2. Insert funnel into same filler pipe opening as the fuel nozzle.



Emergency Fuel Fill Location

**NOTE:** Ensure funnel is inserted fully to hold flapper door open.

3. Pour fuel into funnel opening.
4. Remove funnel from filler pipe, clean off prior to putting back in the jack kit.

**CAUTION!**

To avoid fuel spillage and overfilling, do not “top off” the fuel tank after filling.

**WARNING!**

- Never have any smoking materials lit in or near the vehicle when the fuel door is open or the tank is being filled.
- Never add fuel when the engine is running. This is in violation of most state and federal fire regulations and may cause the “Malfunction Indicator Light” to turn on.
- A fire may result if fuel is pumped into a portable container that is inside of a vehicle. You could be burned. Always place fuel containers on the ground while filling.

**ADDING FUEL — CHASSIS CAB MODELS**

**CAUTION!**

To avoid fuel spillage and overfilling, do not “top off” the fuel tank after filling.

**NOTE:**

- When the fuel nozzle “clicks” or shuts off, the fuel tank is full.
- Tighten the fuel filler cap until you hear a “clicking” sound. This is an indication that the fuel filler cap is properly tightened.
- Make sure that the fuel filler cap is tightened each time the vehicle is refueled.

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**WARNING!**

A fire may result if fuel is pumped into a portable container that is on a truck bed. You could be burned. Always place fuel containers on the ground while filling.

**Fuel Filler Cap**

If the fuel filler cap is lost or damaged, be sure the replacement cap is for use with this vehicle.

**CAUTION!**

Damage to the fuel system or emission control system could result from using an improper fuel tank filler tube cap. A poorly fitting cap could let impurities into the fuel system.

**WARNING!**

- Never have any smoking materials lit in or near the vehicle when the fuel filler cap is removed or the tank filled.
- Never add fuel to the vehicle when the engine is running.

**Avoid Using Contaminated Fuel**

Fuel that is contaminated by water or dirt can cause severe damage to the engine fuel system. Proper maintenance of the engine fuel filter and fuel tank is essential. Refer to "Maintenance Procedures" in "Maintaining Your Vehicle" for further information.

**Bulk Fuel Storage — Diesel Fuel**

If you store quantities of fuel, good maintenance of the stored fuel is also essential. Fuel contaminated with water will promote the growth of "microbes." These

microbes form “slime” that will clog the fuel filtration system and lines. Drain condensation from the supply tank and change the line filter on a regular basis.

**NOTE:** When a diesel engine is allowed to run out of fuel, air is pulled into the fuel system.

If the vehicle will not start, refer to “Maintenance Procedures/Priming If The Engine Has Run Out Of Fuel” in “Maintaining Your Vehicle” for further information.

**WARNING!**

**Do not open the high pressure fuel system with the engine running. Engine operation causes high fuel pressure. High pressure fuel spray can cause serious injury or death.**

**Diesel Exhaust Fluid Storage**

Diesel Exhaust Fluid (DEF) is considered a very stable product with a long shelf life. If DEF is kept in temperatures between 10° and 90°F (-12° and 32°C), it will last a minimum of one year.

DEF is subject to freezing at the lowest temperatures. For example, DEF may freeze at temperatures at or below 12° F (-11° C). The system has been designed to operate in this environment.

**NOTE:** When working with DEF, it is important to know that:

- Any containers or parts that come into contact with DEF must be DEF compatible (plastic or stainless steel). Copper, brass, aluminum, iron or non-stainless steel should be avoided as they are subject to corrosion by DEF.
- If DEF is spilled, it should be wiped up completely.

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### Adding Diesel Exhaust Fluid

The DEF gauge (located on the instrument cluster) will display the level of DEF remaining in the tank. Refer to “Instrument Cluster” and “Instrument Cluster Descriptions” in “Understanding Your Instrument Panel” for further information.

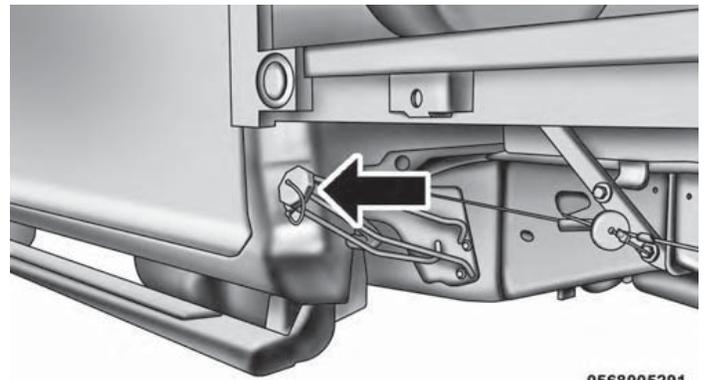
**NOTE:** Driving conditions (altitude, vehicle speed, load, etc.) will effect the amount of DEF that is used in your vehicle.

Another factor is that outside temperature can affect DEF consumption. In cold conditions, 12° F (-11° C) and below, the DEF gauge needle can stay on a fixed position and may not move for extended periods of time. This is a normal function of the system.

### DEF Fill Procedure

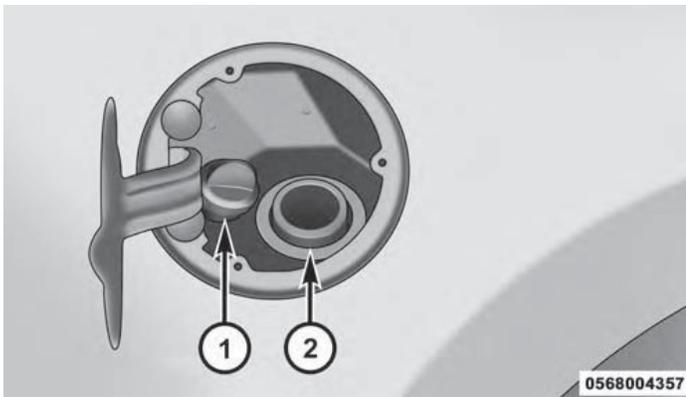
**NOTE:** Refer to “Fluids, Lubricants, and Genuine Parts” in “Maintaining Your Vehicle” for the correct fluid type.

1. Remove cap from DEF tank (located on drivers side of the vehicle or in fuel door).



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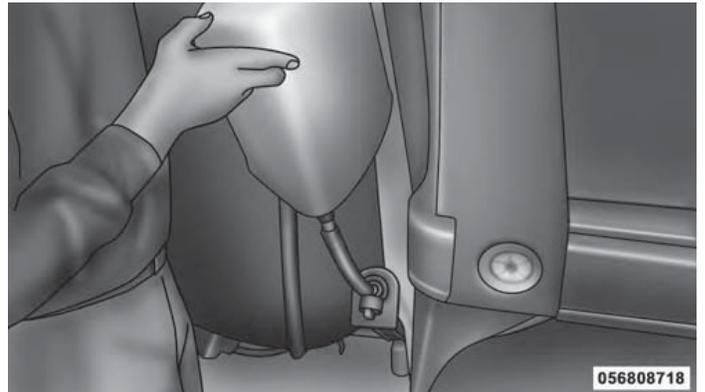
DEF Filler Cap Chassis Cab Models



DEF Filler Cap And Fuel Fill 1500/2500/3500 Models

- 1 — Diesel Exhaust Fluid Fill Location
- 2 — Diesel Fuel Fill Location

2. Insert DEF fill adapter/nozzle into DEF tank filler neck.



Filling The DEF Tank

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**CAUTION!**

- To avoid DEF spillage, and possible damage to the DEF tank from overfilling, do not “top off” the DEF tank after filling.
- **DO NOT OVERFILL.** DEF will freeze below 12°F (-11°C). The DEF system is designed to work in temperatures below the DEF freezing point, however, if the tank is overfilled and freezes, the system could be damaged.
- When DEF is spilled, clean the area immediately with water and use an absorbent material to soak up the spills on the ground.
- Do not attempt to start your engine if DEF is accidentally added to the diesel fuel tank as it can result in severe damage to your engine, including but not limited to failure of the fuel pump and injectors.

*(Continued)*

**CAUTION! (Continued)**

- Never add anything other than DEF to the tank – especially any form of hydrocarbon such as diesel fuel, fuel system additives, gasoline, or any other petroleum-based product. Even a very small amount of these (less than 100 parts per million or less than 1 oz. per 78 gallons) will contaminate the entire DEF system and will require replacement. If owners use a container, funnel or nozzle when refilling the tank, it should either be new or one that is has only been used for adding DEF. MOPAR provides an attachable nozzle with its DEF for this purpose.
3. Stop filling the DEF tank immediately when any of the following happen: DEF stops flowing from the fill bottle into the DEF tank, DEF splashes out the filler neck, or a DEF pump nozzle automatically shuts off.
  4. Reinstall cap onto DEF tank.

### Filling The Def Tank In Cold Climates

Since DEF will begin to freeze at 12°F (-11°C), your vehicle is equipped with an automatic DEF heating system. This allows the DEF injection system to operate properly at temperatures below 12°F (-11°C). If your vehicle is not in operation for an extended period of time with temperatures below 12°F (-11°C), the DEF in the tank may freeze. If the tank is overfilled and freezes, it could be damaged. Therefore, do not overfill the DEF tank.

The DEF tank on these vehicles is designed with a large amount of full reserve. So the level sensor will indicate a Full reading even before the tank is completely full. To put it another way, there's additional storage capacity in the tank above the Full mark that's not represented in the gauge. You may not see any movement in the reading – even after driving up to 2,000 miles in some cases.

The difference this makes varies by vehicle. Heavy-duty pickup trucks have a 5.7-gallon tank that will display a Full reading when about 90 percent full. This means that drivers can consume at least 10 percent of a truly full DEF tank without seeing any visible change in the gauge reading. Chassis cabs have a larger 9-gallon tank, and will display a Full reading when about 75 percent full. So drivers can consume 25 percent of a truly full DEF tank without seeing any visible change in the gauge reading.

Extra care should be taken when filling with portable containers to avoid overfilling. Note the level of the DEF gauge in your instrument cluster. On pickup applications, you may safely add a maximum of 2 gallons of DEF from portable containers when your DEF gauge is reading ½ full. On Chassis Cab applications a maximum of 2 gallons may be added when the DEF gauge is reading ¾ full.

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## DIESEL EXHAUST FLUID

Your vehicle is equipped with a Selective Catalytic Reduction system to meet the very stringent diesel emissions standards required by the Environmental Protection Agency.

The purpose of the SCR system is to reduce levels of NO<sub>x</sub> (oxides of nitrogen emitted from engines) that are harmful to our health and the environment to a near-zero level. Small quantities of Diesel Exhaust Fluid (DEF) is injected into the exhaust upstream of a catalyst where, when vaporized, it converts smog-forming nitrogen oxides (NO<sub>x</sub>) into harmless nitrogen (N<sub>2</sub>) and water vapor (H<sub>2</sub>O), two natural components of the air we breathe. You can operate with the comfort that your vehicle is contributing to a cleaner, healthier world environment for this and generations to come.

## System Overview

This vehicle is equipped with a Diesel Exhaust Fluid (DEF) injection system and a Selective Catalytic Reduction (SCR) catalyst to meet the emission requirements.

The DEF injection system consists of the following components:

- DEF tank
- DEF pump
- DEF injector
- Electronically-heated DEF lines
- DEF control module
- NO<sub>x</sub> sensors

- Temperature sensors
- SCR catalyst
- UQS Sensor

The DEF injection system and SCR catalyst enable the achievement of diesel emissions requirements; while maintaining outstanding fuel economy, drivability, torque and power ratings.

Refer to “Electronic Vehicle Information Center (EVIC) or “Driver Information Display (DID)” in “Understanding Your Instrument Panel” for system messages and warnings.

**NOTE:**

- Your vehicle is equipped with a DEF injection system. You may occasionally hear an audible clicking noise. This is normal operation.
- The DEF pump will run for a period of time after engine shutdown to purge the DEF system. This is normal operation.



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## WHAT TO DO IN EMERGENCIES

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326 WHAT TO DO IN EMERGENCIES

**JUMP STARTING**

**WARNING!**

- To prevent personal injury or damage to clothing, do not allow battery fluid to contact eyes, skin or fabrics. Do not lean over a battery when connecting jumper cables or allow cable clamps to touch each other. Keep open flames or sparks away from battery vent holes. Always wear eye protection when working with batteries.
- Do not use a booster battery or any other booster source that has a greater than 12 Volt system, i.e., do not use a 24 Volt power source.

**NOTE:** Replacement batteries should both be of equal size to prevent damage to the vehicle's charging system.

Your vehicle is equipped with two 12 Volt batteries. If it becomes necessary to use a booster battery with jumper

cables to start a vehicle's engine because its batteries are discharged, the following procedure should be used:

Set the parking brake and place an automatic transmission in PARK (or NEUTRAL for a manual transmission). Turn off lights, heater and other electrical loads. Observe charge indicator (if equipped) in both batteries. If the indicator (if equipped) is light or yellow on either battery, replace that battery.

**CAUTION!**

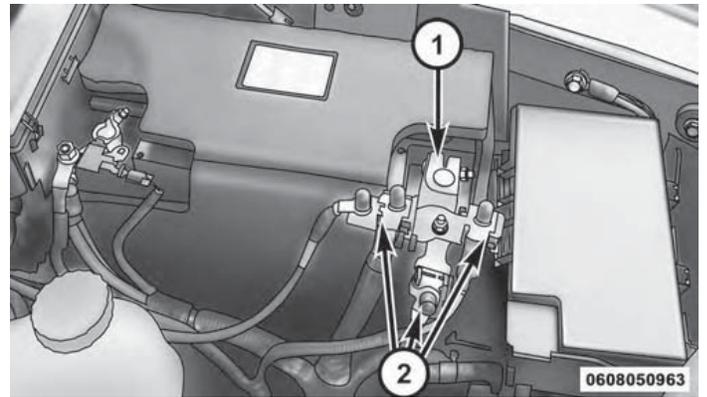
Use the jump start procedure only when the charge indicator (if equipped) in both batteries is dark in the center. Do not attempt jump starting when either battery charge indicator (if equipped) is bright or yellow. If the charge indicator (if equipped) has a green dot in the center, failure to start is not due to a discharged battery and cranking system should be checked.

1. Attach one jumper cable to the positive terminal of booster battery and the other end of the same cable to the positive terminal of the discharged battery.

**NOTE: Do not jump off fuses. Only jump directly off positive post.**

**WARNING!**

Do not permit vehicles to touch each other as this could establish a ground connection and personal injury could result.



**Battery (Diesel Model Shown)**

- 1 — Positive Battery Post
- 2 — Fuses

### 328 WHAT TO DO IN EMERGENCIES

2. Connect one end of the other jumper cable to negative (-) post of booster battery. Connect the other end of the jumper cable to a good ground on the engine block of the vehicle with the discharged battery. Make sure a good connection is made, free of dirt and grease.
3. Take care that the clamps from one cable do not inadvertently touch clamps from the other cable. Do not lean over the battery when making connection. The negative connection must provide good electrical conductivity and current carrying capacity.

#### **WARNING!**

- Do not connect the cable to the negative post of the discharge battery. The resulting electrical spark could cause the battery to explode.
- During cold weather when temperatures are below freezing point, electrolyte in a discharged battery may freeze. Do not attempt jump starting because the battery could rupture or explode. The battery temperature must be brought up above freezing point before attempting to jump start.

4. After the engine is started or if the engine fails to start, cables must be disconnected in the following order:
  - Disconnect the negative cable at the engine ground.
  - Disconnect the negative cable at the negative post on booster battery.
  - Disconnect the cable from the positive post of both batteries.

**WARNING!**

Any procedure other than above could result in:

- Personal injury caused by electrolyte squirting out the battery vent.
- Personal injury or property damage due to battery explosion.
- Damage to charging system of booster vehicle or of immobilized vehicle.

**With Portable Starting Unit**

There are many types of these units available. Follow the manufacturer's instructions for necessary precautions and operation.

**CAUTION!**

It is very important that the starting unit operating voltage does not exceed 12 Volts DC or damage to battery, starter motor, alternator, or electrical system may occur.



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## MAINTAINING YOUR VEHICLE

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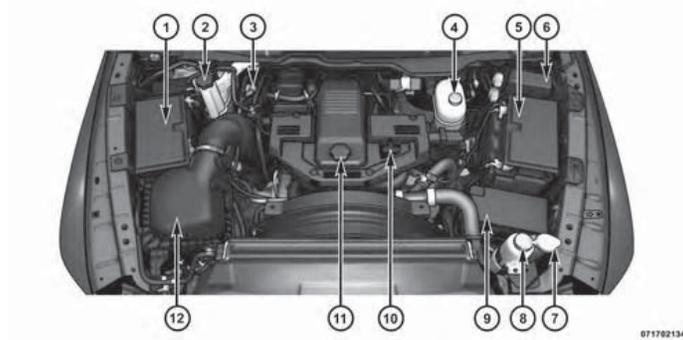
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**ENGINE COMPARTMENT — 6.7L DIESEL — SIX-SPEED 68RFE (2500/3500 Models)**

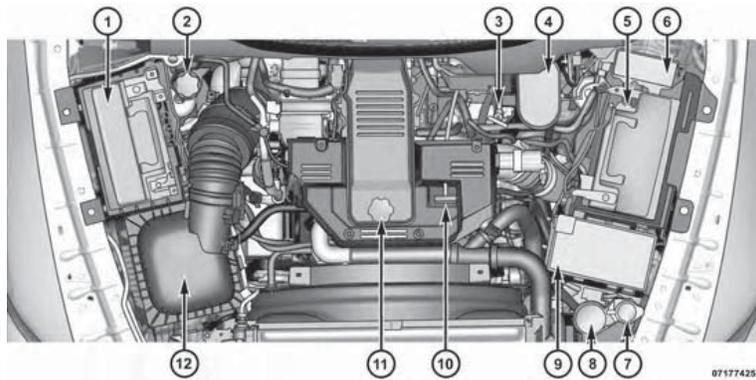


- 1 — Battery
- 2 — Engine Coolant Reservoir
- 3 — Automatic Transmission Dipstick
- 4 — Brake Fluid Reservoir
- 5 — Battery
- 6 — Aux Power Distribution Center

- 7 — Washer Fluid Reservoir
- 8 — Power Steering Fluid Reservoir
- 9 — Power Distribution Center
- 10 — Engine Oil Dipstick
- 11 — Engine Oil Fill
- 12 — Air Cleaner Filter

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**ENGINE COMPARTMENT — 6.7L DIESEL — SIX-SPEED AS69RC HD (3500/CHASSIS CAB MODELS)**



- 1 — Battery
- 2 — Engine Coolant Reservoir
- 3 — Automatic Transmission Dipstick
- 4 — Brake Fluid Reservoir
- 5 — Battery
- 6 — Aux Power Distribution Center

- 7 — Washer Fluid Reservoir
- 8 — Power Steering Fluid Reservoir
- 9 — Power Distribution Center
- 10 — Engine Oil Dipstick
- 11 — Engine Oil Fill
- 12 — Air Cleaner Filter

### MAINTENANCE PROCEDURES

The pages that follow contain the **required** maintenance services determined by the engineers who designed your vehicle.

Besides those maintenance items specified in the fixed maintenance schedule, there are other components which may require servicing or replacement in the future.

#### CAUTION!

- Failure to properly maintain your vehicle or perform repairs and service when necessary could result in more costly repairs, damage to other components or negatively impact vehicle performance. Immediately have potential malfunctions examined by an authorized dealership or qualified repair center.

*(Continued)*

#### CAUTION! *(Continued)*

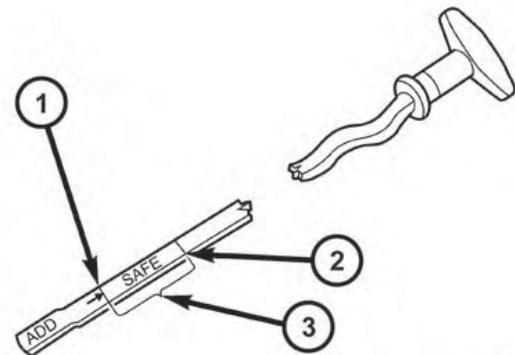
- Your vehicle has been built with improved fluids that protect the performance and durability of your vehicle and also allow extended maintenance intervals. Do not use chemical flushes in these components as the chemicals can damage your engine, transmission, power steering or air conditioning. Such damage is not covered by the New Vehicle Limited Warranty. If a flush is needed because of component malfunction, use only the specified fluid for the flushing procedure.

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### Engine Oil

#### Checking Oil Level

To assure proper lubrication of your vehicle's engine, the engine oil must be maintained at the correct level. Check the oil level at regular intervals. The best time to check the oil level is before starting the engine after it has been parked overnight. When checking oil after operating the engine, first ensure the engine is at full operating temperature, then wait for 30 minutes after engine shutdown to check the oil.



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Engine Oil Dipstick

- 1 — ADD Range
- 2 — Full Mark
- 3 — SAFE Range

Checking the oil while the vehicle is on level ground will improve the accuracy of the oil level readings. Add oil

only when the level on the dipstick is below the "ADD" mark. The total capacity from the ADD mark to the Full mark is 2 qts (1.9L).

**CAUTION!**

**Overfilling or underfilling the crankcase will cause oil aeration or loss of oil pressure. This could damage your engine.**

Never operate the engine with oil level below the "ADD" mark or above the upper "SAFE" mark.

**Change Engine Oil**

Refer to the "Maintenance Schedule" for the proper maintenance intervals.

**Engine Oil Selection**

For best performance and maximum protection under all types of operating conditions, the manufacturer only

recommends engine oils that are API CJ-4 certified and meet the requirements of FCA LLC. Use MOPAR or an equivalent oil meeting FCA Material Standard MS-10902. Products meeting Cummins CES 20081 may also be used. The identification of these engine oils are typically located on the back of the oil container.

**American Petroleum Institute (API) Engine Oil Identification Symbol**



This symbol means that the oil has been certified by the American Petroleum Institute (API). The manufacturer only recommends API Certified engine oils.

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Oils with a high ash content may produce damaging deposits on cylinder head valves and/or aftertreatment system damage. A maximum sulfated ash content of 1.00 mass % is recommended for all oil used in the engine.

The same oil change interval is to be followed for synthetic oil as for petroleum based oil. Also, synthetic oil must meet the same performance specifications as petroleum oil.

<b>CAUTION!</b>
<b>Do not use chemical flushes in your engine oil as the chemicals can damage your engine. Such damage is not covered by the New Vehicle Limited Warranty.</b>

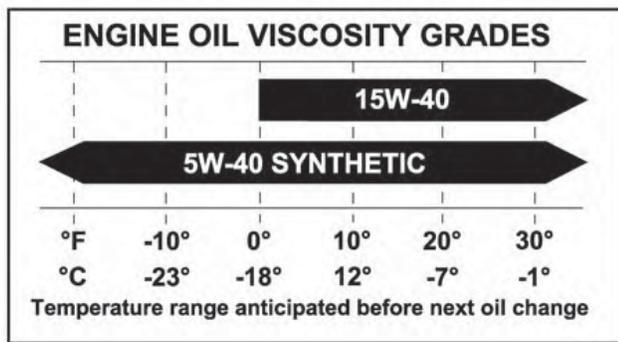
**Engine Oil Viscosity (SAE Grade)**

In ambient temperatures above 0°F (-18°C), we recommend you use SAE 15W-40 engine oil such as MOPAR, Shell Rotella and Shell Rimula that meets FCA Material

Standard MS-10902 and the API CJ-4 engine oil category is required. Products meeting Cummins CES 20081 may also be used. The identification of these engine oils is typically located on the back of the oil container.

In ambient temperatures below 0°F (-18°C), SAE 5W-40 we recommend you use **synthetic** engine oil such as MOPAR, Shell Rotella and Shell Rimula that meets FCA Material Standard MS-10902 and the API CJ-4 engine oil category is required.

<b>CAUTION!</b>
<b>Failure to use SAE 5W-40 synthetic engine oil in ambient temperatures below 0°F (-18°C) could result in severe engine damage.</b>



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Engine oil not designated by the FCA or Cummins Material Standards and API CJ-4 should not be used, as

engine and exhaust system durability may be compromised. The engine oil filler cap also shows the recommended engine oil viscosity for your engine. For information on engine oil filler cap location, refer to “Engine Compartment” in “Maintaining Your Vehicle” for further information.

### Synthetic Engine Oils

You may use synthetic engine oils if the recommended oil quality requirements are met and the recommended maintenance intervals for oil and filter changes are followed.

### Materials Added To Engine Oil

The manufacturer strongly recommends against the addition of any additives (other than leak detection dyes) to the engine oil. Engine oil is an engineered product and its performance may be impaired by supplemental additives.

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### Engine Oil Filter

Refer to “Fluids, Lubricants, And Genuine Parts” in “Maintaining Your Vehicle” for further information. The engine oil filter should be changed at every engine oil change.

### Disposing Of Used Engine Oil And Oil Filters

Care should be taken in disposing of used engine oil and oil filters from your vehicle. Used oil and oil filters, indiscriminately discarded, can present a problem to the environment. Contact your authorized dealer, service station or governmental agency for advice on how and where used oil and oil filters can be safely discarded in your area.

### Engine Air Cleaner Filter

**CAUTION!**

All air entering the engine intake must be filtered. The abrasive particles in unfiltered air will cause rapid wear to engine components.

**WARNING!**

The air induction system (air cleaner, hoses, etc.) provides a measure of protection. Do not remove the air induction system (air cleaner, hoses, etc.) unless such removal is necessary for repair or maintenance. Make sure that no one is near the engine compartment before starting the vehicle with the air induction system (air cleaner, hoses, etc.) removed. Failure to do so can result in serious personal injury.

The condition of the air cleaner filter is monitored by the Engine Control Module. The "SERVICE AIR FILTER" message will display in the Electronic Vehicle Information Center (EVIC) or Driver Information Display (DID) when service is required. Refer to "Electronic Vehicle Information Center (EVIC)" or "Driver Information Display (DID)" in "Understanding Your Instrument Panel" for further information.

The "SERVICE AIR FILTER" message could be displayed periodically. This is because engine air flow requirements change based on driving conditions. As the filter becomes more restrictive and air flow requirements increase the "SERVICE AIR FILTER" message will be displayed. The message may not be displayed in subsequent drive cycles if the same conditions are not met. The air filter element should be replaced within 250 miles (402 km) from the first time this message is displayed to ensure proper engine operation during all driving conditions.

**CAUTION!**

**Driving with a restricted air filter can cause engine damage. Driving in dusty environments for extended periods will lead to rapid air filter plugging. Action should be taken as soon as the "SERVICE AIR FILTER" message is displayed.**

If the vehicle experiences a sudden loss of engine power while being driven in heavy snow or rain, or when plowing snow, and/or the "SERVICE AIR FILTER" message is displayed on the EVIC/DID along with a chime that repeats every 60 seconds, visually inspect the air filter for snow/ice build up or extreme water saturation. If the air filter is not damaged, remove all snow/ice and reinstall air filter. If the air filter is damaged, replace filter element.

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**NOTE:** The air filter housing contains a Mass Air Flow sensor. This sensor is critical to proper engine operation and component longevity. Any damage or modification to this sensor could result in major engine and/or exhaust aftertreatment damage. We recommend you use MOPAR brand parts.

Even though your vehicle is equipped with an Air Filter Monitor, a visual inspection of the air cleaner filter element is recommended every 15,000 miles (24,000km) or 12 months – whichever occurs first. **Under no circumstances should the air cleaner filter element exceed 30,000 miles (48,000 km) or 24 months, whichever comes first.**

#### CAUTION!

**Many aftermarket performance air filter elements do not adequately filter the air entering the engine. Use of such filters can severely damage your engine.**

#### Engine Air Cleaner Filter Selection

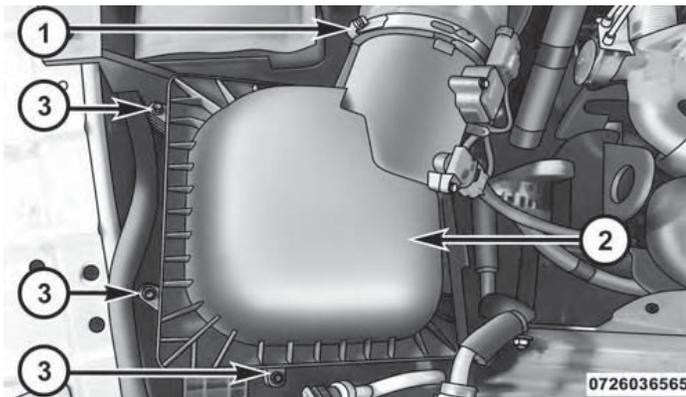
The quality of replacement engine air cleaner filters varies considerably. Only high quality filters should be used to assure most efficient service. MOPAR engine air cleaner filters are a high quality filter and are recommended.

#### Engine Air Cleaner Filter Inspection and Replacement

Inspect engine air cleaner filter for dirt and or debris, if you find evidence of either dirt or debris you should change your air cleaner filter.

### Engine Air Cleaner Filter Removal

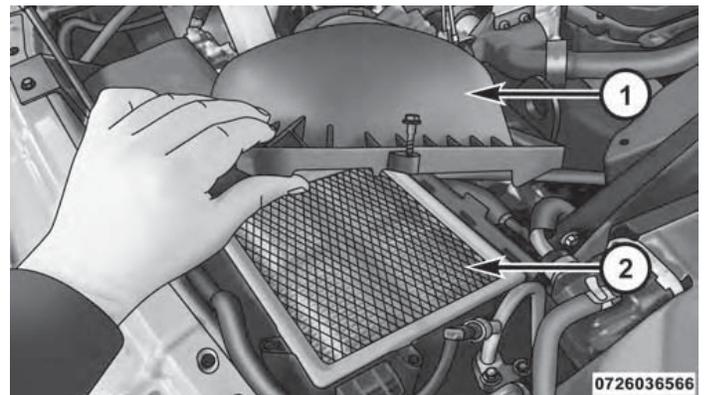
1. Remove the screws from the air cleaner cover.



Air Cleaner Filter Cover

- 1 — Clean Air Hose Clamp
- 2 — Air Cleaner Filter Cover
- 3 — Screws

2. Lift the air cleaner cover to access the air cleaner filter.

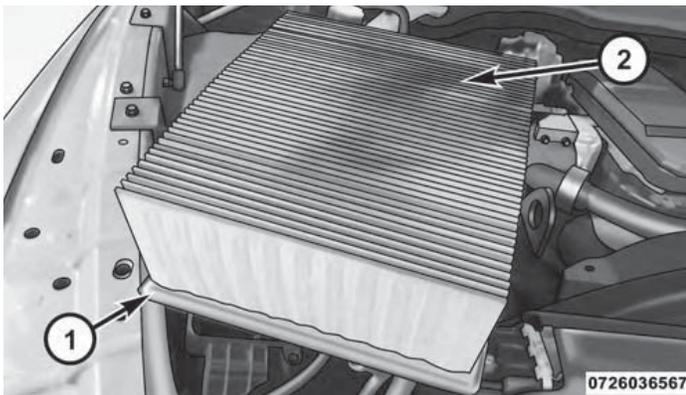


Open Air Cleaner Filter Assembly

- 1 — Air Cleaner Cover
- 2 — Air Cleaner Filter

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3. Remove the air cleaner filter element from the housing assembly.



**Air Cleaner Filter**

- 1 — Air Cleaner Filter
- 2 — Air Cleaner Filter Inspection Surface

**Engine Air Cleaner Filter Installation**

**NOTE:** Inspect and clean the housing if dirt or debris is present before replacing the air filter element.

1. Install the air cleaner filter element into the housing assembly with the air cleaner filter inspection surface facing downward.
2. Install the air cleaner cover onto the housing assembly locating tabs.
3. Install screws to secure the air cleaner cover to the housing assembly.

**Draining Fuel/Water Separator Filter**

There are two fuel filter assemblies. One is located on the driver's side of the engine. The best access to this water drain valve is from under the hood. The second one is on the under body, located in front of the rear axle above the drive shaft on pick-up models. The Chassis Cab models

second filter location is on the frame behind the front axle. The best access to this water drain valve is from under the vehicle.

<b>CAUTION!</b>
<ul style="list-style-type: none"> <li>• Do not drain the fuel/water separator filters when the engine is running.</li> <li>• Diesel fuel will damage blacktop paving surfaces. Drain the filters into an appropriate container.</li> </ul>

If water is detected in the water separator while the engine is running, or while the ignition switch is in the ON position, the "Water In Fuel Indicator Light" will illuminate and an audible chime will be heard five times. At this point you should stop the engine and drain the water from both of the filters.

<b>CAUTION!</b>
<p>If the "Water In Fuel Indicator Light" remains on, DO NOT START the engine before you drain water from the fuel filters to avoid engine damage.</p>

If the "Water In Fuel Indicator Light" comes on and a single chime is heard while you are driving, or with the ignition switch in the ON position, there may be a problem with your water separator wiring or sensor. See your authorized dealer for service.

Upon proper draining of the water from both fuel filters, the "Water In Fuel Indicator Light" will remain illuminated for approximately 10 seconds. If the water was drained while the engine was running, the "Water In Fuel Indicator Light" may remain on for approximately three minutes.

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**NOTE:** Care should be taken in disposing of used fluids from your vehicle. Used fluids, indiscriminately discarded, can present a problem to the environment. Contact an authorized dealer, service station, or government agency for advice on recycling programs and for where used fluids and filters can be properly disposed of in your area.

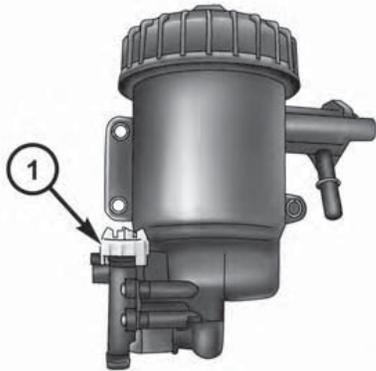
Drain the fuel/water separator filters when the “Water In Fuel Indicator Light” is ON. Within 10 minutes of vehicle shutdown, turn the engine mounted filter drain valve (located on the side of the filter assembly) counterclockwise 1/4 turn, and turn the under body mounted filter drain valve (located on the bottom of the filter assembly) counterclockwise 1 full turn. Then turn the ignition switch to the ON position, and allow any accumulated water to drain. Leave the drain valve open until all water and contaminants have been removed. When clean fuel is visible, close the drain valves by turning them fully clockwise, and turn the ignition switch to OFF.

If more than a couple ounces/milliliters of fuel have been drained, follow the directions for “Priming If The Engine Has Run Out Of Fuel.”

#### Engine Mounted Fuel Filter Replacement

**NOTE:**

- Using a fuel filter that does not meet the manufacturer’s filtration and water separating requirements can severely impact fuel system life and reliability.
- The engine mounted filter housing is equipped with a No-Filter-No-Run (NFNR) feature. Engine will not run if:
  1. No filter is installed.
  2. Inferior/Non-approved filter is used. Use of OEM filter is required to ensure vehicle will run.



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**Engine Mounted Fuel Filter Assembly**

1 — Drain Valve

**CAUTION!**

- Diesel fuel will damage blacktop paving surfaces. Drain the filter into an appropriate container.
- Do not prefill the fuel filter when installing a new fuel filter. There is a possibility debris could be introduced into the fuel filter during this action. It is best to install the filter dry and allow the in-tank lift pump to prime the fuel system.

1. Ensure engine is turned off.
2. Place drain pan under the fuel filter drain hose.
3. Open the water drain valve 1/4 turn counterclockwise and completely drain fuel and water into the approved container.
4. Close the water drain valve.

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5. Remove lid using a socket or strap wrench. Rotate counterclockwise for removal. Remove used o-ring and discard it.
6. Remove the used filter cartridge from the housing and dispose of according to your local regulations.
7. Wipe clean the sealing surfaces of the lid and housing.
8. Install new o-ring back into ring groove on the filter housing and lubricate with clean engine oil.
9. Remove new filter cartridge from plastic bag and install into housing.
10. Push down on the cartridge to ensure it is properly seated. **Do not pre-fill the filter housing with fuel.**
11. Install lid onto housing and tighten to 22.5 ft lbs (30.5 N.m). Do not overtighten the lid.
12. Prime the engine using the procedure in "Priming If The Engine Has Run Out Of Fuel." Then start the engine and confirm there are no leaks.

**NOTE:** Do not remove cartridge from bag until you reach this step in order to keep cartridge clean.

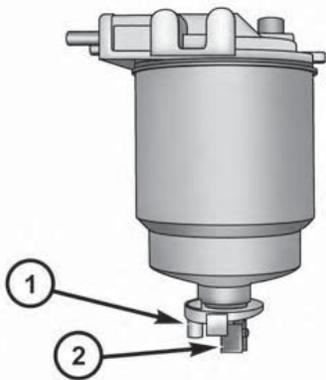
### Underbody Mounted Fuel Filter Replacement

**NOTE:**

- Using a fuel filter that does not meet the manufacturer's filtration and water separating requirements can severely impact fuel system life and reliability.

- The underbody mounted filter housing will cause the engine not to run if:

1. No filter is installed.



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**Underbody Mounted Fuel Filter Assembly**

1 — Drain Valve

2 — WIF Sensor

### CAUTION!

- Diesel fuel will damage blacktop paving surfaces. Drain the filter into an appropriate container.
- Do not prefill the fuel filter when installing a new fuel filter. There is a possibility debris could be introduced into the fuel filter during this action. It is best to install the filter dry and allow the in-tank lift pump to prime the fuel system.

1. Ensure engine is turned off.
2. Place drain pan under the fuel filter drain hose.
3. Open the water drain valve 1 full turn counterclockwise and completely drain fuel and water into the approved container.
4. Close the water drain valve.

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5. Remove lid using a socket or strap wrench. Rotate counterclockwise for removal. Remove used o-ring and discard it.
6. Remove the used filter cartridge from the housing and dispose of according to your local regulations.
7. Wipe clean the sealing surfaces of the lid and housing.
8. Install new o-ring back into ring groove on the filter housing and lubricate with clean engine oil.

**NOTE:** WIF sensor is re-usable. Service kit comes with new o-ring for filter canister and WIF sensor.

**Priming If The Engine Has Run Out Of Fuel**

**WARNING!**

**Do not open the high pressure fuel system with the engine running. Engine operation causes high fuel pressure. High pressure fuel spray can cause serious injury or death.**

1. Add a substantial amount of fuel to the tank, approximately 2 to 5 gal (8L to 19L).
2. Turn ignition switch to the start position to engage starter for one second, return ignition switch to run position. This will activate in tank fuel pump for approximately 15 seconds. Repeat this process twice.
3. Start the engine using the "Normal Starting" procedure. Refer to "Starting Procedures" in "Starting and Operating" for further information.

**CAUTION!**

Do not engage the starter motor for more than 15 seconds at a time. Allow two minutes between the cranking intervals.

**NOTE:** The engine may run rough until the air is forced from all the fuel lines.

**WARNING!**

Do not use alcohol or gasoline as a fuel blending agent. They can be unstable under certain conditions and be hazardous or explosive when mixed with diesel fuel.

**CAUTION!**

Due to lack of lubricants in alcohol or gasoline, the use of these fuels can cause damage to the fuel system.

**NOTE:**

- A maximum blend of 5% biodiesel, meeting ASTM specification D-975 may be used with your Cummins diesel engine. (Chassis Cab models not configured with B20 capability.)
- A maximum blend of 20% biodiesel, meeting ASTM specification D-7467 may be used with your Cummins diesel engine. (Pickup models and Chassis Cab models configured with B20 capability.)

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- Use of biodiesel mixture in excess of 20% can negatively impact the fuel filter's ability to separate water from the fuel, resulting in high pressure fuel system corrosion or damage.
- Ethanol blends are not recommended or approved for use with your Cummins diesel engine.
- In addition, commercially available fuel additives are not necessary for the proper operation of your Cummins diesel engine.

#### **Intervention Regeneration Strategy — Message Process Flow**

The Cummins diesel engine meets all EPA Heavy Duty Diesel Engine Emissions Standards, resulting in one of the lowest emitting diesel engines ever produced.

To achieve these emissions standards, your vehicle is equipped with a state-of-the-art engine and exhaust system. The engine and exhaust after-treatment system

work together to achieve the EPA Heavy Duty Diesel Engine Emissions Standards. These systems are seamlessly integrated into your vehicle and managed by the Cummins Powertrain Control Module (PCM). The PCM manages engine combustion to allow the exhaust system's catalyst to trap and burn Particulate Matter (PM) pollutants, with no input or interaction on your part.

Additionally, your vehicle has the ability to alert you to additional maintenance required on your truck or engine.

Refer to "Electronic Vehicle Information Center (EVIC)" or "Driver Information Display (DID)" in "Understanding Your Instrument Panel" for further information.

#### **WARNING!**

**A hot exhaust system can start a fire if you park over materials that can burn. Such materials might be**

*(Continued)*

**WARNING! (Continued)**

grass or leaves coming into contact with your exhaust system. Do not park or operate your vehicle in areas where your exhaust system can contact anything that can burn.

**Diesel Exhaust Fluid**

Diesel Exhaust Fluid (DEF) sometimes known simply by the name of its active component, UREA—is a key component of selective catalytic reduction (SCR) systems, which help diesel vehicles meet stringent emission regulations. DEF is a liquid reducing agent that reacts with engine exhaust in the presence of a catalyst to convert smog-forming nitrogen oxides (NOx) into harmless nitrogen and water vapor.

Refer to “Fluids, Lubricants, and Genuine Parts” in “Maintaining Your Vehicle” for further information.

You can receive assistance in locating DEF in the United States by calling 866-RAM-INFO (866-726-4636). In Canada call 1-800-465-2001 (English) or 1-800-387-9983 (French)

**Maintenance-Free Batteries**

The top of the maintenance-free batteries are permanently sealed. You will never have to add water, nor is periodic maintenance required.

**NOTE:** Replacement batteries should both be of equal capacity to prevent damage to the vehicle’s charging system.

**CAUTION!**

It is essential when replacing the cables on the battery that the positive cable is attached to the positive post and the negative cable is attached to the

(Continued)

**CAUTION! (Continued)**

negative post. Battery posts are marked (+) positive and negative (-) and are identified on the battery case. Also, if a "fast charger" is used while the battery is in vehicle, disconnect both vehicle battery cables before connecting the charger to the battery. Do not use a "fast charger" to provide starting voltage.

**WARNING!**

Battery posts, terminals, and related accessories contain lead and lead compounds. Always wash hands after handling the battery.

**Battery Blanket Usage**

A battery loses 60% of its cranking power as the battery temperature decreases to 0°F (-18°). For the same decrease in temperature, the engine requires twice as much power to crank at the same RPM. The use of 120 Volt AC

powered battery blankets will greatly increase starting capability at low temperatures. Suitable battery blankets are available from your authorized MOPAR dealer.

**Cooling System**

**WARNING!**

You or others can be badly burned by hot engine coolant (antifreeze) or steam from your radiator. If you see or hear steam coming from under the hood, do not open the hood until the radiator has had time to cool. Never try to open a cooling system pressure cap when the radiator is hot.

**Engine Coolant Checks**

Check the engine coolant (antifreeze) protection every 12 months (before the onset of freezing weather, where applicable). If the engine coolant (antifreeze) is dirty or rusty in appearance, the system should be drained,

flushed and refilled with fresh coolant. Check the front of the A/C condenser (if equipped) or radiator for any accumulation of bugs, leaves, etc. If dirty, clean by gently spraying water from a garden hose vertically down the face of the A/C condenser (if equipped) or the back of the radiator core.

Check the engine cooling system hoses for brittle rubber, cracking, tears, cuts and tightness of the connection at the coolant recovery bottle and radiator. Inspect the entire system for leaks.

With the engine at normal operating temperature (but not running), check the cooling system pressure cap for proper vacuum sealing by draining a small amount of engine coolant (antifreeze) from the radiator drain cock. The radiator drain cock is located in the lower radiator tank. If the cap is sealing properly, the engine coolant

(antifreeze) will begin to drain from the coolant expansion bottle. DO NOT REMOVE THE COOLANT PRESSURE CAP WHEN THE COOLING SYSTEM IS HOT.

#### **Cooling System — Drain Flush And Refill**

If the engine coolant (antifreeze) is dirty or contains a considerable amount of sediment, clean and flush with a reliable cooling system cleaner. Follow with a thorough rinsing to remove all deposits and chemicals. Properly dispose of old engine coolant (antifreeze).

Refer to the "Maintenance Schedule" for the proper maintenance intervals.

#### **Selection Of Coolant**

Refer to "Fluids, Lubricants, And Genuine Parts" in "Maintaining Your Vehicle" for further information.

**CAUTION!**

- Mixing of engine coolant (antifreeze) other than specified Organic Additive Technology (OAT) engine coolant (antifreeze), may result in engine damage and may decrease corrosion protection. Organic Additive Technology (OAT) engine coolant is different and should not be mixed with Hybrid Organic Additive Technology (HOAT) engine coolant (antifreeze) or any “globally compatible” coolant (antifreeze). If a non-OAT engine coolant (antifreeze) is introduced into the cooling system in an emergency, the cooling system will need to be drained, flushed, and refilled with fresh OAT coolant (conforming to MS.90032), by an authorized dealer as soon as possible.

*(Continued)*

**CAUTION! (Continued)**

- Do not use water alone or alcohol-based engine coolant (antifreeze) products. Do not use additional rust inhibitors or antirust products, as they may not be compatible with the radiator engine coolant and may plug the radiator.
- This vehicle has not been designed for use with propylene glycol-based engine coolant (antifreeze). Use of propylene glycol-based engine coolant (antifreeze) is not recommended.

**Adding Coolant**

Your vehicle has been built with an improved engine coolant (OAT coolant conforming to MS.90032) that allows extended maintenance intervals. This engine coolant (antifreeze) can be used up to ten years or 150,000 miles (240,000 km) before replacement. To prevent reducing this extended maintenance period, it is important that

you use the same engine coolant (OAT coolant conforming to MS.90032) throughout the life of your vehicle.

Please review these recommendations for using Organic Additive Technology (OAT) engine coolant (antifreeze) that meets the requirements of FCA Material Standard MS.90032. When adding engine coolant (antifreeze):

- We recommend using MOPAR Antifreeze/Coolant 10 Year/150,000 Mile Formula OAT (Organic Additive Technology) that meets the requirements of FCA Material Standard MS.90032.
- Mix a minimum solution of 50% OAT engine coolant that meets the requirements of FCA Material Standard MS.90032 and distilled water. Use higher concentrations (not to exceed 70%) if temperatures below  $-34^{\circ}\text{F}$  ( $-37^{\circ}\text{C}$ ) are anticipated.

- Use only high purity water such as distilled or deionized water when mixing the water/engine coolant (antifreeze) solution. The use of lower quality water will reduce the amount of corrosion protection in the engine cooling system.

Please note that it is the owner's responsibility to maintain the proper level of protection against freezing according to the temperatures occurring in the area where the vehicle is operated.

**NOTE:**

- Some vehicles require special tools to add coolant properly. Failure to fill these systems properly could lead to severe internal engine damage. If any coolant is needed to be added to the system, please contact your local authorized dealer.

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- Mixing engine coolant (antifreeze) types is not recommended and can result in cooling system damage. If HOAT and OAT coolant are mixed in an emergency, have a authorized dealer drain, flush, and refill with OAT coolant (conforming to MS.90032) as soon as possible.

### Cooling System Pressure Cap

The cap must be fully tightened to prevent loss of engine coolant (antifreeze), and to ensure that the engine coolant (antifreeze) will return to the radiator from the coolant expansion bottle.

The cap should be inspected and cleaned if there is any accumulation of foreign material on the sealing surfaces.

### WARNING!

- Do not open hot engine cooling system. Never add engine coolant (antifreeze) when the engine is overheated. Do not loosen or remove the cap to cool an overheated engine. Heat causes pressure to build up in the cooling system. To prevent scalding or injury, do not remove the pressure cap while the system is hot or under pressure.
- Do not use a pressure cap other than the one specified for your vehicle. Personal injury or engine damage may result.

### Disposal Of Used Engine Coolant

Used ethylene glycol-based engine coolant (antifreeze) is a regulated substance requiring proper disposal. Check with your local authorities to determine the disposal rules for your community. To prevent ingestion by animals or children, do not store ethylene glycol-based

engine coolant (antifreeze) in open containers or allow it to remain in puddles on the ground. If ingested by a child or pet, seek emergency assistance immediately. Clean up any ground spills immediately.

#### Points To Remember

**NOTE:** When the vehicle is stopped after a few miles/kilometers of operation, you may observe vapor coming from the front of the engine compartment. This is normally a result of moisture from rain, snow, or high humidity accumulating on the radiator and being vaporized when the thermostat opens, allowing hot engine coolant (antifreeze) to enter the radiator.

If an examination of your engine compartment shows no evidence of radiator or hose leaks, the vehicle may be safely driven. The vapor will soon dissipate.

- Do not overfill the coolant expansion bottle.

- Check the coolant freeze point in the radiator and in the coolant expansion bottle. If engine coolant (antifreeze) needs to be added, the contents of the coolant expansion bottle must also be protected against freezing.
- If frequent engine coolant (antifreeze) additions are required, the cooling system should be pressure tested for leaks.
- Maintain engine coolant (antifreeze) concentration at a minimum of 50% OAT coolant (conforming to MS.90032) and distilled water for proper corrosion protection of your engine which contains aluminum components.
- Make sure that the coolant expansion bottle overflow hoses are not kinked or obstructed.
- Keep the front of the radiator clean. If your vehicle is equipped with air conditioning, keep the front of the condenser clean.

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- Do not change the thermostat for Summer or Winter operation. If replacement is ever necessary, install ONLY the correct type thermostat. Other designs may result in unsatisfactory engine coolant (antifreeze) performance, poor gas mileage, and increased emissions.

#### Charge Air Cooler — Inter-Cooler

The charge air cooler is positioned below the radiator and the air conditioner condenser. Air enters the engine through the air cleaner and passes through the turbo-charger, where it is pressurized. This pressurized air rapidly reaches high temperature. The air is then directed through a hose to the charge air cooler and through another hose to the intake manifold of the engine. The air entering the engine has been cooled by about 50° to 100°F (10° to 38°C). This cooling process enables more efficient burning of fuel resulting in fewer emissions.

To guarantee optimum performance of the system, keep the surfaces of the charge air cooler, condenser and radiator clean and free of debris. Periodically check the hoses leading to and from the charge air cooler for cracks or loose clamps resulting in loss of pressure and reduced engine performance.

#### Brake System

##### Brake Master Cylinder — Brake Fluid Level Check

The fluid level of the master cylinder should be checked when performing under the hood service, or immediately if the “Brake System Warning Light” indicates system failure.

The brake master cylinder has a translucent plastic reservoir. On the outboard side of the reservoir, there is a “MAX” mark and a “MIN” mark. The fluid level must be kept within these two marks. Do not add fluid above the full mark because leakage may occur at the cap.

With disc brakes, the fluid level can be expected to fall as the brake linings wear. However, an unexpected drop in fluid level may be caused by a leak and a system check should be conducted.

Refer to “Fluids, Lubricants, And Genuine Parts” in “Maintaining Your Vehicle” for further information.

**WARNING!**

- Use only manufacturer’s recommended brake fluid. Refer to “Fluids, Lubricants, and Genuine Parts” in “Maintaining Your Vehicle” for further information. Using the wrong type of brake fluid can severely damage your brake system and/or impair its performance. The proper type of brake fluid for your vehicle is also identified on the original factory installed hydraulic master cylinder reservoir.

*(Continued)*

**WARNING! (Continued)**

- To avoid contamination from foreign matter or moisture, use only new brake fluid or fluid that has been in a tightly closed container. Keep the master cylinder reservoir cap secured at all times. Brake fluid in a open container absorbs moisture from the air resulting in a lower boiling point. This may cause it to boil unexpectedly during hard or prolonged braking, resulting in sudden brake failure. This could result in an accident.
- Overfilling the brake fluid reservoir can result in spilling brake fluid on hot engine parts, causing the brake fluid to catch fire. Brake fluid can also damage painted and vinyl surfaces, care should be taken to avoid its contact with these surfaces.

*(Continued)*

**WARNING! (Continued)**

- Do not allow petroleum based fluid to contaminate the brake fluid. Brake seal components could be damaged, causing partial or complete brake failure. This could result in an accident.

**Clutch Hydraulic System**

The clutch hydraulic system is a sealed maintenance-free system. In the event of leakage or other malfunction, the system must be replaced.

**Transfer Case — If Equipped**

**Drain And Refill**

Refer to the “Maintenance Schedule” for the proper maintenance intervals.

**Selection of Lubricant**

Refer to “Fluids, Lubricants, and Genuine Parts” in “Maintaining Your Vehicle” for fluid specifications.

**Fluid Level Check**

This fluid level can be checked by removing the filler plug. The fluid level should be to the bottom edge of the filler plug hole with the vehicle in a level position.

**Manual Transmission — If Equipped**

**Selection of Lubricant**

Refer to “Fluids, Lubricants, and Genuine Parts” in “Maintaining Your Vehicle” for fluid specifications.

**Fluid Level Check**

The fluid level can be checked by removing the filler plug. If the level of the lubricant is more than 1/2 in (12 mm) below the bottom of the filler hole while the

vehicle is on level ground, enough lubricant should be added to bring the level to 1/4 in (6 mm) below the bottom of the filler hole.

### Automatic Transmission — If Equipped

#### Selection of Lubricant

It is important to use the proper transmission fluid to ensure optimum transmission performance and life. Use only the manufacturer's specified transmission fluid. Refer to "Fluids, Lubricants, and Genuine Parts" in this section for fluid specifications. It is important to maintain the transmission fluid at the correct level using the recommended fluid.

No chemical flushes should be used in any transmission; only the approved lubricant should be used.

#### CAUTION!

Using a transmission fluid other than the manufacturer's recommended fluid may cause deterioration in transmission shift quality and/or torque converter shudder, and will require more frequent fluid and filter changes. Refer to "Fluids, Lubricants, and Genuine Parts" in this section for fluid specifications.

#### Special Additives

The manufacturer strongly recommends against using any special additives in the transmission. Automatic Transmission Fluid (ATF) is an engineered product and its performance may be impaired by supplemental additives. Therefore, do not add any fluid additives to the transmission. The only exception to this policy is the use

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of special dyes for diagnosing fluid leaks. Avoid using transmission sealers as they may adversely affect seals.

**CAUTION!**

**Do not use chemical flushes in your transmission as the chemicals can damage your transmission components. Such damage is not covered by the New Vehicle Limited Warranty.**

**Fluid Level Check**

It is best to check the fluid level when the transmission is at normal operating temperature (170-180°F / 77-82°C for 68RFE transmission, or 158-176°F / 70-80°C for AS69RC transmission). This normally occurs after at least 15 miles (25 km) of driving. At normal operating temperature the fluid cannot be held comfortably between the fingertips. You can read the transmission sump temperature in the

EVIC/DID screen (refer to “Electronic Vehicle Information Center [EVIC]” or “Driver Information Display [DID]” for further information).

Use the following procedure to check the transmission fluid level properly:

1. Monitor the transmission temperature using the EVIC/DID screen, and operate the vehicle as required to reach the normal operating temperature. If the transmission is not functioning properly, or the vehicle cannot be driven, see the NOTE and CAUTION below about checking the fluid level at colder temperatures.
2. Park the vehicle on level ground.
3. Run the engine at normal idle speed for at least 60 seconds, and leave the engine running for the rest of this procedure.
4. Fully apply the parking brake and press the brake pedal.

5. Place the shift lever momentarily into each gear position (allowing time for the transmission to fully engage in each position), ending with the transmission in PARK.
6. Remove the dipstick, wipe it clean and reinsert it until seated.
7. Remove the dipstick again and note the fluid level on both sides. The fluid level reading is only valid if there is a solid coating of oil on both sides of the dipstick. Note that the holes in the dipstick will be full of fluid if the actual level is at or above the hole. The fluid level should be between the "HOT" (upper) reference holes on the dipstick at normal operating temperature. If the fluid level is low, add fluid through the dipstick tube to bring it to the proper level. **Do not overfill.** Use **ONLY** the specified fluid (see "Fluids, Lubricants, and Genuine Parts" for fluid specifications). After adding any quantity of oil through the dipstick tube, wait a

minimum of two minutes for the oil to fully drain into the transmission before rechecking the fluid level.

**NOTE:** If it is necessary to check the transmission **below** the operating temperature, the fluid level should be between the two "COLD" (lower) holes on the dipstick with the fluid at 60-70°F / 16-21°C for 68RFE transmission, or 68-86°F / 20-30°C for AS69RC transmission. Only use the COLD region of the dipstick as a rough reference when setting the fluid level after a transmission service or fluid change. Re-check the fluid level, and adjust as required, once the transmission reaches normal operating temperature.

**CAUTION!**

**If the fluid temperature is below 50°F (10°C) it may not register on the dipstick. Do not add fluid until the temperature is elevated enough to produce an**

*(Continued)*

**CAUTION! (Continued)**

accurate reading. Run the engine at idle, in PARK, to warm the fluid.

8. Reinsert the dipstick. Check for leaks. Release the parking brake.

**NOTE:** To prevent dirt and water from entering the transmission after checking or replenishing fluid, make sure that the dipstick cap is properly reseated. It is normal for the dipstick cap to spring back slightly from its fully seated position, as long as its seal remains engaged in the dipstick tube.

**Fluid And Filter Changes**

Refer to the "Maintenance Schedule" for the proper maintenance intervals.

In addition, change the fluid and filter(s) if the fluid becomes contaminated (with water, etc.), or if the transmission is disassembled for any reason.

**Noise Control System Required Maintenance & Warranty**

All vehicles built over 10,000 lbs. (4 535 kg) Gross Vehicle Weight Rating and manufactured for sale and use in the United States are required to comply with the Federal Government's Exterior Noise Regulations. These vehicles can be identified by the Noise Emission Control Label located in the operator's compartment.

**Vehicle Noise Emission Control Information**  
**Date of Vehicle Manufacture**

\_\_\_\_\_

This vehicle conforms to U.S. EPA regulations for noise emission applicable to medium and heavy duty trucks.

The following acts or the causing thereof by any person are prohibited by the Noise Control Act of 1972: (A) the removal or rendering inoperative, other than for purposes of maintenance, repair, or replacement, of any noise control device or element of design (listed in the Owner's Manual) incorporated into this vehicle in compliance with the Noise Control Act (B) the use of this vehicle after such device or element of design has been removed or rendered inoperative.

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### Required Maintenance For Noise Control Systems

The following maintenance services must be performed every six months or 7,500 miles (12 000 km) whichever comes first, to assure proper operation of the noise control systems. In addition, inspection and service should be performed anytime a malfunction is observed

or suspected. Proper maintenance of the entire vehicle will help the effectiveness of the noise control systems.

### Exhaust System

Inspect the entire exhaust system for leaks and damaged parts. Devices such as hangers, clamps, and U-bolts should be tight and in good condition. Damaged components, burned or blown out mufflers, burned or rusted out exhaust pipes should be replaced according to the procedures and specifications outlined in the appropriate service manual.

### Air Cleaner Assembly

Inspect air cleaner housing for proper assembly and fit. Make certain that the air cleaner is properly positioned and that the cover is tight. Check all hoses leading to the air cleaner for tightness. The air filter element must also be clean and serviced according to the instructions outlined in the Maintenance Schedule section of this manual.

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**Tampering With Noise Control System Prohibited**

Federal law prohibits the following acts or the causing thereof: (1) the removal or rendering inoperative by any person, other than for purposes of maintenance, repair, or replacement, of any device or element of design incorporated into any new vehicle for the purpose of noise control prior to its sale or delivery to the ultimate purchaser or while it is in use, or (2) the use of the vehicle after such device or element of design has been removed or rendered inoperative by any person.

Among those acts presumed to constitute tampering are the acts listed below.

**AIR CLEANER**

- Removal of the air cleaner.
- Removal of the air cleaner filter element from the air cleaner housing.
- Removal of the air ducting.

**EXHAUST SYSTEM**

- Removal or rendering inoperative exhaust system components including the muffler or tailpipe.

**ENGINE COOLING SYSTEM**

- Removal or rendering inoperative the fan clutch.
- Removal of the fan shroud.

### **Noise Emission Warranty**

The manufacturer warrants that this vehicle as manufactured by the manufacturer, was designed, built and equipped to conform at the time it left the manufacturer's control with all applicable U.S. EPA Noise Control Regulations.

This warranty covers this vehicle as designed, built and equipped by the manufacturer, and is not limited to any particular part, component or system of the vehicle manufactured by the manufacturer. Defects in design, assembly or in any part, component or system of the vehicle as manufactured by the manufacturer, which, at the time it left the manufacturer's control, caused noise emissions to exceed Federal standards, are covered by this warranty for the life of the vehicle.







**FLUID CAPACITIES**

	U.S.	Metric
<b>Fuel (Approximate)</b>		
2500/3500 Standard Cab Longbed Models	28 Gallons	106 Liters
2500/3500 Crew/Mega Cab Shortbed Models	31 Gallons	129 Liters
2500/3500 Crew Cab Longbed Models	32 Gallons	132 Liters
Standard Rear Tank – Chassis Cab Only	52 Gallons	197 Liters
Optional Midship Tank – Chassis Cab Only	22 Gallons	83 Liters
Diesel Exhaust Fluid Tank (Approximate) – 2500/3500 Models	5.5 Gallons	21 Liters
Diesel Exhaust Fluid Tank (Approximate) – Chassis Cab	9 Gallons	34 Liters
<b>Engine Oil With Filter</b>		
6.7L Turbo Diesel Engine	12 Quarts	11.4 Liters
<b>Cooling System</b>		
6.7L Turbo Diesel Engine (MOPAR Engine Coolant/Antifreeze 10 Year/150,000 Mile Formula)	5.7 Gallons	21.4 Liters

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**FLUIDS, LUBRICANTS AND GENUINE PARTS**

**Engine**

<b>Component</b>	<b>Fluid, Lubricant, or Genuine Part</b>
Engine Coolant	We recommend you use MOPAR Antifreeze/Coolant 10 Year/150,000 Mile Formula OAT (Organic Additive Technology).
Engine Oil	<p>In ambient temperatures above 0°F (-18°C), we recommend you use 15W-40 engine oil such as MOPAR, Shell Rotella and Shell Rimula that meets FCA Material Standard MS-10902 and the API CJ-4 engine oil category is required. Products meeting Cummins CES 20081 may also be used. The identification of these engine oils is typically located on the back of the oil container.</p> <p>In ambient temperatures below 0°F (-18°C), we recommend you use 5W-40 <b>synthetic</b> engine oil such as MOPAR, Shell Rotella and Shell Rimula that meets FCA Material Standard MS-10902 and the API CJ-4 engine oil category is required.</p>

Component	Fluid, Lubricant, or Genuine Part
Engine Oil Filter	We recommend you use MOPAR Engine Oil Filters.
Fuel Filters	We recommend you use MOPAR Fuel Filter. Must meet 3 micron rating. <b>Using a fuel filter that does not meet the manufacturers filtration and water separating requirements can severely impact fuel system life and reliability.</b>
Crankcase Ventilation Filter	We recommend you use MOPAR CCV Filter.

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Component	Fluid, Lubricant, or Genuine Part
Fuel Selection	<p>Use good quality diesel fuel from a reputable supplier in your vehicle. Federal law requires that you must fuel this vehicle with Ultra Low Sulfur Highway Diesel fuel (15 ppm Sulfur maximum) and prohibits the use of Low Sulfur Highway Diesel fuel (500 ppm Sulfur maximum) to avoid damage to the emissions control system.</p> <p>For most year-round service, No. 2 diesel fuel meeting ASTM specification D-975 Grade S15 will provide good performance.</p> <p>If the vehicle is exposed to extreme cold (below 20°F or -7°C), or is required to operate at colder-than-normal conditions for prolonged periods, use climatized No. 2 diesel fuel or dilute the No. 2 diesel fuel with 50% No. 1 diesel fuel. This will provide better protection from fuel gelling or wax-plugging of the fuel filters.</p> <p><b>This vehicle is fully compatible with biodiesel blends up to 5% biodiesel meeting ASTM specification D-975.</b> Pickup models, and Chassis Cab models configured with optional B20 capability, are additionally compatible with 20% biodiesel meeting ASTM specification D-7467.</p>

Component	Fluid, Lubricant, or Genuine Part
Diesel Exhaust Fluid	MOPAR Diesel Exhaust Fluid (API Certified) (DEF) or equivalent that has been API Certified to the ISO 22241 standard. Use of fluids not API Certified to ISO 22241 may result in system damage. You can receive assistance in locating DEF in the United States by calling 866-RAM-INFO (866-726-4636). In Canada call 1-800-465-2001 (English) or 1-800-387-9983 (French).

**Chassis**

Component	Fluid, Lubricant, or Genuine Part
Automatic Transmission – If Equipped (Six-Speed 68RFE) – Pickup models without PTO	Only use ATF+4 Automatic Transmission Fluid. Failure to use ATF+4 fluid may affect the function or performance of your transmission. We recommend MOPAR ATF+4 fluid.
Automatic Transmission – If Equipped (Six-Speed AS69RC) – Pickup models with PTO, and all Chassis Cab models	Only use MOPAR ASRC Automatic Transmission Fluid or equivalent. Failure to use the proper fluid may affect the function or performance of your transmission.
Transfer Case	We recommend you use MOPAR BW44-44 Transfer Case Fluid.

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Component	Fluid, Lubricant, or Genuine Part
Front and Rear Axle Fluid (2500/3500)	We recommend you use Synthetic, GL-5 SAE 75W-85. Limited slip additive is not required for Limited-Slip Rear Axles.
Front and Rear Axle Fluid (4500/5500)	We recommend you use Synthetic, GL-5 SAE 75W-90. Limited slip additive is not required for Limited-Slip Rear Axles.
Clutch Linkage	We recommend you use MOPAR Multi-Purpose Grease, NLGI Grade 2 E.P. or equivalent.
Manual Transmission (G-56) – If Equipped	We recommend you use MOPAR ATF+4 Automatic Transmission Fluid or equivalent licensed ATF+4 product.

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## MAINTENANCE SCHEDULE

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**MAINTENANCE SCHEDULE — DIESEL ENGINE**

**CAUTION!**

Failure to perform the required maintenance items may result in damage to the vehicle.

**At Each Stop For Fuel**

Check the engine oil level at least 30 minutes after a fully warmed engine is shut off. Checking the oil level while the vehicle is on level ground will improve the accuracy of the oil level reading. Add oil only when the level is at or below the ADD or MIN mark.

**Once A Month**

- Inspect the batteries, and clean and tighten the terminals as required.

- Check the fluid levels of the coolant reservoir, brake master cylinder, and automatic transmission (if equipped), and add as needed.

**At Each Oil Change**

- Change the engine oil filter.
- Inspect the exhaust system.
- Inspect engine air filter.
- Check the coolant level, hoses, and clamps.
- Lubricate outer tie rod ends.

Inspection and service should also be performed anytime a malfunction is observed or suspected. Retain all receipts.

### Oil Change Indicator System — Cummins Diesel

Your vehicle is equipped with an engine oil change indicator system. This system will alert you when it is time to change your engine oil by displaying the words “Oil Change Due” on your Electronic Vehicle Information Center (EVIC) or Driver Information Display (DID). The oil change reminder will remind the owner to change the engine oil every 15,000 miles or 500 hours, whichever comes first, except for the Chassis Cab models and Pickup models configured with optional B20 capability that are using B20 biodiesel, which are 12,500 miles or 400 hours, whichever comes first. Failure to change the engine oil per the maintenance schedule can result in internal engine damage.

Your authorized dealer will reset the oil change indicator message after completing the scheduled oil change. If a scheduled oil change is performed by someone other than your authorized dealer, the message can be reset by

referring to the steps described under “Electronic Vehicle Information Center (EVIC)” or “Driver Information Display (DID)” in “Understanding Your Instrument Panel” for further information.

**Replace the engine oil and oil filter every 15,000 miles (24 000 km) or six months, or sooner if prompted by the oil change indicator system. Under no circumstances should oil change intervals exceed 15,000 miles (24 000 km) or six months, whichever comes first.**

#### NOTE:

- Under no circumstances should oil change intervals exceed 15,000 miles (24,000 km) or six months or 500 Hours, whichever comes first.
- Replace the engine oil and oil filter every 12,500 miles (20 000 km) when running B20 fuel (Chassis Cab Only).

### 382 MAINTENANCE SCHEDULE

If Chassis Cab models and Pickup models configured with optional B20 capability are operated with greater than 5% levels of Biodiesel, the oil change interval must not exceed 12,500 miles (20 000 km) under any circumstances. See the Fuel Requirements section for more information regarding operation of Chassis Cab models and Pickup models configured for use with Biodiesel blend (B6-B20) fuel meeting ASTM specification D-7467.

#### **Perform Service Indicator — Cummins Diesel**

Your vehicle will require emissions maintenance at a set interval. To help remind you when this maintenance is

due, the Electronic Vehicle Information Center (EVIC) or Driver information Display (DID) will display “Perform Service”. When the “Perform Service” message is displayed on the EVIC/DID it is necessary to have the emissions maintenance performed. Emissions maintenance may include replacing the Closed Crankcase Ventilation (CCV) filter element. The procedure for clearing and resetting the “Perform Service” indicator message is located in the appropriate Service Information.

**Maintenance Chart — Cummins Diesel Engine**

Mileage or time passed (whichever comes first):	7,500	15,000	22,500	30,000	37,500	45,000	52,500	60,000	67,500	75,000	82,500	90,000	97,500	105,000	112,500	120,000	127,500	135,000	142,500	150,000	
Or Months:	6	12	18	24	30	36	42	48	54	60	66	72	78	84	90	96	102	108	114	120	
Or Kilometers:	12,000	24,000	36,000	48,000	60,000	72,000	84,000	96,000	108,000	120,000	132,000	144,000	156,000	168,000	180,000	192,000	204,000	216,000	228,000	240,000	
Change engine oil every 15,000 miles (24 000 km) or six months or 500 Hours or sooner if prompted by the oil change indicator system, whichever comes first. **	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
<b>Additional Inspections</b>																					
Check the Diesel Exhaust Fluid (DEF) tank, refill if necessary.	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
Rotate the tires.	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	



**384 MAINTENANCE SCHEDULE**

Mileage or time passed (whichever comes first):	7,500	15,000	22,500	30,000	37,500	45,000	52,500	60,000	67,500	75,000	82,500	90,000	97,500	105,000	112,500	120,000	127,500	135,000	142,500	150,000
Or Months:	6	12	18	24	30	36	42	48	54	60	66	72	78	84	90	96	102	108	114	120
Or Kilometers:	12,000	24,000	36,000	48,000	60,000	72,000	84,000	96,000	108,000	120,000	132,000	144,000	156,000	168,000	180,000	192,000	204,000	216,000	228,000	240,000
Inspect drive belt; replace as necessary.			X			X			X			X			X			X		
Inspect wheel bearings.				X				X				X				X				X

**MAINTENANCE SCHEDULE 385**

Mileage or time passed (whichever comes first):	7,500	15,000	22,500	30,000	37,500	45,000	52,500	60,000	67,500	75,000	82,500	90,000	97,500	105,000	112,500	120,000	127,500	135,000	142,500	150,000
Or Months:	6	12	18	24	30	36	42	48	54	60	66	72	78	84	90	96	102	108	114	120
Or Kilometers:	12,000	24,000	36,000	48,000	60,000	72,000	84,000	96,000	108,000	120,000	132,000	144,000	156,000	168,000	180,000	192,000	204,000	216,000	228,000	240,000
<b>Additional Maintenance</b>																				
Replace engine fuel filter element.		X		X		X		X		X		X		X		X		X		X
Replace chassis mounted fuel filter element.		X		X		X		X		X		X		X		X		X		X
Inspect the front and rear axle surfaces. If gear oil leakage is suspected, check the fluid level. If using your vehicle for police, taxi, fleet, off-road or frequent trailer towing change the axle fluid. *																				

386 MAINTENANCE SCHEDULE

Mileage or time passed (whichever comes first):	7,500	15,000	22,500	30,000	37,500	45,000	52,500	60,000	67,500	75,000	82,500	90,000	97,500	105,000	112,500	120,000	127,500	135,000	142,500	150,000
Or Months:	6	12	18	24	30	36	42	48	54	60	66	72	78	84	90	96	102	108	114	120
Or Kilometers:	12,000	24,000	36,000	48,000	60,000	72,000	84,000	96,000	108,000	120,000	132,000	144,000	156,000	168,000	180,000	192,000	204,000	216,000	228,000	240,000
Inspect the transfer case fluid (4x4), change for any of the following: police, taxi, fleet, or frequent trailer towing.				X				X				X				X				X
Change the transfer case fluid (4x4).								X								X				
Change automatic transmission fluid (AS69RC transmission only).				X				X				X				X				X
Change the automatic transmission fluid and sump filter (AS69RC transmission only).								X								X				

**MAINTENANCE SCHEDULE 387**

Mileage or time passed (whichever comes first):	7,500	15,000	22,500	30,000	37,500	45,000	52,500	60,000	67,500	75,000	82,500	90,000	97,500	105,000	112,500	120,000	127,500	135,000	142,500	150,000
Or Months:	6	12	18	24	30	36	42	48	54	60	66	72	78	84	90	96	102	108	114	120
Or Kilometers:	12,000	24,000	36,000	48,000	60,000	72,000	84,000	96,000	108,000	120,000	132,000	144,000	156,000	168,000	180,000	192,000	204,000	216,000	228,000	240,000
Change automatic transmission fluid and filter(s) if using your vehicle for any of the following: police, fleet, or frequent trailer towing (68RFE transmission only).								X								X				
Change automatic transmission fluid and filter(s).																X				
Change the manual transmission fluid if using your vehicle for any of the following: police, fleet, or frequent trailer towing.								X								X				
Replace Crankcase Ventilation Filter (CCV).									X									X		



Inspection and service should also be performed anytime a malfunction is observed or suspected. Retain all receipts.

\* Inspect the front and rear axle surfaces every 20,000 miles (32,000 km). If gear oil leakage is suspected, check the fluid level. If using your vehicle for police, taxi, fleet, off-road or frequent trailer towing change the axle fluid every 20,000 miles (32,000 km).

\*\* Under no circumstances should oil change intervals exceed 15,000 miles (24 000 km) or six months or 500 Hours, whichever comes first.

\*\*\*\* Under no circumstances should the air cleaner filter element exceed 30,000 miles (48,000 km) or 24 months, whichever comes first.

**CAUTION!**

\*\*\*The manufacturer highly recommends that all cooling system service, maintenance, and repairs be performed by your local authorized dealer.

**WARNING!**

- You can be badly injured working on or around a motor vehicle. Do only service work for which you have the knowledge and the right equipment. If you have any doubt about your ability to perform a service job, take your vehicle to a competent mechanic.
- Failure to properly inspect and maintain your vehicle could result in a component malfunction and effect vehicle handling and performance. This could cause an accident.

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## **INSTALLATION OF RADIO TRANSMITTING EQUIPMENT**

Special design considerations are incorporated into this vehicle's electronic system to provide immunity to radio frequency signals. Mobile two-way radios and telephone equipment must be installed properly by trained personnel. The following must be observed during installation.

The positive power connection should be made directly to the battery and fused as close to the battery as possible. The negative power connection should be made to body sheet metal adjacent to the negative battery connection. This connection should not be fused.

Antennas for two-way radios should be mounted on the roof or the rear area of the vehicle. Care should be used in mounting antennas with magnet bases. Magnets may affect the accuracy or operation of the compass on vehicles so equipped.

The antenna cable should be as short as practical and routed away from the vehicle wiring when possible. Use only fully shielded coaxial cable.

Carefully match the antenna and cable to the radio to ensure a low Standing Wave Ratio (SWR).

Mobile radio equipment with output power greater than normal may require special precautions.

All installations should be checked for possible interference between the communications equipment and the vehicle's electronic systems.



**RAM**

**STICK WITH THE SPECIALISTS®**

**16D241-226-AB**

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**SECOND EDITION  
PRINTED IN U.S.A.**

# Exhibit 8



**RAM**

**2017**

**RAM TRUCK  
DIESEL SUPPLEMENT**

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**OWNER'S MANUAL**

**VEHICLES SOLD IN CANADA**

With respect to any Vehicles Sold in Canada, the name FCA US LLC shall be deemed to be deleted and the name FCA Canada Inc. used in substitution therefore.

**DRIVING AND ALCOHOL**

Drunken driving is one of the most frequent causes of accidents.

Your driving ability can be seriously impaired with blood alcohol levels far below the legal minimum. If you are drinking, don't drive. Ride with a designated non-drinking driver, call a cab, a friend, or use public transportation.

This manual illustrates and describes the operation of features and equipment that are either standard or optional on this vehicle. This manual may also include a description of features and equipment that are no longer available or were not ordered on this vehicle. Please disregard any features and equipment described in this manual that are not on this vehicle.

FCA US LLC reserves the right to make changes in design and specifications, and/or make additions to or improvements to its products without imposing any obligation upon itself to install them on products previously manufactured.

**WARNING!**

**Driving after drinking can lead to an accident. Your perceptions are less sharp, your reflexes are slower, and your judgment is impaired when you have been drinking. Never drink and then drive.**

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## RAM DIESEL SUPPLEMENT

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**RAM 1500**



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# INTRODUCTION

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■ A MESSAGE FROM FCA US LLC . . . . . 8

## 8 INTRODUCTION

### A MESSAGE FROM FCA US LLC

FCA US LLC welcomes you as a turbocharged diesel-powered truck owner. Your diesel truck will sound, feel, drive, and operate differently from a gasoline-powered truck. It is important that you read and understand this manual.

Almost 100% of the heavy trucks in the United States and Canada are diesel-powered because of the fuel economy, rugged durability, and high torque which permits pulling heavy loads.

You may find that some of the starting, operating, and maintenance procedures are different. However, they are simple to follow and careful adherence to them will ensure that you take full advantage of the features of this engine.

#### NOTE:

- Some aftermarket products may cause severe engine/transmission and/or exhaust system damage. Your vehicle's Powertrain Control Systems can detect and store information about vehicle modifications that increase horsepower and torque output such as whether or not performance-enhancing powertrain components, commonly referred to as downloaders, power boxes, or performance chips have been used.

- Any chassis/suspension or tire size modifications to the vehicle will effect the performance of the Adaptive Cruise Control and Forward Collision Warning System.

This information cannot be erased and will stay in the system's memory even if the modification is removed. This information can be retrieved by FCA US LLC, and service and repair facilities, when servicing your vehicle. This information may be used to determine if repair will be covered by New Vehicle Limited Warranty.

There is a probability that the use of a "performance chip" will prohibit the engine from starting. In this instance, the vehicle will need to be serviced by a authorized dealer in order to return the vehicle to its factory settings.

When it comes to service, remember that your authorized dealer knows your vehicle best, has factory-trained technicians and genuine MOPAR® parts, and cares about your satisfaction.

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# THINGS TO KNOW BEFORE STARTING YOUR VEHICLE

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□ How To Use Remote Start. . . . .	10		

## 10 THINGS TO KNOW BEFORE STARTING YOUR VEHICLE

### REMOTE STARTING SYSTEM



This system uses the key fob to start the engine conveniently from outside the vehicle while still maintaining security. The system has a range of approximately 300 ft (91 m).

#### NOTE:

- The vehicle must be equipped with an automatic transmission to be equipped with Remote Start.
- Obstructions between the vehicle and the key fob may reduce this range.
- The Remote Start system will wait for the “Wait To Start” amber telltale to extinguish before cranking the engine. This allows time for the engine pre-heat cycle to pre-heat the cylinder air, and is normal in cold weather. Refer to “Instrument Cluster Display” in “Understanding Your Instrument Panel” for further information on the “Wait To Start” amber telltale and the pre-heat cycle.

### How To Use Remote Start

All of the following conditions must be met before the engine will remote start:

- Gear selector in PARK
- Doors closed
- Hood closed
- HAZARD switch off
- BRAKE switch inactive (brake pedal not pressed)
- Battery at an acceptable charge level
- PANIC button not pushed
- Fuel meets minimum requirement
- System not disabled from previous remote start event
- Vehicle security alarm not active
- “Water In Fuel Indicator Light” is not illuminated
- “Wait To Start” telltale is not illuminated

**WARNING!**

- Do not start or run an engine in a closed garage or confined area. Exhaust gas contains Carbon Monoxide (CO) which is odorless and colorless. Carbon Monoxide is poisonous and can cause serious injury or death when inhaled.
- Keep Remote Keyless Entry key fobs away from children. Operation of the Remote Start System, windows, door locks or other controls could cause serious injury or death.

**ENGINE BREAK-IN RECOMMENDATIONS**

The diesel engine does not require a break-in period due to its construction. Normal operation is allowed, providing the following recommendations are followed:

- Warm up the engine before placing it under load.
- Do not operate the engine at idle for prolonged periods.
- Use the appropriate transmission gear to prevent engine lugging.
- Observe vehicle oil pressure and temperature indicators.

- Check the coolant and oil levels frequently.
- Vary throttle position at highway speeds when carrying or towing significant weight.

**NOTE:** Light duty operation such as light trailer towing or no load operation will extend the time before the engine is at full efficiency. Reduced fuel economy and power may be seen at this time.

The engine oil installed in the engine at the factory is a high-quality energy conserving type lubricant. Oil changes should be consistent with anticipated climate conditions under which vehicle operations will occur. The recommended viscosity and quality grades are shown under "Fluids, Lubricants and Genuine Parts", under "Maintaining Your Vehicle" in this manual. NON-DETERGENT OR STRAIGHT MINERAL OILS MUST NEVER BE USED.



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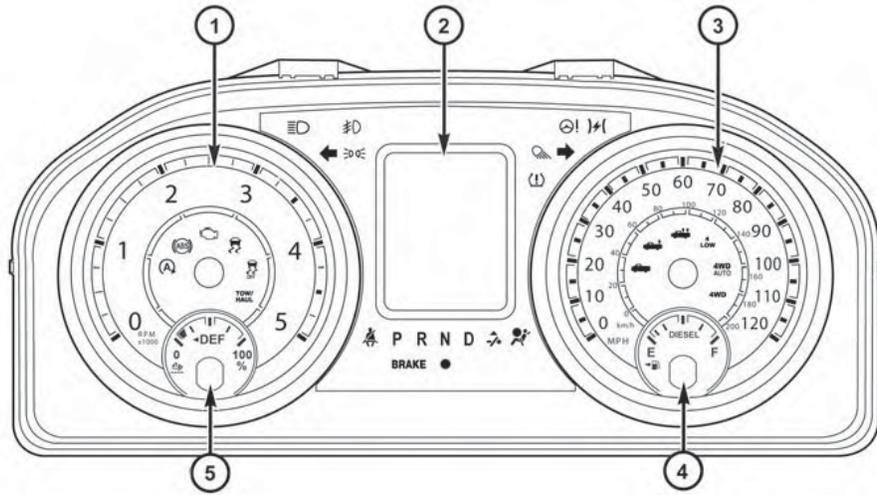
## UNDERSTANDING YOUR INSTRUMENT PANEL

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14 UNDERSTANDING YOUR INSTRUMENT PANEL  
INSTRUMENT CLUSTER



0403084407US

Base Instrument Cluster

1. Tachometer
  - Indicates the engine speed in revolutions per minute (RPM x 1000).
2. Instrument Cluster Display
  - When the appropriate conditions exist, this display shows the instrument cluster display messages. Refer to “Instrument Cluster Display” in “Understanding Your Instrument Panel” for further information.
3. Speedometer
  - Indicates vehicle speed.
4. Fuel Gauge
  - The pointer shows the level of fuel in the fuel tank when the ignition switch is in the ON/RUN position.
  -  The fuel pump symbol points to the side of the vehicle where the fuel filler door is located.
5. DEF Gauge
  - The DEF Gauge displays the actual level of Diesel Exhaust Fluid in the DEF tank. Diesel Exhaust Fluid (DEF) is required to maintain normal vehicle operation and emissions compliance. If something is wrong with the gauge, a DEF Warning Message or Malfunction

Indicator Light (MIL) will be displayed. More information is available in the instrument cluster display section under the heading of Diesel Exhaust Fluid (DEF) Warning Messages.

<b>WARNING!</b>
<p>A hot engine cooling system is dangerous. You or others could be badly burned by steam or boiling coolant. You may want to call an authorized dealer for service if your vehicle overheats. If you decide to look under the hood yourself, see “Maintaining Your Vehicle.” Follow the warnings under the “Cooling System Pressure Cap” paragraph.</p>

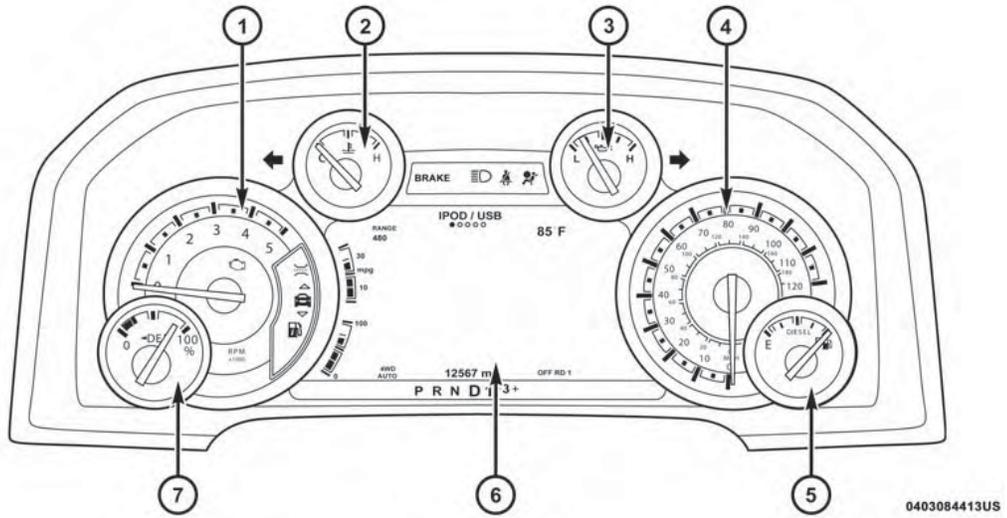
**3**

<b>CAUTION!</b>
<p>Driving with a hot engine cooling system could damage your vehicle. If the temperature gauge reads “H” pull over and stop the vehicle. Idle the vehicle with the air conditioner turned off until the pointer drops back into the normal range. If the pointer remains on the “H”, turn the engine off immediately and call an authorized dealer for service.</p>

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### NOTE:

- The gauge may take up to five seconds to update after adding a gallon or more of Diesel Exhaust Fluid (DEF) to the DEF tank. If you have a fault related to the DEF system, the gauge may not update to the new level. See your authorized dealer for service.
- The DEF gauge may also not immediately update after a refill if the temperature of the DEF fluid is below 12F (-11C). The DEF line heater will possibly warm up the DEF fluid and allow the gauge to update after a period of run time. Under very cold conditions, it is possible that the gauge may not reflect the new fill level for several drives.
- Outside temperature can affect DEF consumption. In cold conditions, 12° F (-11° C) and below, the DEF gauge needle can stay on a fixed position and may not move for extended periods of time. This is a normal function of the system.



0403084413US

Premium Instrument Cluster

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### 1. Tachometer

- Indicates the engine speed in revolutions per minute (RPM x 1000).

### 2. Engine Coolant Temperature

- This gauge shows the engine coolant temperature. The gauge pointer will likely show higher temperatures when driving in hot weather, up mountain grades, or in heavy stop and go traffic. If the red Warning Light turns on while driving, safely bring the vehicle to a stop, and turn off the engine. DO NOT operate the vehicle until the cause is corrected.

#### WARNING!

A hot engine cooling system is dangerous. You or others could be badly burned by steam or boiling coolant. You may want to call an authorized dealer for service if your vehicle overheats. If you decide to look under the hood yourself, see "Maintaining Your Vehicle." Follow the warnings under the "Cooling System Pressure Cap" paragraph.

#### CAUTION!

Driving with a hot engine cooling system could damage your vehicle. If the temperature gauge reads "H" pull over and stop the vehicle. Idle the vehicle with the air conditioner turned off until the pointer drops back into the normal range. If the pointer remains on the "H", turn the engine off immediately and call an authorized dealer for service.

### 3. Oil Pressure Gauge

- The pointer should always indicate some oil pressure when the engine is running. A continuous high or low reading under normal driving conditions may indicate a lubrication system malfunction. Immediate service should be obtained from an authorized dealer.

### 4. Speedometer

- Indicates vehicle speed.

### 5. Fuel Gauge

- The pointer shows the level of fuel in the fuel tank when the ignition switch is in the ON/RUN position.
-  The fuel pump symbol points to the side of the vehicle where the fuel filler door is located.

6. Instrument Cluster Display

- When the appropriate conditions exist, this display shows the instrument cluster display messages. Refer to “Instrument Cluster Display” in “Understanding Your Instrument Panel” for further information.

7. DEF Gauge

- The DEF Gauge displays the actual level of Diesel Exhaust Fluid in the DEF tank. Diesel Exhaust Fluid (DEF) is required to maintain normal vehicle operation and emissions compliance. If something is wrong with the gauge, a DEF Warning Message or Malfunction Indicator Light (MIL) will be displayed. More information is available in the instrument cluster display section under the heading of Diesel Exhaust Fluid (DEF) Warning Messages.

NOTE:

- The DEF tank on these vehicles is designed with a large amount of full reserve. So the level sensor will indicate a full reading even before the tank is completely full. To put it another way, there’s additional storage capacity in the tank above the Full mark that’s not represented in the gauge. You may not see any movement in the reading – even after driving up to 2,000 miles in some cases.

- The gauge may take up to five seconds to update after adding a gallon or more of Diesel Exhaust Fluid (DEF) to the DEF tank. If you have a fault related to the DEF system, the gauge may not update to the new level. See your authorized dealer for service.
- The DEF gauge may also not immediately update after a refill if the temperature of the DEF fluid is below 12F (-11C). The DEF line heater will possibly warm up the DEF fluid and allow the gauge to update after a period of run time. Under very cold conditions, it is possible that the gauge may not reflect the new fill level for several drives.
- Outside temperature can affect DEF consumption. In cold conditions, 12° F (-11° C) and below, the DEF gauge needle can stay on a fixed position and may not move for extended periods of time. This is a normal function of the system.

3

<b>CAUTION!</b>
<b>Driving with a hot engine cooling system could damage your vehicle. If the temperature gauge reads “H” pull over and stop the vehicle. Idle the vehicle with the</b>

(Continued)

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**CAUTION!** *(Continued)*

air conditioner turned off until the pointer drops back into the normal range. If the pointer remains on the "H", turn the engine off immediately and call an authorized dealer for service.

**WARNING AND INDICATOR LIGHTS**

The warning/indicator lights switch on in the instrument panel together with a dedicated message and/or acoustic signal when applicable. These indications are indicative and precautionary and as such must not be considered as exhaustive and/or alternative to the information contained in the Owner's Manual, which you are advised to read carefully in all cases. Always refer to the information in this chapter in the event of a failure indication.

All active telltales will display first if applicable. The system check menu may appear different based upon equipment options and current vehicle status. Some telltales are optional and may not appear.

**Yellow Telltale Indicator Lights**

**Wait To Start Light — If Equipped**

Yellow Telltale Light	What It Means
	<p><b>Wait To Start Light</b>                      The “Wait To Start” telltale will illuminate for approximately two seconds when the ignition is turned to the RUN position. It’s duration may be longer based on colder operating conditions. Vehicle will not initiate start until telltale is no longer displayed. Refer to “Starting Procedures” in “Starting And Operating” for further information.</p> <p><b>NOTE:</b> The “Wait To Start” telltale may not illuminate if the intake manifold temperature is warm enough.</p>

3

**Water in Fuel Indicator Light — If Equipped**

Yellow Telltale Light	What It Means
	<p><b>Water in Fuel Indicator Light</b>                      The “Water In Fuel Indicator Light” will illuminate when there is water detected in the fuel filters. If this light remains on, DO NOT start the vehicle before you drain the water from the fuel filters to prevent engine damage.</p>

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Low Diesel Exhaust Fluid (DEF) Indicator Light — If Equipped

Yellow Telltale Light	What It Means
	<p><b>Low Diesel Exhaust Fluid (DEF) Indicator Light</b>                      The Low Diesel Exhaust Fluid (DEF) Indicator will illuminate if the vehicle is low on Diesel Exhaust Fluid (DEF). Refer to “Starting And Operating” for further information.</p>

**INSTRUMENT CLUSTER DISPLAY**



Instrument Cluster Display — Base



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This system allows the driver to select a variety of useful information by pushing the switches mounted on the steering wheel. The instrument cluster display may consist of the following:

- Digital Speedometer
- Vehicle Info
- Fuel Economy Info
- Trip A
- Trip B
- Stop/Start Info (If Equipped)
- Trailer Tow
- Audio
- Stored Messages
- Screen Setup
- Vehicle Settings (Not Equipped with a Uconnect 5.0 & 8.4 radio)
- Settings
- Turn Menu Off

The system allows the driver to select information by pushing the following buttons mounted on the steering wheel:



**3**

**Steering Wheel Buttons**

• *Up Arrow Button*



Push and release the **up** arrow button to scroll upward through the main menu and submenus (Fuel Economy, Trip A, Trip B, Audio, Stored Messages, Screen Set Up).

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• *Down Arrow Button*

 Push and release the **down** arrow button to scroll downward through the main menu and sub-menus (Fuel Economy, Trip A, Trip B, Audio, Stored Messages, Screen Set Up).

• *Right Arrow Button*

 Push and release the **right** arrow button to access/select the information screens or sub-menu screens of a main menu item. Push and hold the **right** arrow button for two seconds to reset displayed/selected features that can be reset.

• *Left Arrow Button*

 Push the **left** arrow button to access/select the information screens or submenu screens of a main menu item or to return to the main menu from an info screen or submenu item.

**Oil Life Reset**

Your vehicle is equipped with an engine oil change indicator system. The "Oil Change Required" message will display in the instrument cluster display after a single chime has sounded, to indicate the next scheduled oil change interval. The engine oil change indicator system is

duty cycle based, which means the engine oil change interval may fluctuate, dependent upon your personal driving style.

**NOTE:** Use the steering wheel instrument cluster display controls for the following procedure(s).

**Vehicles Equipped With Passive Entry**

1. Without pushing the brake pedal, push the ENGINE START/STOP button and place the ignition to the ON/RUN position (do not start the engine).
2. Push and release the **down** arrow button to scroll downward through the main menu to "Vehicle Info."
3. Push and release the **right** arrow button to access the "Oil Life" screen.
4. Push and hold the **right** arrow button to select "Reset".
5. Push and release the appropriate arrow button to select "YES" to reset the Oil Life.
6. Push and release the **up** arrow button to exit the instrument cluster display screen.

### Vehicles Not Equipped With Passive Entry

1. Without pushing the brake pedal, cycle the ignition to the ON/RUN position (do not start the engine).
2. Push and release the **down** arrow button to scroll downward through the main menu to "Vehicle Info."
3. Push and release the **right** arrow button to access the "Oil Life" screen.
4. Push and hold the **right** arrow button to select the Oil Life Reset.
5. Push and release the appropriate arrow button to select "YES" to reset the Oil Life.
6. Push and release the **up** arrow button to exit the instrument cluster display screen.

**NOTE:** If the indicator message illuminates when you start the vehicle, the Oil Life indicator system did not reset. If necessary, repeat this procedure.

### Fuel Filter Life Reset

The cluster will display the "Service Fuel Filter" message when the fuel filter maintenance life is less than 5%. To check the remaining fuel filter life, go to the "Fuel Filter

Life" screen in the "Vehicle Info" menu. When this message appears, dealers should replace the fuel filter.

**NOTE:** Use the steering wheel button controls for the following procedure(s).

### Vehicles Equipped With Passive Entry

1. Without pushing the brake pedal, push the ENGINE START/STOP button and cycle the ignition to the ON/RUN position (do not start the engine.)
2. Push and release the **down** arrow button to scroll downward through the main menu to "Vehicle Info".
3. Push and release the **right** arrow button to access the "Fuel Filter Life" screen.
4. Push and release the appropriate arrow button to access the "Reset" screen.
5. Push and release the appropriate arrow to select the reset of the Fuel Filter Life.
6. Push and release the **up** arrow button to exit the instrument cluster display screen.

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Vehicles Not Equipped With Passive Entry

1. Without pressing the brake pedal, cycle the ignition to the ON/RUN position (do not start the engine.)
2. Push and release the **down** arrow button to scroll downward through the main menu to "Vehicle Info".
3. Push and release the **right** arrow button to access the "Fuel Filter Life" screen.
4. Push and release the appropriate arrow button to access the "Reset" screen.
5. Push and release the appropriate arrow to select the reset of the Fuel Filter Life.
6. Push and release the **up** arrow button to exit the instrument cluster display screen.

**NOTE:** If the indicator message illuminates when you start the vehicle, the Fuel Filter indicator system did not reset. If necessary, repeat this procedure.

**Diesel Particulate Filter (DPF) Messages**

This engine meets all required diesel engine emissions standards. To achieve these emissions standards, your vehicle is equipped with a state-of-the-art engine and exhaust system. These systems are seamlessly integrated

into your vehicle and managed by the Powertrain Control Module (PCM). The PCM manages engine combustion to allow the exhaust system's catalyst to trap and burn Particulate Matter (PM) pollutants, with no input or interaction on your part.

<b>WARNING!</b>
<b>A hot exhaust system can start a fire if you park over materials that can burn. Such materials might be grass or leaves coming into contact with your exhaust system. Do not park or operate your vehicle in areas where your exhaust system can contact anything that can burn.</b>

Your vehicle has the ability to alert you to additional maintenance required on your vehicle or engine. Refer to the following messages that may be displayed on your instrument cluster:

- **Exhaust Filter XX% Full Safely Drive at Highway Speeds to Remedy** — This message will be displayed in the instrument cluster if the exhaust particulate filter reaches 80% of its maximum storage capacity. Under conditions of exclusive short duration and low speed

driving cycles, your diesel engine and exhaust after-treatment system may never reach the conditions required to cleanse the filter to remove the trapped PM. If this occurs, the “Exhaust Filter XX% Full Safely Drive at Highway Speeds to Remedy” message will be displayed in the instrument cluster display. If this message is displayed, you will hear one chime to assist in alerting you of this condition. By simply driving your vehicle at highway speeds for up to 20 minutes, you can remedy the condition in the particulate filter system and allow your diesel engine and exhaust after-treatment system to cleanse the filter to remove the trapped PM and restore the system to normal operating condition.

- **Exhaust System — Regeneration In Process Exhaust Filter XX% Full** — This message indicates that the Diesel Particulate Filter (DPF) is self-cleaning. Maintain your current driving condition until regeneration is completed.
- **Exhaust System — Regeneration Completed** — This message indicates that the Diesel Particulate Filter (DPF) self-cleaning is completed. If this message is displayed, you will hear one chime to assist in alerting you of this condition.

- **Exhaust Service Required — See Dealer Now** — This message indicates regeneration has been disabled due to a system malfunction. At this point the engine Powertrain Control Module (PCM) will register a fault code, the instrument panel will display a MIL light.

<b>CAUTION!</b>
<b>See your authorized dealer, as damage to the exhaust system could occur soon with continued operation.</b>

3

- **Exhaust Filter Full — Power Reduced See Dealer** — This message indicates the PCM has derated the engine to limit the likelihood of permanent damage to the after-treatment system. If this condition is not corrected and a dealer service is not performed, extensive exhaust after-treatment damage can occur. To correct this condition it will be necessary to have your vehicle serviced by your local authorized dealer.

**NOTE:** Failing to follow the oil change indicator, changing your oil and resetting the oil change indicator by 0 miles remaining will prevent the diesel exhaust filter from performing its cleaning routine. This will shortly result in a Malfunction Indicator Light (MIL) and reduced engine power. Only an authorized dealer will be able to correct this condition.

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**CAUTION!**

See your authorized dealer, as damage to the exhaust system could occur soon with continued operation.

**Displays**

When the appropriate conditions exist, the instrument cluster display displays the following messages:

- System Setup Unavailable – Vehicle Not in Park
- System Setup Unavailable – Vehicle in Motion
- Exhaust Filter Full Safely Drive at Highway Speeds To Remedy
- Exhaust Filter XX% Full – Power Reduced See Dealer
- Exhaust Service Required – See Dealer Now
- Exhaust System – Filter XX% Full Service Required See Dealer
- Exhaust System – Regeneration In Process Exhaust Filter XX% Full
- Exhaust System – Regeneration Completed

- Engine Will Not Restart in XXXX mi DEF Low Refill Soon
- Engine Will Not Restart in XXXX mi Refill DEF
- Engine Will Not Restart Refill DEF
- Service DEF System See Dealer
- Incorrect DEF Detected See Dealer
- Engine Will Not Restart in XXX mi Service DEF See Dealer
- Engine Will Not Restart Service DEF System See Dealer

**Vehicle Information (Customer Information Features)**

**Vehicle Information Submenus**

- *Battery Voltage*

Displays the actual battery voltage.

- *Fuel Filter Life*

Displays the life of the fuel filter.

- *Oil Pressure*

Displays the actual oil pressure.

- *Oil Temperature*

Displays the actual oil temperature.

- *Trans Temperature*

Displays the actual transmission sump temperature.

- *Coolant Temp*

Displays the actual coolant temperature.

- *Tire Pressure Monitor System*

Displays the actual tire pressure.

- *Engine Hours*

Displays the actual engine hours.

Gauge Summary (Coolant Temp, Trans Temp, Oil Temp, Oil Pressure)

### **Diesel Exhaust Fluid (DEF) Warning Messages**

Your vehicle will begin displaying warning messages when the DEF level reaches a driving range of approximately 500 miles (800 km). If the following warning message sequence is ignored, your vehicle may not restart unless DEF is added with in the displayed mileage shown in the cluster message.

- **Engine Will Not Restart in XXXX mi DEF Low Refill Soon** — This message will display when DEF driving range is less than 500 miles, DEF fluid top off is required with in the displayed mileage. The message will be displayed in the cluster during vehicle start up with the current allowed mileage and accompanied by a single chime. The remaining mileage can be pulled up anytime by way of the “Messages” list within the instrument cluster display.
- **Engine Will Not Restart in XXXX mi Refill DEF** — This message will display when DEF driving range is less than 200 miles. It is also displayed at 150 miles and 100 miles. DEF fluid top off is required with in the displayed mileage. The message will be displayed in the instrument cluster display during vehicle start up with an updated distance mileage, and it will be accompanied by a single chime. Starting at 100 miles, remaining range will be continuously displayed while operating the vehicle. Chimes will also accompany the 75, 50 and 25 mile remaining distances. The DEF Low telltale will be on continuously until DEF fluid is topped off.
- **Engine Will Not Restart Refill DEF** — This message will display when the DEF driving range is less than 1 mile, DEF fluid top off is required or the engine will

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not restart. The message will be displayed in the instrument cluster display during vehicle start up, and it will be accompanied by a single chime. The DEF Low telltale will be illuminated continuously until DEF fluid tank is filled with a minimum of two gallons of DEF.

#### Diesel Exhaust Fluid (DEF) Fault Warning Messages

There are different messages which are displayed if the vehicle detects that the DEF system has been filled with a fluid other than DEF, has experienced component failures, or when tampering has been detected.

When the DEF system needs to be serviced the following warnings will display:

- **Service DEF System See Dealer** — This message will display when the fault is initially detected and each time the vehicle is started. The message will be accompanied by a single chime and the Malfunction Indicator Light. We recommend you drive to your nearest authorized dealer and have your vehicle serviced immediately. If not corrected in 50 miles, vehicle will enter the “Engine Will not restart in XXXmi Service DEF See dealer” warning stage and message.
- **Incorrect DEF Detected See Dealer** — This message will display if the DEF system has detected the incorrect fluid has been introduced to the DEF tank. The message will be accompanied by a single chime. We recommend you drive to your nearest authorized dealer and have your vehicle serviced immediately. If not corrected in 30 miles, vehicle will enter the “Engine Will not restart in XXX mi Service DEF See dealer” warning stage and message.
- **Engine Will Not Restart in XXX mi Service DEF See Dealer** — This message is first displayed if the fault detected is not serviced after 50 miles of operation. It is also displayed at 150 miles 125 miles and 100 miles. System service is required within the displayed mileage. The message will be displayed during vehicle start up with an updated distance mileage, and it will be accompanied by a single chime. Starting at 100 miles, remaining range will be continuously displayed while operating the vehicle. Chimes will also accompany the 75, 50 and 25 mile remaining distances. We recommend you drive to your nearest authorized dealer and have your vehicle serviced immediately.

- **Engine Will Not Restart Service DEF System See Dealer** — This message will display if DEF system issue detected is not serviced during the allowed period. Your engine will not restart unless your vehicle is serviced by your authorized dealer. This message will be displayed when under 1 mile until engine will not start and each time the vehicle is started, and will be continuously displayed. The message will be accompanied by a single chime. Your Malfunction Indicator Light will be continuously illuminated. We highly recommend you drive to your nearest authorized dealer if the message appears while engine is running.
- **Engine Will Not Start Service DEF System See Dealer** — This message will display when the fault detected is not serviced after the Engine will not restart Service DEF System See Dealer message is displayed on the next subsequent restart. Your engine will not start unless your vehicle is serviced by your authorized dealer. The message will be accompanied by a single chime. Your Malfunction Indicator Light will be continuously illuminated. If the message appears and you can not start the engine, we recommend you have your vehicle towed to your nearest authorized dealer immediately.



# STARTING AND OPERATING

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34 STARTING AND OPERATING

**STARTING PROCEDURES**

Before starting your vehicle, adjust your seat, both inside and outside mirrors, and fasten your seat belts.

The starter is allowed to crank for up to 30-second intervals. Waiting a few minutes between such intervals will protect the starter from overheating.

**WARNING!**

- Before exiting a vehicle, always shift the automatic transmission into PARK and apply the parking brake. Always make sure the keyless ignition node is in the "OFF" mode, remove the key fob from the vehicle and lock the vehicle.
- Never leave children alone in a vehicle, or with access to an unlocked vehicle. Leaving children in a vehicle unattended is dangerous for a number of reasons. A child or others could be seriously or fatally injured. Children should be warned not to touch the parking brake, brake pedal or the gear selector.

*(Continued)*

**WARNING! (Continued)**

- Do not leave the key fob in or near the vehicle, or in a location accessible to children, and do not leave the ignition of a vehicle equipped with Keyless Enter-N-Go in the ACC or ON/RUN mode. A child could operate power windows, other controls, or move the vehicle.
- Do not leave children or animals inside parked vehicles in hot weather. Interior heat build-up may cause serious injury or death.

**NOTE:** Engine start up in very low ambient temperature could result in evident white smoke. This condition will disappear as the engine warms up.

**CAUTION!**

- The engine is allowed to crank as long as 30 seconds. If the engine fails to start during this period, please wait at least two minutes for the starter to cool before repeating start procedure.

*(Continued)*

**CAUTION! (Continued)**

- If the "Water in Fuel Indicator Light" remains on, **DO NOT START** engine before you drain the water from the fuel filters to avoid engine damage. Refer to "Maintenance Procedures/Draining Fuel/Water Separator Filter" in "Maintaining Your Vehicle" for further information.

**Automatic Transmission**

Start the engine with the transmission gear selector in the PARK position. Apply the brake before shifting to any driving range.

**Tip Start Feature**

**Do not** press the accelerator. Cycle the ignition switch briefly to the START position and release it. The starter motor will continue to run and will automatically disengage when the engine is running.

**Keyless Enter-N-Go — Ignition**



This feature allows the driver to operate the ignition switch with the push of a button, as long as the Remote Start/Keyless Enter-N-Go key fob is in the passenger compartment.

**Normal Starting Procedure — Keyless Enter-N-Go**

Observe the instrument panel cluster lights when starting the engine.

**NOTE:** Normal starting of either a cold or a warm engine is obtained without pumping or pressing the accelerator pedal

1. Always apply the parking brake.
2. Press and hold the brake pedal while pushing the ENGINE START/STOP button once.

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**NOTE:** A delay of the start of up to five seconds is possible under very cold conditions. The "Wait to Start" telltale will be illuminated during the pre-heat process, When the engine Wait To Start light goes off the engine will automatically crank.

**CAUTION!**

If the "Water in Fuel Indicator Light" remains on, DO NOT START the engine before you drain the water from the fuel filter to avoid engine damage. Refer to "Maintenance Procedures/Draining Fuel/Water Separator Filter" in "Maintaining Your Vehicle" for further information.

3. The system will automatically engage the starter to crank the engine. If the vehicle fails to start, the starter will disengage automatically after 25 seconds.
4. If you wish to stop the cranking of the engine prior to the engine starting, push the button again.
5. Check that the oil pressure warning light has turned off.
6. Release the parking brake.

**Normal Starting Using ENGINE STOP/START Button**

Observe the instrument panel cluster lights when starting the engine.

**NOTE:** Normal starting of either a cold or a warm engine is obtained without pumping or pressing the accelerator pedal.

**To Turn On The Engine Using The ENGINE START/STOP Button**

1. The transmission must be in PARK.
2. Press and hold the brake pedal while pushing the ENGINE START/STOP button once.

**NOTE:** A delay of the start of up to five seconds is possible under very cold conditions. The "Wait to Start" telltale will be illuminated during the pre-heat process, When the engine Wait To Start light goes off the engine will automatically crank.

**CAUTION!**

If the “Water in Fuel Indicator Light” remains on, DO NOT START the engine before you drain the water from the fuel filters to avoid engine damage. Refer to “Draining Fuel/Water Separator Filter” in “Servicing And Maintenance” for further information.

3. The system takes over and attempts to start the vehicle. If the vehicle fails to start, the starter will disengage automatically after 25 seconds.
4. If you wish to stop the cranking of the engine prior to the engine starting, push the button again.

**NOTE:** Normal starting of either a cold or a warm engine is obtained without pumping or pressing the accelerator pedal.

**To Turn Off The Engine Using ENGINE START/STOP Button**

1. Place the gear selector in PARK, then push and release the ENGINE START/STOP button.
2. The ignition will return to the OFF mode.

3. If the gear selector is not in PARK, the ENGINE START/STOP button must be held for two seconds or three short pushes in a row with the vehicle speed above 5 MPH (8 km/h) before the engine will shut off. The ignition will remain in the ACC mode until the gear selector is in PARK and the button is pushed twice to the OFF mode.
4. If the gear selector is not in PARK and the ENGINE START/STOP button is pushed once with the vehicle speed above 5 MPH (8 km/h), the instrument cluster will display a “ **Vehicle Not In Park**” message and the engine will remain running. Never leave a vehicle out of the PARK position, or it could roll.

**NOTE:** If the gear selector is not in PARK, and the ENGINE START/STOP button is pushed once with the vehicle speed below 5 MPH (8 km/h), the engine will shut off and the ignition will remain in the ACC position. If vehicle speed drops below 1.2 MPH (1.9 km/h), the vehicle may AutoPark. See AutoPark section for further details.

**ENGINE START/STOP Button Functions — With Driver’s Foot OFF The Brake Pedal (In PARK Or NEUTRAL Position)**

The ENGINE START/STOP button operates similar to an ignition switch. It has three modes: OFF, ACC, and RUN.

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To change the ignition modes without starting the vehicle and use the accessories, follow these directions:

1. Start with the ignition in the OFF mode.
2. Push the ENGINE START/STOP button once to place the ignition to the ACC mode.
3. Push the ENGINE START/STOP button a second time to place the ignition to the RUN mode.
4. Push the ENGINE START/STOP button a third time to return the ignition to the OFF mode.

**AutoPark — Rotary Shifter and 8-Speed Trans Only (If Equipped)**

AutoPark is a supplemental feature to assist in placing the vehicle in PARK should the situations on the following pages occur. It is a back up system and should not be relied upon as the primary method by which the driver shifts the vehicle into PARK.

The conditions under which AutoPark will engage are outlined on the following pages.

<b>WARNING!</b>
<ul style="list-style-type: none"> <li>• Driver inattention could lead to failure to place the vehicle in PARK. ALWAYS DO A VISUAL CHECK that your vehicle is in PARK by verifying that a solid (not blinking) "P" is indicated in the Instrument Cluster Display and near the gear selector. If the "P" indicator is blinking, your vehicle is not in PARK. As an added precaution, always apply the parking brake when exiting the vehicle.</li> <li>• AutoPark is a supplemental feature. It is not designed to replace the need to shift your vehicle into PARK. It is a back up system and should not be relied upon as the primary method by which the driver shifts the vehicle into PARK.</li> </ul>

**If the vehicle is not in PARK and the driver turns off the engine, the vehicle may AutoPark.**

AutoPark will engage when all of these conditions are met:

- Vehicle is equipped with a rotary shifter and an 8-speed transmission
- Vehicle is not in PARK

- Vehicle Speed is 1.2 MPH (1.9 km/h) or less
- Ignition switched from RUN to ACC

**NOTE:** For Keyless Go equipped vehicles, The engine will turn off and the ignition switch will change to ACC mode. After 30 minutes the ignition switches to OFF automatically, unless the driver turns the ignition switch OFF.

**If the vehicle is not in PARK and the driver exits the vehicle with the engine running, the vehicle may AutoPark.**

AutoPark will engage when all of these conditions are met:

- Vehicle is equipped with a rotary shifter and an 8-speed transmission
- Vehicle is not in PARK
- Vehicle speed is 1.2 MPH (1.9 km/h) or less
- Driver’s seat belt is unbuckled
- Driver’s door is ajar
- Brake Pedal is not depressed

The MESSAGE “ **AutoPark Engaged Shift to P then Shift to Gear**” will display in the instrument cluster.

**NOTE:** In some cases the ParkSense graphic will be displayed in the instrument cluster, causing the “ **AutoPark Engaged Shift to P then Shift to Gear**” to not be seen. In these cases, the shifter must be returned to “P” to select desired gear.

**If the driver shifts into PARK while moving, the vehicle may AutoPark.**

AutoPark will engage **ONLY** when vehicle speed is 1.2 MPH (1.9 km/h) or less.

The MESSAGE “ **Vehicle Speed is Too High to Shift to P**” will be displayed in the instrument cluster if vehicle speed is above 1.2 MPH (1.9 km/h).

<b>WARNING!</b>
<p>If vehicle speed is above 1.2 MPH (1.9 km/h), the transmission will default to NEUTRAL until the vehicle speed drops below 1.2 MPH (1.9 km). A vehicle left in the NEUTRAL position can roll. As an added precaution, always apply the parking brake when exiting the vehicle.</p>

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### 4WD LOW — If Equipped

**AutoPark will be disabled when operating the vehicle in 4WD LOW.**

The MESSAGE “ **AutoPark Disabled**” will be displayed in the instrument cluster.

**Additional customer warnings will be given when all of these conditions are met:**

- Vehicle is not in PARK
- Driver’s Door is ajar
- Vehicle is in 4WD LOW range

The MESSAGE “ **AutoPark Not Engaged**” will be displayed in the instrument cluster. A warning chime will continue until you shift the vehicle into PARK or the Driver’s Door is closed.

**ALWAYS DO A VISUAL CHECK** that your vehicle is in PARK by looking for the “P” in the Instrument Cluster Display and near the shifter. As an added precaution, always apply the parking brake when exiting the vehicle.

### Extreme Cold Weather

The engine block heater is a resistance heater installed in the water jacket of the engine. It requires a 110–115 Volt AC electrical outlet with a grounded, three-wire extension cord. Its use is recommended for environments that routinely fall below -10°F (-23°C). It should be used when the vehicle has not been running overnight or longer periods and should be plugged in two hours prior to start. Its use is required for cold starts with temperatures under -20°F (-28°C).

**NOTE: The engine block heater cord is a factory installed option. If your vehicle is not equipped, heater cords are available from your authorized Mopar dealer.**

- A 12 Volt heater built into the fuel filter housing aids in preventing fuel gelling. It is controlled by a built-in thermostat.
- A Diesel Pre-Heat system both improves engine starting and reduces the amount of white smoke generated by a warming engine.

### Starting Fluids

The engine is equipped with a glow plug preheating system. If the instructions in this manual are followed, the engine should start in all conditions and no type of starting fluid should be used.

#### WARNING!

- Do not leave children or animals inside parked vehicles in hot weather. Interior heat build up may cause serious injury or death.
- When leaving the vehicle, always make sure the keyless ignition node is in the "OFF" mode, remove the key fob from the vehicle and lock the vehicle.
- Never leave children alone in a vehicle, or with access to an unlocked vehicle. Allowing children to be in a vehicle unattended is dangerous for a number of reasons. A child or others could be seriously or fatally injured. Children should be warned not to touch the parking brake, brake pedal or the gear selector.

*(Continued)*

#### WARNING! (Continued)

- Do not leave the key fob in or near the vehicle, or in a location accessible to children, and do not leave the ignition of a vehicle equipped with Keyless Enter-N-Go in the ACC or ON/RUN mode. A child could operate power windows, other controls, or move the vehicle.

### NORMAL OPERATION

Observe the following when the diesel engine is operating.

- All message center lights are off.
- Malfunction Indicator Light (MIL) is off.
- Engine Oil Pressure telltale is not illuminated.
- Voltmeter operation:

The voltmeter may show a gauge fluctuation at various engine temperatures. This is caused by the glow plug heating system. The number of cycles and the length of the cycling operation is controlled by the engine control module. Glow plug heater operation can run for several minutes, once the heater operation is complete the voltmeter needle will stabilize.

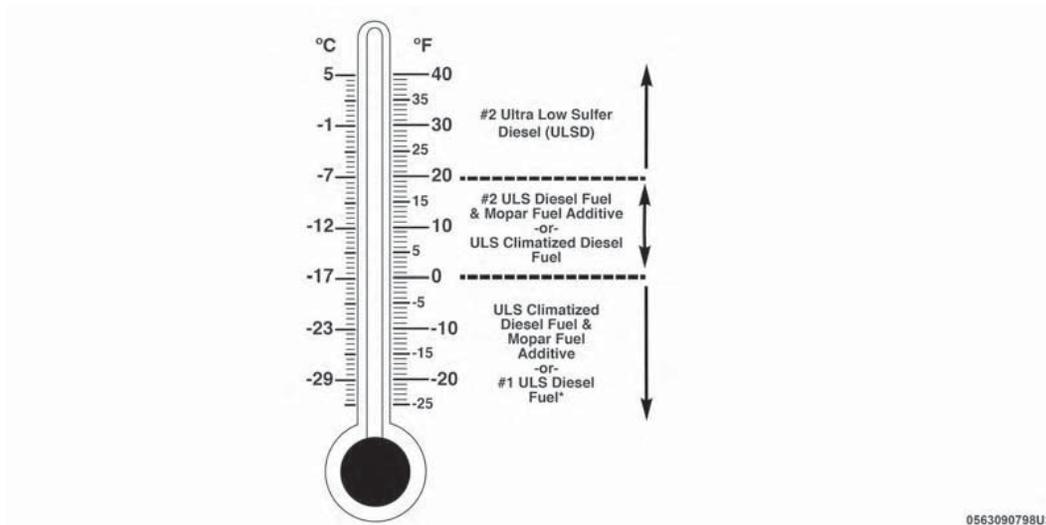
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**Cold Weather Precautions**

Operation in ambient temperature below 32°F (0°C) may require special considerations. The following charts suggest these options:

**Fuel Operating Range**

**NOTE: Use "Ultra Low Sulfur Diesel Fuels" ONLY.**



**Fuel Operating Range Chart**

\*No. 1 Ultra Low Sulfur Diesel Fuel should only be used where extended arctic conditions (0°F/-18°C) exist.

**NOTE:**

- Use of Climatized Ultra Low Sulfur Diesel Fuel or Number 1 Ultra Low Sulfur Diesel Fuel results in a noticeable decrease in fuel economy.
- Climatized Ultra Low Sulfur Diesel Fuel is a blend of Number 2 Ultra Low Sulfur and Number 1 Ultra Low Sulfur Diesel Fuels which reduces the temperature at which wax crystals form in fuel.
- The fuel grade should be clearly marked on the pump at the fuel station.
- The engine requires the use of **“Ultra Low Sulfur Diesel Fuel”**. Use of incorrect fuel could result in engine and exhaust system damage. Refer to “Fuel Requirements” in “Starting And Operating” for further information.
- If climatized or diesel Number 1 ULSD fuel is not available, and you are operating below (20°F/-6°C), in sustained arctic conditions, Mopar Premium Diesel Fuel Treatment (or equivalent) is recommended to avoid gelling (see Fuel Operating Range Chart).

**Engine Oil Usage**

Refer to “Maintenance Procedures” in “Maintaining Your Vehicle” for the correct engine oil viscosity.

**Winter Front Usage**

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**Winter Front Cover**

A winter front or cold weather cover is to be used in ambient temperatures below 32°F (0°C), especially during extended idle conditions. This cover is equipped with four flaps for managing total grille opening in varying ambient temperatures. If a winter front or cold weather cover is to be used the flaps should be in the full open position to allow air flow to the charge air cooler and automatic transmission oil cooler. When ambient temperatures drop

**44 STARTING AND OPERATING**

below 0°F (-17°C) the four flaps need to be closed. A suitable cold weather cover is available from your Mopar dealer.

**Engine Warm-Up**

Avoid full throttle operation when the engine is cold. When starting a cold engine, bring the engine up to operating speed slowly to allow the oil pressure to stabilize as the engine warms up.

If temperatures are below 32°F (0°C), operate the engine at moderate speeds for five minutes before full loads are applied.

**Engine Idling**

Avoid prolonged idling, long periods of idling may be harmful to your engine because combustion chamber temperatures can drop so low that the fuel may not burn

completely. Incomplete combustion allows carbon and varnish to form on piston rings, cylinder head valves, and injector nozzles. Also, the unburned fuel can enter the crankcase, diluting the oil and causing rapid wear to the engine.

**Stopping The Engine**

After full load operation, idle the engine for a few minutes before shutting it down. This idle period will allow the lubricating oil and coolant to carry excess heat away from the turbocharger.

**NOTE:** Refer to the following chart for proper engine shutdown.

Driving Condition	Load	Turbocharger Temperature	Idle Time (min.) Before Engine Shutdown
Stop and Go	Empty	Cool	None
Stop and Go	Medium	-	0.5
Highway Speeds	Medium	Warm	1.0
City Traffic	Maximum GCWR	-	1.5

Driving Condition	Load	Turbocharger Temperature	Idle Time (min.) Before Engine Shutdown
Highway Speeds	Maximum GCWR	-	2.0
Uphill Grade	Maximum GCWR	Hot	2.5

**NOTE:** Under certain conditions the engine fan will run after the engine is turned off. These conditions are under high load and high temperature conditions.

**Cooling System Tips — Automatic Transmission**

To reduce the potential for engine and transmission overheating in high ambient temperature conditions, take the following actions:

- City Driving — When stopped, shift the transmission into NEUTRAL and increase engine idle speed.
- Highway Driving — Reduce your speed.
- Up Steep Hills — Select a lower transmission gear.
- Air Conditioning — Turn it off temporarily.

**NOTE:** If the coolant temperature is too high the A/C will automatically turn off.

**Do Not Operate The Engine With Low Oil Pressure**

If the low oil pressure warning light turns on while driving, stop the vehicle and shut down the engine as soon as possible. A chime will sound when the light turns on.

**NOTE:** Do not operate the vehicle until the cause is corrected. This light does not show how much oil is in the engine. The engine oil level must be checked under the hood.

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<b>CAUTION!</b>
<b>If oil pressure falls to less than normal readings, shut the engine off immediately. Failure to do so could result in immediate and severe engine damage.</b>

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### Do Not Operate The Engine With Failed Parts

All engine failures give some warning before the parts fail. Be on the alert for changes in performance, sounds, and visual evidence that the engine requires service. Some important clues are:

- Engine misfiring or vibrating severely.
- Sudden loss of power.
- Unusual engine noises.
- Fuel, oil or coolant leaks.
- Sudden change, outside the normal operating range, in the engine operating temperature.
- Excessive smoke.
- Oil pressure drop.

### ENGINE BLOCK HEATER — IF EQUIPPED

The engine block heater warms engine coolant and permits quicker starts in cold weather. Connect the heater cord to a ground-fault interrupter protected 110–115 Volt AC electrical outlet with a grounded, three-wire extension cord.

Its use is recommended for environments that routinely fall below  $-10^{\circ}\text{F}$  ( $-23^{\circ}\text{C}$ ). It should be used when the vehicle has not been running for long periods of time and should be

plugged in two hours prior to start. Its use is required for cold starts with temperatures under  $-20^{\circ}\text{F}$  ( $-28^{\circ}\text{C}$ ).

To ensure reliable starting at these temperatures, use of an externally powered electric engine block heater (available from your authorized dealer) is recommended.

#### WARNING!

**Remember to disconnect the cord before driving. Damage to the 110–115 Volt electrical cord could cause electrocution.**

**NOTE:** The block heater will require 110 Volts AC and 6.5 Amps to activate the heater element.

### FUEL REQUIREMENTS

Use good quality diesel fuel from a reputable supplier in your vehicle. Federal law requires that you must fuel this vehicle with Ultra Low Sulfur Highway Diesel fuel (15 ppm Sulfur maximum) and prohibits the use of Low Sulfur Highway Diesel fuel (500 ppm Sulfur maximum) to avoid damage to the emissions control system.

For most year-round service, No. 2 diesel fuel meeting ASTM (formerly known as the American Society for Testing and Materials) specification D-975 Grade S15 will

provide good performance. If the vehicle is exposed to extreme cold (below 20°F or -7°C), or is required to operate at colder-than-normal conditions for prolonged periods, use climatized No. 2 diesel fuel or dilute the No. 2 diesel fuel with 50% No. 1 diesel fuel. This will provide better protection from fuel gelling or wax-plugging of the fuel filter.

**WARNING!**

**Do not use alcohol or gasoline as a fuel blending agent. They can be unstable under certain conditions and hazardous or explosive when mixed with diesel fuel.**

Diesel fuel is seldom completely free of water. To prevent fuel system trouble, drain the accumulated water from the fuel/water separator using the fuel/water separator drain provided on the fuel filter housing. If you buy good quality fuel and follow the cold weather advice above, fuel conditioners should not be required in your vehicle. If available in your area, a high cetane "premium" diesel fuel may offer improved cold-starting and warm-up performance.

**CAUTION!**

**If the "Water in Fuel Indicator Light" remains on, DO NOT START engine before you drain the water from the fuel filter(s) to avoid engine damage. Refer to "Maintenance Procedures/Draining Fuel/Water Separator Filter" in "Maintaining Your Vehicle" for further information.**

**Fuel Specifications**

This diesel engine has been developed to take advantage of the high energy content and generally lower cost No. 2 Ultra Low Sulfur diesel fuel or No. 2 Ultra Low Sulfur climatized diesel fuels.

**NOTE:**

- If you accidentally fill the fuel tank with gasoline on your diesel vehicle, do not start the engine. Damage to the engine and fuel system could occur. Please call your authorized dealer for service.
- A maximum blend of 5% biodiesel meeting ASTM specification D-975 may be used with your diesel engine without any adjustments to regular service schedules.

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- Commercially available fuel additives are not necessary for the proper operation of your diesel engine.
- No. 1 Ultra Low Sulfur diesel fuel should only be used where extended arctic conditions (-10°F or -23°C) exist.

**Biodiesel Fuel Requirements**

A maximum blend of 5% biodiesel meeting ASTM specification D975 is recommended for use with your diesel engine. If frequent operation with biodiesel blends that are between 6% and 20% (B6–B20) is desired, the maintenance schedule is subject to shorter intervals.

The oil and filter change along with fuel filter replacement is subject to shorter intervals when operating your engine on biodiesel greater than 5%. Do not use biodiesel greater than 20%.

For regular use of biodiesel blends between 6% and 20% (B6–B20) it is important that you understand and comply with these requirements. Refer to the “Maintenance Chart” in the “Maintenance Schedules” section for further direction.

<b>CAUTION!</b>
<b>Failure to comply with Oil Change requirements for vehicles operating on biodiesel blends between 6% and 20% (B6–B20) will result in premature engine wear. Such wear is not covered by the New Vehicle Limited Warranty.</b>

Biodiesel is a fuel produced from renewable resources typically derived from animal fat, rapeseed oil (Rapeseed Methyl Ester (RME) base), or soybean oil (Soy Methyl Ester (SME or SOME) base).

Biodiesel fuel has inherent limitations which require that you understand and adhere to the following requirements if you use blends of biodiesel between 6% and 20% (B6–B20). There are no unique restrictions for the use of B5.

<b>CAUTION!</b>
<b>Use of blends greater than 20% is not approved. Use of blends greater than 20% can result in engine damage. Such damage is not covered by the New Vehicle Limited Warranty.</b>

**Biodiesel Fuel Properties — Low Ambient Temperatures**

Biodiesel fuel may gel or solidify at low ambient temperatures, which may pose problems for both storage and operation. Precautions can be necessary at low ambient temperatures, such as storing the fuel in a heated building or a heated storage tank, or using cold temperature additives.

**Fuel Quality — Must Comply With ASTM Standards**

The quality of biodiesel fuel may vary widely. Only fuel produced by a BQ9000 supplier to the following specifications may be blended to meet biodiesel blend B6 – B20 fuel meeting ASTM specification D-7467:

- Petrodiesel fuel meeting ASTM specification D-975 and biodiesel fuel (B100) meeting ASTM specification D-6751

**Fuel Oxidation Stability — Must Use Fuel Within Six Months Of Manufacture**

Biodiesel fuel has poor oxidation stability which can result in long term storage problems. Fuel produced to approved ASTM standards, if stored properly, provides for protection against fuel oxidation for up to six months.

**Fuel Water Separation — Must Use Mopar Approved Fuel Filter Elements**

Biodiesel fuel has a natural affinity to water and water accelerates microbial growth. Your Mopar filtration system is designed to provide adequate fuel water separation capabilities.

**Fuel In Oil Dilution — Must Adhere To Required Oil Change Interval**

Fuel dilution of lubricating oil has been observed with the use of biodiesel fuel. Fuel in oil must not exceed 5%. To ensure this limit is met your oil change interval must be maintained with in the suggested schedule. The regular use of biodiesel between 6% and 20% requires intervals shorter than the outlined 10,000 miles and must not exceed the suggested schedule. When routinely operating on biodiesel between 6% and 20%, oil and filter replacement intervals must not exceed 8,000 Miles or 6 months, which ever comes first.

**Biodiesel Fuel Filter Change Intervals**

The use of biodiesel requires more frequent fuel filter change intervals. When operating on biodiesel between 6% and 20%, fuel filter replacement intervals should be every second oil change and must not exceed 16,000 miles (25,750 km).

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**NOTE:** Under no circumstances should oil change intervals exceed 8,000 miles (12,875 km) or 6 months, if regular operation occurs with 6% - 20% biodiesel blends. Under no circumstances should fuel filter replacement intervals exceed every second oil change and must not exceed 16,000 miles (25,750 km), if regular operation occurs with 6% - 20% biodiesel blends. Failure to comply with these Oil Change and fuel filter requirements for vehicles operating on biodiesel blends up to B20 may result in premature engine wear. Such wear is not covered by the New Vehicle Limited Warranty. The engine may suffer severe damage if operated with concentrations of biodiesel higher than 20%.

### DIESEL EXHAUST FLUID

Your vehicle is equipped with a Selective Catalytic Reduction system to meet the very stringent diesel emissions standards required by the Environmental Protection Agency.

The purpose of the SCR system is to reduce levels of NOx (oxides of nitrogen emitted from engines) that are harmful to our health and the environment to a near-zero level. Small quantities of Diesel Exhaust Fluid (DEF) is injected into the exhaust upstream of a catalyst where, when vaporized, it converts smog-forming nitrogen oxides (NOx) into harmless nitrogen (N<sub>2</sub>) and water vapor (H<sub>2</sub>O), two natural components of the air we breathe. You can

operate with the comfort that your vehicle is contributing to a cleaner, healthier world environment for this and generations to come.

### System Overview

This vehicle is equipped with a Diesel Exhaust Fluid (DEF) injection system and a Selective Catalytic Reduction (SCR) catalyst to meet the emission requirements.

The DEF injection system consists of the following components:

- DEF tank
- DEF pump
- DEF injector
- Electronically-heated DEF lines
- NOx sensors
- Temperature sensors
- SCR catalyst

The DEF injection system and SCR catalyst enable the achievement of diesel emissions requirements; while maintaining outstanding fuel economy, drivability, torque and power ratings.

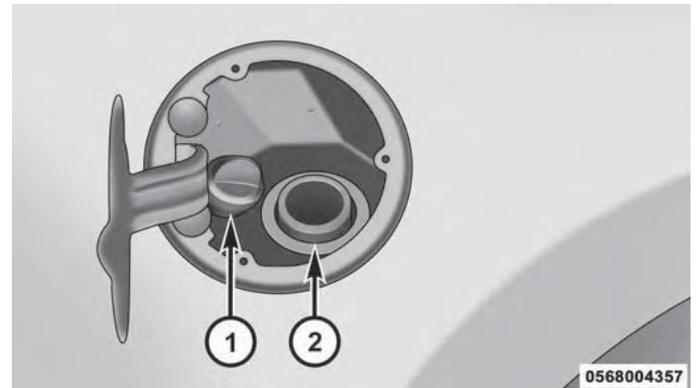
Refer to “Instrument Cluster Display” in “Understanding Your Instrument Panel” for system messages and warnings.

**NOTE:**

- Your vehicle is equipped with a DEF injection system. You may occasionally hear an audible clicking noise from under the vehicle at a stop. This is normal operation.
- The DEF pump will run for a period of time after engine shutdown to purge the DEF system. This is normal operation and may be audible from the rear of the vehicle.

**ADDING FUEL — 1500 DIESEL MODELS**

1. Open the fuel filler door.



**Diesel Fuel And Diesel Exhaust Fluid Fill Location**

- 1 — Diesel Exhaust Fluid Fill Location
- 2 — Diesel Fuel Fill Location

**NOTE:** There is no fuel filler cap. A flapper door inside the filler pipe seals the system.

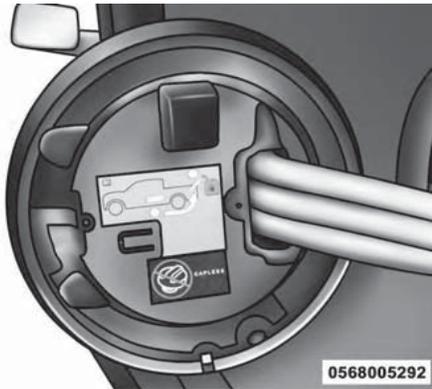
2. Insert the fuel nozzle fully into the filler pipe – the nozzle opens and holds the flapper door while refueling.

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3. Fill the vehicle with fuel – when the fuel nozzle “clicks” or shuts off the fuel tank is full.
4. Remove the fuel nozzle and close the fuel door.

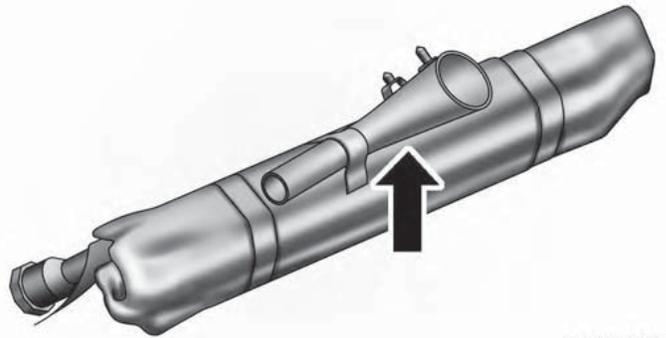
**Emergency Fuel Can Refueling**

Most fuel cans will not open the flapper door. A funnel is provided to open the flapper door to allow emergency refueling with a fuel can.



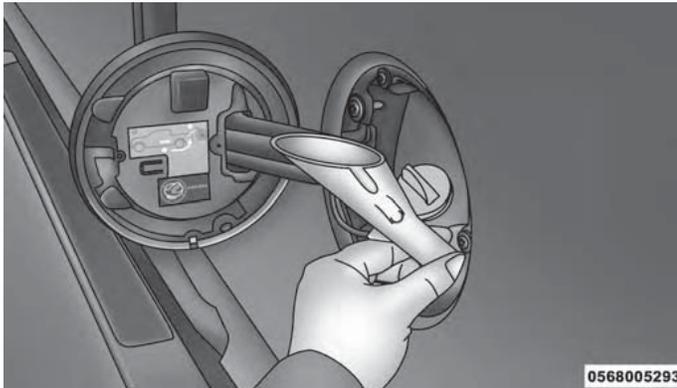
**Diesel Fuel And DEF Fluid Filler Door**

1. Retrieve fuel funnel from the jack kit located under the front passenger seat.



**Fuel Fill Funnel Location 1500 Models**

2. Insert funnel into same filler pipe opening as the fuel nozzle.



Emergency Fuel Fill Location

**NOTE:** Ensure funnel is inserted fully to hold flapper door open.

3. Pour fuel into funnel opening.
4. Remove funnel from filler pipe, clean off prior to putting back in the jack kit.

**WARNING!**

- Never have any smoking materials lit in or near the vehicle when the fuel door is open or the tank is being filled.
- Never add fuel when the engine is running. This is in violation of most state and federal fire regulations and may cause the "Malfunction Indicator Light" to turn on.
- A fire may result if fuel is pumped into a portable container that is inside of a vehicle. You could be burned. Always place fuel containers on the ground while filling.

**CAUTION!**

To avoid fuel spillage and overfilling, do not "top off" the fuel tank after filling.

**Avoid Using Contaminated Fuel**

Fuel that is contaminated by water or dirt can cause severe damage to the engine fuel system. Proper maintenance of the engine fuel filter and fuel tank is essential. Refer to "Maintenance Procedures" in "Maintaining Your Vehicle" for further information.

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**Bulk Fuel Storage — Diesel Fuel**

If you store quantities of fuel, good maintenance of the stored fuel is also essential. Fuel contaminated with water will promote the growth of “microbes.” These microbes form “slime” that will clog the fuel filtration system and lines. Drain condensation from the supply tank and change the line filter on a regular basis.

**NOTE:** When a diesel engine is allowed to run out of fuel, air is pulled into the fuel system.

If the vehicle will not start, refer to “Maintenance Procedures/Priming If The Engine Has Run Out Of Fuel” in “Maintaining Your Vehicle” for further information.

**WARNING!**

**Do not open the high pressure fuel system with the engine running. Engine operation causes high fuel pressure. High pressure fuel spray can cause serious injury or death.**

**Diesel Exhaust Fluid Storage**

Diesel Exhaust Fluid (DEF) is considered a very stable product with a long shelf life. If DEF is kept in temperatures between 10° and 90°F (-12° and 32°C), it will last a minimum of one year.

DEF is subject to freezing at the lowest temperatures. For example, DEF may freeze at temperatures at or below 12° F (-11° C). The system has been designed to operate in this environment.

**NOTE:** When working with DEF, it is important to know that:

- Any containers or parts that come into contact with DEF must be DEF compatible (plastic or stainless steel). Copper, brass, aluminum, iron or non-stainless steel should be avoided as they are subject to corrosion by DEF.
- If DEF is spilled, it should be wiped up completely.

### Adding Diesel Exhaust Fluid

The DEF gauge (located on the instrument cluster) will display the level of DEF remaining in the tank. Refer to “Instrument Cluster” and “Instrument Cluster Descriptions” in “Understanding Your Instrument Panel” for further information.

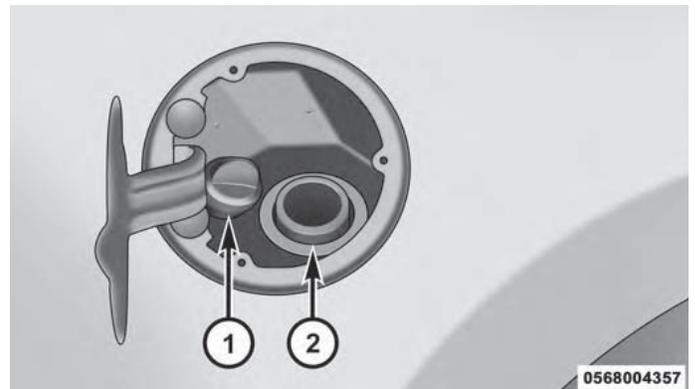
**NOTE:**

- Driving conditions (altitude, vehicle speed, load, etc.) will effect the amount of DEF that is used in your vehicle.
- Another factor is that outside temperature can affect DEF consumption. In cold conditions, 12° F (-11° C) and below, the DEF gauge needle can stay on a fixed position and may not move for extended periods of time. This is a normal function of the system.
- There is an electric heater inside the DEF tank that automatically works when necessary. And if the DEF supply does freeze, the truck will operate normally until it thaws.

### DEF Fill Procedure

**NOTE:** Refer to “Fluids, Lubricants, and Genuine Parts” in “Maintaining Your Vehicle” for the correct fluid type.

1. Remove cap from DEF tank (located on drivers side of the vehicle or in fuel door).



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DEF Filler Cap And Fuel Fill 1500/2500/3500 Models

- 1 — Diesel Exhaust Fluid Fill Location
- 2 — Fuel Fill Location

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2. Insert DEF fill adapter/nozzle into DEF tank filler neck.

NOTE:

- The DEF gauge may take up to five seconds to update after adding a gallon or more of Diesel Exhaust Fluid (DEF) to the DEF tank. If you have a fault related to the DEF system, the gauge may not update to the new level. See your authorized dealer for service.
- The DEF gauge may also not immediately update after a refill if the temperature of the DEF fluid is below 12F (-11C). The DEF line heater will possibly warm up the DEF fluid and allow the gauge to update after a period of run time. Under very cold conditions, it is possible that the gauge may not reflect the new fill level for several drives.

<b>CAUTION!</b>
<ul style="list-style-type: none"> <li>• To avoid DEF spillage, and possible damage to the DEF tank from overfilling, do not "top off" the DEF tank after filling.</li> </ul>

(Continued)

<b>CAUTION! (Continued)</b>
<ul style="list-style-type: none"> <li>• DO NOT OVERFILL. DEF will freeze below 12°F (-11°C). The DEF system is designed to work in temperatures below the DEF freezing point, however, if the tank is overfilled and freezes, the system could be damaged.</li> <li>• When DEF is spilled, clean the area immediately with water and use an absorbent material to soak up the spills on the ground.</li> <li>• Do not attempt to start your engine if DEF is accidentally added to the diesel fuel tank as it can result in severe damage to your engine, including but not limited to failure of the fuel pump and injectors.</li> <li>• Never add anything other than DEF to the tank – especially any form of hydrocarbon such as diesel fuel, fuel system additives, gasoline, or any other petroleum-based product. Even a very small amount of these, less than 100 parts per million or less than 1 oz. per 78 gallons (295 liters) will contaminate the entire DEF system and will require replacement. If owners use a container, funnel or nozzle when refilling the tank, it should either be new or one that is has only been used for adding DEF. Mopar provides an attachable nozzle with its DEF for this purpose.</li> </ul>

3. Stop filling the DEF tank immediately when any of the following happen: DEF stops flowing from the fill bottle into the DEF tank, DEF splashes out the filler neck, or a DEF pump nozzle automatically shuts off.
4. Reinstall cap onto DEF tank.

#### **Filling The Def Tank In Cold Climates**

Since DEF will begin to freeze at 12°F (-11°C), your vehicle is equipped with an automatic DEF heating system. This allows the DEF injection system to operate properly at temperatures below 12°F (-11°C). If your vehicle is not in operation for an extended period of time with temperatures below 12°F (-11°C), the DEF in the tank may freeze. If the tank is overfilled and freezes, it could be damaged. Therefore, do not overfill the DEF tank.

Extra care should be taken when filling with portable containers to avoid overfilling. Note the level of the DEF gauge in your instrument cluster. You may safely add a maximum of 2 gallons (7.5 Liters) of DEF from portable containers when your DEF gauge is reading ½ full.



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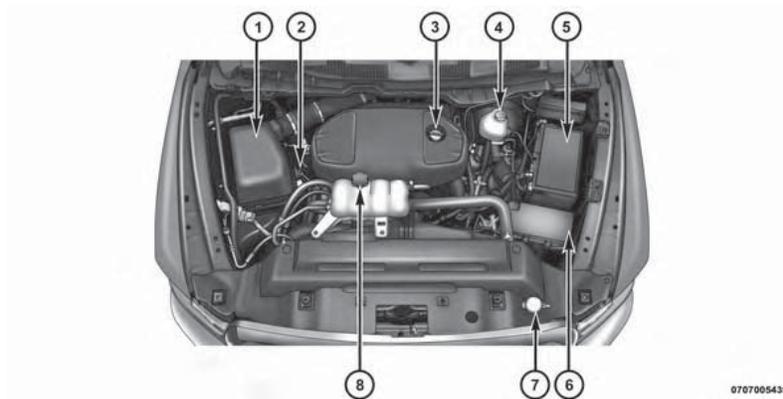
## MAINTAINING YOUR VEHICLE

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ENGINE COMPARTMENT — 3.0L DIESEL



- 1 — Air Cleaner Filter
- 2 — Engine Oil Dipstick
- 3 — Engine Oil Fill
- 4 — Brake Fluid Reservoir

- 5 — Battery
- 6 — Power Distribution Center (PDC)
- 7 — Washer Fluid Reservoir
- 8 — Engine Coolant

**MAINTENANCE PROCEDURES**

The pages that follow contain the **required** maintenance services determined by the engineers who designed your vehicle.

Besides those maintenance items specified in the fixed maintenance schedule, there are other components which may require servicing or replacement in the future.

<b>CAUTION!</b>
<ul style="list-style-type: none"> <li>• Failure to properly maintain your vehicle or perform repairs and service when necessary could result in more costly repairs, damage to other components or negatively impact vehicle performance. Immediately have potential malfunctions examined by an authorized dealership or qualified repair center.</li> </ul>

*(Continued)*

<b>CAUTION! (Continued)</b>
<ul style="list-style-type: none"> <li>• Your vehicle has been built with improved fluids that protect the performance and durability of your vehicle and also allow extended maintenance intervals. Do not use chemical flushes in these components as the chemicals can damage your engine, transmission, power steering or air conditioning. Such damage is not covered by the New Vehicle Limited Warranty. If a flush is needed because of component malfunction, use only the specified fluid for the flushing procedure.</li> </ul>

**Engine Oil**

**Engine Oil Selection**

For best performance and maximum protection under all types of operating conditions, the manufacturer recommends engine oils that meet the requirements of FCA Material Standard MS-10902, and that are API CJ-4 certified and meet the requirements of FCA LLC.

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Checking Oil Level

To assure proper lubrication of your vehicle’s engine, the engine oil must be maintained at the correct level. Check the oil level at regular intervals. The best time to check the oil level is before starting the engine after it has been parked overnight. When checking oil after operating the engine, first ensure the engine is at full operating temperature, then wait for five minutes after engine shutdown to check the oil.

Checking the oil while the vehicle is on level ground will improve the accuracy of the oil level readings. Add oil only when the level on the dipstick is below the “MIN” mark. The total capacity from the MIN mark to the MAX mark is 1 qt (1 L).

**CAUTION!**

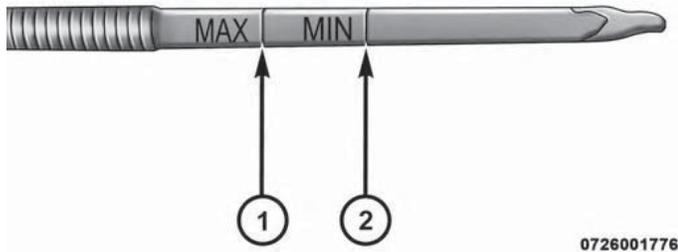
**Overfilling or underfilling the crankcase will cause oil aeration or loss of oil pressure. This could damage your engine.**

**NOTE:** It is possible for your oil level to be slightly higher than a previous check. This would be due to diesel fuel that may temporarily be in the crankcase due to operation of the diesel particulate filter regeneration strategy. This fuel will evaporate out under normal operation.

Never operate the engine with oil level below the “MIN” mark or above the upper “MAX” mark.

**Change Engine Oil**

Refer to the “Maintenance Schedule” for the proper maintenance intervals.



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Engine Oil Dipstick

- 1 — MAX Mark
- 2 — MIN Mark

Engine Oil Viscosity (SAE Grade)

**CAUTION!**

Your vehicle is equipped with an advanced technology Diesel Engine and an emission device designed to limit Diesel Particulate Emissions from being released into the atmosphere. The durability of your engine and life expectancy of this diesel particulate filter emission device is highly dependent on the use of the correct engine oil.

**CAUTION!**

Your vehicle is equipped with an advanced technology Diesel Engine and an emission device designed to limit Diesel Particulate Emissions from being released into the atmosphere. The durability of your engine and life expectancy of this diesel particulate filter emission device is highly dependent on the use of the correct engine oil.

We recommend you use 5W-40 **synthetic** engine oil such as Mopar or Shell Rotella that meets FCA Material Standard MS-10902 and the API CJ-4 engine oil category is required.

**Materials Added To Engine Oil**

The manufacturer strongly recommends against the addition of any additives (other than leak detection dyes) to the engine oil. Engine oil is an engineered product and its performance may be impaired by supplemental additives.

**Engine Oil Filter**

Refer to “Fluids, Lubricants, And Genuine Parts” in “Maintaining Your Vehicle” for further information. The engine oil filter should be changed at every engine oil change.

**Disposing Of Used Engine Oil And Oil Filters**

Care should be taken in disposing of used engine oil and oil filters from your vehicle. Used oil and oil filters, indiscriminately discarded, can present a problem to the environment. Contact your authorized dealer, service station or governmental agency for advice on how and where used oil and oil filters can be safely discarded in your area.

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**Engine Air Cleaner Filter**

**WARNING!**

The air induction system (air cleaner, hoses, etc.) provides a measure of protection. Do not remove the air induction system (air cleaner, hoses, etc.) unless such removal is necessary for repair or maintenance. Make sure that no one is near the engine compartment before starting the vehicle with the air induction system (air cleaner, hoses, etc.) removed. Failure to do so can result in serious personal injury.

**CAUTION!**

All air entering the engine intake must be filtered. The abrasive particles in unfiltered air will cause rapid wear to engine components.

Refer to the "Maintenance Schedule" for the proper maintenance intervals.

**CAUTION!**

Many aftermarket performance air filter elements do not adequately filter the air entering the engine. Use of such filters can severely damage your engine.

**Engine Air Cleaner Filter Selection**

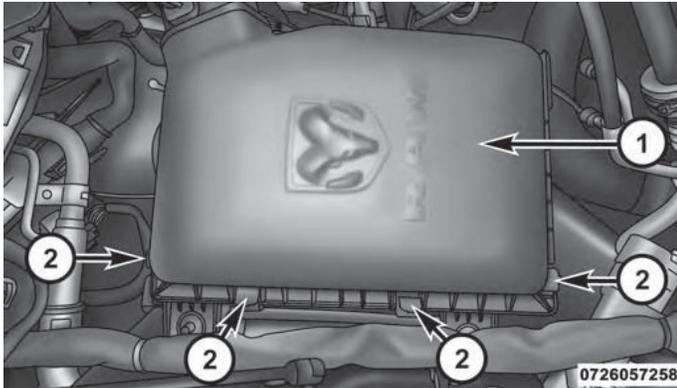
The quality of replacement engine air cleaner filters varies considerably. Only high quality filters should be used to assure most efficient service. Mopar engine air cleaner filters are a high quality filter and are recommended.

**Engine Air Cleaner Filter Inspection and Replacement**

Inspect engine air cleaner filter for dirt and or debris, if you find evidence of either dirt or debris you should change your air cleaner filter.

### Engine Air Cleaner Filter Removal

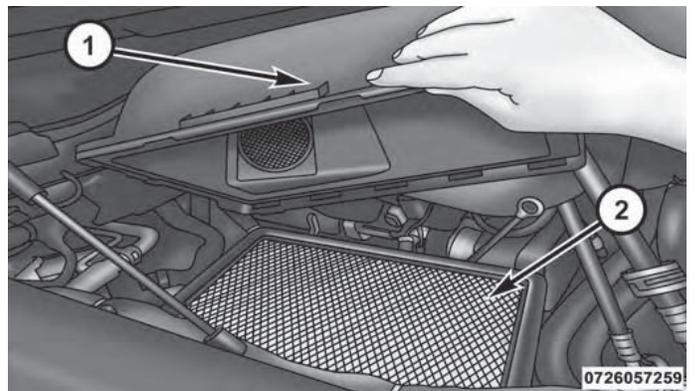
1. Release the spring clips from the air cleaner cover.



3.0 Diesel Air Cleaner Filter Cover

- 1 — Air Cleaner Filter Cover
- 2 — Spring Clips

2. Lift the air cleaner cover to access the air cleaner filter.

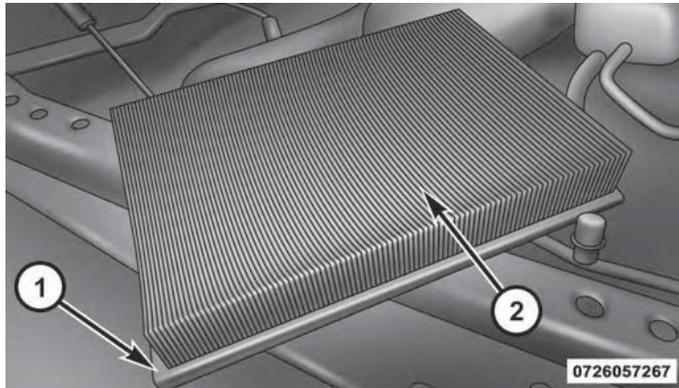


Open Air Cleaner Filter Assembly

- 1 — Air Cleaner Cover
- 2 — Air Cleaner Filter

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3. Remove the air cleaner filter element from the housing assembly.



Air Cleaner Filter

- 1 — Air Cleaner Filter
- 2 — Air Cleaner Filter Inspection Surface

**Engine Air Cleaner Filter Installation**

**NOTE:** Inspect and clean the housing if dirt or debris is present before replacing the air filter element.

1. Install the air cleaner filter element into the housing assembly with the air cleaner filter inspection surface facing downward.
2. Install the air cleaner cover onto the housing assembly locating tabs.
3. Latch the spring clips and lock the air cleaner cover to the housing assembly.

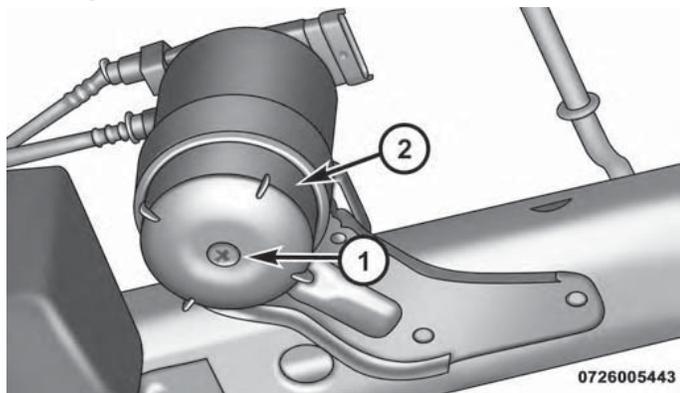
**Draining Fuel/Water Separator Filter**

The fuel filter/water separator filter housing is located above the rear axle next to the fuel tank. The best access to this water drain valve is from under the vehicle.

**CAUTION!**

- Do not drain the fuel/water separator filter when the engine is running.
- Diesel fuel will damage blacktop paving surfaces. Drain the filter into an appropriate container.

If water is detected in the water separator while the engine is running, or while the ignition switch is in the ON position, the "Water In Fuel Indicator Light" will illuminate and an audible chime will be heard. At this point, you should stop the engine and drain the water from the filter housing.



Fuel Filter Assembly

- 1 — Water In Fuel Drain
- 2 — Fuel Filter Access

**CAUTION!**

**If the "Water In Fuel Indicator Light" remains on, DO NOT START the engine before you drain water from the fuel filter to avoid engine damage.**

If the "Water In Fuel Indicator Light" comes on and a single chime is heard while you are driving, or with the ignition in the ON position, there may be a problem with your water separator wiring or sensor. See your authorized dealer for service.

Upon proper draining of the water from the fuel filter, the "Water In Fuel Indicator Light" will remain illuminated for approximately 10 seconds. If the water was drained while the engine was running, the "Water In Fuel Indicator Light" may remain on for approximately three minutes.

**NOTE:** Care should be taken in disposing of used fluids from your vehicle. Used fluids, indiscriminately discarded, can present a problem to the environment. Contact an authorized dealer, service station, or government agency for advice on recycling programs and for where used fluids and filters can be properly disposed of in your area.

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Drain the fuel/water separator filter when the "Water In Fuel Indicator Light" is ON. Within 10 minutes of vehicle shutdown, turn the filter drain valve (located on the bottom of the filter housing) counterclockwise to drain fuel/water, then turn the ignition switch to the ON position, and allow any accumulated water to drain. Leave the drain valve open until all water and contaminants have been removed. When clean fuel is visible, close the drain valve by turning it clockwise, and turn the ignition switch to OFF.

If more than two ounces or 60 milliliters of fuel have been drained, follow the directions for "Priming If The Engine Has Run Out Of Fuel."

**Underbody Mounted Fuel Filter Replacement**

**NOTE:** Using a fuel filter that does not meet the manufacturer's filtration and water separating requirements can severely impact fuel system life and reliability.

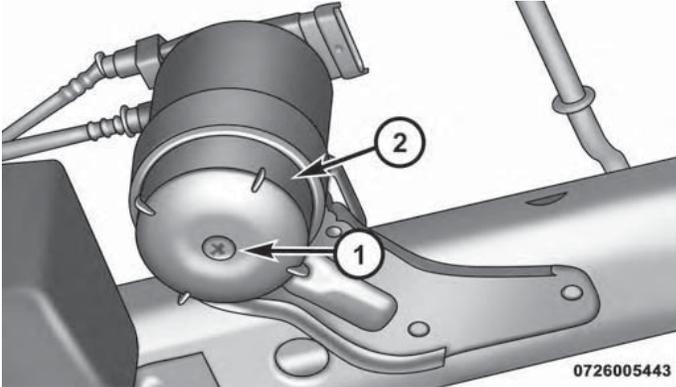
**CAUTION!**

- Diesel fuel will damage blacktop paving surfaces. Drain the filter into an appropriate container.

(Continued)

**CAUTION! (Continued)**

- Do not prefill the fuel filter when installing a new fuel filter. There is a possibility debris could be introduced into the fuel filter during this action. It is best to install the filter dry and allow the in-tank lift pump to prime the fuel system.



**Fuel Filter Assembly**

1 — Water in Fuel Drain  
2 — Fuel Filter Access

1. Turn engine off.
2. Place a drain pan under the fuel filter assembly.
3. Open the water drain valve, and let any accumulated water drain.
4. Close the water drain valve.
5. Remove bottom cover using a strap wrench. Rotate counterclockwise for removal. Remove the used o-ring and discard it.
6. Remove the used filter cartridge from the housing and dispose of it according to your local regulations.
7. Wipe the sealing surfaces of the lid and housing clean.
8. Install a new o-ring into the ring groove on the filter housing and lubricate with clean engine oil.

**NOTE:** WIF (Water In Fuel) sensor is re-usable. Service kit comes with new o-ring for filter canister and WIF sensor.

### Priming If The Engine Has Run Out Of Fuel

**WARNING!**

**Do not open the high pressure fuel system with the engine running. Engine operation causes high fuel pressure. High pressure fuel spray can cause serious injury or death.**

1. Add a substantial amount of fuel to the tank, approximately 2 to 5 gal (8L to 19L).
2. Press ignition switch twice without your foot on brake to put vehicle in Run position. This will activate the in tank fuel pump for approximately 30 seconds. Repeat this process twice.
3. Start the engine using the "Normal Starting" procedure. Refer to "Starting Procedures" in "Starting and Operating" for further information.

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**CAUTION!**

**The starter motor will engage for approximately 30 seconds at a time. Allow two minutes between cranking intervals.**

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NOTE: The engine may run rough until the air is forced from all the fuel lines.

<b>WARNING!</b>
<b>Do not use alcohol or gasoline as a fuel blending agent. They can be unstable under certain conditions and be hazardous or explosive when mixed with diesel fuel.</b>

<b>CAUTION!</b>
<b>Due to lack of lubricants in alcohol or gasoline, the use of these fuels can cause damage to the fuel system.</b>

NOTE:

- Use of biodiesel mixture in excess of 20% can negatively impact the fuel filter’s ability to separate water from the fuel, resulting in high pressure fuel system corrosion or damage.
- In addition, commercially available fuel additives are not necessary for the proper operation of your diesel engine.
- For extreme cold conditions, “Mopar Premium Diesel Fuel Treatment” is recommended to assist with cold starting.

**Intervention Regeneration Strategy — Message Process Flow**

This engine meets all required diesel engine emissions standards. To achieve these emissions standards, your vehicle is equipped with a state-of-the-art engine and exhaust system. These systems are seamlessly integrated into your vehicle and managed by the Powertrain Control Module (PCM). The PCM manages engine combustion to allow the exhaust system’s catalyst to trap and burn Particulate Matter (PM) pollutants, with no input or interaction on your part.

Additionally, your vehicle has the ability to alert you to additional maintenance required on your vehicle or engine.

Refer to “Instrument Cluster Display” in “Understanding Your Instrument Panel” for further information.

<b>WARNING!</b>
<b>A hot exhaust system can start a fire if you park over materials that can burn. Such materials might be grass or leaves coming into contact with your exhaust system. Do not park or operate your vehicle in areas where your exhaust system can contact anything that can burn.</b>

### Maintenance-Free Batteries

Your vehicle is equipped with a maintenance-free battery. The top of the maintenance-free battery is permanently sealed. You will never have to add water, nor is periodic maintenance required.

<b>WARNING!</b>
Battery posts, terminals, and related accessories contain lead and lead compounds. Always wash hands after handling the battery.

<b>CAUTION!</b>
It is essential when replacing the cables on the battery that the positive cable is attached to the positive post and the negative cable is attached to the negative post. Battery posts are marked (+) positive and negative (-) and are identified on the battery case. Also, if a "fast charger" is used while the battery is in vehicle, disconnect both vehicle battery cables before connecting the charger to the battery. Do not use a "fast charger" to provide starting voltage.

### Cooling System

<b>WARNING!</b>
You or others can be badly burned by hot engine coolant (antifreeze) or steam from your radiator. If you see or hear steam coming from under the hood, do not open the hood until the radiator has had time to cool. Never try to open a cooling system pressure cap when the radiator is hot.

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### Engine Coolant Checks

Check the engine coolant (antifreeze) protection every 12 months (before the onset of freezing weather, where applicable). If the engine coolant (antifreeze) is dirty or rusty in appearance, the system should be drained, flushed and refilled with fresh coolant. Check the front of the A/C condenser (if equipped) or radiator for any accumulation of bugs, leaves, etc. If dirty, clean by gently spraying water from a garden hose vertically down the face of the A/C condenser (if equipped) or the back of the radiator core.

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Check the engine cooling system hoses for brittle rubber, cracking, tears, cuts and tightness of the connection at the coolant recovery bottle and radiator. Inspect the entire system for leaks.

**DO NOT REMOVE THE COOLANT PRESSURE CAP WHEN THE COOLING SYSTEM IS HOT.**

**Cooling System — Drain Flush And Refill**

If the engine coolant (antifreeze) is dirty or contains a considerable amount of sediment, clean and flush with a reliable cooling system cleaner. Follow with a thorough rinsing to remove all deposits and chemicals. Properly dispose of old engine coolant (antifreeze).

Refer to the "Maintenance Schedule" for the proper maintenance intervals.

**Selection Of Coolant**

Refer to "Fluids, Lubricants, And Genuine Parts" in "Maintaining Your Vehicle" for further information.

**CAUTION!**

- **Mixing of engine coolant (antifreeze) other than specified Organic Additive Technology (OAT) engine coolant (antifreeze), may result in engine damage and may decrease corrosion protection. Organic Additive Technology (OAT) engine coolant is different and should not be mixed with Hybrid Organic Additive Technology (HOAT) engine coolant (antifreeze) or any "globally compatible" coolant (antifreeze). If a non-OAT engine coolant (antifreeze) is introduced into the cooling system in an emergency, the cooling system will need to be drained, flushed, and refilled with fresh OAT coolant (conforming to MS.90032), by an authorized dealer as soon as possible.**
- **Do not use water alone or alcohol-based engine coolant (antifreeze) products. Do not use additional rust inhibitors or antirust products, as they may not be compatible with the engine coolant and may plug the radiator.**
- **This vehicle has not been designed for use with propylene glycol-based engine coolant (antifreeze). Use of propylene glycol-based engine coolant (antifreeze) is not recommended.**

### Adding Coolant

Your vehicle has been built with an improved engine coolant (OAT coolant conforming to MS.90032) that allows extended maintenance intervals. This engine coolant (antifreeze) can be used up to ten years or 150,000 miles (240,000 km) before replacement. To prevent reducing this extended maintenance period, it is important that you use the same engine coolant (OAT coolant conforming to MS.90032) throughout the life of your vehicle.

Please review these recommendations for using Organic Additive Technology (OAT) engine coolant (antifreeze) that meets the requirements of FCA Material Standard MS.90032. When adding engine coolant (antifreeze):

- We recommend using Mopar Antifreeze/Coolant 10 Year/150,000 Mile Formula OAT (Organic Additive Technology) that meets the requirements of FCA Material Standard MS.90032.
- Mix a minimum solution of 50% OAT engine coolant that meets the requirements of FCA Material Standard MS.90032 and distilled water. Use higher concentrations (not to exceed 70%) if temperatures below  $-34^{\circ}\text{F}$  ( $-37^{\circ}\text{C}$ ) are anticipated. Please contact your authorized dealer for assistance.
- Use only high purity water such as distilled or deionized water when mixing the water/engine coolant (antifreeze) solution. The use of lower quality water will reduce the amount of corrosion protection in the engine cooling system.

#### NOTE:

- It is the owner's responsibility to maintain the proper level of protection against freezing according to the temperatures occurring in the area where the vehicle is operated.
- Some vehicles require special tools to add coolant properly. Failure to fill these systems properly could lead to severe internal engine damage. If any coolant is needed to be added to the system, please contact your local authorized dealer.
- Mixing engine coolant (antifreeze) types is not recommended and can result in cooling system damage. If HOAT and OAT coolant are mixed in an emergency, have a authorized dealer drain, flush, and refill with OAT coolant (conforming to MS.90032) as soon as possible.

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Cooling System Pressure Cap

The cap must be fully tightened to prevent loss of engine coolant (antifreeze), and to ensure that the engine coolant (antifreeze) will return to the radiator from the coolant expansion bottle.

The cap should be inspected and cleaned if there is any accumulation of foreign material on the sealing surfaces.

**WARNING!**

- Do not open hot engine cooling system. Never add engine coolant (antifreeze) when the engine is overheated. Do not loosen or remove the cap to cool an overheated engine. Heat causes pressure to build up in the cooling system. To prevent scalding or injury, do not remove the pressure cap while the system is hot or under pressure.
- Do not use a pressure cap other than the one specified for your vehicle. Personal injury or engine damage may result.

Disposal Of Used Engine Coolant

Used ethylene glycol-based engine coolant (antifreeze) is a regulated substance requiring proper disposal. Check with your local authorities to determine the disposal rules for

your community. To prevent ingestion by animals or children, do not store ethylene glycol-based engine coolant (antifreeze) in open containers or allow it to remain in puddles on the ground. If ingested by a child or pet, seek emergency assistance immediately. Clean up any ground spills immediately.

Points To Remember

**NOTE:** When the vehicle is stopped after a few miles/kilometers of operation, you may observe vapor coming from the front of the engine compartment. This is normally a result of moisture from rain, snow, or high humidity accumulating on the radiator and being vaporized when the thermostat opens, allowing hot engine coolant (antifreeze) to enter the radiator.

If an examination of your engine compartment shows no evidence of radiator or hose leaks, the vehicle may be safely driven. The vapor will soon dissipate.

- Do not overfill the coolant expansion bottle.
- Check the coolant freeze point in the radiator and in the coolant expansion bottle. If engine coolant (antifreeze) needs to be added, the contents of the coolant expansion bottle must also be protected against freezing.

- If frequent engine coolant (antifreeze) additions are required, the cooling system should be pressure tested for leaks.
- Maintain engine coolant (antifreeze) concentration at a minimum of 50% OAT coolant (conforming to MS.90032) and distilled water for proper corrosion protection of your engine which contains aluminum components.
- Make sure that the coolant expansion bottle overflow hoses are not kinked or obstructed.
- Keep the front of the radiator clean. If your vehicle is equipped with air conditioning, keep the front of the condenser clean.
- Do not change the thermostat for Summer or Winter operation. If replacement is ever necessary, install ONLY the correct type thermostat. Other designs may result in unsatisfactory engine coolant (antifreeze) performance, poor gas mileage, and increased emissions.

#### **Charge Air Cooler — Inter-Cooler**

The charge air cooler is positioned in front of the radiator and the air conditioner condenser. Air enters the engine

through the air cleaner and passes through the turbo-charger, where it is pressurized. This pressurized air rapidly reaches high temperature. The air is then directed through a hose to the charge air cooler and through another hose to the intake manifold of the engine. This cooling process enables more efficient burning of fuel resulting in fewer emissions.

To guarantee optimum performance of the system, keep the surfaces of the charge air cooler, condenser and radiator clean and free of debris. Periodically check the hoses leading to and from the charge air cooler for cracks or loose clamps resulting in loss of pressure and reduced engine performance.

#### **Brake System**

##### **Brake Master Cylinder — Brake Fluid Level Check**

The fluid level of the master cylinder should be checked when performing under the hood service, or immediately if the "Brake System Warning Light" indicates system failure.

The brake master cylinder has a translucent plastic reservoir. On the outboard side of the reservoir, there is a "MAX" mark and a "MIN" mark. The fluid level must be

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kept within these two marks. Do not add fluid above the full mark because leakage may occur at the cap.

With disc brakes, the fluid level can be expected to fall as the brake linings wear. However, an unexpected drop in fluid level may be caused by a leak and a system check should be conducted.

Refer to "Fluids, Lubricants, And Genuine Parts" in "Maintaining Your Vehicle" for further information.

<b>WARNING!</b>
<ul style="list-style-type: none"> <li>• Use only manufacturer's recommended brake fluid. Refer to "Fluids, Lubricants, and Genuine Parts" in "Maintaining Your Vehicle" for further information. Using the wrong type of brake fluid can severely damage your brake system and/or impair its performance. The proper type of brake fluid for your vehicle is also identified on the original factory installed hydraulic master cylinder reservoir.</li> </ul>

*(Continued)*

<b>WARNING! (Continued)</b>
<ul style="list-style-type: none"> <li>• To avoid contamination from foreign matter or moisture, use only new brake fluid or fluid that has been in a tightly closed container. Keep the master cylinder reservoir cap secured at all times. Brake fluid in a open container absorbs moisture from the air resulting in a lower boiling point. This may cause it to boil unexpectedly during hard or prolonged braking, resulting in sudden brake failure. This could result in an accident.</li> <li>• Overfilling the brake fluid reservoir can result in spilling brake fluid on hot engine parts, causing the brake fluid to catch fire. Brake fluid can also damage painted and vinyl surfaces, care should be taken to avoid its contact with these surfaces.</li> <li>• Do not allow petroleum based fluid to contaminate the brake fluid. Brake seal components could be damaged, causing partial or complete brake failure. This could result in an accident.</li> </ul>

**FLUID CAPACITIES**

	U.S.	Metric
<b>Fuel (Approximate)</b>		
3.0L Diesel Engine	26 Gallons	98.5 Liters
Diesel Exhaust Fluid Tank	8 Gallons	30.3 Liters
<b>Engine Oil With Filter</b>		
3.0L Liter Diesel Engine (SAE 5W-40 Synthetic, API CJ-4)	10.5 Quarts	10 Liters
<b>Cooling System</b>		
3.0L Turbo Diesel Engine (Mopar Engine Coolant/Antifreeze 10 Year/ 150,000 Mile Formula OAT (Organic Additive Technology))	11.6 Quarts	11 Liters

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**FLUIDS, LUBRICANTS AND GENUINE PARTS**

**Engine**

Component	Fluid, Lubricant, or Genuine Part
Engine Coolant	We recommend you use Mopar Antifreeze/Coolant 10 Year/150,000 Mile Formula OAT (Organic Additive Technology).
Engine Oil	We recommend you use 5W-40 <b>synthetic</b> engine oil such as Mopar or Shell Rotella that meets FCA Material Standard MS-10902 and the API CJ-4 engine oil category is required.

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Component	Fluid, Lubricant, or Genuine Part
Engine Oil Filter	We recommend you use Mopar Engine Oil Filters.
Fuel Filters	We recommend you use Mopar Fuel Filter. Must meet 3 micron rating. <b>Using a fuel filter that does not meet the manufacturers filtration and water separating requirements can severely impact fuel system life and reliability.</b>
Fuel Selection	Use good quality diesel fuel from a reputable supplier in your vehicle. Federal law requires that you must fuel this vehicle with Ultra Low Sulfur Highway Diesel fuel (15 ppm Sulfur maximum) and prohibits the use of Low Sulfur Highway Diesel fuel (500 ppm Sulfur maximum) to avoid damage to the emissions control system. For most year-round service, No. 2 diesel fuel meeting ASTM specification D-975 Grade S15 will provide good performance. We recommend you use a blend of up to 5% biodiesel, meeting ASTM specification D-975 with your diesel engine. <b>This vehicle is compatible with biodiesel blends greater than 5% but no greater than 20% biodiesel meeting ASTM specification D-7467 provided the shortened maintenance intervals are followed as directed.</b>
Diesel Exhaust Fluid	Mopar Diesel Exhaust Fluid (API Certified) (DEF) or equivalent that has been API Certified to the ISO 22241 standard. Use of fluids not API Certified to ISO 22241 may result in system damage.

**NOTE:** If climatized or diesel Number 1 ULSD fuel is not available, and you are operating below (20°F/-6°C), in sustained arctic conditions, Mopar Premium Diesel Fuel Treatment (or equivalent) is recommended to avoid gelling.

**CAUTION!**

- Mixing of engine coolant (antifreeze) other than specified Organic Additive Technology (OAT) engine coolant (antifreeze), may result in engine damage and may decrease corrosion protection. Organic Additive Technology (OAT) engine coolant is different and should not be mixed with Hybrid Organic Additive Technology (HOAT) engine coolant (antifreeze) or any “globally compatible” coolant (antifreeze). If a non-OAT engine coolant (antifreeze) is introduced into the cooling system in an emergency, the cooling system will need to be drained, flushed, and refilled with fresh OAT coolant (conforming to MS.90032), by an authorized dealer as soon as possible.
- Do not use water alone or alcohol-based engine coolant (antifreeze) products. Do not use additional rust inhibitors or antirust products, as they may not be compatible with the radiator engine coolant and may plug the radiator.
- This vehicle has not been designed for use with propylene glycol-based engine coolant (antifreeze). Use of propylene glycol-based engine coolant (antifreeze) is not recommended.

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**Chassis**

Component	Fluid, Lubricant, or Genuine Part
Automatic Transmission (3.0L Diesel, 8-Speed Transmission)	Only use Mopar ZF 8&9 Speed ATF Automatic Transmission Fluid or equivalent. Failure to use the correct fluid may affect the function or performance of your transmission.
Transfer Case	We recommend you use Mopar BW44-44 Transfer Case Fluid.
Front Axle – 1500 Four-Wheel Drive Models	We recommend you use Mopar GL-5 Synthetic Axle Lubricant SAE 75W-85.
Rear Axle	We recommend you use Mopar Synthetic Gear Lubricant SAE 75W-140 (MS-8985). Limited-Slip Rear Axles require the addition of 5 oz. (148 ml) Mopar Limited Slip Additive (MS-10111).
Brake Master Cylinder	We recommend you use Mopar DOT 3 Brake Fluid, SAE J1703 should be used. If DOT 3, SAE J1703 brake fluid is not available, then DOT 4 is acceptable.



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**MAINTENANCE SCHEDULE**

Your vehicle is equipped with an automatic oil change indicator system. The oil change indicator system will remind you that it is time to take your vehicle in for scheduled maintenance.

Based on engine operation conditions, the oil change indicator message will illuminate. This means that service is required for your vehicle. Operating conditions such as frequent short-trips, trailer tow, extremely hot or cold ambient temperatures will influence when the "Oil Change Required" message is displayed. Severe Operating Conditions will cause the change oil message to illuminate more frequently. Have your vehicle serviced as soon as possible, within the next 500 miles (805 km).

Your authorized dealer will reset the oil change indicator message after completing the scheduled oil change. If a scheduled oil change is performed by someone other than your authorized dealer, the message can be reset by referring to the steps described under "Instrument Cluster Display" in "Understanding Your Instrument Panel" for further information.

**NOTE:** Under no circumstances should oil change intervals exceed 10,000 miles (16,000 km) or twelve months, whichever comes first.

**Once A Month Or Before A Long Trip:**

- Check engine oil level
- Check windshield washer fluid level
- Check the tire inflation pressures and look for unusual wear or damage
- Check the fluid levels of the coolant reservoir, brake master cylinder, and power steering, and fill as needed
- Check function of all interior and exterior lights

**Maintenance Chart — Diesel Fuel Up To B5 Biodiesel**

**Required Maintenance**

Refer to the Maintenance Schedules on the following pages for required maintenance.

<b>At Every Oil Change Interval As Indicated By Oil Change Indicator System:</b>
• Change oil and filter.
• Completely fill the Diesel Exhaust Fluid tank.
• Drain water from fuel filter assembly.
• Rotate the tires. <b>Rotate at the first sign of irregular wear, even if it occurs before the oil indicator system turns on.</b>
• Inspect battery and clean and tighten terminals as required.

<b>At Every Oil Change Interval As Indicated By Oil Change Indicator System:</b>
• Inspect brake pads, shoes, rotors, drums, hoses and park brake.
• Inspect engine cooling system protection and hoses.
• Inspect exhaust system.
• Inspect engine air cleaner if using in dusty or off-road conditions.

<b>At Every Second Oil Change Interval As Indicated By Oil Change Indicator System:</b>
• Change fuel filter.

**84 MAINTENANCE SCHEDULE**

Mileage or time passed (whichever comes first)	10,000	20,000	30,000	40,000	50,000	60,000	70,000	80,000	90,000	100,000	110,000	120,000	130,000	140,000	150,000
Or Years:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Or Kilometers:	16,000	32,000	48,000	64,000	80,000	96,000	112,000	128,000	144,000	160,000	176,000	192,000	208,000	224,000	240,000
<b>Additional Inspections</b>															
Completely fill the Diesel Exhaust Fluid tank.	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Inspect the CV/Universal joints.			X			X			X			X			X
Inspect front suspension, tie rod ends, and replace if necessary.		X		X		X		X		X		X		X	
Inspect the front and rear axle fluid. If gear oil leakage is suspected, check the fluid level. If using your vehicle for police, taxi, fleet, off-road or frequent trailer towing change the axle fluid.			X			X			X			X			X
Inspect the brake linings, parking brake function.		X		X		X		X		X		X		X	
Inspect the transfer case fluid.			X						X						X
<b>Additional Maintenance</b>															
Replace cabin air filter		X		X		X		X		X		X		X	
Drain water from fuel filter assembly.	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Replace fuel filter and drain water from the fuel filter assembly.	Fuel filter replacement intervals should be every second oil change and must not exceed 20,000 miles (32 000 km) if using diesel fuel up to B5.														
Replace engine air filter.			X			X			X			X			X

**MAINTENANCE SCHEDULE 85**

Mileage or time passed (whichever comes first)	10,000	20,000	30,000	40,000	50,000	60,000	70,000	80,000	90,000	100,000	110,000	120,000	130,000	140,000	150,000
	Or Years: 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Or Kilometers:	16,000	32,000	48,000	64,000	80,000	96,000	112,000	128,000	144,000	160,000	176,000	192,000	208,000	224,000	240,000
Flush and replace the engine coolant at 10 years or 150,000 miles (240,000 km) whichever comes first.										X					X
Replace accessory drive belt(s).										X					
Inspect the transfer case fluid, change for any of the following: police, taxi, fleet, or frequent trailer towing.						X						X			
Change transfer case fluid.												X			

**6**

**WARNING!**

- You can be badly injured working on or around a motor vehicle. Do only service work for which you have the knowledge and the right equipment. If you have any doubt about your ability to perform a service job, take your vehicle to a competent mechanic.

**WARNING! (Continued)**

- Failure to properly inspect and maintain your vehicle could result in a component malfunction and effect vehicle handling and performance. This could cause an accident.

(Continued)

86 MAINTENANCE SCHEDULE

**Additional Maintenance — B6 To B20 Biodiesel**

**NOTE:**

- Under no circumstances should oil change intervals exceed 8,000 miles (12,875 km) or six months, whichever comes first when using biodiesel blends greater than 5% (B5).
- The owner is required to monitor mileage for B6-B20 biodiesel, the automatic oil change indicator system does not reflect the use of biofuels.
- Fuel filter change interval is maintained at every second oil change. This is especially important with biodiesel usage.

**RAM 2500 / 3500 / 4500 / 5500**



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# INTRODUCTION

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92 INTRODUCTION

**A MESSAGE FROM FCA US LLC**

FCA US LLC and Cummins welcome you as a Cummins turbocharged diesel-powered truck owner. Your diesel truck will sound, feel, drive, and operate differently from a gasoline-powered truck. It is important that you read and understand this manual.

Almost 100% of the heavy duty trucks in the United States and Canada are diesel-powered because of the fuel economy, rugged durability, and high torque which permits pulling heavy loads. Cummins engines power well over half of these trucks. Now this same technology and proven performance is yours in your truck equipped with the Cummins turbocharged diesel engine.

You may find that some of the starting, operating, and maintenance procedures are different. However, they are simple to follow and careful adherence to them will ensure that you take full advantage of the features of this engine.

**NOTE:** Some aftermarket products may cause severe engine/transmission and/or exhaust system damage. Your vehicle's Powertrain Control Systems can detect and store information about vehicle modifications that increase horsepower and torque output such as whether or not performance-enhancing powertrain components, commonly referred to as downloaders, power boxes, or performance chips have been used.

This information cannot be erased and will stay in the system's memory even if the modification is removed. This information can be retrieved by FCA US LLC, and service and repair facilities, when servicing your vehicle. This information may be used to determine if repair will be covered by the New Vehicle Limited Warranty.

There is a probability that the use of a "performance chip" will prohibit the engine from starting. In this instance, the vehicle will need to be serviced by a authorized dealer in order to return the vehicle to its factory settings.

When it comes to service, remember that your authorized dealer knows your vehicle best, has factory-trained technicians and genuine MOPAR® parts, and cares about your satisfaction.

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## THINGS TO KNOW BEFORE STARTING YOUR VEHICLE

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■ REMOTE STARTING SYSTEM — IF EQUIPPED . . .94	□ To Exit Remote Start Mode And Drive The Vehicle . . . . .96
□ How To Use Remote Start. . . . .94	□ Remote Start Comfort Systems — If Equipped . . .96
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94 THINGS TO KNOW BEFORE STARTING YOUR VEHICLE

REMOTE STARTING SYSTEM — IF EQUIPPED



This system uses the key fob to start the engine conveniently from outside the vehicle while still maintaining security. The system has a range of approximately 300 ft (91 m).

NOTE:

- The vehicle must be equipped with an automatic transmission to be equipped with Remote Start.
- The Remote Start system will wait for the “Wait To Start” telltale to extinguish before cranking the engine. This allows time for the intake heater to pre-heat the incoming air, and is normal operation in cold weather. Refer to “Wait To Start,” located in “Warning And Indicator Lights” within “Understanding Your Instrument Panel”.
- Obstructions between the vehicle and the key fob may reduce this range.

How To Use Remote Start

All of the following conditions must be met before the engine will remote start:

- Transmission in PARK
- Doors closed
- Hood closed
- HAZARD switch off
- BRAKE switch inactive (brake pedal not pushed)
- Ignition key removed from ignition switch
- Battery at an acceptable charge level
- PANIC button not pushed
- Fuel meets minimum requirement
- Water In Fuel Indicator Light is not illuminated
- Wait To Start Light is not illuminated

**WARNING!**

- Do not start or run an engine in a closed garage or confined area. Exhaust gas contains Carbon Monoxide (CO) which is odorless and colorless. Carbon Monoxide is poisonous and can cause serious injury or death when inhaled.
- Keep Remote Keyless Entry key fobs away from children. Operation of the Remote Start System, windows, door locks or other controls could cause serious injury or death.

**Remote Start Abort Message**

The following messages will display in the instrument cluster display if the vehicle fails to remote start or exits remote start prematurely:

- Remote Start Aborted - Door Open
- Remote Start Aborted - Hood Open
- Remote Start Aborted - Fuel Low
- Remote Start Aborted - System Fault

The instrument cluster display message stays active until the ignition is placed in the ON/RUN position.

**To Enter Remote Start Mode**

Push and release the Remote Start button on the key fob twice, within five seconds. The parking lights will flash and the horn will chirp twice (if programmed). In cold ambient temperature conditions, the diesel vehicle may delay crank up to 30 seconds for the fuel and grid heater. Once the vehicle has started, the engine will run for 15 minutes or 75 seconds in extreme cold and high elevation.

**NOTE:**

- The park lamps will turn on and remain on during Remote Start mode.
- For security, power window and power sunroof operation (if equipped) are disabled when the vehicle is in the Remote Start mode.
- The engine can be started two consecutive times (two 15-minute cycles) with the key fob. However, the ignition switch must be cycled to the ON position before you can repeat the start sequence for a third cycle.

96 THINGS TO KNOW BEFORE STARTING YOUR VEHICLE

**To Exit Remote Start Mode Without Driving The Vehicle**

Push and release the Remote Start button one time or allow the engine to run for the entire fifteen minute cycle.

**NOTE:** To avoid unintentional shut downs, the system will disable the one time push of the Remote Start button for two seconds after receiving a valid Remote Start request.

**To Exit Remote Start Mode And Drive The Vehicle**

To exit Remote Start Mode and drive the vehicle before the end of the 15-minute cycle, push and release the unlock button on the key fob to unlock the door and disarm the vehicle security alarm System (if equipped). Then, prior to the end of the 15-minute cycle, place the ignition to the ON/RUN position.

**NOTE:** The ignition switch must be in the ON/RUN position in order to drive the vehicle.

**Remote Start Comfort Systems — If Equipped**

When remote start is activated, the heated steering wheel, and driver heated seat features will automatically turn on in cold weather. In warm weather, the driver vented seat feature will automatically turn on when the remote start is activated. These features will stay on through the duration of remote start or until the ignition switch is turned to the ON/RUN position.

The Remote Start Comfort System can be activated and deactivated through the instrument cluster display. For more information on Remote Start Comfort System operation refer to your Owner's Manual at [www.ramtrucks.com/en/owners/manuals](http://www.ramtrucks.com/en/owners/manuals).

**ENGINE BREAK-IN RECOMMENDATIONS**

The Cummins turbocharged diesel engine does not require a break-in period due to its construction. Normal operation is allowed, providing the following recommendations are followed:

- Warm up the engine before placing it under load.
- Do not operate the engine at idle for prolonged periods.
- Use the appropriate transmission gear to prevent engine lugging.

- Observe vehicle oil pressure and temperature indicators.
- Check the coolant and oil levels frequently.
- Vary throttle position at highway speeds when carrying or towing significant weight.

**NOTE:** Light duty operation such as light trailer towing or no load operation will extend the time before the engine is at full efficiency. Reduced fuel economy and power may be seen at this time.

For additional vehicle break-in requirements, refer to "Trailer Towing" in "Starting And Operating" of the Owners Manual.

Because of the construction of the Cummins turbocharged diesel engine, engine run-in is enhanced by loaded operating conditions which allow the engine parts to achieve final finish and fit during the first 6,000 miles (10 000 km).



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## UNDERSTANDING THE FEATURES OF YOUR VEHICLE

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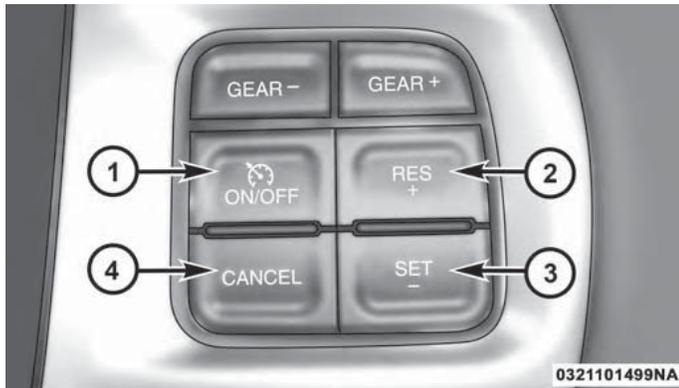
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**SPEED CONTROL**

When engaged, the Speed Control takes over accelerator operations at speeds greater than 25 mph (40 km/h).

The Speed Control buttons are located on the right side of the steering wheel.



Speed Control Switches

1 — ON/OFF  
2 — RES +

3 — SET -  
4 — CANCEL

**NOTE:** In order to ensure proper operation, the Speed Control System has been designed to shut down if multiple speed control functions are operated at the same time. If this occurs, the Speed Control System can be reactivated by pushing the Speed Control ON/OFF button and resetting the desired vehicle set speed.

**To Activate**

Push the ON/OFF button. The cruise control indicator light in the instrument cluster display will illuminate. To turn the system off, push the ON/OFF button a second time. The cruise control indicator light will turn off. The system should be turned off when not in use.

<b>WARNING!</b>
<p>Leaving the Speed Control system on when not in use is dangerous. You could accidentally set the system or cause it to go faster than you want. You could lose control and have an accident. Always leave the system off when you are not using it.</p>

### To Set A Desired Speed

Turn the Speed Control on. When the vehicle has reached the desired speed, push the SET (-) button and release. Release the accelerator and the vehicle will operate at the selected speed.

**NOTE:** The vehicle should be traveling at a steady speed and on level ground before pushing the SET (-) button.

### To Deactivate

A soft tap on the brake pedal, pushing the CANCEL button, or normal brake pressure while slowing the vehicle will deactivate Speed Control without erasing the set speed memory. Pushing the ON/OFF button or turning the ignition switch OFF erases the set speed memory.

### To Resume Speed

To resume a previously set speed, push the RES (+) button and release. Resume can be used at any speed above 25 mph (40 km/h).

### To Vary The Speed Setting

#### To Increase Speed

When the Speed Control is set, you can increase speed by pushing the RES (+) button.

The driver's preferred units can be selected through the instrument panel settings if equipped. Refer to "Understanding Your Instrument Panel" for more information. The speed decrement shown is dependant on the chosen speed unit of U.S. (mph) or Metric (km/h):

#### U.S. Speed (mph)

- Pushing the RES (+) button once will result in a 1 mph increase in set speed. Each subsequent tap of the button results in an increase of 1 mph.
- If the button is continually pushed, the set speed will continue to increase until the button is released, then the new set speed will be established.

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*Metric Speed (km/h)*

- Pushing the RES (+) button once will result in a 1 km/h increase in set speed. Each subsequent tap of the button results in an increase of 1 km/h.
- If the button is continually pushed, the set speed will continue to increase until the button is released, then the new set speed will be established.

**To Decrease Speed**

When the Speed Control is set, you can decrease speed by pushing the SET (-) button.

The driver's preferred units can be selected through the instrument panel settings if equipped. Refer to "Understanding Your Instrument Panel" for more information. The speed decrement shown is dependant on the chosen speed unit of U.S. (mph) or Metric (km/h):

*U.S. Speed (mph)*

- Pushing the SET (-) button once will result in a 1 mph decrease in set speed. Each subsequent tap of the button results in a decrease of 1 mph.

- If the button is continually pushed, the set speed will continue to decrease until the button is released, then the new set speed will be established.

*Metric Speed (km/h)*

- Pushing the SET (-) button once will result in a 1 km/h decrease in set speed. Each subsequent tap of the button results in a decrease of 1 km/h.
- If the button is continually pushed, the set speed will continue to decrease until the button is released, then the new set speed will be established.

**To Accelerate For Passing**

Press the accelerator as you would normally. When the pedal is released, the vehicle will return to the set speed.

**Using Speed Control On Hills**

The transmission may downshift on hills to maintain the vehicle set speed.

**NOTE:** The Speed Control system maintains speed up and down hills. A slight speed change on moderate hills is normal.

On steep hills, a greater speed loss or gain may occur, it may be preferable to drive without Speed Control.

**WARNING!**

Speed Control can be dangerous where the system cannot maintain a constant speed. Your vehicle could go too fast for the conditions, and you could lose control and have an accident. Do not use Speed Control in heavy traffic or on roads that are winding, icy, snow-covered or slippery.



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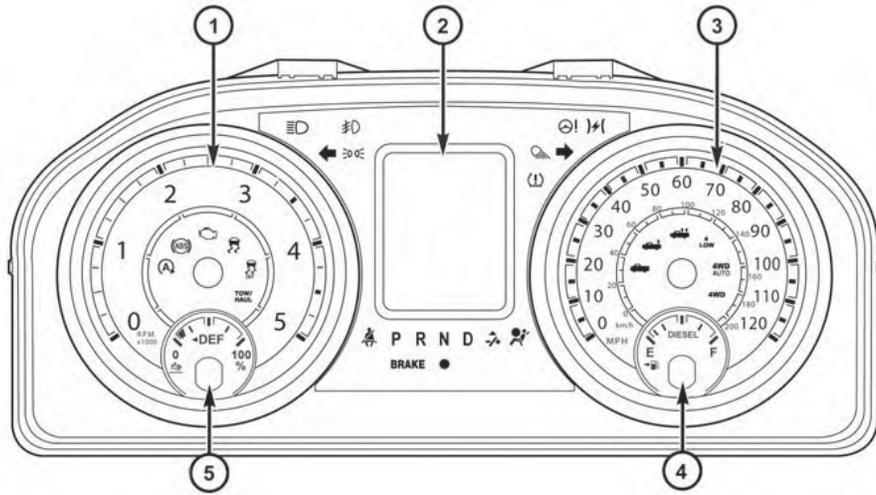
## UNDERSTANDING YOUR INSTRUMENT PANEL

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INSTRUMENT CLUSTER



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Base Instrument Cluster

1. Tachometer
  - Indicates the engine speed in revolutions per minute (RPM x 1000).
2. Instrument Cluster Display
  - When the appropriate conditions exist, this display shows the instrument cluster display messages. Refer to “Instrument Cluster Display” in “Understanding Your Instrument Panel” for further information.
3. Speedometer
  - Indicates vehicle speed.
4. Fuel Gauge
  - The pointer shows the level of fuel in the fuel tank when the ignition switch is in the ON/RUN position.
  -  The fuel pump symbol points to the side of the vehicle where the fuel filler door is located.
5. DEF Gauge
  - The DEF Gauge displays the actual level of Diesel Exhaust Fluid in the DEF tank. Diesel Exhaust Fluid (DEF) is required to maintain normal vehicle operation and emissions compliance. If something is wrong with the gauge, a DEF Warning Message or Malfunction

Indicator Light (MIL) will be displayed. More information is available in the instrument cluster display section under the heading of Diesel Exhaust Fluid (DEF) Warning Messages.

<b>WARNING!</b>
A hot engine cooling system is dangerous. You or others could be badly burned by steam or boiling coolant. You may want to call an authorized dealer for service if your vehicle overheats. If you decide to look under the hood yourself, see “Maintaining Your Vehicle.” Follow the warnings under the “Cooling System Pressure Cap” paragraph.

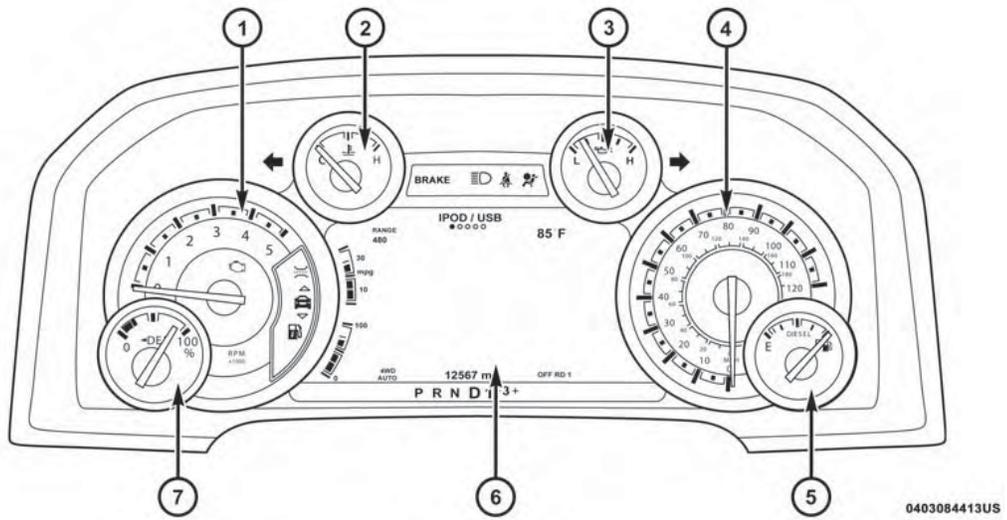
<b>CAUTION!</b>
Driving with a hot engine cooling system could damage your vehicle. If the temperature gauge reads “H” pull over and stop the vehicle. Idle the vehicle with the air conditioner turned off until the pointer drops back into the normal range. If the pointer remains on the “H”, turn the engine off immediately and call an authorized dealer for service.

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**NOTE:**

- The gauge may take up to five seconds to update after adding a gallon or more of Diesel Exhaust Fluid (DEF) to the DEF tank. If you have a fault related to the DEF system, the gauge may not update to the new level. See your authorized dealer for service.
- The DEF gauge may also not immediately update after a refill if the temperature of the DEF fluid is below 12F (-11C). The DEF line heater will possibly warm up the DEF fluid and allow the gauge to update after a period of run time. Under very cold conditions, it is possible that the gauge may not reflect the new fill level for several drives.
- Outside temperature can affect DEF consumption. In cold conditions, 12° F (-11° C) and below, the DEF gauge needle can stay on a fixed position and may not move for extended periods of time. This is a normal function of the system.



Premium Instrument Cluster

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1. Tachometer

- Indicates the engine speed in revolutions per minute (RPM x 1000).

2. Engine Coolant Temperature

- This gauge shows the engine coolant temperature. The gauge pointer will likely show higher temperatures when driving in hot weather, up mountain grades, or in heavy stop and go traffic. If the red Warning Light turns on while driving, safely bring the vehicle to a stop, and turn off the engine. DO NOT operate the vehicle until the cause is corrected.

**WARNING!**

**A hot engine cooling system is dangerous. You or others could be badly burned by steam or boiling coolant. You may want to call an authorized dealer for service if your vehicle overheats. If you decide to look under the hood yourself, see "Maintaining Your Vehicle." Follow the warnings under the "Cooling System Pressure Cap" paragraph.**

**CAUTION!**

**Driving with a hot engine cooling system could damage your vehicle. If the temperature gauge reads "H" pull over and stop the vehicle. Idle the vehicle with the air conditioner turned off until the pointer drops back into the normal range. If the pointer remains on the "H", turn the engine off immediately and call an authorized dealer for service.**

3. Oil Pressure Gauge

- The pointer should always indicate some oil pressure when the engine is running. A continuous high or low reading under normal driving conditions may indicate a lubrication system malfunction. Immediate service should be obtained from an authorized dealer.

4. Speedometer

- Indicates vehicle speed.

5. Fuel Gauge

- The pointer shows the level of fuel in the fuel tank when the ignition switch is in the ON/RUN position.
-  The fuel pump symbol points to the side of the vehicle where the fuel filler door is located.

6. Instrument Cluster Display

- When the appropriate conditions exist, this display shows the instrument cluster display messages. Refer to “Instrument Cluster Display” in “Understanding Your Instrument Panel” for further information.

7. DEF Gauge

- The DEF Gauge displays the actual level of Diesel Exhaust Fluid in the DEF tank. Diesel Exhaust Fluid (DEF) is required to maintain normal vehicle operation and emissions compliance. If something is wrong with the gauge, a DEF Warning Message or Malfunction Indicator Light (MIL) will be displayed. More information is available in the instrument cluster display section under the heading of Diesel Exhaust Fluid (DEF) Warning Messages.

NOTE:

- The DEF tank on these vehicles is designed with a large amount of full reserve. So the level sensor will indicate a full reading even before the tank is completely full. To put it another way, there’s additional storage capacity in the tank above the Full mark that’s not represented in the gauge. You may not see any movement in the reading – even after driving up to 2,000 miles in some cases.

- The gauge may take up to five seconds to update after adding a gallon or more of Diesel Exhaust Fluid (DEF) to the DEF tank. If you have a fault related to the DEF system, the gauge may not update to the new level. See your authorized dealer for service.
- The DEF gauge may also not immediately update after a refill if the temperature of the DEF fluid is below 12F (-11C). The DEF line heater will possibly warm up the DEF fluid and allow the gauge to update after a period of run time. Under very cold conditions, it is possible that the gauge may not reflect the new fill level for several drives.
- Outside temperature can affect DEF consumption. In cold conditions, 12° F (-11° C) and below, the DEF gauge needle can stay on a fixed position and may not move for extended periods of time. This is a normal function of the system.

<b>CAUTION!</b>
<b>Driving with a hot engine cooling system could damage your vehicle. If the temperature gauge reads “H” pull over and stop the vehicle. Idle the vehicle with the</b>

(Continued)

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**CAUTION!** *(Continued)*

air conditioner turned off until the pointer drops back into the normal range. If the pointer remains on the "H", turn the engine off immediately and call an authorized dealer for service.

**WARNING AND INDICATOR LIGHTS**

The warning/indicator lights switch on in the instrument panel together with a dedicated message and/or acoustic signal when applicable. These indications are indicative

**Yellow Telltale Indicator Lights**

**Wait To Start Light — If Equipped**

Yellow Telltale Light	What It Means
	<p><b>Wait To Start Light</b>                      The "Wait To Start" telltale will illuminate for approximately two seconds when the ignition is turned to the RUN position. It's duration may be longer based on colder operating conditions. Vehicle will not initiate start until telltale is no longer displayed. Refer to "Starting Procedures" in "Starting And Operating" for further information.</p> <p><b>NOTE:</b> The "Wait To Start" telltale may not illuminate if the intake manifold temperature is warm enough.</p>

and precautionary and as such must not be considered as exhaustive and/or alternative to the information contained in the Owner's Manual, which you are advised to read carefully in all cases. Always refer to the information in this chapter in the event of a failure indication.

All active telltales will display first if applicable. The system check menu may appear different based upon equipment options and current vehicle status. Some telltales are optional and may not appear.

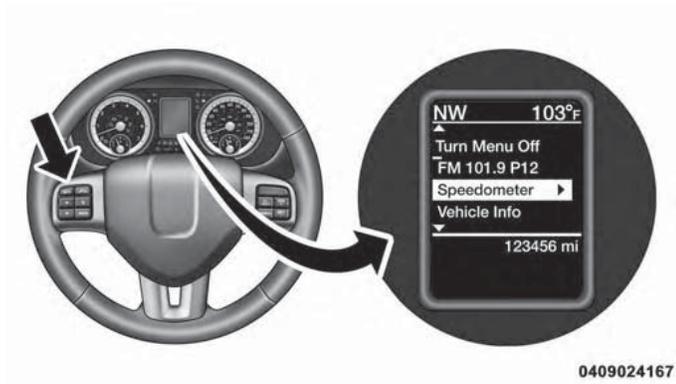
**Water in Fuel Indicator Light — If Equipped**

Yellow Telltale Light	What It Means
	<p><b>Water in Fuel Indicator Light</b>                      The “Water In Fuel Indicator Light” will illuminate when there is water detected in the fuel filters. If this light remains on, DO NOT start the vehicle before you drain the water from the fuel filters to prevent engine damage.</p>

**Low Diesel Exhaust Fluid (DEF) Indicator Light — If Equipped**

Yellow Telltale Light	What It Means
	<p><b>Low Diesel Exhaust Fluid (DEF) Indicator Light</b>                      The Low Diesel Exhaust Fluid (DEF) Indicator will illuminate if the vehicle is low on Diesel Exhaust Fluid (DEF). Refer to “Starting And Operating” for further information.</p>

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INSTRUMENT CLUSTER DISPLAY



Instrument Cluster Display — Base



Instrument Cluster Display — Premium

The instrument cluster display features a driver-interactive display that is located in the instrument cluster.

This system allows the driver to select a variety of useful information by pushing the switches mounted on the steering wheel. The instrument cluster display may consist of the following:

- Digital Speedometer
- Vehicle Info
- Fuel Economy Info

- Trip A
- Trip B
- Stop/Start Info (If Equipped)
- Trailer Tow
- Audio
- Stored Messages
- Screen Setup
- Vehicle Settings (Not Equipped with a Uconnect 5.0 & 8.4 radio)
- Settings
- Turn Menu Off

The system allows the driver to select information by pushing the following buttons mounted on the steering wheel:



Steering Wheel Buttons

- **Up Arrow Button**



Push and release the **up** arrow button to scroll upward through the main menu and submenus (Fuel Economy, Trip A, Trip B, Audio, Stored Messages, Screen Set Up).

- **Down Arrow Button**



Push and release the **down** arrow button to scroll downward through the main menu and submenus (Fuel Economy, Trip A, Trip B, Audio, Stored Messages, Screen Set Up).

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• *Right Arrow Button*

 Push and release the **right** arrow button to access/select the information screens or submenu screens of a main menu item. Push and hold the **right** arrow button for two seconds to reset displayed/selected features that can be reset.

• *Left Arrow Button*

 Push the **left** arrow button to access/select the information screens or submenu screens of a main menu item or to return to the main menu from an info screen or submenu item.

**Oil Life Reset**

Your vehicle is equipped with an engine oil change indicator system. The “Oil Change Required” message will display in the instrument cluster display after a single chime has sounded, to indicate the next scheduled oil change interval. The engine oil change indicator system is duty cycle based, which means the engine oil change interval may fluctuate, dependent upon your personal driving style.

**NOTE:** Use the steering wheel instrument cluster display controls for the following procedure(s).

**Vehicles Equipped With Passive Entry**

1. Without pushing the brake pedal, push the ENGINE START/STOP button and place the ignition to the ON/RUN position (do not start the engine).
2. Push and release the **down** arrow button to scroll downward through the main menu to “Vehicle Info.”
3. Push and release the **right** arrow button to access the “Oil Life” screen.
4. Push and hold the **right** arrow button to select “Reset”.
5. Push and release the appropriate arrow button to select “YES” to reset the Oil Life.
6. Push and release the **up** arrow button to exit the instrument cluster display screen.

**Vehicles Not Equipped With Passive Entry**

1. Without pushing the brake pedal, cycle the ignition to the ON/RUN position (do not start the engine).
2. Push and release the **down** arrow button to scroll downward through the main menu to “Vehicle Info.”
3. Push and release the **right** arrow button to access the “Oil Life” screen.

4. Push and hold the **right** arrow button to select the Oil Life Reset.
5. Push and release the appropriate arrow button to select **"YES"** to reset the Oil Life.
6. Push and release the **up** arrow button to exit the instrument cluster display screen.

**NOTE:** If the indicator message illuminates when you start the vehicle, the Oil Life indicator system did not reset. If necessary, repeat this procedure.

**Fuel Filter Life Reset**

The cluster will display the "Service Fuel Filter" message when the fuel filter maintenance life is less than 5%. To check the remaining fuel filter life, go to the "Fuel Filter Life" screen in the "Vehicle Info" menu. When this message appears, dealers should replace the fuel filter.

**NOTE:** Use the steering wheel button controls for the following procedure(s).

**Vehicles Equipped With Passive Entry**

1. Without pushing the brake pedal, push the ENGINE START/STOP button and cycle the ignition to the ON/RUN position (do not start the engine.)

2. Push and release the **down** arrow button to scroll downward through the main menu to "Vehicle Info".
3. Push and release the **right** arrow button to access the "Fuel Filter Life" screen.
4. Push and release the appropriate arrow button to access the "Reset" screen.
5. Push and release the appropriate arrow to select the reset of the Fuel Filter Life.
6. Push and release the **up** arrow button to exit the instrument cluster display screen.

**Vehicles Not Equipped With Passive Entry**

1. Without pressing the brake pedal, cycle the ignition to the ON/RUN position (do not start the engine.)
2. Push and release the **down** arrow button to scroll downward through the main menu to "Vehicle Info".
3. Push and release the **right** arrow button to access the "Fuel Filter Life" screen.
4. Push and release the appropriate arrow button to access the "Reset" screen.

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- 5. Push and release the appropriate arrow to select the reset of the Fuel Filter Life.
- 6. Push and release the **up** arrow button to exit the instrument cluster display screen.

**NOTE:** If the indicator message illuminates when you start the vehicle, the Fuel Filter indicator system did not reset. If necessary, repeat this procedure.

**Diesel Particulate Filter (DPF) Messages**

The Cummins diesel engine meets all diesel emissions standards, resulting in one of the lowest emitting diesel engines ever produced. To achieve these emissions standards, your vehicle is equipped with a state-of-the-art engine and exhaust system. These systems are seamlessly integrated into your vehicle and managed by the Powertrain Control Module (PCM). The PCM manages engine combustion to allow the exhaust system’s catalyst to trap and burn Particulate Matter (PM) pollutants, with no input or interaction on your part.

<b>WARNING!</b>
A hot exhaust system can start a fire if you park over materials that can burn. Such materials might be grass or leaves coming into contact with your exhaust system. Do not park or operate your vehicle in areas where your exhaust system can contact anything that can burn.

Your vehicle has the ability to alert you to additional maintenance required on your vehicle or engine. The following messages may display in your instrument cluster display:

- **Perform Service** — Your vehicle will require emissions maintenance at a set interval. To help remind you when this maintenance is due, the instrument cluster display will display “Perform Service”. When the “Perform Service” message is displayed in the instrument cluster display it is necessary to have the emissions maintenance performed. Emissions maintenance may include replacing the Closed Crankcase Ventilation (CCV) filter element. The procedure for clearing and resetting the “Perform Service” indicator message is located in the appropriate Service Information.

- **Exhaust System — Regeneration Required Now** — “Exhaust Filter XX% Full Safely Drive at Highway Speeds to Remedy” will be displayed in the instrument cluster display if the exhaust particulate filter reaches 80% of its maximum storage capacity. Under conditions of exclusive short duration and low speed driving cycles, your Cummins diesel engine and exhaust after-treatment system may never reach the conditions required to remove the trapped PM. If this occurs, the “Exhaust Filter XX% Full Safely Drive at Highway Speeds to Remedy” message will be displayed in the instrument cluster display. If this message is displayed, you will hear one chime to assist in alerting you of this condition
- By simply driving your vehicle at highway speeds for as little as 45 minutes, you can remedy the condition in the particulate filter system and allow your Cummins diesel engine and exhaust after-treatment system to remove the trapped PM and restore the system to normal operating condition.
- **Exhaust System — Regeneration In Process Exhaust Filter XX% Full** — Indicates that the Diesel Particulate Filter (DPF) is self-cleaning. Maintain your current driving condition until regeneration is completed.
- **Exhaust System — Regeneration Completed** — This message indicates that the Diesel Particulate Filter (DPF) self-cleaning is completed. If this message is displayed, you will hear one chime to assist in alerting you of this condition.
- **Exhaust Service Required — See Dealer Now** — This message indicates regeneration has been disabled due to a system malfunction. At this point the engine Powertrain Control Module (PCM) will register a fault code, the instrument panel will display a MIL light.

<b>CAUTION!</b>
<b>See your authorized dealer, as damage to the exhaust system could occur soon with continued operation.</b>

- **Exhaust Filter Full — Power Reduced See Dealer** — This message indicates the PCM has derated the engine to limit the likelihood of permanent damage to the after-treatment system. If this condition is not corrected and a dealer service is not performed, extensive exhaust after-treatment damage can occur. To correct this condition it will be necessary to have your vehicle serviced by your local authorized dealer.

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**NOTE:** Failing to follow the oil change indicator, changing your oil and resetting the oil change indicator by 0 miles remaining will prevent the diesel exhaust filter from performing its cleaning routine. This will shortly result in a Malfunction Indicator Light (MIL) and reduced engine power. Only an authorized dealer will be able to correct this condition.

**CAUTION!**

See your authorized dealer, as damage to the exhaust system could occur soon with continued operation.

**Instrument Cluster Display Messages**

When the appropriate conditions exist, the instrument cluster display displays the following messages:

- System Setup Unavailable – Vehicle Not in Park
- System Setup Unavailable – Vehicle in Motion
- Service Air Filter
- Perform Service
- Exhaust Filter Full Safely Drive at Highway Speeds To Remedy

- Exhaust Filter XX% Full – Power Reduced See Dealer
- Exhaust Service Required – See Dealer Now
- Exhaust System – Filter XX% Full Service Required See Dealer
- Exhaust System – Regeneration In Process Exhaust Filter XX% Full
- Exhaust System – Regeneration Completed
- Coolant Low
- Engine Power Reduced During Warm-up
- Engine Power Reduced up to 30-sec During Warmup
- Engine Power Reduced up to 2-min During Warmup
- Active Airbox Service Required See Dealer

**Cold Ambient Derate Mode Messages**

The vehicle will display messages when a derate (engine power reduction) is activated to protect the turbocharger during engine start up in cold ambient temperatures.

- **Engine Power Reduced During Warmup** — This message will display during start up when the ambient temperature is between 10° F (-12° C) and -10° F (-23° C).

- **Engine Power Reduced Up To 30 Sec (Seconds) During Warmup** — This message will display during start up when the ambient temperature is between -10° F (-23° C) and -25 F (-32° C).
- **Engine Power Reduced Up To 2 Min (Minutes) During Warmup** — This message will display during start up when the ambient temperature is -25° F (-32° C) and below.
- **Coolant Low** — This telltale will turn on to indicate the vehicle coolant level is low. See “Adding Coolant” under the section “Maintaining Your Vehicle” for more information.

#### Diesel Exhaust Fluid (DEF) Warning Messages

Your vehicle will begin displaying warning messages when the DEF level reaches a driving range of approximately 350 miles (560 km). If the following warning message sequence is ignored, your vehicle may be limited to a maximum speed of 5 MPH (8 km/H) unless DEF is added.

- **DEF Low Refill Soon** — This message will display when the low level is reached, during vehicle start up, and with increased frequency during vehicle operation. It will be accompanied by a single chime. Approximately 5 gallons (19 Liters) of DEF is required to refill the tank when this message is initially displayed. on pickup applications, and approximately 7 gallons (28 Liters) are required on chassis-cab applications.
- **Speed Limited to 5 MPH in XXX mi Refill DEF** — This message will continuously display if the “DEF Low Refill Soon” message is ignored, and the frequency of occurrence of the chime will increase unless up to 2 gallons (7.5 Liters) of DEF is added to the tank.
- **5 MPH Max Speed on Restart, Long Idle or Refuel Refill DEF** — This message will continuously display when the counter reaches zero, and will be accompanied by a periodic chime.
- The vehicle will only be capable of a maximum speed of 5 MPH upon the first of the following conditions to occur:
  - If the vehicle is shutoff and restarted.
  - If the vehicle is idled for an extended period of time, approximately one hour or greater.
  - If the system detects that the level of fuel in the tank has increased.
- Add a minimum of 2 gallons (9.5 Liters) of DEF to the tank in order to avoid vehicle operation at a maximum speed of 5 MPH (8 km/H).

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**NOTE:** A minimum of 2 gallons (9.5 Liters) may be required to restore normal vehicle operation. Although the vehicle will start normally and can be placed in gear after this message has been initially displayed, extreme caution should be utilized since the vehicle will only be capable of maneuvering at a maximum speed of 5 MPH (8 km/H).

### Diesel Exhaust Fluid (DEF) Fault Warning Messages

There are five different messages which are displayed if the vehicle detects that the DEF system has been filled with a fluid other than DEF, has experienced component failures, or when tampering has been detected. The vehicle may be limited to a maximum speed of 5 MPH (8 km/H) if the DEF system is not serviced within less than 200 miles (322 km) of the fault being detected.

When the DEF system needs to be serviced the following warnings will display:

- **Service DEF System See Dealer** — This message will display when the fault is initially detected, each time the vehicle is started, and periodically during driving. The message will be accompanied by a single chime. We recommend you drive to your nearest authorized dealer and have your vehicle serviced as soon as possible.

- **5 MPH Max Speed in 150 mi Service DEF System See Dealer** — This message will display if the DEF system has not been serviced after the “Service DEF System – See Dealer” message is displayed. This message will continuously display until the mileage counter reaches zero, and will be accompanied by a periodic chime. The message will continue to countdown until it reaches zero unless the vehicle is serviced. We recommend you drive to your nearest authorized dealer and have your vehicle serviced immediately.

**NOTE:** Under some circumstances this mileage counter may start with a value of less than 150 miles (241 km). For example, if recurring faults are detected in a time interval of less than 40 hours, the counter may restart at the value where it stopped when a previous fault was temporarily remedied, or at a minimum of 50 miles (80 km).

- **5 MPH Max Speed on Restart, Long Idle or Refuel Service DEF See Dealer** — This message will continuously display when the mileage counter reaches zero, and will be accompanied by a periodic chime.
- The vehicle will only be capable of a maximum speed of 5 MPH upon the first of the following conditions to occur:
  - If the vehicle is shutoff and restarted.

- If the vehicle is idled for an extended period of time, approximately one hour or greater.
- If the system detects that the level of fuel in the tank has increased.
- **5 MPH Max Speed Service DEF System See Dealer** — This message will continuously display, and will be accompanied by a periodic chime. Although the vehicle can be started and placed in gear, the vehicle will only operate at a maximum speed of 5 MPH. Your vehicle will require towing, see your authorized dealer for service.

**NOTE:** When this message is displayed, the engine can still be started. However, the vehicle will only operate at a maximum speed of 5 MPH.

- **Incorrect DEF Detected See Dealer** — This message will display when the fault is initially detected, each time the vehicle is started, and periodically during driving. The message will be accompanied by a single chime. We recommend you drive to your nearest authorized dealer and have your vehicle serviced as soon as possible.

### RAM Active Air System

Your vehicle is equipped with an advanced Ram Active Air system that provides enhanced performance, especially when towing under demanding hot or high altitude conditions. If the instrument cluster display displays the message “Active Airbox Service Required See Dealer”, vehicle performance may be reduced until service is performed by an authorized RAM dealer.



## STARTING AND OPERATING

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**STARTING PROCEDURES**

Before starting your vehicle, adjust your seat, adjust both inside and outside mirrors, and fasten your seat belts.

The starter should not be operated for more than 15-second intervals. Waiting a few minutes between such intervals will protect the starter from overheating.

<b>WARNING!</b>
<ul style="list-style-type: none"> <li>• Do not leave children or animals inside parked vehicles in hot weather. Interior heat build up may cause serious injury or death.</li> <li>• When leaving the vehicle, always make sure the keyless ignition node is in the "OFF" mode, remove the key fob from the vehicle and lock the vehicle.</li> <li>• Never leave children alone in a vehicle, or with access to an unlocked vehicle. Allowing children to be in a vehicle unattended is dangerous for a number of reasons. A child or others could be seriously or fatally injured. Children should be warned not to touch the parking brake, brake pedal or the gear selector.</li> </ul>

*(Continued)*

**WARNING! (Continued)**

- Do not leave the key fob in or near the vehicle, or in a location accessible to children, and do not leave the ignition of a vehicle equipped with Keyless Enter-N-Go in the ACC or ON/RUN mode. A child could operate power windows, other controls, or move the vehicle.

**Manual Transmission — If Equipped**

Apply the parking brake, place the gear selector in NEUTRAL and press the clutch pedal to the floor before starting the vehicle. This vehicle is equipped with a clutch interlocking ignition system. It will not start unless the clutch is fully pressed.

**Automatic Transmission — If Equipped**

Start the engine with the transmission in the NEUTRAL or PARK position. Apply the brake before shifting to any driving range.

**Tip Start Feature**

Do not press the accelerator. Turn the ignition switch briefly to the START position and release it. The starter motor will continue to run but will automatically disengage when the engine is running.

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**Keyless Enter-N-Go — If Equipped**



This feature allows the driver to operate the ignition switch with the push of a button, as long as the Remote Start/Keyless Enter-N-Go key fob is in the passenger compartment.

**Normal Starting**

*Using The ENGINE START/STOP Button*

1. The transmission must be in PARK or NEUTRAL.
2. Press and hold the brake pedal while pushing the ENGINE START/STOP button once.
3. The system takes over and attempts to start the vehicle. If the vehicle fails to start, the starter will disengage automatically after 25 seconds.
4. If you wish to stop the cranking of the engine prior to the engine starting, remove your foot from the brake pedal and push the button again.

**NOTE:**

- Normal starting of either a cold or a warm engine is obtained without pumping or pressing the accelerator pedal.
- Under cold weather conditions, the engine may not immediately crank if the "Wait To Start" telltale is illuminated. This is normal operation. For vehicles equipped with Keyless Enter-N-Go, the vehicle will automatically crank when the "Wait To Start" time has elapsed. See the section "Starting Procedure Engine Manifold Air Temperature 0°F to 66°F (18° C to 19°C)" for more information.

*To Turn Off The Engine Using ENGINE START/STOP Button*

1. Place the gear selector in PARK, then push and release the ENGINE START/STOP button.
2. The ignition will return to the OFF position.

3. If the gear selector is not in PARK, the ENGINE START/STOP button must be held for two seconds or three short pushes in a row with the vehicle speed above 5 mph (8 km/h) before the engine will shut off. The ignition switch position will remain in the ACC position until the gear selector is in PARK and the button is pushed twice to the OFF position. If the gear selector is not in PARK and the ENGINE START/STOP button is pushed once, the instrument cluster display will display a "Vehicle Not In Park" message and the engine will remain running. Never leave a vehicle out of the PARK position, or it could roll.
4. If the gear selector is in NEUTRAL, push and release the ENGINE START/STOP button with the vehicle speed below 5 mph (8 km/h) before the engine will shut off. The ignition will remain in the ACC position.

**NOTE:** If the ignition is left in the ACC or ON/RUN (engine not running) position and the transmission is in PARK, the system will automatically time out after 30 minutes of inactivity and the ignition will switch to the OFF position.

***ENGINE START/STOP Button Functions — With Driver's Foot OFF The Brake Pedal (In PARK Or NEUTRAL Position)***

The ENGINE START/STOP button operates similar to an ignition switch. It has three positions, OFF, ACC, RUN. To change the ignition switch positions without starting the vehicle and use the accessories follow these steps:

1. Starting with the ignition in the OFF position:
2. Push the ENGINE START/STOP button once to change the ignition to the ACC position.
3. Push the ENGINE START/STOP button a second time to change the ignition to the RUN position.
4. Push the ENGINE START/STOP button a third time to return the ignition to the OFF position.

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**Keyless Enter-N-Go Starting Procedure — Engine Manifold Air Temperature 0° F To 66° F (–18° C to 19° C)**

**NOTE:** The temperature displayed in the instrument cluster does not necessarily reflect the engine manifold air temperature. Refer to “Instrument Cluster Display” in “Understanding Your Instrument Panel” for further information. When engine temperatures fall below 66°F (19°C) the “Wait To Start Light” will remain on indicating the intake manifold heater system is active.

Follow the steps in the “Normal Starting” procedure except:

1. Pushing the engine start button with the driver’s foot on the brake will move the ignition from OFF or ACC to RUN, and will illuminate the “Wait To Start” telltale. The engine will not immediately crank, this is normal operation.
2. The “Wait To Start” telltale will remain on for a period of time that varies depending on the engine temperature.

3. While the “Wait to Start” telltale is on, the instrument cluster will additionally display a gauge or bar whose initial length represents the full “Wait to Start” time period. Its length will decrease until it disappears when the “Wait to Start” time has elapsed.

<b>CAUTION!</b>
<b>If the “Water in Fuel Indicator Light” remains on, DO NOT START engine before you drain the water from the fuel filters to avoid engine damage. Refer to “Maintenance Procedures/Draining Fuel/Water Separator Filter” in “Maintaining Your Vehicle” for further information.</b>

4. After the engine “Wait To Start” telltale goes off, the engine will automatically crank.

<b>CAUTION!</b>
<b>The engine may automatically crank when the “Wait To Start” time has elapsed. To abort the automatic starting process, ensure the driver’s foot is fully removed from the brake pedal prior to pushing the START/STOP button to cycle the ignition off.</b>

5. After engine start-up, check to see that there is oil pressure.
6. Allow the engine to idle about three minutes until the manifold heaters have completed the post-heat cycle.
7. Release the parking brake and drive.

**NOTE:**

- Engine idle speed will automatically increase to 1,000 RPM and engage the Variable Geometry Turbocharger at low coolant temperatures to improve engine warm-up.
- The engine may not automatically crank after the engine "Wait To Start" telltale goes off if a door or the hood is ajar.
- If the engine stalls, or if the ignition switch is left ON for more than two minutes after the "Wait To Start Light" goes out, reset the grid heaters by turning the ignition switch to the OFF position for at least five seconds and then back ON. Repeat steps 1 through 7 of "Keyless Enter-N-Go Starting Procedure – Engine Manifold Air Temperature Below 66° F (19° C)."

**Extreme Cold Weather**

The Cummins diesel engine is equipped with several features designed to assist cold weather starting and operation:

- The engine block heater is a resistance heater installed in the water jacket of the engine just above and behind the oil filter. It requires a 110–115 Volt AC electrical outlet with a grounded, three-wire extension cord.

**NOTE:** The engine block heater cord is a factory installed option. If your vehicle is not equipped, heater cords are available from your authorized Mopar dealer.

- A 12 Volt heater built into the fuel filter housings aid in preventing fuel gelling. It is controlled by a built-in thermostat.
- A heated intake air system both improves engine starting and reduces the amount of white smoke generated by a warming engine.

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**Normal Starting Procedure — Engine Manifold Air Temperature Above 66° F (19° C)**

Observe the instrument panel cluster lights when starting the engine.

1. Always apply the parking brake.
2. Shift into PARK for an automatic transmission. For vehicles equipped with a manual transmission, fully press and hold the clutch pedal and shift into NEUTRAL.
3. Turn the ignition switch to the ON position and watch the instrument panel cluster lights.

<b>CAUTION!</b>
If the “Water in Fuel Indicator Light” remains on, DO NOT START the engine before you drain the water from the fuel filters to avoid engine damage. Refer to “Maintenance Procedures/Draining Fuel/Water Separator Filter” in “Maintaining Your Vehicle” for further information.

4. Turn the ignition switch to the START position and crank the engine. Do not press the accelerator during starting.

<b>CAUTION!</b>
<b>Do not crank engine for more than 15 seconds at a time or starter motor damage may result. Turn the ignition switch to the OFF position and wait at least two minutes for the starter to cool before repeating start procedure.</b>

5. When the engine starts, release the key fob.
6. Check that the oil pressure warning light has turned off.
7. Release the parking brake.

**Starting Procedure — Engine Manifold Air Temperature 0°F To 66°F (–18°C to 19°C)**

**NOTE:** The temperature displayed in the instrument cluster does not necessarily reflect the engine manifold air temperature. Refer to “Instrument Cluster Display” in “Understanding Your Instrument Panel” for further information. When engine temperatures fall below 66°F (19°C) the “Wait To Start Light” will remain on indicating the intake manifold heater system is active.

Follow the steps in the "Normal Starting" procedure except:

1. The "Wait To Start" telltale will remain on for a period of time that varies depending on the engine temperature.
2. While the "Wait To Start" telltale is on, the instrument cluster will additionally display a gauge or bar whose initial length represents the full "Wait To Start" time period. Its length will decrease until it disappears when the "Wait To Start" time has elapsed.

**CAUTION!**

**If the "Water in Fuel Indicator Light" remains on, DO NOT START engine before you drain the water from the fuel filters to avoid engine damage. Refer to "Maintenance Procedures/Draining Fuel/Water Separator Filter" in "Maintaining Your Vehicle" for further information.**

3. After the "Wait To Start" telltale goes off, turn the ignition switch to the START position. Do not press the accelerator during starting.

**CAUTION!**

**Do not crank engine for more than 15 seconds at a time or starter motor damage may result. Turn the ignition switch to the OFF position and wait at least two minutes for the starter to cool before repeating start procedure.**

4. After engine start-up, check that the oil pressure warning light has turned off.
5. Allow the engine to idle about three minutes until the manifold heaters have completed the post-heat cycle.
6. Release the parking brake and drive.

**NOTE:**

- Engine idle speed will automatically increase to 1,000 RPM and engage the Variable Geometry Turbocharger at low coolant temperatures to improve engine warm-up.
- Automatic equipped vehicles with optional Keyless Enter-N-Go – If the start button is pushed once while in park with the ignition off and driver's foot on the brake pedal, the vehicle will automatically crank and start after the Wait to Start time has elapsed. If it is desired to abort the start process before it completes, the driver's

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foot should be fully removed from the brake pedal prior to pushing the start button again in order for the ignition to move directly to off.

- If the engine stalls, or if the ignition switch is left ON for more than two minutes after the "Wait To Start" telltale goes out, reset the grid heaters by turning the ignition switch to the OFF position for at least five seconds and then back ON. Repeat steps 1 through 5 of "Starting Procedure – Engine Manifold Air Temperature Below 66°F (19°C)."

**Starting Procedure — Engine Manifold Air Temperature Below 0°F (-18°C)**

In extremely cold weather below 0°F (-18°C) it may be beneficial to cycle the manifold heaters twice before attempting to start the engine. This can be accomplished by turning the ignition OFF for at least five seconds and then back ON after the "Wait To Start" telltale has turned off, but before the engine is started. However, excessive cycling of the manifold heaters will result in damage to the heater elements or reduced battery voltage.

**NOTE: If multiple pre-heat cycles are used before starting, additional engine run time may be required to maintain battery state of charge at a satisfactory level.**

1. If the engine stalls after the initial start, the ignition must be turned to the OFF position for at least five seconds and then to the ON position to recycle the manifold heaters.

**NOTE:** Excessive white smoke and poor engine performance will result if manifold heaters are not recycled.

2. Heat generated by the manifold heaters dissipates rapidly in a cold engine. If more than two minutes pass between the time the "Wait To Start" telltale turns off and the engine is started, recycle the manifold heaters by turning the ignition switch to the OFF position for at least five seconds and then back ON.
3. If the vehicle is driven and vehicle speed exceeds 19 mph (31 km/h) before the manifold heater post-heat (after start) cycle is complete, the manifold heaters will shut off.
4. If the engine is started before the "Wait To Start" telltale turns off, the preheat cycle will turn off.
5. If the engine is cranked for more than 10 seconds, the post-heat cycle will turn off.

**NOTE:**

- Engine idle speed will automatically increase to 1,000 RPM and engage the Variable Geometry Turbocharger at low coolant temperatures to improve engine warm-up.
- When a diesel engine is allowed to run out of fuel or the fuel gels at low temperatures, air is pulled into the fuel system. If your engine has run out of fuel, refer to “Maintenance Procedures/Priming If The Engine Has Run Out Of Fuel” in “Maintaining Your Vehicle” for further information.
- If the engine stalls, or if the ignition switch is left ON for more than two minutes after the “Wait To Start” telltale goes out, reset the grid heaters by turning the ignition switch to the OFF position for at least five seconds and then back ON. Repeat steps 1 through 5 of “Starting Procedure – Engine Manifold Air Temperature Below 66°F (19°C).”

**Starting Fluids**

**WARNING!**

Starting fluids or flammable liquids must never be used in the Cummins diesel engine (see Warning label). Never pour diesel fuel, flammable liquid, starting fluids (ether) into the air cleaner canister, air intake piping, or turbocharger inlet in an attempt to start the vehicle. This could result in a flash fire and explosion causing serious personal injury and engine damage.

The engine is equipped with an automatic electric air preheating system. If the instructions in this manual are followed, the engine should start in all conditions.

**WARNING!**

- Do not leave children or animals inside parked vehicles in hot weather. Interior heat build up may cause serious injury or death.
- When leaving the vehicle, always make sure the keyless ignition node is in the “OFF” mode, remove the key fob from the vehicle and lock the vehicle.

*(Continued)*

**WARNING! (Continued)**

- Never leave children alone in a vehicle, or with access to an unlocked vehicle. Allowing children to be in a vehicle unattended is dangerous for a number of reasons. A child or others could be seriously or fatally injured. Children should be warned not to touch the parking brake, brake pedal or the gear selector.
- Do not leave the key fob in or near the vehicle, or in a location accessible to children, and do not leave the ignition of a vehicle equipped with Keyless Enter-N-Go in the ACC or ON/RUN mode. A child could operate power windows, other controls, or move the vehicle.

**NORMAL OPERATION — DIESEL ENGINE**

Observe the following when the engine is operating.

- All message center lights are off.
- Malfunction Indicator Light (MIL) is off.
- Engine oil pressure is above 10 psi (69 kPa) at idle.
- Voltmeter operation:

The voltmeter may show a gauge fluctuation at various engine temperatures. This cycling operation is caused by the post-heat cycle of the intake manifold heater system. The number of cycles and the length of the cycling operation is controlled by the engine control module. Post-heat operation can run for several minutes, and then the electrical system and voltmeter needle will stabilize.

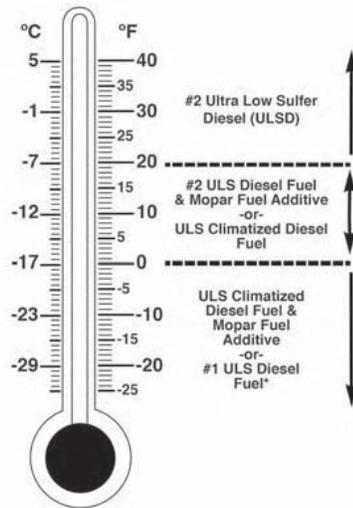
The cycling action will cause temporary dimming of the headlamps, interior lamps, and also a noticeable reduction in blower motor speed.

**Cold Weather Precautions**

Operation in ambient temperature below 32°F (0°C) may require special considerations. The following charts suggest these options:

**Fuel Operating Range**

**NOTE: Use "Ultra Low Sulfur Diesel Fuels" ONLY.**



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**Fuel Operating Range Chart**

\*No. 1 Ultra Low Sulfur Diesel Fuel should only be used where extended arctic conditions (0°F/-18°C) exist".

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NOTE:

- Use of Climatized Ultra Low Sulfur Diesel Fuel or Number 1 Ultra Low Sulfur Diesel Fuel results in a noticeable decrease in fuel economy.
- Climatized Ultra Low Sulfur Diesel Fuel is a blend of Number 2 Ultra Low Sulfur and Number 1 Ultra Low Sulfur Diesel Fuels which reduces the temperature at which wax crystals form in fuel.
- The fuel grade should be clearly marked on the pump at the fuel station.
- The engine requires the use of “**Ultra Low Sulfur Diesel Fuel**”. Use of incorrect fuel could result in engine and exhaust system damage. Refer to “Fuel Requirements” in “Starting And Operating” for further information.
- If climatized or diesel Number 1 ULSD fuel is not available, and you are operating below (20°F/-6°C), in sustained arctic conditions, Mopar Premium Diesel Fuel Treatment (or equivalent) is recommended to avoid gelling (see Fuel Operating Range Chart).

**Engine Oil Usage**

Refer to “Maintenance Procedures” in “Maintaining Your Vehicle” for the correct engine oil viscosity.

**Winter Front Cover Usage**

A winter front or cold weather cover is to be used in ambient temperatures below 32°F (0°C), especially during extended idle conditions. This cover is equipped with four flaps for managing total grille opening in varying ambient temperatures. If a winter front or cold weather cover is to be used the flaps should be left in the full open position to allow air flow to the charge air cooler and automatic transmission oil cooler. When ambient temperatures drop below 0°F (-17°C) the four flaps need to be closed. A suitable cold weather cover is available from your Mopar dealer.

**Battery Blanket Usage**

A battery loses 60% of its cranking power as the battery temperature decreases to 0°F (-18°C). For the same decrease in temperature, the engine requires twice as much power to crank at the same RPM. The use of 120 VAC powered battery blankets will greatly increase starting capability at low temperatures. Suitable battery blankets are available from your authorized Mopar dealer.

### Engine Warm-Up

Avoid full throttle operation when the engine is cold. When starting a cold engine, bring the engine up to operating speed slowly to allow the oil pressure to stabilize as the engine warms up.

**NOTE:** High-speed, no-load running of a cold engine can result in excessive white smoke and poor engine performance. No-load engine speeds should be kept under 1,200 RPM during the warm-up period, especially in cold ambient temperature conditions.

Your vehicle is equipped with a turbo speed limiter, this feature limits the engine speed to 1,200 RPM when engine coolant temperatures are below 70°F (21°C). This feature is designed to protect the turbocharger from damage and will only operate in PARK or NEUTRAL.

If temperatures are below 32°F (0°C), operate the engine at moderate speeds for five minutes before full loads are applied.

**NOTE:** If ambient temperatures are low and the coolant temperature is below 180°F (82°C), the engine idle speed will slowly increase to 1,000 RPM after two minutes of idle, if the following conditions are met:

- Foot is off brake pedal and throttle pedal.
- Automatic transmission is in PARK.
- Vehicle speed is 0 mph (0 km/h).
- Applying the throttle will cancel fast idle.
- Operating the exhaust brake at idle will greatly improve warm up rate and will help keep the engine close to operating temperature during extended idle.

### Engine Idling

Avoid prolonged idling, long periods of idling may be harmful to your engine because combustion chamber temperatures can drop so low that the fuel may not burn completely. Incomplete combustion allows carbon and varnish to form on piston rings, engine valves, and injector nozzles. Also, the unburned fuel can enter the crankcase, diluting the oil and causing rapid wear to the engine.

If the engine is allowed to idle or the truck is driven on low engine speed drive cycles for more than 2 hours, the system will automatically enter an emissions operating mode that will increase the engine idle speed to 900 RPM (1050 RPM for Chassis Cab). While in this mode, which is designed to help maintain the diesel particulate filter, the

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engine idle speed will return to normal when the brake pedal is applied. A small change in engine tone or a slight change in engine performance while accelerating may also be noticeable at speeds below 20 mph (32 kmh). This operating mode may last for up to an hour of idle time, or around 20 minutes of driving time.

Your truck may have been ordered with an optional voltage monitoring idle up feature. If a load is placed on the electrical system while the truck is in park, this feature will attempt to maintain normal system voltage by automatically increasing engine idle speed. You may notice several consecutive increases in idle speed, up to a maximum of 1450 RPM, as the system will attempt to utilize the smallest increase in idle speed necessary to maintain normal system voltage. The idle speed will return to normal when either the electrical load is removed, or when the brake pedal is applied.

**NOTE:** For instrument cluster display messages related to the vehicle's exhaust system, refer to "Instrument Cluster Display" in "Understanding Your Instrument Panel" for further information.

**Idle-Up Feature — Automatic Transmission Only**

The driver-controlled high idle speed feature will help increase cylinder temperatures and provide additional cab heat, however, excessive idling may still cause the exhaust aftertreatment system to not properly regenerate. Extended periods of idle time should be avoided.

The Idle-Up feature uses the speed control switches to increase engine idle speed and quickly warm the vehicle's interior.

1. With the transmission in PARK, the parking brake applied, and the engine running, push the speed control switch to the ON position, then push the SET switch.
2. The engine RPM will go up to 1100 RPM. To increase the RPM, push and hold the ACCEL/RESUME switch and the idle speed will increase to approximately 1500 RPM. To decrease the RPM, push and hold the DECEL switch and the idle speed will decrease to approximately 1100 RPM.
3. To cancel the Idle-Up feature, either push the CANCEL switch, push the ON/OFF switch, or press the brake pedal.

### Stopping The Engine

Idle the engine a few minutes before routine shutdown. After full load operation, idle the engine three to five minutes before shutting it down. This idle period will allow the lubricating oil and coolant to carry excess heat away from the combustion chamber, bearings, internal components, and turbocharger. This is especially important for turbocharged, charge air-cooled engines.

**NOTE:**

- During engine shut down on vehicles equipped with manual transmissions, it is normal for the diesel engine to resonate heavily for a moment during engine shut off. When the engine is connected to a manual transmission, this resonance causes load gear rattle from the transmission. This is commonly referred to as “shut down rattle.” The manufacturer recommends performing engine shut down with the clutch pedal pushed to the floor (clutch disengaged). When engine shut down is performed in this manner the rattle is reduced (not eliminated).
- Refer to the following chart for proper engine shutdown.

Driving Condition	Load	Turbo-charger Temperature	Idle Time (min.) Before Engine Shutdown
Stop and Go	Empty	Cool	Less than One
Stop and Go	Medium	-	One
Highway Speeds	Medium	Warm	Two
City Traffic	Maximum GCWR	-	Three
Highway Speeds	Maximum GCWR	-	Four
Uphill Grade	Maximum GCWR	Hot	Five

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**Idle Shutdown**

This feature can be enabled so that the truck will automatically shutdown when the truck has been idling for a set period of time when the engine is at operating temperature. Idle time can be set in 5 minute increments between 5 and 60 minutes. See your local authorized dealer to enable this feature.

**NOTE:** The idle shut down timer is disabled while the PTO is active.

**Programmable Maximum Vehicle Speed (Chassis Cab Only)**

This feature allows the owner to set a maximum vehicle speed for the vehicle. The 3500 Series maximum vehicle speed can be set between 40 mph (64 km/h) and 87 mph (140 km/h). The 4500/5500 Series maximum vehicle speed can be set between 40 mph (64 km/h) and 85 mph (136 km/h). See your local authorized dealer to enable this feature.

**NOTE:** DO NOT set the maximum vehicle speed to a value greater than what the vehicle tires are rated for.

**Operating Precautions**

**Avoid Overheating The Engine**

The temperature of the engine coolant (antifreeze) (a mixture of 50% ethylene-glycol and 50% water) must not exceed the normal range of the temperature gauge 240°F (116°C) with a 21 psi (145 kPa) coolant pressure cap.

Usually the engine coolant (antifreeze) temperature indicated during operation will be to the left of center in the normal range of the gauge.

**Avoid Low Coolant Temperature Operation**

Continual operation at low engine coolant (antifreeze) temperature below the normal range on the gauge 140°F (60°C) can be harmful to the engine. Low engine coolant (antifreeze) temperature can cause incomplete combustion which allows carbon and varnish to form on piston rings and injector nozzles. Also, the unburned fuel can enter the crankcase, diluting the lubricating oil and causing rapid wear to the engine.

**Cooling System Tips — Automatic Transmission**

To reduce potential for engine and transmission overheating in high ambient temperature conditions, take the following actions:

- **City Driving** —  
When stopped, shift the transmission into NEUTRAL and increase engine idle speed.
- **Highway Driving** —  
Reduce your speed.
- **Up Steep Hills** —  
Select a lower transmission gear.
- **Air Conditioning** —  
Turn it off temporarily.

**Do Not Operate The Engine With Low Oil Pressure**

When the engine is at normal operating temperature, the minimum oil pressures required are:

Idle 700 to 800 RPM	10 psi (69 kPa)
Full speed and load	30 psi (207 kPa)

<b>CAUTION!</b>
<b>If oil pressure falls to less than normal readings, shut the engine off immediately. Failure to do so could result in immediate and severe engine damage.</b>

**Do Not Operate The Engine With Failed Parts**

All engine failures give some warning before the parts fail. Be on the alert for changes in performance, sounds, and visual evidence that the engine requires service. Some important clues are:

- Engine misfiring or vibrating severely.
- Sudden loss of power.
- Unusual engine noises.
- Fuel, oil or coolant leaks.
- Sudden change, outside the normal operating range, in the engine operating temperature.
- Excessive smoke.
- Oil pressure drop.

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**ENGINE BLOCK HEATER — IF EQUIPPED**

The engine block heater warms engine coolant and permits quicker starts in cold weather. Connect the heater cord to a ground-fault interrupter protected 110–115 Volt AC electrical outlet with a grounded, three-wire extension cord.

The engine block heater cord is routed under the hood to the right side and can be located just behind the grille near the headlamp.

**NOTE:** The engine block heater cord is a factory installed option. If your vehicle is not equipped, heater cords are available from your authorized Mopar dealer.

The block heater must be plugged in at least one hour to have an adequate warming effect on the coolant.

**WARNING!**

**Remember to disconnect the cord before driving. Damage to the 110–115 Volt electrical cord could cause electrocution.**

**NOTE:** The block heater will require 110 Volts AC and 6.5 Amps to activate the heater element.

**Block Heater Usage**

For ambient temperatures below 0°F (-18°C), engine block heater usage is recommended.

For ambient temperatures below -20°F (-29°C), engine block heater usage is required.

**DIESEL EXHAUST BRAKE (ENGINE BRAKING)**

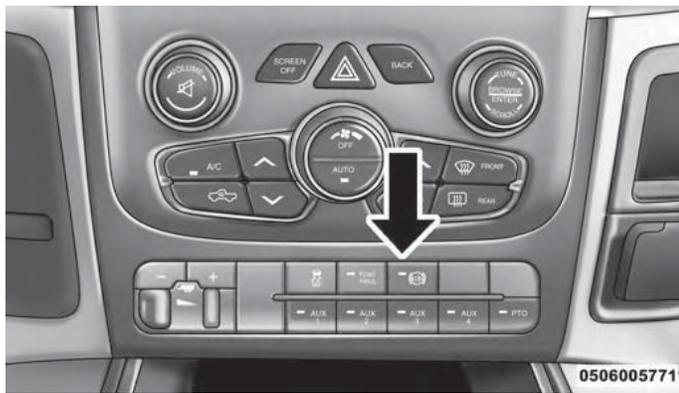
The purpose of the exhaust brake (engine braking) feature is to supply negative (braking) torque from the engine. Typically, the engine braking is used for, but not limited to, vehicle towing applications where vehicle braking can be achieved by the internal engine power, thereby sparing the mechanical brakes of the vehicle.

Benefits of the exhaust brake are:

- Vehicle driving control.
- Reduced brake fade.
- Longer brake life.
- Faster cab warm-up.

The exhaust brake feature will only function when the driver toggles it on by pushing the exhaust brake button

until the "Exhaust Brake Indicator" is illuminated. Normal (Full Strength) exhaust brake mode is indicated by a yellow "Exhaust Brake Indicator".



**Exhaust Brake Switch**

Once the "Exhaust Brake Indicator" is illuminated and the vehicle is moving faster than 5 mph (8 km/h); the exhaust brake will automatically operate when the driver removes pressure from the accelerator pedal. Exhaust braking is most effective when the engine RPM is higher. The automatic transmission will downshift more aggressively in TOW/HAUL mode when the exhaust brake is enabled to increase brake performance.

**WARNING!**

Do not use the exhaust brake feature when driving in icy or slippery conditions as the increased engine braking can cause the rear wheels to slide and the vehicle to swing around with the possible loss of vehicle control, which may cause an accident possibly resulting in personal injury or death.

**CAUTION!**

Use of aftermarket exhaust brakes is not recommended and could lead to engine damage

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**NOTE:** For optimum braking power it is recommended to use the exhaust brake while in TOW/HAUL mode.

The exhaust brake feature can also be used to reduce the engine warm up time. To use the exhaust brake as a warm-up device, the vehicle must be stopped or moving less than 5 mph (8 km/h), the "Exhaust Brake Indicator" must be on, and the coolant temperature must be below 180°F (82°C) and ambient temperature below 60°F (16°C).

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**Automatic Smart Exhaust Brake (Auto)**

Automatic Exhaust Brake technology delivers smoother, less aggressive exhaust braking characteristics during downhill descents. Although it can apply full exhaust braking force if needed, Automatic Exhaust Brake may not apply obvious braking if the vehicle speed is not increasing. Automatic Exhaust Brake is intended to maintain vehicle speed, while Full Exhaust Brake is intended to reduce vehicle speed.

Automatic Exhaust Brake can be enabled by pushing the exhaust brake button again anytime after the normal Full Exhaust Brake has been turned on. The "Exhaust Brake Indicator" in the instrument cluster display will change from Yellow to Green when Automatic Exhaust Brake is enabled. Pushing the exhaust brake button again will toggle the exhaust brake mode to off.

**AUTOMATIC TRANSMISSION — IF EQUIPPED**

**WARNING!**

- It is dangerous to shift out of PARK or NEUTRAL if the engine speed is higher than idle speed. If your foot is not firmly pressing the brake pedal, the vehicle could accelerate quickly forward or in reverse. You could lose control of the vehicle and hit someone or something. Only shift into gear when the engine is idling normally and your foot is firmly pressing the brake pedal.
- Unintended movement of a vehicle could injure those in or near the vehicle. As with all vehicles, you should never exit a vehicle while the engine is running. Before exiting a vehicle, always apply the parking brake, shift the transmission into PARK, turn the engine OFF, and remove the key fob. When the ignition is in the LOCK/OFF (key removal) position, (or, with Keyless Enter-N-Go, when the ignition is in the OFF mode) the transmission is locked in PARK, securing the vehicle against unwanted movement.

*(Continued)*

**WARNING! (Continued)**

- When leaving the vehicle, always make sure the ignition is in the OFF mode, remove the key fob from the vehicle, and lock the vehicle.
- Never use the PARK position as a substitute for the parking brake. Always apply the parking brake fully when exiting the vehicle to guard against vehicle movement and possible injury or damage.
- Your vehicle could move and injure you and others if it is not in PARK. Check by trying to move the gear selector out of PARK with the brake pedal released. Make sure the transmission is in PARK before leaving the vehicle.
- Never leave children alone in a vehicle, or with access to an unlocked vehicle. Allowing children to be in a vehicle unattended is dangerous for a number of reasons. A child or others could be seriously or fatally injured. Children should be warned not to touch the parking brake, brake pedal or the transmission gear selector.

(Continued)

**WARNING! (Continued)**

- Do not leave the key fob in or near the vehicle (or in a location accessible to children), and do not leave the ignition (in a vehicle equipped with Keyless Enter-N-Go) in the ACC or ON/RUN mode. A child could operate power windows, other controls, or move the vehicle.

**CAUTION!**

- Damage to the transmission may occur if the following precautions are not observed:
- Shift into or out of PARK or REVERSE only after the vehicle has come to a complete stop.
  - Do not shift between PARK, REVERSE, NEUTRAL, or DRIVE when the engine is above idle speed.
  - Before shifting into any gear, make sure your foot is firmly pressing the brake pedal.

NOTE: You must press and hold the brake pedal while shifting out of PARK.

**148 STARTING AND OPERATING****Key Ignition Park Interlock**

This vehicle is equipped with a Key Ignition Park Interlock which requires the transmission to be in PARK before the ignition can be turned to the LOCK/OFF (key removal) position. The key fob can only be removed from the ignition when the ignition is in the LOCK/OFF position, and the transmission is locked in PARK whenever the ignition is in the LOCK/OFF position.

**Brake/Transmission Shift Interlock System**

This vehicle is equipped with a Brake Transmission Shift Interlock System (BTSI) that holds the transmission gear selector in PARK unless the brakes are applied. To shift the transmission out of PARK, the ignition must be turned to the ON/RUN mode (engine running or not) and the brake pedal must be pressed.

**Six-Speed Automatic Transmission — If Equipped**

Chassis Cab models (with automatic transmission) use the AS69RC transmission (which is equipped with a Power Take-Off [PTO] access cover on the side of the transmission case). Pickup models may use either the AS69RC transmission, or the 68RFE transmission (which has no PTO access cover).

The transmission gear position display (located in the instrument cluster) indicates the transmission gear range. The gear selector is mounted on the right side of the steering column. You must press the brake pedal to move the gear selector out of PARK (refer to "Brake/Transmission Shift Interlock System" in this section). To drive, move the gear selector from PARK or NEUTRAL to the DRIVE position. Pull the gear selector toward you when shifting into REVERSE or PARK, or when shifting out of PARK.

The electronically-controlled transmission provides a precise shift schedule. The transmission electronics are self-calibrating; therefore, the first few shifts on a new vehicle may be somewhat abrupt. This is a normal condition, and precision shifts will develop within a few hundred miles (kilometers).

Only shift from DRIVE to PARK or REVERSE when the accelerator pedal is released and the vehicle is stopped. Be sure to keep your foot on the brake pedal when shifting between these gears.

The transmission gear selector has only PARK, REVERSE, NEUTRAL, and DRIVE shift positions. Manual downshifts can be made using the Electronic Range Select (ERS) shift control (refer to "Electronic Range Select (ERS) Operation"

in this section for further information). Pressing the ERS (-/+ ) switches (on the gear selector) while in the DRIVE position will select the highest available transmission gear, and will display that gear limit in the instrument cluster as 1, 2, 3, etc. Some models will display both the selected gear limit, and the actual current gear, while in ERS mode.

**Gear Ranges**

DO NOT race the engine when shifting from PARK or NEUTRAL into another gear range.

**NOTE:** After selecting any gear range, wait a moment to allow the selected gear to engage before accelerating. This is especially important when the engine is cold.

**PARK (P)**

This range supplements the parking brake by locking the transmission. The engine can be started in this range. Never attempt to use PARK while the vehicle is in motion. Apply the parking brake when leaving the vehicle in this range.

When parking on a level surface, you may shift the transmission into PARK first, and then apply the parking brake.

When parking on a hill, apply the parking brake before shifting the transmission to PARK, otherwise the load on the transmission locking mechanism may make it difficult to move the gear selector out of PARK. As an added precaution, turn the front wheels toward the curb on a downhill grade and away from the curb on an uphill grade.

When exiting the vehicle, always:

- Apply the parking brake.
- Shift the transmission into PARK.
- Turn the engine OFF.
- Remove the key fob.

**NOTE:** On four-wheel drive vehicles be sure that the transfer case is in a drive position.

**WARNING!**

- Never use the PARK position as a substitute for the parking brake. Always apply the parking brake fully when exiting the vehicle to guard against vehicle movement and possible injury or damage.

*(Continued)*

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**WARNING! (Continued)**

- Your vehicle could move and injure you and others if it is not in PARK. Check by trying to move the gear selector out of PARK with the brake pedal released. Make sure the transmission is in PARK before leaving the vehicle.
- It is dangerous to shift out of PARK or NEUTRAL if the engine speed is higher than idle speed. If your foot is not firmly pressing the brake pedal, the vehicle could accelerate quickly forward or in reverse. You could lose control of the vehicle and hit someone or something. Only shift into gear when the engine is idling normally and your foot is firmly pressing the brake pedal.

*(Continued)*

**WARNING! (Continued)**

- Unintended movement of a vehicle could injure those in or near the vehicle. As with all vehicles, you should never exit a vehicle while the engine is running. Before exiting a vehicle, always apply the parking brake, shift the transmission into PARK, turn the engine OFF, and remove the key fob. When the ignition is in the LOCK/OFF (key removal) position (or, with Keyless Enter-N-Go, when the ignition is in the OFF mode), the transmission is locked in PARK, securing the vehicle against unwanted movement.
- When leaving the vehicle, always make sure the ignition is in the OFF mode, remove the key fob from the vehicle, and lock the vehicle.
- Never leave children alone in a vehicle, or with access to an unlocked vehicle. Allowing children to be in a vehicle unattended is dangerous for a number of reasons. A child or others could be seriously or fatally injured. Children should be warned not to touch the parking brake, brake pedal or the transmission gear selector.

*(Continued)*

**WARNING! (Continued)**

- Do not leave the key fob in or near the vehicle (or in a location accessible to children), and do not leave the ignition (in a vehicle equipped with Keyless Enter-N-Go) in the ACC or ON/RUN mode. A child could operate power windows, other controls, or move the vehicle.

**CAUTION!**

- Before moving the transmission gear selector out of PARK, you must turn the ignition to the ON/RUN mode, and also press the brake pedal. Otherwise, damage to the gear selector could result.
- DO NOT race the engine when shifting from PARK or NEUTRAL into another gear range, as this can damage the drivetrain.

The following indicators should be used to ensure that you have engaged the transmission into the PARK position:

- When shifting into PARK, pull the gear selector toward you and move it all the way counterclockwise until it stops.
- Release the gear selector and make sure it is fully seated in the PARK gate.
- Look at the transmission gear position display and verify that it indicates the PARK position (P).
- With brake pedal released, verify that the gear selector will not move out of PARK.

**REVERSE (R)**

This range is for moving the vehicle backward. Shift into REVERSE only after the vehicle has come to a complete stop.

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NEUTRAL (N)

Use this range when the vehicle is standing for prolonged periods with the engine running. The engine may be started in this range. Apply the parking brake and shift the transmission into PARK if you must leave the vehicle.

**WARNING!**  
Do not coast in NEUTRAL and never turn off the ignition to coast down a hill. These are unsafe practices that limit your response to changing traffic or road conditions. You might lose control of the vehicle and have a collision.

**CAUTION!**  
Towing the vehicle, coasting, or driving for any other reason with the transmission in NEUTRAL can cause severe transmission damage. Refer to "Recreational Towing" in "Starting And Operating" and "Towing A Disabled Vehicle" in "What To Do In Emergencies" for further information.

DRIVE (D)

This range should be used for most city and highway driving. It provides the smoothest upshifts and downshifts, and the best fuel economy. The transmission automatically upshifts through underdrive first, second, and third gears, direct fourth gear and overdrive fifth and sixth gears. The DRIVE position provides optimum driving characteristics under all normal operating conditions.

When frequent transmission shifting occurs (such as when operating the vehicle under heavy loading conditions, in hilly terrain, traveling into strong head winds, or while towing a heavy trailer), use the Electronic Range Select (ERS) shift control (refer to "Electronic Range Select (ERS) Operation" in this section for further information) to select a lower gear range. Under these conditions, using a lower gear range will improve performance and extend transmission life by reducing excessive shifting and heat buildup.

If the transmission temperature exceeds normal operating limits, the powertrain controller will modify the transmission shift schedule and expand the range of torque converter clutch engagement. This is done to prevent transmission damage due to overheating.

If the transmission becomes extremely hot or is in danger of overheating, the "Transmission Temperature Warning Light" may illuminate and the transmission may operate differently until the transmission cools down.

**NOTE:** Use caution when operating a heavily loaded vehicle at low speeds (such as towing a trailer up a steep grade, or in stop-and-go traffic) during hot weather. In these conditions, torque converter slip can impose a significant additional heat load on the cooling system. Downshifting the transmission to the lowest possible gear (when climbing a grade), or shifting to NEUTRAL (when stopped in heavy traffic) can help to reduce this excess heat generation.

During cold temperatures, transmission operation may be modified depending on engine and transmission temperature as well as vehicle speed. This feature improves warm up time of the engine and transmission to achieve maximum efficiency. Engagement of the torque converter clutch is inhibited until the transmission fluid is warm (refer to the "Note" under "Torque Converter Clutch" in this section). On Pickup models with 68RFE transmission, top overdrive gear is also inhibited until the transmission fluid is warm, and during extremely cold temperatures (-16°F [-27°C] or below), operation may briefly be limited to first

and direct gears only. On trucks with AS69RC transmission, fifth and sixth gears may be inhibited briefly on cold starts below 41°F (5°C), and during very cold temperatures (-4°F [-20°C] or below), operation may briefly be limited to third gear only. During this condition, the ability of the vehicle to accelerate under heavily loaded conditions may be reduced. In all cases, normal operation will resume once the transmission temperature has risen to a suitable level.

#### Transmission Limp Home Mode

Transmission function is monitored electronically for abnormal conditions. If a condition is detected that could result in transmission damage, Transmission Limp Home Mode is activated. In this mode, the transmission remains in fourth gear (for 68RFE transmission) or third gear (for AS69RC transmission) regardless of which forward gear is selected. If an AS69RC-equipped truck enters Limp Home Mode at highway speeds, it will initially engage fifth gear, until the vehicle slows to a speed where third gear can be engaged. PARK, REVERSE, and NEUTRAL will continue to operate. The Malfunction Indicator Light (MIL) may be illuminated. Limp Home Mode allows the vehicle to be driven to an authorized dealer for service without damaging the transmission.

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In the event of a momentary problem, the transmission can be reset to regain all forward gears by performing the following steps:

1. Stop the vehicle.
2. Shift the transmission into PARK.
3. Turn the ignition to the OFF position.
4. Wait approximately 10 seconds.
5. Restart the engine.
6. Shift into the desired gear range. If the problem is no longer detected, the transmission will return to normal operation.

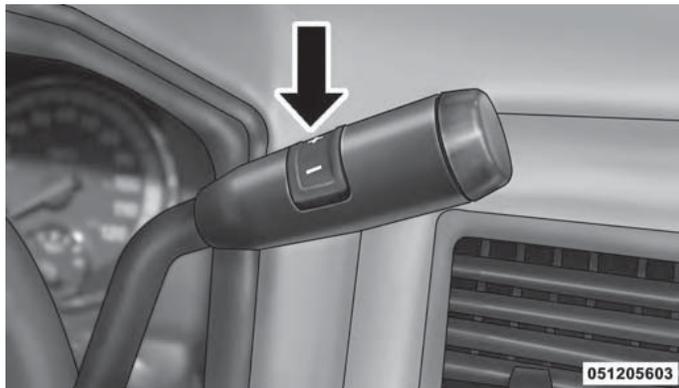
**NOTE:** Even if the transmission can be reset, we recommend that you visit your authorized dealer at your earliest possible convenience. Your authorized dealer has diagnostic equipment to determine if the problem could recur.

If the transmission cannot be reset, authorized dealer service is required.

### Electronic Range Select (ERS) Operation

The Electronic Range Select (ERS) shift control allows the driver to limit the highest available gear when the transmission is in DRIVE. For example, if you set the transmission gear limit to 4 (fourth gear), the transmission will not shift above fourth gear, but will shift through the lower gears normally.

You can switch between DRIVE and ERS mode at any vehicle speed. When the gear selector is in the DRIVE position, the transmission will operate automatically, shifting between all available gears. Tapping the ERS (-) switch will activate ERS mode, display the current gear in the instrument cluster, and set that gear as the top available gear. Once in ERS mode, tapping the ERS (-) or (+) switch will change the top available gear.



**Column Gear Selector**

To exit ERS mode, simply push and hold the ERS (+) switch until the gear limit display disappears from the instrument cluster.

**WARNING!**

Do not downshift for additional engine braking on a slippery surface. The drive wheels could lose their grip and the vehicle could skid, causing a collision or personal injury.

<b>Transmission Gear Limit Display</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>D</b>
<b>Actual Gear(s) Allowed</b>	1	1-2	1-3	1-4	1-5	1-6	1-6

**NOTE:** To select the proper gear position for maximum deceleration (engine braking), simply push and hold the ERS (-) switch. The transmission will shift to the range from which the vehicle can best be slowed down.

**CAUTION!**

When using ERS for engine braking while descending steep grades, be careful not to overspeed the engine. Apply the brakes as needed to prevent engine over-speed.

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**Overdrive Operation**

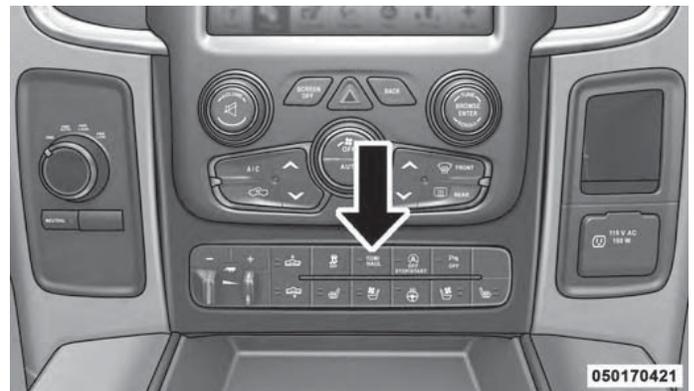
The automatic transmission includes an electronically controlled Overdrive (fifth and sixth gears). The transmission will automatically shift into Overdrive if the following conditions are present:

- The gear selector is in the DRIVE position.
- The transmission fluid has reached an adequate temperature.
- The engine coolant has reached an adequate temperature.
- The vehicle speed is sufficiently high.
- The driver is not heavily pressing the accelerator.

**When To Use TOW/HAUL Mode**

When driving in hilly areas, towing a trailer, carrying a heavy load, etc., and frequent transmission shifting occurs, push the TOW/HAUL switch to activate TOW/HAUL mode. This will improve performance and reduce the potential for transmission overheating or failure due to excessive shifting. When operating in TOW/HAUL mode, transmission upshifts are delayed, and the transmission

will automatically downshift (for engine braking) when the throttle is closed and/or during steady braking maneuvers.



**TOW/HAUL Switch**

The “TOW/HAUL Indicator Light” will illuminate in the instrument cluster to indicate that TOW/HAUL mode has been activated. Pushing the switch a second time restores normal operation. Normal operation is always the default at engine start-up. If TOW/HAUL mode is desired, the switch must be pushed each time the engine is started.

**WARNING!**

Do not use the "TOW/HAUL" feature when driving in icy or slippery conditions. The increased engine braking can cause the rear wheels to slide, and the vehicle to swing around with the possible loss of vehicle control, which may cause an accident possibly resulting in personal injury or death.

**Torque Converter Clutch**

A feature designed to improve fuel economy has been included in the automatic transmission on your vehicle. A clutch within the torque converter engages automatically at calibrated speeds. This may result in a slightly different feeling or response during normal operation in the upper gears. When the vehicle speed drops or during some accelerations, the clutch automatically disengages.

**NOTE:**

- The torque converter clutch will not engage (and 68RFE-equipped trucks will not shift to sixth gear), until the transmission fluid and engine coolant are warm [usually after 1 to 3 miles (2 to 5 km) of driving]. Because the engine speed is higher when the torque converter clutch is not engaged, it may seem as if the transmission is not shifting properly when cold. This is normal. Using the Electronic Range Select (ERS) shift control, when the transmission is sufficiently warm, will demonstrate that the transmission is able to shift into and out of Over-drive.
- If the vehicle has not been driven for several days, the first few seconds of operation after shifting the transmission into gear may seem sluggish. This is due to the fluid partially draining from the torque converter into the transmission. This condition is normal and will not cause damage to the transmission. The torque converter will refill within five seconds after starting the engine.

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MANUAL TRANSMISSION — IF EQUIPPED

**WARNING!**

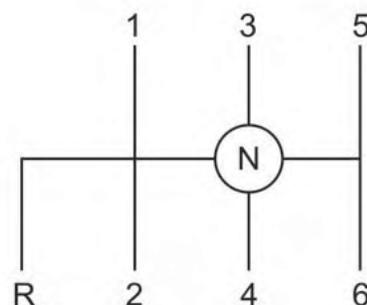
You or others could be injured if you leave the vehicle unattended without having the parking brake fully applied. The parking brake should always be applied when the driver is not in the vehicle, especially on an incline.

**CAUTION!**

Never drive with your foot resting on the clutch pedal, or attempt to hold the vehicle on a hill with the clutch pedal partially engaged, as this will cause abnormal wear on the clutch.

**NOTE:** During cold weather, you may experience increased effort in shifting until the transmission fluid warms up. This is normal.

Shifting



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**Shift Pattern**

Truck models with manual transmission are equipped with a clutch interlocking ignition system. The clutch pedal must be fully pressed to start the vehicle.

Fully press the clutch pedal before shifting gears. As you release the clutch pedal, lightly press the accelerator pedal.

This transmission has a “creeper” first gear which should be used to start from a standing position when carrying a payload or towing a trailer. Damage to the clutch can result from starting in second or third gear with a loaded vehicle.

An unloaded vehicle may be launched in second gear. Use each gear in numerical order – do not skip a gear.

**NOTE:** When loaded, pulling a trailer or on a grade, the truck should always start in first gear and not skip gears.

**Recommended Vehicle Shift Speeds**

To utilize your manual transmission efficiently for both fuel economy and performance, it should be upshifted as listed in recommended shift speed chart. Shift at the vehicle speeds listed for acceleration. When heavily loaded or pulling a trailer these recommended up-shift speeds may not apply.

**Maximum Recommended Up-Shift Speeds**

Gear Selection	1 to 2	2 to 3	3 to 4	4 to 5	5 to 6
Maximum Speed	7 mph (11 km/h)	15 mph (24 km/h)	25 mph (40 km/h)	40 mph (64 km/h)	45 mph (72 km/h)

5

**Downshifting**

Moving from a high gear down to a lower gear is recommended to preserve brakes when driving down steep hills. In addition, downshifting at the right time provides better acceleration when you desire to resume speed. Downshift progressively. Do not skip gears to avoid overspeeding the engine and clutch.

**WARNING!**

**Do not downshift for additional engine braking on a slippery surface. The drive wheels could lose their grip and the vehicle could skid.**

**CAUTION!**

**When descending a hill, be very careful to downshift one gear at a time to prevent overspeeding the engine which can cause valve damage, and/or clutch disc damage even if the clutch pedal is pressed.**

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Maximum Recommended Downshift Speeds

<b>CAUTION!</b>
Failure to follow the recommended downshifting speeds may cause the engine to overspeed and/or damage the clutch disc even if the clutch pedal is pressed.

Maximum Recommended Downshifting Speeds

Gear Selection	6 to 5	5 to 4	4 to 3	3 to 2	2 to 1
Maximum Speed	68 mph (109 km/h)	50 mph (80 km/h)	32 mph (51 km/h)	19 mph (31 km/h)	10 mph (16 km/h)

<b>CAUTION!</b>
If you skip a gear while downshifting or downshift at too high of a vehicle speed, these conditions may cause the engine to overspeed if too low of a gear is selected and the clutch pedal is released. Damage to the clutch and the transmission can result from skipping a gear while downshifting or downshifting at too high of a vehicle speed even if the clutch pedal is held pressed (i.e., not released).

**Reverse Shifting**

To shift into REVERSE (R), bring the vehicle to a complete stop. Press the clutch and pause briefly to allow the gear train to stop rotating. Beginning from the NEUTRAL (N) position, move the gear selector in one quick smooth motion straight across and into the REVERSE (R) area (the driver will feel a firm “click” as the shifter passes the “knock-over”). Complete the shift by pulling the gear selector into REVERSE (R).

The “knock-over” prevents the driver from accidentally entering the REVERSE (R) shift area and warns the driver that they are about to shift the transmission into REVERSE (R). Due to this feature, a slow shift to REVERSE (R) can be perceived as a high shift effort.

To shift out of REVERSE bring the vehicle to a complete stop and press the clutch. Shifting out of REVERSE prior to a complete stop may cause high shift effort.

**AUXILIARY SWITCHES — IF EQUIPPED**

There can be up to five auxiliary switches located in the lower switch bank of the instrument panel which can be used to power various electronic devices and PTO (Power Take Off) – If Equipped. If Power Take Off is equipped, it

will take the place of the fifth Auxiliary switch. Connections to the switches are found under the hood in the connectors attached to the auxiliary Power Distribution Center.

You have the ability to configure the functionality of the auxiliary switches via the instrument cluster display. All switches can now be configured for setting the switch type operation to latching or momentary, power source of either battery or ignition, and ability to hold last state across key cycles.

**NOTE:** Holding last state conditions are met when switch type is set to latching and power source is set to ignition.

For further information on using the auxiliary switches, please refer to the Ram Body Builders Guide by accessing [www.rambodybuilder.com](http://www.rambodybuilder.com) and choosing the appropriate links.

**POWER TAKE OFF OPERATION — IF EQUIPPED (CHASSIS CAB ONLY)**

This vehicle when equipped with PTO Prep and either the AS69RC automatic six-speed or G-56 manual six-speed transmissions, will allow for an aftermarket upfit with a transmission driven PTO (power take off). The customer will have the ability to operate the PTO in either a

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“stationary” or “mobile” mode. The vehicles will be factory set to the “stationary” mode. To select ‘mobile mode’ You will need to enter the commercial vehicle menu on the instrument cluster display and select mobile PTO mode. Details of the PTO selection modes and further PTO information is available at the Ram Truck Bodybuilders web site. [rambodybuilder.com](http://rambodybuilder.com)

**AS69RC Six-Speed Automatic Transmission Only**

The PTO drive gear (part of the AS69RC) operates at torque converter turbine speed. The turbine speed will be less than engine speed when the torque converter clutch is not engaged and will be same as engine speed when the torque converter clutch is engaged.

**Stationary Mode**

To operate the PTO in this mode the vehicle must meet the following conditions:

- Transmission in PARK position (vehicles equipped with automatic transmission.)
- PTO switch has been activated.
- Parking brake applied (vehicles equipped with manual transmission).
- Brake pedal must not be applied.

- Vehicle engine must be running.
- No vehicle, brake or clutch switch faults present.
- PTO must be correctly installed using the vehicle provided circuits.

The instrument cluster will display a “PTO On” message for five seconds if the above conditions are met. Otherwise, the instrument cluster will display a message “To Operate PTO Shift To Park” indicating what operator action should be taken to engage the PTO mode.

The customer has the choice to operate the PTO by utilizing the cruise control switches or by utilizing a remote control (provided by the PTO supplier). To operate the feature using the cruise control switches, the customer must first activate the PTO switch which will turn on the PTO. In order to increase or decrease the engine idle speed, to optimize the PTO function, the “RESUME/ACCEL” and “DECEL” cruise switches can be used respectively. To disengage PTO operation and return to “standard vehicle operation” simply toggle the PTO switch to the OFF position.

The torque converter clutch (TCC) will automatically engage at engine speeds above 1,200 RPM (engine speed) in PTO stationary mode. Once engaged, the TCC will remain applied and will not disengage until the engine speed falls below

1,000 RPM. TCC engagement is desirable for certain types of PTO applications (Automatic Transmission Only).

To operate the PTO via a remote switch, the customer must make sure the above conditions are met. It is vital for proper operation that the PTO and remote have been installed correctly, paying special attention to ensure the vehicle provided wiring has been connected properly. This is the responsibility of the installer of the PTO and switches/remote system. It is the responsibility of the PTO manufacturer to ensure that their electrical (switches and remote) system is compatible with the vehicle's electrical architecture and software functionality.

**NOTE:** Single set speed can be programmed via the PTO menu on the instrument cluster display. Further details are available at the Ram Truck Bodybuilders web site located at [rambodybuilder.com](http://rambodybuilder.com)

### Mobile Mode

To operate the PTO in this mode the vehicle must meet the following conditions:

- Mobile mode is activated via the menu on the instrument cluster display.
- (ON/OFF) switch has been activated.

- Vehicles with automatic transmission must be in PARK or DRIVE.
- Parking brake must not be applied.
- Brake pedal must not be applied.
- No vehicle, brake or clutch switch faults present.
- Vehicle engine must be running.
- PTO must be correctly installed using the vehicle provided circuits.

The customer may choose to use the PTO while the vehicle is moving. To do so, the PTO function must be activated prior to taking the vehicle out of PARK. This is accomplished by activating the upfitter-provided PTO on/off switch. At this point, the customer may place the vehicle in a forward or reverse gear and have PTO operation once the vehicle begins to move. To disengage PTO operation and return to "standard vehicle operation" simply toggle the on/off switch to the OFF position.

**NOTE:** For application specific information with respect to PTO and pump requirements and additional vehicle information (wiring schematics, preset idle values, engine speed limits, and vehicle hardware and software requirements)

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please refer to the Body Builders Guide by accessing [ram-bodybuilder.com](http://ram-bodybuilder.com) and choosing the appropriate links.

**ENGINE RUNAWAY**

Diesel engine runaway is a rare condition affecting diesel engines, where the engine consumes its own lubrication oil and runs at higher and higher RPM until it overspeeds to a point where it destroys itself due to either mechanical failure or engine seizure through lack of lubrication.

<b>WARNING!</b>
<p>In case of engine runaway due to flammable fumes from fuel spills or turbocharger oil leaks being sucked into the engine, do the following to help avoid personal injury and/or vehicle damage:</p> <ol style="list-style-type: none"><li>1. Turn the ignition switch to the OFF position.</li><li>2. Using a CO2 or dry chemical type fire extinguisher, direct the spray from the fire extinguisher into the grille on the passenger side so that the spray enters the engine air intake.</li></ol> <p>The inlet for the engine air intake is located behind the passenger side headlamp and receives air through the grille.</p>

**FUEL REQUIREMENTS**

Use good quality diesel fuel from a reputable supplier in your vehicle. Federal law requires that you must fuel this vehicle with Ultra Low Sulfur Highway Diesel fuel (15 ppm Sulfur maximum) and prohibits the use of Low Sulfur Highway Diesel fuel (500 ppm Sulfur maximum) to avoid damage to the emissions control system.

For most year-round service, No. 2 diesel fuel meeting ASTM (formerly known as the American Society for Testing and Materials) specification D-975 Grade S15 will provide good performance. If the vehicle is exposed to extreme cold (below 20°F or -7°C), or is required to operate at colder-than-normal conditions for prolonged periods, use climatized No. 2 diesel fuel or dilute the No. 2 diesel fuel with 50% No. 1 diesel fuel. This will provide better protection from fuel gelling or wax-plugging of the fuel filters.

<b>WARNING!</b>
<p>Do not use alcohol or gasoline as a fuel blending agent. They can be unstable under certain conditions and hazardous or explosive when mixed with diesel fuel.</p>

Diesel fuel is seldom completely free of water. To prevent fuel system trouble, drain the accumulated water from the fuel/water separator using the fuel/water separator drain provided on both fuel filters. If you buy good quality fuel and follow the cold weather advice above, fuel conditioners should not be required in your vehicle. If available in your area, a high cetane "premium" diesel fuel may offer improved cold-starting and warm-up performance.

### CAUTION!

**If the "Water in Fuel Indicator Light" remains on, DO NOT START engine before you drain the water from the fuel filter(s) to avoid engine damage. Refer to "Maintenance Procedures/Draining Fuel/Water Separator Filter" in "Maintaining Your Vehicle" for further information.**

### Fuel Specifications

The Cummins diesel engine has been developed to take advantage of the high energy content and generally lower cost No. 2 Ultra Low Sulfur diesel fuel or No. 2 Ultra Low Sulfur climatized diesel fuels. Experience has shown that it also operates on No. 1 Ultra Low Sulfur diesel fuels or other fuels within specification.

### NOTE:

- If you accidentally fill the fuel tank with gasoline on your diesel vehicle, Do not start the vehicle. If you restart your vehicle you risk damaging the engine and fuel system. Please call your local dealer for service.
- A maximum blend of 5% biodiesel meeting ASTM specification D-975 may be used with your Cummins diesel engine. (Chassis Cab models not configured with B20 capability.)
- A maximum blend of 20% biodiesel meeting ASTM specification D-7467 may be used with your Cummins diesel engine. (Pickup models and Chassis Cab models configured with B20 Capability.)
- In addition, commercially available fuel additives are not necessary for the proper operation of your Cummins diesel engine. However, if seasonably adjusted fuel is not available and you are operating below 20°F (-6°C), Mopar Premium Diesel Fuel Treatment (or equivalent) may be beneficial to avoid fuel gelling.
- No. 1 Ultra Low Sulfur diesel fuel should only be used where extended arctic conditions (-10°F or -23°C) exist.

## Bio-Diesel Fuel Requirements

### Chassis Cab Models

A maximum blend of 5% biodiesel meeting ASTM specification D975 may be used with your Cummins diesel engine. If operation with biodiesel blends greater than 5% but not greater than 20% (B6-B20) is desired, the truck must first be reconfigured by an authorized Ram dealer and the provisions in the following section must be adhered to.

### Pickup Models And Chassis Cab Models Ordered With B20 Option

Your vehicle has been validated and approved for the use of biodiesel in blends up to 20% (B20) provided that you comply with the requirements outlined below. It is important that you understand and comply with these requirements. Failure to comply with Oil Change requirements for vehicles operating on biodiesel blends up to B20 will result in premature engine wear. Such wear is not covered by the New Vehicle Limited Warranty.

Biodiesel is a fuel produced from renewable resources typically derived from animal fat, rapeseed oil (Rapeseed Methyl Ester (RME) base), or soybean oil (Soy Methyl Ester (SME or SOME) base). Biodiesel fuel has inherent limitations which require that you understand and adhere to the

following requirements if you use blends of biodiesel greater than 5% but not greater than 20% (B6-B20). There are no unique restrictions for the use of B5. Use of blends greater than 20% is not approved. Use of blends greater than 20% can result in engine damage. Such damage is not covered by the New Vehicle Limited Warranty.

### Fuel Quality — Must Comply With ASTM Standards

The quality of biodiesel fuel may vary widely. Only fuel produced by a BQ9000 supplier to the following specifications may be blended to meet biodiesel blend (B6-B20) fuel meeting ASTM specification D-7467:

- Pretrodiesel fuel meeting ASTM specification D-975 and biodiesel fuel (B100) meeting ASTM specification D-6751.

### Fuel Oxidation Stability — Must Use Fuel Within Six Months Of Manufacture

Biodiesel fuel has poor oxidation stability which can result in long term storage problems. Fuel produced to approved ASTM standards, if stored properly, provides for protection against fuel oxidation for up to six months.

**Fuel Water Separation — Must Use Mopar/Cummins Approved Fuel Filter Elements**

You must use Mopar/Cummins approved fuel filter elements in both your engine mounted filter and frame mounted filter.

Biodiesel fuel has a natural affinity to water and water accelerates microbial growth. Your Mopar/Cummins filtration system is designed to provide adequate fuel water separation capabilities.

**Bio-Diesel Fuel Properties — Low Ambient Temperatures**

Biodiesel fuel may gel or solidify at low ambient temperatures, which may pose problems for both storage and operation. Precautions can be necessary at low ambient temperatures, such as storing the fuel in a heated building or a heated storage tank, or using cold temperature additives.

**Fuel In Oil Dilution — Must Adhere To Required Oil Change Interval**

Fuel dilution of lubricating oil has been observed with the use of biodiesel fuel. Fuel in oil must not exceed 5%. To ensure this limit is met your oil change interval must be maintained to the following schedule:

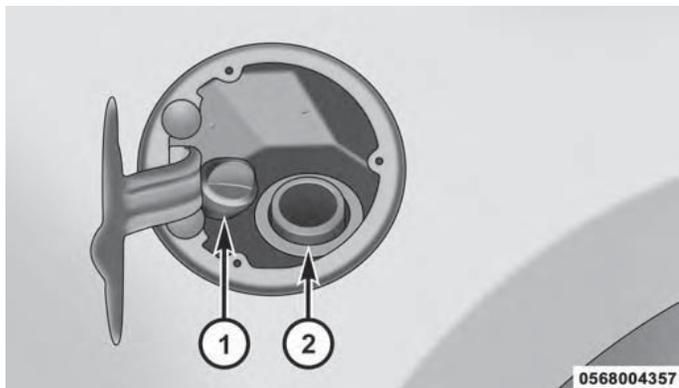
- Ram PickUp 2500/3500 Only — 15,000 Miles\*
  - Ram 3500/4500/5500 Chassis Cab — 12,500 Miles\*
- (\*unless otherwise notified with a oil service message)

<b>CAUTION!</b>
<ul style="list-style-type: none"> <li>• Under no circumstances should oil change intervals exceed 15,000 miles (24 000 km) pickup or 12,500 miles (20 000 km) chassis cab if operation occurs with greater than 5% biodiesel blends. Oil change intervals should not exceed 6 months in either case. Failure to comply with these Oil Change requirements for vehicles operating on biodiesel blends up to B20 may result in premature engine wear. Such wear is not covered by the New Vehicle Limited Warranty.</li> <li>• B20 Biodiesel capable: The engine may suffer severe damage if operated with concentrations of Biodiesel higher than 20%.</li> </ul>

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**ADDING FUEL — 2500/3500 DIESEL MODELS**

1. Open the fuel filler door.



**Diesel Fuel And Diesel Exhaust Fluid Fill Location**

- 1 — Diesel Exhaust Fluid Fill Location
- 2 — Diesel Fuel Fill Location

**NOTE:** There is no fuel filler cap. A flapper door inside the filler pipe seals the system.

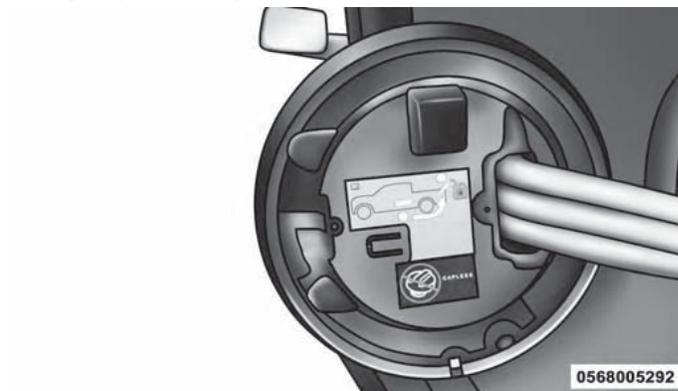
2. Insert the fuel nozzle fully into the filler pipe – the nozzle opens and holds the flapper door while refueling.
3. Fill the vehicle with fuel – when the fuel nozzle “clicks” or shuts off the fuel tank is full.

4. Remove the fuel nozzle and close the fuel door.

**Emergency Fuel Can Refueling**

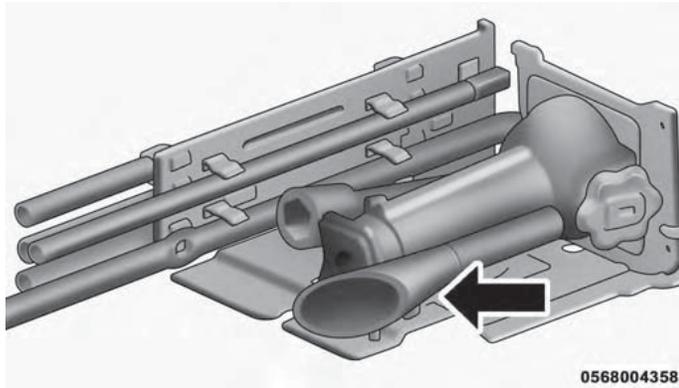
Most fuel cans will not open the flapper door.

A funnel is provided to open the flapper door to allow emergency refueling with a fuel can.



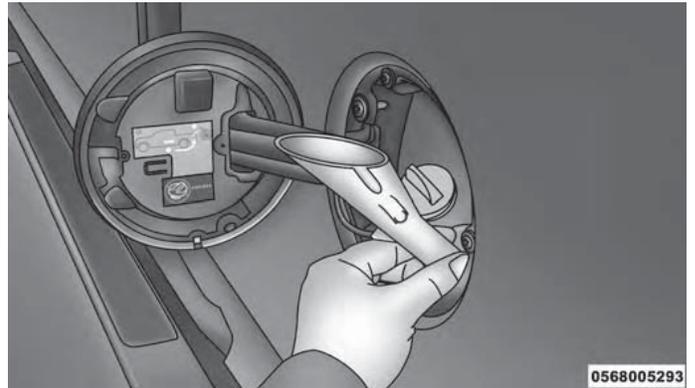
**Diesel Fuel And DEF Fluid Filler Door**

1. Retrieve fuel funnel from the jack kit located under the front passenger seat.



Fuel Fill Funnel Location 2500/3500 Models

2. Insert funnel into same filler pipe opening as the fuel nozzle.



Emergency Fuel Fill Location

**NOTE:** Ensure funnel is inserted fully to hold flapper door open.

3. Pour fuel into funnel opening.
4. Remove funnel from filler pipe, clean off prior to putting back in the jack kit.

**CAUTION!**

To avoid fuel spillage and overfilling, do not "top off" the fuel tank after filling.

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**WARNING!**

- Never have any smoking materials lit in or near the vehicle when the fuel door is open or the tank is being filled.
- Never add fuel when the engine is running. This is in violation of most state and federal fire regulations and may cause the "Malfunction Indicator Light" to turn on.
- A fire may result if fuel is pumped into a portable container that is inside of a vehicle. You could be burned. Always place fuel containers on the ground while filling.

**ADDING FUEL — CHASSIS CAB MODELS**

**CAUTION!**

To avoid fuel spillage and overfilling, do not "top off" the fuel tank after filling.

**NOTE:**

- When the fuel nozzle "clicks" or shuts off, the fuel tank is full.

- Tighten the fuel filler cap until you hear a "clicking" sound. This is an indication that the fuel filler cap is properly tightened.
- Make sure that the fuel filler cap is tightened each time the vehicle is refueled.

**WARNING!**

A fire may result if fuel is pumped into a portable container that is on a truck bed. You could be burned. Always place fuel containers on the ground while filling.

**Fuel Filler Cap**

If the fuel filler cap is lost or damaged, be sure the replacement cap is for use with this vehicle.

**CAUTION!**

Damage to the fuel system or emission control system could result from using an improper fuel tank filler tube cap. A poorly fitting cap could let impurities into the fuel system.

**WARNING!**

- Never have any smoking materials lit in or near the vehicle when the fuel filler cap is removed or the tank filled.
- Never add fuel to the vehicle when the engine is running.

**Avoid Using Contaminated Fuel**

Fuel that is contaminated by water or dirt can cause severe damage to the engine fuel system. Proper maintenance of the engine fuel filter and fuel tank is essential. Refer to "Maintenance Procedures" in "Maintaining Your Vehicle" for further information.

**Bulk Fuel Storage — Diesel Fuel**

If you store quantities of fuel, good maintenance of the stored fuel is also essential. Fuel contaminated with water will promote the growth of "microbes." These microbes form "slime" that will clog the fuel filtration system and lines. Drain condensation from the supply tank and change the line filter on a regular basis.

**NOTE:** When a diesel engine is allowed to run out of fuel, air is pulled into the fuel system.

If the vehicle will not start, refer to "Maintenance Procedures/Priming If The Engine Has Run Out Of Fuel" in "Maintaining Your Vehicle" for further information.

**WARNING!**

Do not open the high pressure fuel system with the engine running. Engine operation causes high fuel pressure. High pressure fuel spray can cause serious injury or death.

**Diesel Exhaust Fluid Storage**

Diesel Exhaust Fluid (DEF) is considered a very stable product with a long shelf life. If DEF is kept in temperatures between 10° and 90°F (-12° and 32°C), it will last a minimum of one year.

DEF is subject to freezing at the lowest temperatures. For example, DEF may freeze at temperatures at or below 12° F (-11° C). The system has been designed to operate in this environment.

**NOTE:** When working with DEF, it is important to know that:

- Any containers or parts that come into contact with DEF must be DEF compatible (plastic or stainless steel).

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Copper, brass, aluminum, iron or non-stainless steel should be avoided as they are subject to corrosion by DEF.

- If DEF is spilled, it should be wiped up completely.

**Adding Diesel Exhaust Fluid**

The DEF gauge (located on the instrument cluster) will display the level of DEF remaining in the tank. Refer to “Instrument Cluster” and “Instrument Cluster Descriptions” in “Understanding Your Instrument Panel” for further information.

**NOTE:**

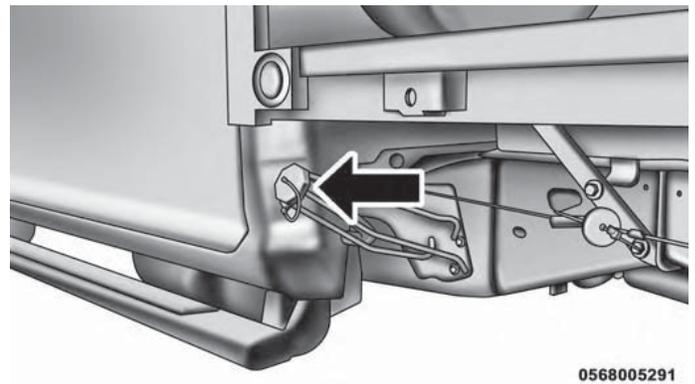
- Driving conditions (altitude, vehicle speed, load, etc.) will effect the amount of DEF that is used in your vehicle.
- Another factor is that outside temperature can affect DEF consumption. In cold conditions, 12° F (-11° C) and below, the DEF gauge needle can stay on a fixed position and may not move for extended periods of time. This is a normal function of the system.

- There is an electric heater inside the DEF tank that automatically works when necessary. And if the DEF supply does freeze, the truck will operate normally until it thaws.

**DEF Fill Procedure**

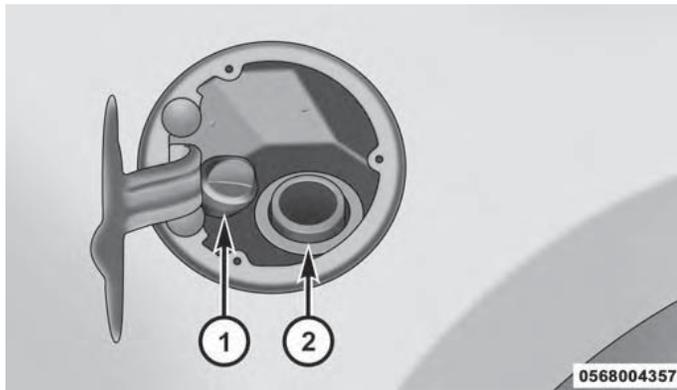
**NOTE:** Refer to “Fluids, Lubricants, and Genuine Parts” in “Maintaining Your Vehicle” for the correct fluid type.

1. Remove cap from DEF tank (located on drivers side of the vehicle or in fuel door).



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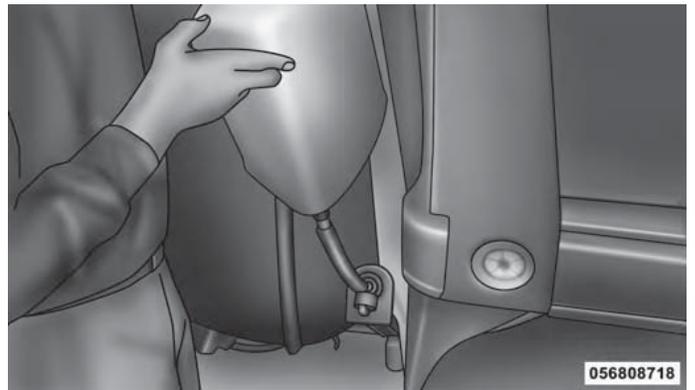
**DEF Filler Cap Chassis Cab Models**



DEF Filler Cap And Fuel Fill 1500/2500/3500 Models

- 1 — Diesel Exhaust Fluid Fill Location
- 2 — Diesel Fuel Fill Location

2. Insert DEF fill adapter/nozzle into DEF tank filler neck.



Filling The DEF Tank

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**CAUTION!**

- To avoid DEF spillage, and possible damage to the DEF tank from overfilling, do not "top off" the DEF tank after filling.
- **DO NOT OVERFILL.** DEF will freeze below 12°F (-11°C). The DEF system is designed to work in temperatures below the DEF freezing point, however, if the tank is overfilled and freezes, the system could be damaged.

*(Continued)*

**CAUTION! (Continued)**

- When DEF is spilled, clean the area immediately with water and use an absorbent material to soak up the spills on the ground.
- Do not attempt to start your engine if DEF is accidentally added to the diesel fuel tank as it can result in severe damage to your engine, including but not limited to failure of the fuel pump and injectors.
- Never add anything other than DEF to the tank – especially any form of hydrocarbon such as diesel fuel, fuel system additives, gasoline, or any other petroleum-based product. Even a very small amount of these, less than 100 parts per million or less than 1 oz. per 78 gallons (295 liters) will contaminate the entire DEF system and will require replacement. If owners use a container, funnel or nozzle when refilling the tank, it should either be new or one that is has only been used for adding DEF. Mopar provides an attachable nozzle with its DEF for this purpose.

3. Stop filling the DEF tank immediately when any of the following happen: DEF stops flowing from the fill bottle into the DEF tank, DEF splashes out the filler neck, or a DEF pump nozzle automatically shuts off.

4. Reinstall cap onto DEF tank.

**Filling The Def Tank In Cold Climates**

Since DEF will begin to freeze at 12°F (-11°C), your vehicle is equipped with an automatic DEF heating system. This allows the DEF injection system to operate properly at temperatures below 12°F (-11°C). If your vehicle is not in operation for an extended period of time with temperatures below 12°F (-11°C), the DEF in the tank may freeze. If the tank is overfilled and freezes, it could be damaged. Therefore, do not overfill the DEF tank.

The DEF tank on these vehicles is designed with a large amount of full reserve. So the level sensor will indicate a Full reading even before the tank is completely full. To put it another way, there's additional storage capacity in the tank above the Full mark that's not represented in the gauge. You may not see any movement in the reading – even after driving up to 2,000 miles in some cases.

The difference this makes varies by vehicle. Heavy-duty pickup trucks have a 5.7-gallon (21.5 liter) tank that will display a Full reading when about 90 percent full. This means that drivers can consume at least 10 percent of a truly full DEF tank without seeing any visible change in the gauge reading. Chassis cabs have a larger 9-gallon (34 liter) tank, and will display a Full reading when about 75 percent

full. So drivers can consume 25 percent of a truly full DEF tank without seeing any visible change in the gauge reading.

Extra care should be taken when filling with portable containers to avoid overfilling. Note the level of the DEF gauge in your instrument cluster. On pickup applications, you may safely add a maximum of 2 gallons (7.5 liters) of DEF from portable containers when your DEF gauge is reading  $\frac{1}{2}$  full. On Chassis Cab applications a maximum of 2 gallons (7.5 liters) may be added when the DEF gauge is reading  $\frac{3}{4}$  full.

## DIESEL EXHAUST FLUID

Your vehicle is equipped with a Selective Catalytic Reduction system to meet the very stringent diesel emissions standards required by the Environmental Protection Agency.

The purpose of the SCR system is to reduce levels of NO<sub>x</sub> (oxides of nitrogen emitted from engines) that are harmful to our health and the environment to a near-zero level. Small quantities of Diesel Exhaust Fluid (DEF) is injected into the exhaust upstream of a catalyst where, when vaporized, it converts smog-forming nitrogen oxides (NO<sub>x</sub>) into harmless nitrogen (N<sub>2</sub>) and water vapor (H<sub>2</sub>O),

two natural components of the air we breathe. You can operate with the comfort that your vehicle is contributing to a cleaner, healthier world environment for this and generations to come.

## System Overview

This vehicle is equipped with a Diesel Exhaust Fluid (DEF) injection system and a Selective Catalytic Reduction (SCR) catalyst to meet the emission requirements.

The DEF injection system consists of the following components:

- DEF tank
- DEF pump
- DEF injector
- Electronically-heated DEF lines
- DEF control module
- NO<sub>x</sub> sensors
- Temperature sensors
- SCR catalyst
- UQS Sensor

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The DEF injection system and SCR catalyst enable the achievement of diesel emissions requirements; while maintaining outstanding fuel economy, drivability, torque and power ratings.

Refer to "Instrument Cluster Display" in "Understanding Your Instrument Panel" for system messages and warnings.

**NOTE:**

- Your vehicle is equipped with a DEF injection system. You may occasionally hear an audible clicking noise. This is normal operation.
- The DEF pump will run for a period of time after engine shutdown to purge the DEF system. This is normal operation.

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## WHAT TO DO IN EMERGENCIES

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**JUMP STARTING**

**WARNING!**

- To prevent personal injury or damage to clothing, do not allow battery fluid to contact eyes, skin or fabrics. Do not lean over a battery when connecting jumper cables or allow cable clamps to touch each other. Keep open flames or sparks away from battery vent holes. Always wear eye protection when working with batteries.
- Do not use a booster battery or any other booster source that has a greater than 12 Volt system, i.e., do not use a 24 Volt power source.

**NOTE:** Replacement batteries should both be of equal size to prevent damage to the vehicle’s charging system.

Your vehicle is equipped with two 12 Volt batteries. If it becomes necessary to use a booster battery with jumper cables to start a vehicle’s engine because its batteries are discharged, the following procedure should be used:

1. Set the parking brake and place an automatic transmission in PARK (or NEUTRAL for a manual transmission).

2. Turn off lights, heater and other electrical loads.
3. Observe charge indicator (if equipped) in both batteries. If the indicator (if equipped) is light or yellow on either battery, replace that battery.

**CAUTION!**

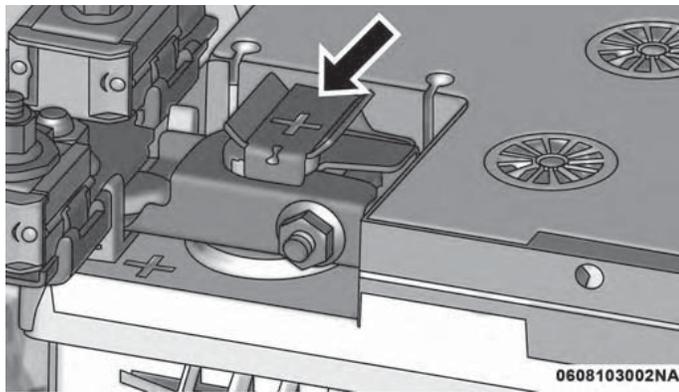
Use the jump start procedure only when the charge indicator (if equipped) in both batteries is dark in the center. Do not attempt jump starting when either battery charge indicator (if equipped) is light or yellow. If the charge indicator (if equipped) has a green dot in the center, failure to start is not due to a discharged battery and cranking system should be checked.

4. Attach one jumper cable to the positive terminal of booster battery and the other end of the same cable to the positive terminal of the discharged battery.

**NOTE:** Do not connect jumper cables to the fuses. Only use the jump post when connecting jumper cables.

**WARNING!**

Do not permit vehicles to touch each other as this could establish a ground connection and personal injury could result.



**Positive Jumping Location**

5. Connect one end of the other jumper cable to negative (-) post of booster battery. Connect the other end of the jumper cable to a good ground on the engine block of the vehicle with the discharged battery. Make sure a good connection is made, free of dirt and grease.

**NOTE:**

- Take care that the clamps from one cable do not inadvertently touch clamps from the other cable.
- Do not lean over the battery when making connection.
- The negative connection must provide good electrical conductivity and current carrying capacity.

**WARNING!**

- Do not connect the cable to the negative post of the discharge battery. The resulting electrical spark could cause the battery to explode.
- During cold weather when temperatures are below freezing point, electrolyte in a discharged battery may freeze. Do not attempt jump starting because the battery could rupture or explode. The battery temperature must be brought up above freezing point before attempting to jump start.

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6. After the engine is started or if the engine fails to start, cables must be disconnected in the following order:
- Disconnect the negative cable at the engine ground.
  - Disconnect the negative cable at the negative post on booster battery.
  - Disconnect the cable from the positive post of both batteries.

<b>WARNING!</b>
<p>Any procedure other than above could result in:</p> <ul style="list-style-type: none"> <li>• Personal injury caused by electrolyte squirting out the battery vent.</li> <li>• Personal injury or property damage due to battery explosion.</li> <li>• Damage to charging system of booster vehicle or of immobilized vehicle.</li> </ul>

**With Portable Starting Unit**

There are many types of these units available. Follow the manufacturer’s instructions for necessary precautions and operation.

<b>CAUTION!</b>
<p>It is very important that the starting unit operating voltage does not exceed 12 Volts DC or damage to battery, starter motor, alternator, or electrical system may occur.</p>

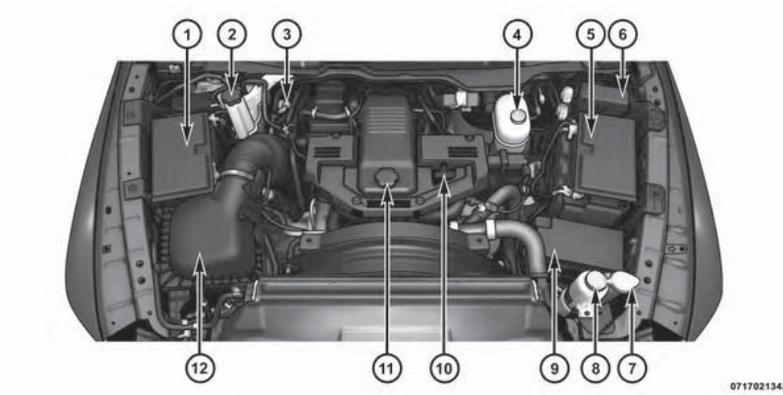
## MAINTAINING YOUR VEHICLE

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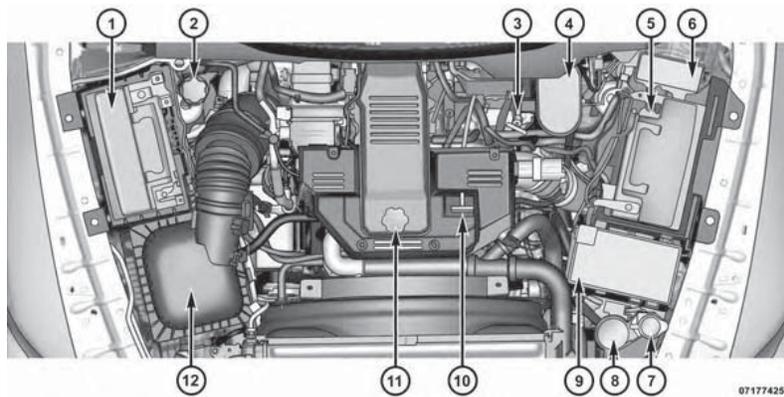
ENGINE COMPARTMENT — 6.7L DIESEL — SIX-SPEED 68RFE (2500/3500 Models)



- 1 — Battery
- 2 — Engine Coolant Reservoir
- 3 — Automatic Transmission Dipstick
- 4 — Brake Fluid Reservoir
- 5 — Battery
- 6 — Aux Power Distribution Center

- 7 — Washer Fluid Reservoir
- 8 — Power Steering Fluid Reservoir
- 9 — Power Distribution Center
- 10 — Engine Oil Dipstick
- 11 — Engine Oil Fill
- 12 — Air Cleaner Filter

**ENGINE COMPARTMENT — 6.7L DIESEL — SIX-SPEED AS69RC HD (3500/CHASSIS CAB MODELS)**



- 1 — Battery
- 2 — Engine Coolant Reservoir
- 3 — Automatic Transmission Dipstick
- 4 — Brake Fluid Reservoir
- 5 — Battery
- 6 — Aux Power Distribution Center

- 7 — Washer Fluid Reservoir
- 8 — Power Steering Fluid Reservoir
- 9 — Power Distribution Center
- 10 — Engine Oil Dipstick
- 11 — Engine Oil Fill
- 12 — Air Cleaner Filter

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**MAINTENANCE PROCEDURES**

The pages that follow contain the **required** maintenance services determined by the engineers who designed your vehicle.

Besides those maintenance items specified in the fixed maintenance schedule, there are other components which may require servicing or replacement in the future.

<b>CAUTION!</b>
<ul style="list-style-type: none"> <li>• Failure to properly maintain your vehicle or perform repairs and service when necessary could result in more costly repairs, damage to other components or negatively impact vehicle performance. Immediately have potential malfunctions examined by an authorized dealership or qualified repair center.</li> </ul>

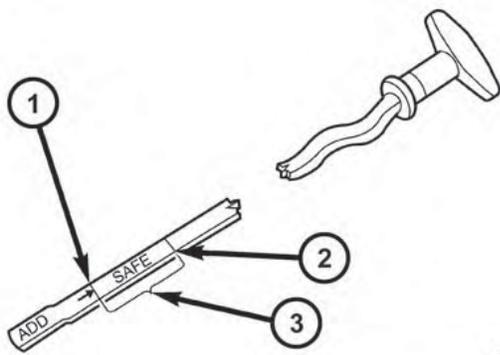
*(Continued)*

<b>CAUTION! (Continued)</b>
<ul style="list-style-type: none"> <li>• Your vehicle has been built with improved fluids that protect the performance and durability of your vehicle and also allow extended maintenance intervals. Do not use chemical flushes in these components as the chemicals can damage your engine, transmission, power steering or air conditioning. Such damage is not covered by the New Vehicle Limited Warranty. If a flush is needed because of component malfunction, use only the specified fluid for the flushing procedure.</li> </ul>

**Engine Oil**

**Checking Oil Level**

To assure proper lubrication of your vehicle’s engine, the engine oil must be maintained at the correct level. Check the oil level at regular intervals. The best time to check the oil level is before starting the engine after it has been parked overnight. When checking oil after operating the engine, first ensure the engine is at full operating temperature, then wait for 30 minutes after engine shutdown to check the oil.



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Engine Oil Dipstick

- 1 — ADD Range
- 2 — Full Mark
- 3 — SAFE Range

Checking the oil while the vehicle is on level ground will improve the accuracy of the oil level readings. Add oil only when the level on the dipstick is below the "ADD" mark. The total capacity from the ADD mark to the Full mark is 2 qts (1.9L).

**CAUTION!**

Overfilling or underfilling the crankcase will cause oil aeration or loss of oil pressure. This could damage your engine.

Never operate the engine with oil level below the "ADD" mark or above the upper "SAFE" mark.

**Change Engine Oil**

Refer to the "Maintenance Schedule" for the proper maintenance intervals.

**Engine Oil Selection**

For best performance and maximum protection under all types of operating conditions, the manufacturer only recommends engine oils that are API CJ-4 certified and meet the requirements of FCA LLC. Use Mopar or an equivalent oil meeting FCA Material Standard MS-10902. Products meeting Cummins CES 20081 may also be used. The identification of these engine oils are typically located on the back of the oil container.

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**American Petroleum Institute (API) Engine Oil Identification Symbol**



This symbol means that the oil has been certified by the American Petroleum Institute (API). The manufacturer only recommends API Certified engine oils.

Oils with a high ash content may produce damaging deposits on cylinder head valves and/or aftertreatment system damage. A maximum sulfated ash content of 1.00 mass % is recommended for all oil used in the engine.

The same oil change interval is to be followed for synthetic oil as for petroleum based oil. Also, synthetic oil must meet the same performance specifications as petroleum oil.

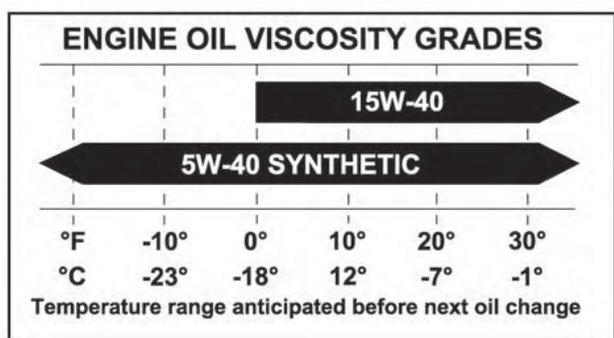
<b>CAUTION!</b>
Do not use chemical flushes in your engine oil as the chemicals can damage your engine. Such damage is not covered by the New Vehicle Limited Warranty.

**Engine Oil Viscosity (SAE Grade)**

In ambient temperatures above 0°F (-18°C), we recommend you use SAE 15W-40 engine oil such as Mopar, Shell Rotella and Shell Rimula that meets FCA Material Standard MS-10902 and the API CJ-4 engine oil category is required. Products meeting Cummins CES 20081 may also be used. The identification of these engine oils is typically located on the back of the oil container.

In ambient temperatures below 0°F (-18°C), we recommend you use SAE 5W-40 **synthetic** engine oil such as Mopar, Shell Rotella and Shell Rimula that meets FCA Material Standard MS-10902 and the API CJ-4 engine oil category is required.

<b>CAUTION!</b>
Failure to use SAE 5W-40 synthetic engine oil in ambient temperatures below 0°F (-18°C) could result in severe engine damage.



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Engine oil not designated by the FCA or Cummins Material Standards and API CJ-4 should not be used, as engine and exhaust system durability may be compromised. The engine oil filler cap also shows the recommended engine oil viscosity for your engine. For information on engine oil filler cap location, refer to “Engine Compartment” in “Maintaining Your Vehicle” for further information.

**Synthetic Engine Oils**

You may use synthetic engine oils if the recommended oil quality requirements are met and the recommended maintenance intervals for oil and filter changes are followed.

**Materials Added To Engine Oil**

The manufacturer strongly recommends against the addition of any additives (other than leak detection dyes) to the engine oil. Engine oil is an engineered product and its performance may be impaired by supplemental additives.

**Engine Oil Filter**

Refer to “Fluids, Lubricants, And Genuine Parts” in “Maintaining Your Vehicle” for further information. The engine oil filter should be changed at every engine oil change.

**Disposing Of Used Engine Oil And Oil Filters**

Care should be taken in disposing of used engine oil and oil filters from your vehicle. Used oil and oil filters, indiscriminately discarded, can present a problem to the environment. Contact your authorized dealer, service station or governmental agency for advice on how and where used oil and oil filters can be safely discarded in your area.

**Engine Air Cleaner Filter**

**CAUTION!**

All air entering the engine intake must be filtered. The abrasive particles in unfiltered air will cause rapid wear to engine components.

**WARNING!**

The air induction system (air cleaner, hoses, etc.) provides a measure of protection. Do not remove the air induction system (air cleaner, hoses, etc.) unless such removal is necessary for repair or maintenance. Make sure that no one is near the engine compartment before starting the vehicle with the air induction system (air cleaner, hoses, etc.) removed. Failure to do so can result in serious personal injury.

The condition of the air cleaner filter is monitored by the Engine Control Module. The "SERVICE AIR FILTER" message will display in the instrument cluster when service is required. Refer to "Instrument Cluster Display" in "Understanding Your Instrument Panel" for further information.

The "SERVICE AIR FILTER" message could be displayed periodically. This is because engine air flow requirements change based on driving conditions. As the filter becomes more restrictive and air flow requirements increase the "SERVICE AIR FILTER" message will be displayed. The message may not be displayed in subsequent drive cycles if the same conditions are not met. The air filter element should be replaced within 250 miles (402 km) from the first time this message is displayed to ensure proper engine operation during all driving conditions.

**CAUTION!**

Driving with a restricted air filter can cause engine damage. Driving in dusty environments for extended periods will lead to rapid air filter plugging. Action should be taken as soon as the "SERVICE AIR FILTER" message is displayed.

If the vehicle experiences a sudden loss of engine power while being driven in heavy snow or rain, or when plowing snow, and/or the "SERVICE AIR FILTER" message is displayed on the instrument cluster along with a chime that repeats every 60 seconds, visually inspect the air filter for snow/ice build up or extreme water saturation. If

the air filter is not damaged, remove all snow/ice and reinstall air filter. If the air filter is damaged, replace filter element.

**NOTE:** The air filter housing contains a Mass Air Flow sensor. This sensor is critical to proper engine operation and component longevity. Any damage or modification to this sensor could result in major engine and/or exhaust aftertreatment damage. We recommend you use Mopar brand parts.

Even though your vehicle is equipped with an Air Filter Monitor, a visual inspection of the air cleaner filter element is recommended every 15,000 miles (24,000km) or 12 months – whichever occurs first. **Under no circumstances should the air cleaner filter element exceed 30,000 miles (48,000 km) or 24 months, whichever comes first.**

**CAUTION!**

Many aftermarket performance air filter elements do not adequately filter the air entering the engine. Use of such filters can severely damage your engine.

**Engine Air Cleaner Filter Selection**

The quality of replacement engine air cleaner filters varies considerably. Only high quality filters should be used to assure most efficient service. Mopar engine air cleaner filters are a high quality filter and are recommended.

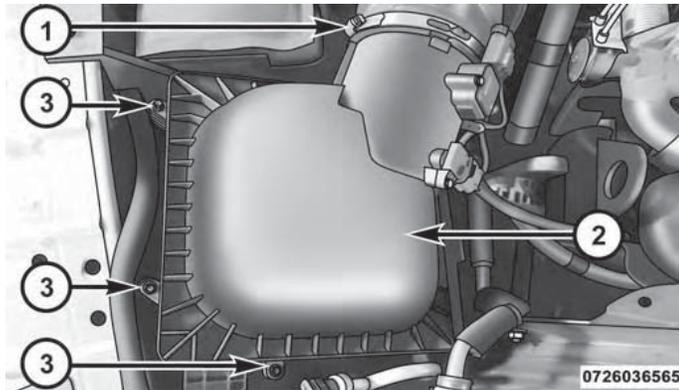
**Engine Air Cleaner Filter Inspection and Replacement**

Inspect engine air cleaner filter for dirt and or debris, if you find evidence of either dirt or debris you should change your air cleaner filter.

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Engine Air Cleaner Filter Removal

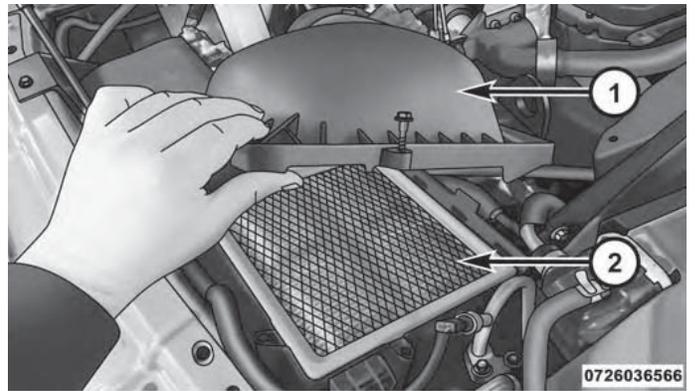
1. Remove the screws from the air cleaner cover.



Air Cleaner Filter Cover

- 1 — Clean Air Hose Clamp
- 2 — Air Cleaner Filter Cover
- 3 — Screws

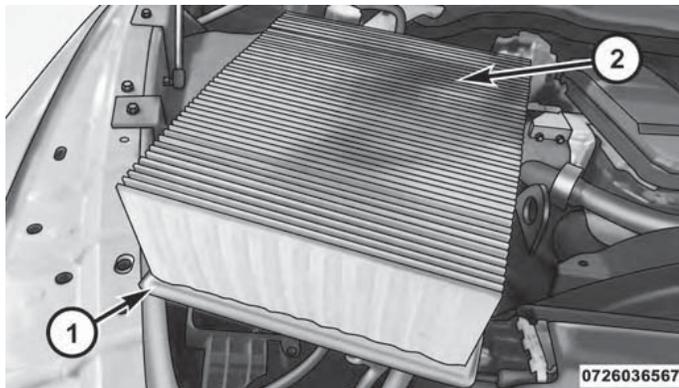
2. Lift the air cleaner cover to access the air cleaner filter.



Open Air Cleaner Filter Assembly

- 1 — Air Cleaner Cover
- 2 — Air Cleaner Filter

3. Remove the air cleaner filter element from the housing assembly.



Air Cleaner Filter

- 1 — Air Cleaner Filter
- 2 — Air Cleaner Filter Inspection Surface

### Engine Air Cleaner Filter Installation

**NOTE:** Inspect and clean the housing if dirt or debris is present before replacing the air filter element.

1. Install the air cleaner filter element into the housing assembly with the air cleaner filter inspection surface facing downward.
2. Install the air cleaner cover onto the housing assembly locating tabs.
3. Install screws to secure the air cleaner cover to the housing assembly.

### Draining Fuel/Water Separator Filter

There are two fuel filter assemblies. One is located on the driver's side of the engine. The best access to this water drain valve is from under the hood. The second one is on the under body, located in front of the rear axle above the drive shaft on pick-up models. The Chassis Cab models second filter location is on the frame behind the front axle. The best access to this water drain valve is from under the vehicle.

7

### CAUTION!

- Do not drain the fuel/water separator filter when the engine is running.
- Diesel fuel will damage blacktop paving surfaces. Drain the filter into an appropriate container.

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If water is detected in the water separator while the engine is running, or while the ignition switch is in the ON position, the "Water In Fuel Indicator Light" will illuminate and an audible chime will be heard five times. At this point you should stop the engine and drain the water from both of the filters.

**CAUTION!**

**If the "Water In Fuel Indicator Light" remains on, DO NOT START the engine before you drain water from the fuel filters to avoid engine damage.**

If the "Water In Fuel Indicator Light" comes on and a single chime is heard while you are driving, or with the ignition switch in the ON position, there may be a problem with your water separator wiring or sensor. See your authorized dealer for service.

Upon proper draining of the water from both fuel filters, the "Water In Fuel Indicator Light" will remain illuminated for approximately 10 seconds. If the water was drained while the engine was running, the "Water In Fuel Indicator Light" may remain on for approximately three minutes.

**NOTE:** Care should be taken in disposing of used fluids from your vehicle. Used fluids, indiscriminately discarded, can present a problem to the environment. Contact an authorized dealer, service station, or government agency for advice on recycling programs and for where used fluids and filters can be properly disposed of in your area.

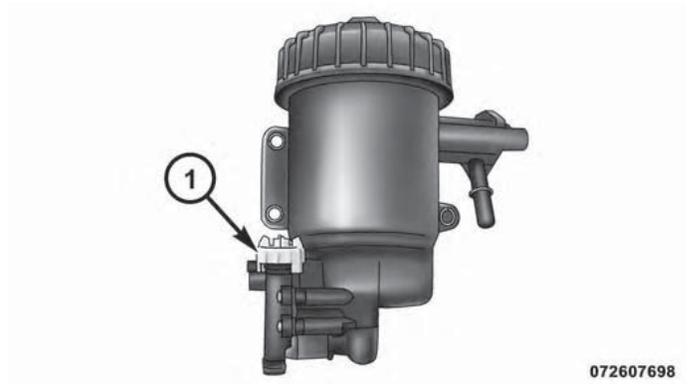
Drain the fuel/water separator filters when the "Water In Fuel Indicator Light" is ON. Within 10 minutes of vehicle shutdown, turn the engine mounted filter drain valve (located on the side of the filter assembly) counterclockwise 1/4 turn, and turn the under body mounted filter drain valve (located on the bottom of the filter assembly) counterclockwise 1 full turn. Then turn the ignition switch to the ON position, and allow any accumulated water to drain. Leave the drain valve open until all water and contaminants have been removed. When clean fuel is visible, close the drain valves by turning them fully clockwise, and turn the ignition switch to OFF.

If more than a couple ounces/milliliters of fuel have been drained, follow the directions for "Priming If The Engine Has Run Out Of Fuel."

### Engine Mounted Fuel Filter Replacement

**NOTE:**

- Using a fuel filter that does not meet the manufacturer’s filtration and water separating requirements can severely impact fuel system life and reliability.
- The engine mounted filter housing is equipped with a No-Filter-No-Run (NFNR) feature. Engine will not run if:
  1. No filter is installed.
  2. Inferior/Non-approved filter is used. Use of OEM filter is required to ensure vehicle will run.



Engine Mounted Fuel Filter Assembly

1 — Drain Valve

**CAUTION!**

- Diesel fuel will damage blacktop paving surfaces. Drain the filter into an appropriate container.
- Do not prefill the fuel filter when installing a new fuel filter. There is a possibility debris could be introduced into the fuel filter during this action. It is best to install the filter dry and allow the in-tank lift pump to prime the fuel system.

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1. Ensure engine is turned off.
2. Place drain pan under the fuel filter drain hose.
3. Open the water drain valve 1/4 turn counterclockwise and completely drain fuel and water into the approved container.
4. Close the water drain valve.
5. Remove lid using a socket or strap wrench. Rotate counterclockwise for removal. Remove used o-ring and discard it.
6. Remove the used filter cartridge from the housing and dispose of according to your local regulations.
7. Wipe clean the sealing surfaces of the lid and housing.
8. Install new o-ring back into ring groove on the filter housing and lubricate with clean engine oil.
9. Remove new filter cartridge from plastic bag and install into housing.

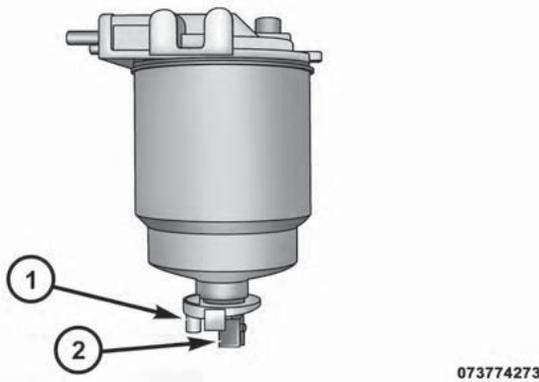
**NOTE:** Do not remove cartridge from bag until you reach this step in order to keep cartridge clean.

10. Push down on the cartridge to ensure it is properly seated. **Do not pre-fill the filter housing with fuel.**
11. Install lid onto housing and tighten to 22.5 ft lbs (30.5 N.m). Do not overtighten the lid.
12. Prime the engine using the procedure in "Priming If The Engine Has Run Out Of Fuel." Then start the engine and confirm there are no leaks.

### Underbody Mounted Fuel Filter Replacement

#### NOTE:

- Using a fuel filter that does not meet the manufacturer's filtration and water separating requirements can severely impact fuel system life and reliability.
- The underbody mounted filter housing will cause the engine not to run if:
  1. No filter is installed.



Underbody Mounted Fuel Filter Assembly

1 — Drain Valve

2 — WIF Sensor

**CAUTION!**

- Diesel fuel will damage blacktop paving surfaces. Drain the filter into an appropriate container.
- Do not prefill the fuel filter when installing a new fuel filter. There is a possibility debris could be introduced into the fuel filter during this action. It is best to install the filter dry and allow the in-tank lift pump to prime the fuel system.

1. Ensure engine is turned off.
2. Place drain pan under the fuel filter drain hose.
3. Open the water drain valve 1 full turn counterclockwise and completely drain fuel and water into the approved container.
4. Close the water drain valve.
5. Remove lid using a socket or strap wrench. Rotate counterclockwise for removal. Remove used o-ring and discard it.
6. Remove the used filter cartridge from the housing and dispose of according to your local regulations.
7. Wipe clean the sealing surfaces of the lid and housing.
8. Install new o-ring back into ring groove on the filter housing and lubricate with clean engine oil.

**NOTE:** WIF sensor is re-usable. Service kit comes with new o-ring for filter canister and WIF sensor.

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**Priming If The Engine Has Run Out Of Fuel**

**WARNING!**

Do not open the high pressure fuel system with the engine running. Engine operation causes high fuel pressure. High pressure fuel spray can cause serious injury or death.

1. Add a substantial amount of fuel to the tank, approximately 2 to 5 gal (8L to 19L).
2. Turn ignition switch to the start position to engage starter for one second, return ignition switch to run position. This will activate in tank fuel pump for approximately 15 seconds. Repeat this process twice.
3. Start the engine using the "Normal Starting" procedure. Refer to "Starting Procedures" in "Starting and Operating" for further information.

**CAUTION!**

Do not engage the starter motor for more than 15 seconds at a time. Allow two minutes between the cranking intervals.

**NOTE:** The engine may run rough until the air is forced from all the fuel lines.

**WARNING!**

Do not use alcohol or gasoline as a fuel blending agent. They can be unstable under certain conditions and be hazardous or explosive when mixed with diesel fuel.

**CAUTION!**

Due to lack of lubricants in alcohol or gasoline, the use of these fuels can cause damage to the fuel system.

**NOTE:**

- A maximum blend of 5% biodiesel, meeting ASTM specification D-975 may be used with your Cummins diesel engine. (Chassis Cab models not configured with B20 capability.)
- A maximum blend of 20% biodiesel, meeting ASTM specification D-7467 may be used with your Cummins diesel engine. (Pickup models and Chassis Cab models configured with B20 capability.)

- Use of biodiesel mixture in excess of 20% can negatively impact the fuel filter’s ability to separate water from the fuel, resulting in high pressure fuel system corrosion or damage.
- Ethanol blends are not recommended or approved for use with your Cummins diesel engine.
- In addition, commercially available fuel additives are not necessary for the proper operation of your Cummins diesel engine.

**Intervention Regeneration Strategy — Message Process Flow**

The Cummins diesel engine meets all EPA Heavy Duty Diesel Engine Emissions Standards, resulting in one of the lowest emitting diesel engines ever produced.

To achieve these emissions standards, your vehicle is equipped with a state-of-the-art engine and exhaust system. The engine and exhaust after-treatment system work together to achieve the EPA Heavy Duty Diesel Engine Emissions Standards. These systems are seamlessly integrated into your vehicle and managed by the Cummins Powertrain Control Module (PCM). The PCM manages

engine combustion to allow the exhaust system’s catalyst to trap and burn Particulate Matter (PM) pollutants, with no input or interaction on your part.

If the engine is allowed to idle or the truck is driven on low engine speed drive cycles for more than 2 hours, the system will automatically enter an emissions operating mode that will increase the engine idle speed to 900 RPM (1050 RPM for Chassis Cab). While in this mode, which is designed to help maintain the diesel particulate filter, the engine idle speed will return to normal when the brake pedal is applied. A small change in engine tone or a slight change in engine performance while accelerating may also be noticeable at speeds below 20 mph (32 kmh). This operating mode may last for up to an hour of idle time, or around 20 minutes of driving time.

Additionally, your vehicle has the ability to alert you to additional maintenance required on your truck or engine.

Refer to “Instrument Cluster Display” in “Understanding Your Instrument Panel” for further information.

**WARNING!**

A hot exhaust system can start a fire if you park over materials that can burn. Such materials might be grass or leaves coming into contact with your exhaust system. Do not park or operate your vehicle in areas where your exhaust system can contact anything that can burn.

**Diesel Exhaust Fluid**

Diesel Exhaust Fluid (DEF) sometimes known simply by the name of its active component, UREA—is a key component of selective catalytic reduction (SCR) systems, which help diesel vehicles meet stringent emission regulations. DEF is a liquid reducing agent that reacts with engine exhaust in the presence of a catalyst to convert smog-forming nitrogen oxides (NOx) into harmless nitrogen and water vapor.

Refer to “Fluids, Lubricants, and Genuine Parts” in “Maintaining Your Vehicle” for further information.

You can receive assistance in locating DEF in the United States by calling 866-RAM-INFO (866-726-4636). In Canada call 1-800-465-2001 (English) or 1-800-387-9983 (French)

**Maintenance-Free Batteries**

The top of the maintenance-free batteries are permanently sealed. You will never have to add water, nor is periodic maintenance required.

**NOTE:** Replacement batteries should both be of equal capacity to prevent damage to the vehicle’s charging system.

**CAUTION!**

It is essential when replacing the cables on the battery that the positive cable is attached to the positive post and the negative cable is attached to the negative post. Battery posts are marked (+) positive and negative (-) and are identified on the battery case. Also, if a “fast charger” is used while the battery is in vehicle, disconnect both vehicle battery cables before connecting the charger to the battery. Do not use a “fast charger” to provide starting voltage.

**WARNING!**

Battery posts, terminals, and related accessories contain lead and lead compounds. Always wash hands after handling the battery.

**Battery Blanket Usage**

A battery loses 60% of its cranking power as the battery temperature decreases to 0°F (-18°). For the same decrease in temperature, the engine requires twice as much power to crank at the same RPM. The use of 120 Volt AC powered battery blankets will greatly increase starting capability at low temperatures. Suitable battery blankets are available from your authorized Mopar dealer.

**Cooling System**

**WARNING!**

**You or others can be badly burned by hot engine coolant (antifreeze) or steam from your radiator. If you see or hear steam coming from under the hood, do not open the hood until the radiator has had time to cool. Never try to open a cooling system pressure cap when the radiator is hot.**

**Engine Coolant Checks**

Check the engine coolant (antifreeze) protection every 12 months (before the onset of freezing weather, where applicable). If the engine coolant (antifreeze) is dirty or rusty in appearance, the system should be drained, flushed and refilled with fresh coolant. Check the front of the A/C

condenser (if equipped) or radiator for any accumulation of bugs, leaves, etc. If dirty, clean by gently spraying water from a garden hose vertically down the face of the A/C condenser (if equipped) or the back of the radiator core.

Check the engine cooling system hoses for brittle rubber, cracking, tears, cuts and tightness of the connection at the coolant recovery bottle and radiator. Inspect the entire system for leaks.

**DO NOT REMOVE THE COOLANT PRESSURE CAP WHEN THE COOLING SYSTEM IS HOT.**

**Cooling System — Drain Flush And Refill**

If the engine coolant (antifreeze) is dirty or contains a considerable amount of sediment, clean and flush with a reliable cooling system cleaner. Follow with a thorough rinsing to remove all deposits and chemicals. Properly dispose of old engine coolant (antifreeze).

Refer to the "Maintenance Schedule" for the proper maintenance intervals.

**Selection Of Coolant**

Refer to "Fluids, Lubricants, And Genuine Parts" in "Maintaining Your Vehicle" for further information.

**CAUTION!**

- **Mixing of engine coolant (antifreeze) other than specified Organic Additive Technology (OAT) engine coolant (antifreeze), may result in engine damage and may decrease corrosion protection. Organic Additive Technology (OAT) engine coolant is different and should not be mixed with Hybrid Organic Additive Technology (HOAT) engine coolant (antifreeze) or any “globally compatible” coolant (antifreeze). If a non-OAT engine coolant (antifreeze) is introduced into the cooling system in an emergency, the cooling system will need to be drained, flushed, and refilled with fresh OAT coolant (conforming to MS.90032), by an authorized dealer as soon as possible.**
- **Do not use water alone or alcohol-based engine coolant (antifreeze) products. Do not use additional rust inhibitors or antirust products, as they may not be compatible with the engine coolant and may plug the radiator.**
- **This vehicle has not been designed for use with propylene glycol-based engine coolant (antifreeze). Use of propylene glycol-based engine coolant (antifreeze) is not recommended.**

**Adding Coolant**

Your vehicle has been built with an improved engine coolant (OAT coolant conforming to MS.90032) that allows extended maintenance intervals. This engine coolant (antifreeze) can be used up to ten years or 150,000 miles (240,000 km) before replacement. To prevent reducing this extended maintenance period, it is important that you use the same engine coolant (OAT coolant conforming to MS.90032) throughout the life of your vehicle.

Please review these recommendations for using Organic Additive Technology (OAT) engine coolant (antifreeze) that meets the requirements of FCA Material Standard MS.90032. When adding engine coolant (antifreeze):

- We recommend using Mopar Antifreeze/Coolant 10 Year/150,000 Mile Formula OAT (Organic Additive Technology) that meets the requirements of FCA Material Standard MS.90032.
- Mix a minimum solution of 50% OAT engine coolant that meets the requirements of FCA Material Standard MS.90032 and distilled water. Use higher concentrations (not to exceed 70%) if temperatures below  $-34^{\circ}\text{F}$  ( $-37^{\circ}\text{C}$ ) are anticipated. Please contact your authorized dealer for assistance.

- Use only high purity water such as distilled or deionized water when mixing the water/engine coolant (antifreeze) solution. The use of lower quality water will reduce the amount of corrosion protection in the engine cooling system.

**NOTE:**

- It is the owner's responsibility to maintain the proper level of protection against freezing according to the temperatures occurring in the area where the vehicle is operated.
- Some vehicles require special tools to add coolant properly. Failure to fill these systems properly could lead to severe internal engine damage. If any coolant is needed to be added to the system, please contact your local authorized dealer.
- Mixing engine coolant (antifreeze) types is not recommended and can result in cooling system damage. If HOAT and OAT coolant are mixed in an emergency, have a authorized dealer drain, flush, and refill with OAT coolant (conforming to MS.90032) as soon as possible.

### Cooling System Pressure Cap

The cap must be fully tightened to prevent loss of engine coolant (antifreeze), and to ensure that the engine coolant (antifreeze) will return to the radiator from the coolant expansion bottle.

The cap should be inspected and cleaned if there is any accumulation of foreign material on the sealing surfaces.

**WARNING!**

- **Do not open hot engine cooling system. Never add engine coolant (antifreeze) when the engine is overheated. Do not loosen or remove the cap to cool an overheated engine. Heat causes pressure to build up in the cooling system. To prevent scalding or injury, do not remove the pressure cap while the system is hot or under pressure.**
- **Do not use a pressure cap other than the one specified for your vehicle. Personal injury or engine damage may result.**

**202 MAINTAINING YOUR VEHICLE****Disposal Of Used Engine Coolant**

Used ethylene glycol-based engine coolant (antifreeze) is a regulated substance requiring proper disposal. Check with your local authorities to determine the disposal rules for your community. To prevent ingestion by animals or children, do not store ethylene glycol-based engine coolant (antifreeze) in open containers or allow it to remain in puddles on the ground. If ingested by a child or pet, seek emergency assistance immediately. Clean up any ground spills immediately.

**Points To Remember**

**NOTE:** When the vehicle is stopped after a few miles/kilometers of operation, you may observe vapor coming from the front of the engine compartment. This is normally a result of moisture from rain, snow, or high humidity accumulating on the radiator and being vaporized when the thermostat opens, allowing hot engine coolant (antifreeze) to enter the radiator.

If an examination of your engine compartment shows no evidence of radiator or hose leaks, the vehicle may be safely driven. The vapor will soon dissipate.

- Do not overfill the coolant expansion bottle.
- Check the coolant freeze point in the radiator and in the coolant expansion bottle. If engine coolant (antifreeze) needs to be added, the contents of the coolant expansion bottle must also be protected against freezing.
- If frequent engine coolant (antifreeze) additions are required, the cooling system should be pressure tested for leaks.
- Maintain engine coolant (antifreeze) concentration at a minimum of 50% OAT coolant (conforming to MS.90032) and distilled water for proper corrosion protection of your engine which contains aluminum components.
- Make sure that the coolant expansion bottle overflow hoses are not kinked or obstructed.
- Keep the front of the radiator clean. If your vehicle is equipped with air conditioning, keep the front of the condenser clean.
- Do not change the thermostat for Summer or Winter operation. If replacement is ever necessary, install ONLY the correct type thermostat. Other designs may result in unsatisfactory engine coolant (antifreeze) performance, poor gas mileage, and increased emissions.

### Charge Air Cooler — Inter-Cooler

The charge air cooler is positioned below the radiator and the air conditioner condenser. Air enters the engine through the air cleaner and passes through the turbo-charger, where it is pressurized. This pressurized air rapidly reaches high temperature. The air is then directed through a hose to the charge air cooler and through another hose to the intake manifold of the engine. The air entering the engine has been cooled by about 50° to 100°F (10° to 38°C). This cooling process enables more efficient burning of fuel resulting in fewer emissions.

To guarantee optimum performance of the system, keep the surfaces of the charge air cooler, condenser and radiator clean and free of debris. Periodically check the hoses leading to and from the charge air cooler for cracks or loose clamps resulting in loss of pressure and reduced engine performance.

### Brake System

#### Brake Master Cylinder — Brake Fluid Level Check

The fluid level of the master cylinder should be checked when performing under the hood service, or immediately if the "Brake System Warning Light" indicates system failure.

The brake master cylinder has a translucent plastic reservoir. On the outboard side of the reservoir, there is a "MAX" mark and a "MIN" mark. The fluid level must be kept within these two marks. Do not add fluid above the full mark because leakage may occur at the cap.

With disc brakes, the fluid level can be expected to fall as the brake linings wear. However, an unexpected drop in fluid level may be caused by a leak and a system check should be conducted.

Refer to "Fluids, Lubricants, And Genuine Parts" in "Maintaining Your Vehicle" for further information.

#### WARNING!

- Use only manufacturer's recommended brake fluid. Refer to "Fluids, Lubricants, and Genuine Parts" in "Maintaining Your Vehicle" for further information. Using the wrong type of brake fluid can severely damage your brake system and/or impair its performance. The proper type of brake fluid for your vehicle is also identified on the original factory installed hydraulic master cylinder reservoir.

(Continued)

**WARNING! (Continued)**

- To avoid contamination from foreign matter or moisture, use only new brake fluid or fluid that has been in a tightly closed container. Keep the master cylinder reservoir cap secured at all times. Brake fluid in an open container absorbs moisture from the air resulting in a lower boiling point. This may cause it to boil unexpectedly during hard or prolonged braking, resulting in sudden brake failure. This could result in an accident.
- Overfilling the brake fluid reservoir can result in spilling brake fluid on hot engine parts, causing the brake fluid to catch fire. Brake fluid can also damage painted and vinyl surfaces, care should be taken to avoid its contact with these surfaces.
- Do not allow petroleum based fluid to contaminate the brake fluid. Brake seal components could be damaged, causing partial or complete brake failure. This could result in an accident.

**Clutch Hydraulic System**

The clutch hydraulic system is a sealed maintenance-free system. In the event of leakage or other malfunction, the system must be replaced.

**Transfer Case — If Equipped**

**Drain And Refill**

Refer to the “Maintenance Schedule” for the proper maintenance intervals.

**Selection of Lubricant**

Refer to “Fluids, Lubricants, and Genuine Parts” in “Maintaining Your Vehicle” for fluid specifications.

**Fluid Level Check**

This fluid level can be checked by removing the filler plug. The fluid level should be to the bottom edge of the filler plug hole with the vehicle in a level position.

**Manual Transmission — If Equipped**

**Selection of Lubricant**

Refer to “Fluids, Lubricants, and Genuine Parts” in “Maintaining Your Vehicle” for fluid specifications.

**Fluid Level Check**

The fluid level can be checked by removing the filler plug. If the level of the lubricant is more than 1/2 in (12 mm) below the bottom of the filler hole while the vehicle is on

level ground, enough lubricant should be added to bring the level to 1/4 in (6 mm) below the bottom of the filler hole.

### Automatic Transmission — If Equipped

#### Selection of Lubricant

It is important to use the proper transmission fluid to ensure optimum transmission performance and life. Use only the manufacturer’s specified transmission fluid. Refer to “Fluids, Lubricants, and Genuine Parts” in this section for fluid specifications. It is important to maintain the transmission fluid at the correct level using the recommended fluid.

No chemical flushes should be used in any transmission; only the approved lubricant should be used.

**CAUTION!**

Using a transmission fluid other than the manufacturer’s recommended fluid may cause deterioration in transmission shift quality and/or torque converter shudder, and will require more frequent fluid and filter changes. Refer to “Fluids, Lubricants, and Genuine Parts” in this section for fluid specifications.

#### Special Additives

The manufacturer strongly recommends against using any special additives in the transmission. Automatic Transmission Fluid (ATF) is an engineered product and its performance may be impaired by supplemental additives. Therefore, do not add any fluid additives to the transmission. The only exception to this policy is the use of special dyes for diagnosing fluid leaks. Avoid using transmission sealers as they may adversely affect seals.

**CAUTION!**

**Do not use chemical flushes in your transmission as the chemicals can damage your transmission components. Such damage is not covered by the New Vehicle Limited Warranty.**

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#### Fluid Level Check

It is best to check the fluid level when the transmission is at normal operating temperature (170-180°F / 77-82°C for 68RFE transmission, or 158-176°F / 70-80°C for AS69RC transmission). This normally occurs after at least 15 miles (25 km) of driving. At normal operating temperature the fluid cannot be held comfortably between the fingertips. You can read the transmission sump temperature in the

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instrument cluster display (refer to “Instrument Cluster Display” in “Understanding Your Instrument Panel” for further information).

Use the following procedure to check the transmission fluid level properly:

1. Monitor the transmission temperature using the instrument cluster display, and operate the vehicle as required to reach the normal operating temperature. If the transmission is not functioning properly, or the vehicle cannot be driven, see the NOTE and CAUTION below about checking the fluid level at colder temperatures.
2. Park the vehicle on level ground.
3. Run the engine at normal idle speed for at least 60 seconds, and leave the engine running for the rest of this procedure.
4. Fully apply the parking brake and press the brake pedal.
5. Place the gear selector momentarily into each gear position (allowing time for the transmission to fully engage in each position), ending with the transmission in PARK.
6. Remove the dipstick, wipe it clean and reinsert it until seated.

7. Remove the dipstick again and note the fluid level on both sides. The fluid level reading is only valid if there is a solid coating of oil on both sides of the dipstick. Note that the holes in the dipstick will be full of fluid if the actual level is at or above the hole. The fluid level should be between the “HOT” (upper) reference holes on the dipstick at normal operating temperature. If the fluid level is low, add fluid through the dipstick tube to bring it to the proper level. **Do not overfill.** Use ONLY the specified fluid (see “Fluids, Lubricants, and Genuine Parts” for fluid specifications). After adding any quantity of oil through the dipstick tube, wait a minimum of two minutes for the oil to fully drain into the transmission before rechecking the fluid level.

**NOTE:** If it is necessary to check the transmission **below** the operating temperature, the fluid level should be between the two “COLD” (lower) holes on the dipstick with the fluid at 60-70°F / 16-21°C for 68RFE transmission, or 68-86°F / 20-30°C for AS69RC transmission. Only use the COLD region of the dipstick as a rough reference when setting the fluid level after a transmission service or fluid change. Re-check the fluid level, and adjust as required, once the transmission reaches normal operating temperature.

**CAUTION!**

If the fluid temperature is below 50°F (10°C) it may not register on the dipstick. Do not add fluid until the temperature is elevated enough to produce an accurate reading. Run the engine at idle, in PARK, to warm the fluid.

- 8. Reinsert the dipstick. Check for leaks. Release the parking brake.

**NOTE:** To prevent dirt and water from entering the transmission after checking or replenishing fluid, make sure that the dipstick cap is properly reseated. It is normal for the dipstick cap to spring back slightly from its fully seated position, as long as its seal remains engaged in the dipstick tube.

**Fluid And Filter Changes**

Refer to the "Maintenance Schedule" for the proper maintenance intervals.

In addition, change the fluid and filter(s) if the fluid becomes contaminated (with water, etc.), or if the transmission is disassembled for any reason.

**Noise Control System Required Maintenance & Warranty**

All vehicles built over 10,000 lbs. (4 535 kg) Gross Vehicle Weight Rating and manufactured for sale and use in the United States are required to comply with the Federal Government's Exterior Noise Regulations. These vehicles can be identified by the Noise Emission Control Label located in the operator's compartment.

**Vehicle Noise Emission Control Information**  
**Date of Vehicle Manufacture**

This vehicle conforms to U.S. EPA regulations for noise emission applicable to medium and heavy duty trucks.

The following acts or the causing thereof by any person are prohibited by the Noise Control Act of 1972: (A) the removal or rendering inoperative, other than for purposes of maintenance, repair, or replacement, of any noise control device or element of design (listed in the Owner's Manual) incorporated into this vehicle in compliance with the Noise Control Act (B) the use of this vehicle after such device or element of design has been removed or rendered inoperative.

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**Required Maintenance For Noise Control Systems**

The following maintenance services must be performed every six months or 7,500 miles (12 000 km) whichever comes first, to assure proper operation of the noise control systems. In addition, inspection and service should be performed anytime a malfunction is observed or suspected. Proper maintenance of the entire vehicle will help the effectiveness of the noise control systems.

**Exhaust System**

Inspect the entire exhaust system for leaks and damaged parts. Devices such as hangers, clamps, and U-bolts should be tight and in good condition. Damaged components, burned or blown out mufflers, burned or rusted out exhaust pipes should be replaced according to the procedures and specifications outlined in the appropriate service manual.

**Air Cleaner Assembly**

Inspect air cleaner housing for proper assembly and fit. Make certain that the air cleaner is properly positioned and that the cover is tight. Check all hoses leading to the air cleaner for tightness. The air filter element must also be clean and serviced according to the instructions outlined in the Maintenance Schedule section of this manual.

**Tampering With Noise Control System Prohibited**

Federal law prohibits the following acts or the causing thereof: (1) the removal or rendering inoperative by any person, other than for purposes of maintenance, repair, or replacement, of any device or element of design incorporated into any new vehicle for the purpose of noise control prior to its sale or delivery to the ultimate purchaser or while it is in use, or (2) the use of the vehicle after such device or element of design has been removed or rendered inoperative by any person.

Among those acts presumed to constitute tampering are the acts listed below.

**AIR CLEANER**

- Removal of the air cleaner.
- Removal of the air cleaner filter element from the air cleaner housing.
- Removal of the air ducting.

**EXHAUST SYSTEM**

- Removal or rendering inoperative exhaust system components including the muffler or tailpipe.

## ENGINE COOLING SYSTEM

- Removal or rendering inoperative the fan clutch.
- Removal of the fan shroud.

### Noise Emission Warranty

The manufacturer warrants that this vehicle as manufactured by the manufacturer, was designed, built and equipped to conform at the time it left the manufacturer's control with all applicable U.S. EPA Noise Control Regulations.

This warranty covers this vehicle as designed, built and equipped by the manufacturer, and is not limited to any particular part, component or system of the vehicle manufactured by the manufacturer. Defects in design, assembly or in any part, component or system of the vehicle as manufactured by the manufacturer, which, at the time it left the manufacturer's control, caused noise emissions to exceed Federal standards, are covered by this warranty for the life of the vehicle.

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**Maintenance Log and Service Chart (Diesel Engines)**

Noise Systems Maintenance Chart and Service Log — Insert Month, Day, Year under column mileage closest to the mileage at which service was performed.

MILES	7,500	15,000	22,500	30,000	37,500	45,000	52,500	60,000
KILOMETERS	12 000	24 000	36 000	48 000	60 000	72 000	84 000	96 000
Exhaust system-inspect								
Air cleaner assembly-inspect								
ODOMETER READING								
PERFORMED BY								
PERFORMED AT								

**Noise Systems Maintenance Chart and Service Log — Insert Month, Day, Year under column mileage closest to the mileage at which service was performed.**

MILES	67,500	75,000	82,500	90,000	97,500	105,000	112,500	120,000
KILOMETERS	108 000	120 000	132 000	144 000	156 000	168 000	180 000	192 000
Exhaust system-inspect								
Air cleaner assembly-inspect								
ODOMETER READING								
PERFORMED BY								
PERFORMED AT								

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**FLUID CAPACITIES**

	U.S.	Metric
<b>Fuel (Approximate)</b>		
2500/3500 Standard Cab Longbed Models	28 Gallons	106 Liters
2500/3500 Crew/Mega Cab Shortbed Models	31 Gallons	129 Liters
2500/3500 Crew Cab Longbed Models	32 Gallons	132 Liters
Standard Rear Tank – Chassis Cab Only	52 Gallons	197 Liters
Optional Midship Tank – Chassis Cab Only	22 Gallons	83 Liters
Diesel Exhaust Fluid Tank (Approximate) – 2500/3500 Models	5.5 Gallons	21 Liters
Diesel Exhaust Fluid Tank (Approximate) – Chassis Cab	9 Gallons	34 Liters

	U.S.	Metric
<b>Engine Oil With Filter</b>		
6.7L Turbo Diesel Engine	12 Quarts	11.4 Liters
<b>Cooling System</b>		
6.7L Turbo Diesel Engine (Mopar Engine Coolant/Antifreeze 10 Year/150,000 Mile Formula)	5.7 Gallons	21.4 Liters

**FLUIDS, LUBRICANTS AND GENUINE PARTS**

**Engine**

Component	Fluid, Lubricant, or Genuine Part
Engine Coolant	We recommend you use Mopar Antifreeze/Coolant 10 Year/150,000 Mile Formula OAT (Organic Additive Technology).
Engine Oil	In ambient temperatures above 0°F (-18°C), we recommend you use 15W-40 engine oil such as Mopar, Shell Rotella and Shell Rimula that meets FCA Material Standard MS-10902 and the API CJ-4 engine oil category is required. Products meeting Cummins CES 20081 may also be used. The identification of these engine oils is typically located on the back of the oil container. In ambient temperatures below 0°F (-18°C), we recommend you use 5W-40 <b>synthetic</b> engine oil such as Mopar, Shell Rotella and Shell Rimula that meets FCA Material Standard MS-10902 and the API CJ-4 engine oil category is required.
Engine Oil Filter	We recommend you use Mopar Engine Oil Filters.

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Component	Fluid, Lubricant, or Genuine Part
Fuel Filters	We recommend you use Mopar Fuel Filter. Must meet 3 micron rating. <b>Using a fuel filter that does not meet the manufacturers filtration and water separating requirements can severely impact fuel system life and reliability.</b>
Crankcase Ventilation Filter	We recommend you use Mopar CCV Filter.
Fuel Selection	<p>Use good quality diesel fuel from a reputable supplier in your vehicle. Federal law requires that you must fuel this vehicle with Ultra Low Sulfur Highway Diesel fuel (15 ppm Sulfur maximum) and prohibits the use of Low Sulfur Highway Diesel fuel (500 ppm Sulfur maximum) to avoid damage to the emissions control system.</p> <p>For most year-round service, No. 2 diesel fuel meeting ASTM specification D-975 Grade S15 will provide good performance.</p> <p>If climatized or diesel Number 1 ULSD fuel is not available, and you are operating below (20°F/-6°C), in sustained arctic conditions, Mopar Premium Diesel Fuel Treatment (or equivalent) is recommended to avoid gelling.</p> <p><b>This vehicle is fully compatible with biodiesel blends up to 5% biodiesel meeting ASTM specification D-975.</b> Pickup models, and Chassis Cab models configured with optional B20 capability, are additionally compatible with 20% biodiesel meeting ASTM specification D-7467.</p>
Diesel Exhaust Fluid	Mopar Diesel Exhaust Fluid (API Certified) (DEF) or equivalent that has been API Certified to the ISO 22241 standard. Use of fluids not API Certified to ISO 22241 may result in system damage. You can receive assistance in locating DEF in the United States by calling 866-RAM-INFO (866-726-4636). In Canada call 1-800-465-2001 (English) or 1-800-387-9983 (French).

**Chassis**

Component	Fluid, Lubricant, or Genuine Part
Automatic Transmission – If Equipped 6.7L Diesel with (Six-Speed 68RFE) – 2500/3500 Pickup models without PTO	Only use ATF+4 Automatic Transmission Fluid. Failure to use ATF+4 fluid may affect the function or performance of your transmission. We recommend Mopar ATF+4 fluid.
Automatic Transmission – If Equipped 6.7L Diesel with (Six-Speed AS69RC) – Pickup models with PTO and All Chassis Cab models	Only use Mopar ASRC Automatic Transmission Fluid or equivalent. Failure to use the proper fluid may affect the function or performance of your transmission.
Transfer Case	We recommend you use Mopar BW44–44 Transfer Case Fluid.
Front and Rear Axle Fluid (2500/3500)	We recommend you use SAE 75W-85 HD Ram GL-5 Synthetic Axle Lubricant. Limited slip additive is not required for Limited-Slip Rear Axles.
Front and Rear Axle Fluid (4500/5500)	We recommend you use GL-5 SAE 75W-90 Synthetic (MS-9763). Limited slip additive is not required for Limited-Slip Rear Axles.
Clutch Linkage	We recommend you use Mopar Multi-Purpose Grease, NLGI Grade 2 E.P. or equivalent.
Manual Transmission (G-56) – If Equipped	We recommend you use Mopar ATF+4 Automatic Transmission Fluid or equivalent licensed ATF+4 product.



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## MAINTENANCE SCHEDULE

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**MAINTENANCE SCHEDULE — DIESEL ENGINE**

<b>CAUTION!</b>
Failure to perform the required maintenance items may result in damage to the vehicle.

**At Each Stop For Fuel**

Check the engine oil level at least 30 minutes after a fully warmed engine is shut off. Checking the oil level while the vehicle is on level ground will improve the accuracy of the oil level reading. Add oil only when the level is at or below the ADD or MIN mark.

**Once A Month**

- Inspect the batteries, and clean and tighten the terminals as required.
- Check the fluid levels of the coolant reservoir, brake master cylinder, and automatic transmission (if equipped), and add as needed.

**At Each Oil Change**

- Change the engine oil filter.
- Inspect the exhaust system.
- Inspect engine air filter.

- Check the coolant level, hoses, and clamps.
- Inspect front end, and lubricate — If equipped with serviceable fittings.
- Lube the front drive shaft fitting (4X4 models only).

Inspection and service should also be performed anytime a malfunction is observed or suspected. Retain all receipts.

**Oil Change Indicator System — Cummins Diesel**

Your vehicle is equipped with an engine oil change indicator system. This system will alert you when it is time to change your engine oil by displaying the words “Oil Change Due” in your instrument cluster display. The oil change reminder will remind the owner to change the engine oil every 15,000 miles or 500 hours, whichever comes first, except for the Chassis Cab models and Pickup models configured with optional B20 capability that are using B20 biodiesel, which are 12,500 miles or 400 hours, whichever comes first. Failure to change the engine oil per the maintenance schedule can result in internal engine damage.

Your authorized dealer will reset the oil change indicator message after completing the scheduled oil change. If a scheduled oil change is performed by someone other than your authorized dealer, the message can be reset by

referring to the steps described under “Instrument Cluster Display” in “Understanding Your Instrument Panel” for further information.

**Replace the engine oil and oil filter every 15,000 miles (24,000 km) or six months, or sooner if prompted by the oil change indicator system. Under no circumstances should oil change intervals exceed 15,000 miles (24,000 km) or six months, whichever comes first.**

**NOTE:**

- Under no circumstances should oil change intervals exceed 15,000 miles (24,000 km) or six months or 500 Hours, whichever comes first.
- Replace the engine oil and oil filter every 12,500 miles (20 000 km) when running B20 fuel (Chassis Cab Only).

If Chassis Cab models and Pickup models configured with optional B20 capability are operated with greater than 5% levels of biodiesel, the oil change interval must not exceed 12,500 miles (20 000 km) under any circumstances. See the Fuel Requirements section for more information regarding operation of Chassis Cab models and Pickup models configured for use with biodiesel blend (B6-B20) fuel meeting ASTM specification D-7467.

**Perform Service Indicator — Cummins Diesel**

Your vehicle will require emissions maintenance at a set interval. To help remind you when this maintenance is due, the instrument cluster will display “Perform Service”. When the “Perform Service” message is displayed on the instrument cluster it is necessary to have the emissions maintenance performed. Emissions maintenance may include replacing the Closed Crankcase Ventilation (CCV) filter element. The procedure for clearing and resetting the “Perform Service” indicator message is located in the appropriate Service Information.



**MAINTENANCE SCHEDULE 221**

Mileage or time passed (whichever comes first):	7,500	15,000	22,500	30,000	37,500	45,000	52,500	60,000	67,500	75,000	82,500	90,000	97,500	105,000	112,500	120,000	127,500	135,000	142,500	150,000
Or Months:	6	12	18	24	30	36	42	48	54	60	66	72	78	84	90	96	102	108	114	120
Or Kilometers:	12,000	24,000	36,000	48,000	60,000	72,000	84,000	96,000	108,000	120,000	132,000	144,000	156,000	168,000	180,000	192,000	204,000	216,000	228,000	240,000
Inspect the front suspension, tie rod ends and boot seals for cracks or leaks and all parts for damage, wear, improper looseness or end play; replace if necessary.		X		X		X		X		X		X		X		X		X		X
Inspect the brake linings.			X			X			X			X			X			X		
Inspect and adjust parking brake.			X			X			X			X			X			X		
Inspect drive belt; replace as necessary.			X			X			X			X			X			X		
Inspect wheel bearings.				X				X				X				X				X
<b>Additional Maintenance</b>																				
Replace cabin air filter.			X			X			X			X			X			X		
Replace engine fuel filter element.		X		X		X		X		X		X		X		X		X		X
Replace chassis mounted fuel filter element.		X		X		X		X		X		X		X		X		X		X

222 MAINTENANCE SCHEDULE

Mileage or time passed (whichever comes first):	7,500	15,000	22,500	30,000	37,500	45,000	52,500	60,000	67,500	75,000	82,500	90,000	97,500	105,000	112,500	120,000	127,500	135,000	142,500	150,000	
Or Months:	6	12	18	24	30	36	42	48	54	60	66	72	78	84	90	96	102	108	114	120	
Or Kilometers:	12,000	24,000	36,000	48,000	60,000	72,000	84,000	96,000	108,000	120,000	132,000	144,000	156,000	168,000	180,000	192,000	204,000	216,000	228,000	240,000	
Inspect the front and rear axle surfaces. If gear oil leakage is suspected, check the fluid level. If using your vehicle for police, taxi, fleet, off-road or frequent trailer towing change the axle fluid. *																					
Inspect the transfer case fluid (4x4), change for any of the following: police, taxi, fleet, or frequent trailer towing.				X				X				X				X					X
Change the transfer case fluid (4x4).								X								X					
Change automatic transmission fluid (AS69RC transmission only).				X				X				X				X					X
Change the automatic transmission fluid and sump filter (AS69RC transmission only).								X								X					

**MAINTENANCE SCHEDULE 223**

Mileage or time passed (whichever comes first):	7,500	15,000	22,500	30,000	37,500	45,000	52,500	60,000	67,500	75,000	82,500	90,000	97,500	105,000	112,500	120,000	127,500	135,000	142,500	150,000
Or Months:	6	12	18	24	30	36	42	48	54	60	66	72	78	84	90	96	102	108	114	120
Or Kilometers:	12,000	24,000	36,000	48,000	60,000	72,000	84,000	96,000	108,000	120,000	132,000	144,000	156,000	168,000	180,000	192,000	204,000	216,000	228,000	240,000
Change automatic transmission fluid and filter(s) if using your vehicle for any of the following: police, fleet, or frequent trailer towing (68RFE transmission only).								X								X				
Change automatic transmission fluid and filter(s).																X				
Change the manual transmission fluid if using your vehicle for any of the following: police, fleet, or frequent trailer towing.								X								X				
Replace Crankcase Ventilation Filter (CCV).									X									X		
Flush and replace power steering fluid.													X							
Flush and replace engine coolant. ***																				X
Adjust valve lash clearance.																				X

**224 MAINTENANCE SCHEDULE**

Inspection and service should also be performed anytime a malfunction is observed or suspected. Retain all receipts.

\* Inspect the front and rear axle surfaces every 20,000 miles (32,000 km). If gear oil leakage is suspected, check the fluid level. If using your vehicle for police, taxi, fleet, off-road or frequent trailer towing change the axle fluid every 20,000 miles (32,000 km).

\*\* Under no circumstances should oil change intervals exceed 15,000 miles (24 000 km) or six months or 500 Hours, whichever comes first.

\*\*\* The manufacturer highly recommends that all cooling system service, maintenance, and repairs be performed by your local authorized dealer.

\*\*\*\* Under no circumstances should the air cleaner filter element exceed 30,000 miles (48,000 km) or 24 months, whichever comes first.

**WARNING!**

- You can be badly injured working on or around a motor vehicle. Do only service work for which you have the knowledge and the right equipment. If you have any doubt about your ability to perform a service job, take your vehicle to a competent mechanic.
- Failure to properly inspect and maintain your vehicle could result in a component malfunction and effect vehicle handling and performance. This could cause an accident.

**CAUTION!**

\*\*\*The manufacturer highly recommends that all cooling system service, maintenance, and repairs be performed by your local authorized dealer.

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#### INSTALLATION OF RADIO TRANSMITTING EQUIPMENT

Special design considerations are incorporated into this vehicle's electronic system to provide immunity to radio frequency signals. Mobile two-way radios and telephone equipment must be installed properly by trained personnel. The following must be observed during installation.

The positive power connection should be made directly to the battery and fused as close to the battery as possible. The negative power connection should be made to body sheet metal adjacent to the negative battery connection. This connection should not be fused.

Antennas for two-way radios should be mounted on the roof or the rear area of the vehicle. Care should be used in mounting antennas with magnet bases. Magnets may affect the accuracy or operation of the compass on vehicles so equipped.

The antenna cable should be as short as practical and routed away from the vehicle wiring when possible. Use only fully shielded coaxial cable.

Carefully match the antenna and cable to the radio to ensure a low Standing Wave Ratio (SWR).

Mobile radio equipment with output power greater than normal may require special precautions.

All installations should be checked for possible interference between the communications equipment and the vehicle's electronic systems.



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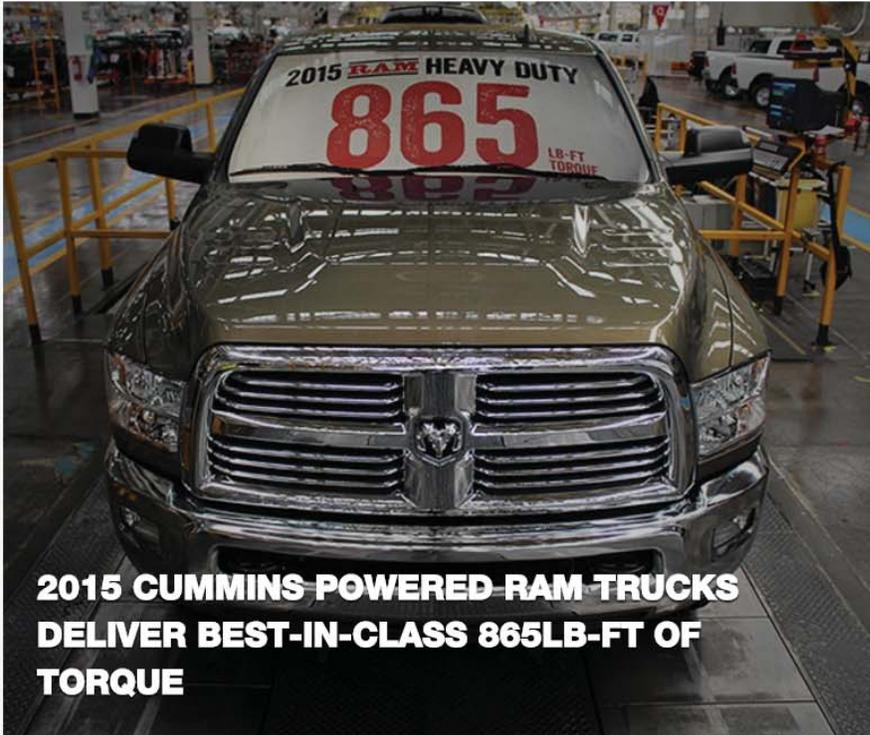
# Exhibit 9

# The Block

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## 2015 CUMMINS POWERED RAM TRUCKS DELIVER BEST-IN-CLASS 865LB-FT OF TORQUE



Ram takes heavy-duty towing and hauling seriously. For model year 2015, the Cummins-powered Ram pickups have added to the list of class-leading benefits.

- New Cummins 6.7-liter calibration adds 15 lb.-ft. of torque to a best-in-class 865 lb.-ft.
- Best-in-class Gross Combined Weight Rating (GCWR) of 37,900 pounds
- 2015 Ram 3500 maintains its towing leadership with up to 30,000 pounds of SAE J2807 specified towing capacity
- 2015 Ram 2500 holds best-in-class 17,970 pounds of towing capacity, while adhering to SAE J2807 test criteria
- The first 2015 Ram Heavy Duty trucks begin rolling off the factory line this week
- Unsurpassed powertrain warranty – five years/100,000 miles



A Cummins-powered Ram 3500 HD rolls off the production line.

Working closely to integrate with Ram, a more aggressive calibration for the Cummins 6.7L Turbo Diesel produces an additional 15 lb.-ft. of torque. This improvement places the coveted engine ahead of the competition with 865 lb.-ft. of torque, while maintaining performance and EPA compliance.

The renowned 6.7-liter Cummins Turbo Diesel I-6 is available in three versions. The first version is paired with Ram's segment exclusive six-speed manual transmission. This combination delivers 350 horsepower at 2,800 rpm and 660 lb.-ft. of torque at 1,400 rpm. The second option matches the Cummins to the 68RFE six-speed automatic transmission. The diesel engine cranks out 370 horsepower at 2,800 rpm with 800 lb.-ft. of torque at 1,600 rpm.

Dominating the torque charts, Cummins 6.7L High-Output Turbo Diesel for Ram 3500 is paired with the Aisin six-speed automatic transmission (AS69RC), leaving no doubt to Ram Heavy Duty's capability. In addition to 385 horsepower at 2,800 rpm, the most powerful Cummins generates best-in-class torque of 865 lb.-ft. at 1,700 rpm.

### Additional Resources

Cummins Engines – [Cummins Engines for Pickups](#)

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@Gateway\_of\_Hope

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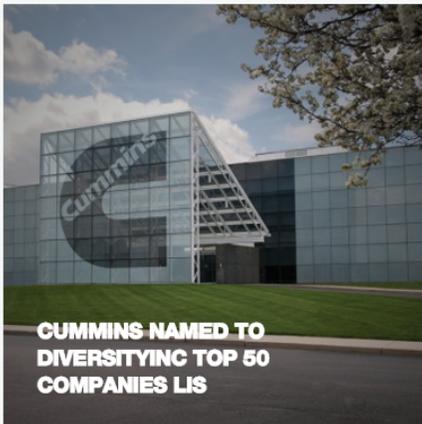
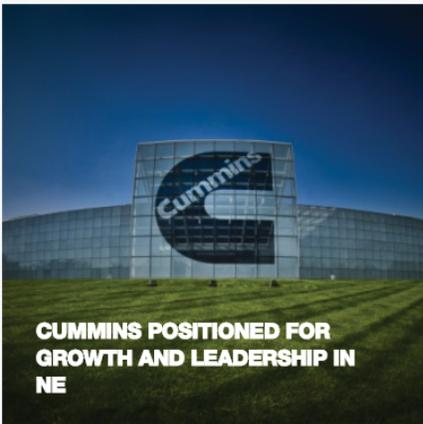
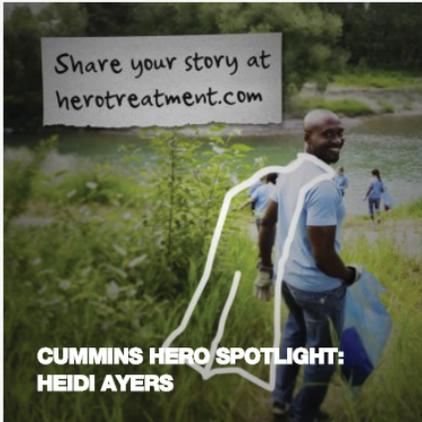
Ram Trucks – 2015 Ram 3500



**JON MILLS**

Jon Mills is the Director of External Communications at Cummins Inc. Jon brings more than 16 years of communications focusing primarily on public and media relations. Jon has served as the primary external communications contact and spokesperson for a variety of companies including Wellpoint, IU Health, Planned Parenthood. His career has also included stints on Capitol Hill, state level lobbying, talk radio and political campaigns. During his tenure, Jon has also played a leadership role in communicating and messaging around several crises, including one that attracted national attention when lives were lost at a large downtown Indianapolis hospital. Jon is a native Hoosier and resides with his family in Indianapolis.

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# Exhibit 11



## Cummins History

# Nearly 100 years of dependability and performance



Cummins roots are planted in soil nourished by innovation, persistence and a commitment to community. Founded in Columbus, Indiana, in 1919 as Cummins Engine Company, for its namesake Clessie Lyle Cummins, the fledgling firm was among the first to see the commercial potential of an unproven engine technology invented two decades earlier by Rudolph Diesel.

Fortunately for Clessie Cummins, a self-taught mechanic and inventor, his vision was shared by someone with the financial resources to make it a reality: William Glanton (W.G.) Irwin, a successful local banker and investor, who already had provided financial backing for Cummins' auto mechanic operation and machine shop.

### The Start of Something Special

After a decade of fits and starts, during which time the diesel engine failed to take hold as a commercial success, a stroke of marketing genius by Clessie Cummins helped save the Company. Cummins mounted a diesel engine in a used Packard limousine and on Christmas day in 1929 took W.G. Irwin for a ride in America's first diesel-powered automobile. Irwin's enthusiasm for the new engine led to an infusion of cash into the Company, which helped fuel a number of speed and endurance records in the coming years - including a grueling 13,535-mile run at the Indianapolis Motor Speedway in 1931. Such feats earned Cummins' foothold as an engine

supplier to the trucking industry.

Still, publicity alone could not carry the Company; Cummins needed reliable products and a sound business organization. In 1933, the company released the Model H, a powerful engine for transportation that launched the company's most successful engine family. J. Irwin Miller, great-nephew of W.G. Irwin, became general manager in 1934 and went on to lead the company to international prominence over the next four decades. By marketing high-quality products through a unique nationwide service organization, the Company earned its first profit in 1937. Three years later, Cummins offered the industry's first 100,000-mile warranty.

### Fueled by Opportunity

By the 1950s, America had embarked on a massive interstate highway construction program, with Cummins engines powering much of the equipment that built the roads and thousands of the trucks that began to roll down them. Truckers demanded economy, power, reliability, and durability, and Cummins responded. By combining lab-based research and

field-based trials, including dramatic performances at the Indy 500 races, Cummins achieved technological breakthroughs, including the revolutionary PT (pressure-time) fuel injection system of 1954. By the late 1950s, Cummins had sales of over \$100 million and a commanding lead in the market for heavy truck diesels.

## Going Global

As Cummins continued to grow its business in the United States, the Company also began looking beyond its traditional borders. Cummins opened its first foreign manufacturing facility in Shotts, Scotland, in 1956 and by the end of the 1960s, Cummins had expanded its sales and service network to 2,500 dealers in 98 countries. Today, Cummins has more than 5,000 facilities in 197 countries and territories.

Cummins, led by the visionary leadership of J. Irwin Miller, forged strong ties to emerging countries such as China, India and Brazil, where Cummins had a major presence before most other U.S. multinational companies. Cummins has grown into one of the largest engine makers in both China and India, and for the past three years approximately half of the Company's sales have been generated outside the United States.

## A Powerful Presence

Cummins is no longer just an engine business, but a global power leader with more than \$13 billion in sales in 2010. We are a family of inter-related, yet diversified businesses that create or enhance value as a result of doing business with each other or having those relationships.

Cummins is organized around four business segments - Engine, Power Generation, Components Business and Distribution – and provides products and service to customers in more than 150 countries.

Cummins is a technology leader in the diesel engine market, with our employees working relentlessly to provide cutting-edge solutions to the increasingly difficult challenge of producing cleaner-running engines. For example, Cummins was the only company in the industry to meet the 2010 EPA standards for NOx emissions with the release in early 2007 of its new 6.7-liter turbo diesel for the Dodge Ram Heavy Duty pickup.

Clessie Cummins' spirit of innovation and commitment to quality lives on nearly a century later in the nearly 40,000 Cummins employees who work to design, make and sell products that can be found in nearly every type of vehicle imaginable.

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# Exhibit 12



## News Article

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<< Back

### Cummins Reveals Best-In-Class 2007 Turbo Diesel Engine

Strongest. Cleanest. Quietest.

WASHINGTON--(BUSINESS WIRE)--Jan. 23, 2007--Cummins Inc. (NYSE:CMI) today unveiled the strongest, cleanest, quietest best-in-class 2007 Cummins Turbo Diesel. Leapfrogging the competition, the Cummins 6.7-liter Turbo Diesel engine, used exclusively in Dodge Ram 2500 and 3500 Heavy Duty pickup trucks, has increased displacement providing increased horsepower and torque while achieving the world's lowest 2010 Environmental Protection Agency (EPA) NOx standard a full three years ahead of the requirements.

The new Turbo Diesel engines are in full production at the Cummins MidRange Engine Plant in Columbus, Ind. Cummins has been the sole supplier of diesel engines for the Dodge Ram since 1988, shipping approximately 160,000 engines in 2006.

Cummins is the first diesel engine manufacturer to have a product certified to the 2010 EPA heavy-duty engine standards for oxides of nitrogen (NOx) and particulate matter (PM) emissions, making it the cleanest heavy-duty diesel engine available in North America. The 2010 EPA standards for NOx (0.2g) and PM (0.01g) represent a more than 90 percent reduction in each pollutant, compared to the 2004 standards.

"The application of the right technology on the Dodge Ram is an extension of the joint clean diesel development work Cummins and DaimlerChrysler have performed together for nearly two decades," said Cummins President and Chief Operating Officer Joe Loughrey. "The new best-in-class Cummins Turbo Diesel and the Dodge Ram will provide the strongest, cleanest, quietest solution for heavy-duty pickup truck customers."

This new technology is a significant validation of the industry's ability to meet the EPA's 2010 clean diesel standards. These innovations help power our economy and drive our environmental successes," said Bill Wehrum, EPA's Acting Assistant Administrator for Air and Radiation.

Cummins announced this news prior to the Washington Auto Show in conjunction with DaimlerChrysler and the EPA.

Strongest. The increased displacement of the 6.7-liter Turbo Diesel - enabling an increase in horsepower and torque while maintaining fuel economy - will provide Dodge Ram customers with better engine performance without sacrificing the reliability and durability that have become synonymous with Cummins. Increased vehicle control and lower operating cost are both delivered on the new 6.7L Turbo Diesel with the addition of an integrated exhaust brake option, providing outstanding braking performance.

Cleanest. Combining advanced in-cylinder technologies, including a Bosch flexible 1800-bar High Pressure Common Rail fuel system with Cummins next-generation cooled Exhaust Gas Recirculation (EGR) and Variable Geometry Turbocharger (VGT(TM)), plus advanced exhaust aftertreatment technology, every Dodge Ram pickup will comply with the 2010 NOx and PM emissions standards. The advanced aftertreatment system includes a close-coupled diesel oxidation catalyst, a NOx adsorber catalyst and a combined diesel oxidation/particulate filter. The engine also incorporates a proprietary closed crankcase ventilation (CCV) system to eliminate crankcase fumes and "driveway drips." These advanced technologies require the use of Ultra-Low Sulfur Diesel (ULSD) fuel in order to meet the tough 2007 and 2010 regulations.

Quietest. The 2007 Cummins Turbo Diesel achieves a 50 percent noise reduction over the previous model, even with the increase in power and torque. The combination of reduced combustion noise, a low-noise VGT, optimized fuel timing/delivery, reduced-noise accessory drive pulleys and block side shields all contribute to this significant noise reduction.

Since 1988, Cummins and Dodge have collaborated to ship over 1.5 million Heavy Duty diesel pickup trucks and today enjoy around 30 percent market share in this highly competitive market in North America.

Case 2:17-cv-02168-CCS Document 1-1 Filed 07/18/18 Page 1 of 3  
Cummins Inc. is a global power leader, is a combination of complementary businesses that design, manufacture, distribute and service engines and related technologies, including fuel systems, controls, air handling, filtration, emission solutions and electrical power generation systems. Headquartered in Columbus, Indiana (USA), Cummins serves customers in more than 160 countries through its network of 550 company-owned and independent distributor facilities and more than 5,000 dealer locations. Cummins reported net income of \$550 million on sales of \$9.9 billion in 2005. Press releases can be found on the Web at [cummins.com](http://cummins.com) or [everytime.cummins.com](http://everytime.cummins.com).

CONTACT: Cummins Inc.  
Carol Lavengood, 812-377-3079  
[carol.lavengood@cummins.com](mailto:carol.lavengood@cummins.com)

SOURCE: Cummins Inc.

# Exhibit 13

DieselNet: Emission Standards

## United States

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[Regulatory Authorities](#)

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[Regulated Engines and Vehicles](#)

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[Vehicle Weight Classes](#)

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[Auxiliary Emission Control Devices and Defeat Devices](#)

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### Regulatory Authorities

**Federal Standards.** US federal emission standards for engines and vehicles, including emission standards for greenhouse gas (GHG) emissions, are established by the US Environmental Protection Agency ([EPA](#)). The EPA authority to regulate engine emissions—and the air quality in general—is based on the *Clean Air Act* (CAA), most recently amended in 1990.

Fuel economy standards are developed by the National Highway Traffic Safety Administration (NHTSA), an agency within the US Department of Transportation ([DOT](#)).

The development of engine emission standards occurs according to the procedures of the US rulemaking process. New regulations are first published as proposed rules. Following a period of public discussion, the new rule is finalized and signed into law. New regulatory proposals and regulations are published in the [Federal Register](#). Consolidated regulations become a part of the [Code of Federal Regulations](#) (CFR).

**California Standards.** The State of California has the right to adopt its own emission regulations, which are often more stringent than the federal rules. Engine and vehicle emission regulations are adopted by the California Air Resources Board ([ARB](#)), a regulatory body within the California EPA.

California is the only state vested with the authority to develop its own emission regulations. Other states have a choice to either implement the federal emission standards, or else to adopt California requirements (CAA section 177).

### Regulated Engines and Vehicles

#### Emission Standards for New Engines and Vehicles

The following categories of new engines and/or vehicles are subject to emission standards in the USA:

- [Cars and Light Trucks: Tier 1 | Tier 2 | Tier 3 | California](#)
- [Heavy-Duty Truck and Bus Engines](#)
- [Mobile Nonroad Diesel Engines](#)
- [Railway Locomotives](#)
- [Marine Engines](#)
- [Small spark ignited \(SSI\) engines \( \$\leq 19\$  kW\)](#)

- Large spark ignited (LSI) engines (> 19 kW)
- Stationary Engines: SI NSPS | CI NSPS | NESHAP

## GHG & Fuel Economy

Fuel economy in new light-duty vehicles has been regulated since the 1970's by [CAFE standards](#) administered by the National Highway Traffic Safety Administration (NHTSA), an agency within the Department of Transportation (DOT).

The first greenhouse gas regulations for motor vehicles were adopted in 2002 in [California](#). At the federal level, [GHG emission standards](#) and harmonized CAFE legislation for light-duty vehicles were adopted in joint regulatory actions by the EPA and the NHSTA in 2010 and 2012. GHG/fuel economy regulation for [heavy-duty trucks](#) was adopted in 2011.

## On-Board Diagnostics (OBD)

On-Board Diagnostic requirements—[California](#) and [federal](#)—apply to light-duty vehicles, as well as to increasing number of categories of heavy-duty engines. OBD regulations ensure compliance with emission standards by setting requirements to monitor selected emission system components (e.g., catalytic converters) or in-use emission levels, and to alert the driver/operator—such as by a dashboard-mounted malfunction indicator light—when a problem is detected.

## In-Use Engine Regulations

In addition to new engine emission regulations, there is a growing number of programs—mandatory or incentive-based—to reduce emissions from in-use diesel engines. These initiatives are being implemented by all levels of government: federal, state, and local. We provide an overview of the following diesel programs:

- [California Diesel Risk Reduction Program](#)
- [Urban Bus Retrofit Rebuild \(UBRR\) Program \(1995\)](#)
- [Diesel Occupational Health Regulations](#)

## Vehicle Weight Classes

Some of the commonly used US vehicle weight classifications are summarized in the following tables.

**Table 1**  
Vehicle weight classifications by the US FHA and US Census Bureau

Gross vehicle weight rating (lbs)	Federal Highway Administration		US Census Bureau
	Vehicle Class	GVWR Category	VIUS Classes
≤ 6,000	Class 1: ≤ 6,000 lbs	Light Duty ≤ 10,000 lbs	Light Duty ≤ 10,000 lbs
10,000	Class 2: 6,001-10,000 lbs		
14,000	Class 3: 10,001-14,000 lbs	Medium Duty 10,001-26,000 lbs	Medium Duty 10,001-19,500 lbs
16,000	Class 4: 14,001-16,000 lbs		
19,500	Class 5: 16,001-19,500 lbs		
26,000	Class 6: 19,501-26,000 lbs		
33,000	Class 7: 26,001-33,000 lbs	Heavy Duty ≥ 26,001 lbs	Heavy Duty ≥ 26,001 lbs
> 33,000	Class 8: > 33,000 lbs		

**Table 2**  
Vehicle weight classifications by the US EPA

Gross vehicle weight rating (lbs)	EPA Emissions Classifications			
	Heavy Duty Vehicles and Engines			Light Duty Vehicles
	HD Trucks	HD Engines	General trucks	Passenger Vehicles
≤ 6,000	Light Duty Trucks 1 & 2: ≤ 6,000 lbs	Light Light Duty Trucks: ≤ 6,000 lbs	Light Duty Trucks ≤ 8,500 lbs	Light Duty Vehicles ≤ 8,500 lbs
8,500	Light Duty Trucks 3 & 4: 6,001-8,500 lbs	Heavy Light Duty Trucks: 6,001-8,500 lbs		
10,000	Heavy Duty Vehicle 2b: 8,501-10,000 lbs	Light Heavy Duty Engines: 8,501-19,500 lbs	Heavy Duty Vehicle Heavy Duty Engine ≥ 8,500 lbs	Medium Duty Passenger Vehicles 8,501-10,000 lbs
14,000	Heavy Duty Vehicle 3: 10,001-14,000 lbs			
16,000	Heavy Duty Vehicle 4: 14,001-16,000 lbs			
19,500	Heavy Duty Vehicle 5: 16,001-19,500 lbs			
26,000	Heavy Duty Vehicle 6: 19,501-26,000 lbs	Medium Heavy Duty Engines: 19,501-33,000 lbs		
33,000	Heavy Duty Vehicle 7: 26,001-33,000 lbs			
60,000	Heavy Duty Vehicle 8a: 33,001-60,000 lbs	Heavy Heavy Duty Engines Urban Bus: ≥ 33,001 lbs		
> 60,000	Heavy Duty Vehicle 8b: ≥ 60,001 lbs			

## Auxiliary Emission Control Devices and Defeat Devices

Under some operating conditions, components of the emission control system can be shut-off or deactivated. This is usually done for reasons including: ensuring engine start-up, protection of the vehicle against damage or accident and preventing the unwanted shut-down of emergency vehicles or equipment. Deactivating components of the emission control system is carried out using what is called an Auxiliary Emission Control Device (AECD). EPA regulations define an AECD as:

any element of design which senses temperature, vehicle speed, engine RPM, transmission gear, manifold vacuum, or any other parameter for the purpose of activating, modulating, delaying, or deactivating the operation of any part of the emission control system.

The EPA definition for emission control system covers all components that are used to control emissions including: aftertreatment devices, engine modifications, sensors, actuators, EGR system and so on.

A *defeat device* is an AECD that reduces the effectiveness of the emission control system under conditions which may reasonably be expected to be encountered in normal vehicle operation and use. Defeat devices are prohibited. In order for manufacturers to certify their vehicles and engines, during the application for certification, they must submit a list of AECDs, justify their use, explain how they work and demonstrate that the AECDs are not defeat devices.

While there are some differences, the definitions of AECD, emission control system and defeat device as well their approval is relatively consistent for light-, medium- and heavy-duty vehicles and engines as well as nonroad engines.



# Exhibit 14



FOR IMMEDIATE RELEASE  
ENR  
TUESDAY, JUNE 16, 1998  
(202) 514-2008  
TDD (202) 514-1888

**JUSTICE DEPARTMENT SUES MACK TRUCK INC. UNDER CLEAN AIR ACT**

**Company Charged With Illegal Emissions From Diesel Engines**

WASHINGTON The Justice Department, on behalf of the Environmental Protection Agency, yesterday sued Mack Trucks Inc., one of the leading U.S. manufacturers of heavy duty diesel engines, for violating standards designed to limit emissions of dangerous air pollutants under the Clean Air Act.

"The American people deserve clean air to breath," said Lois Schiffer, Assistant Attorney General in charge of the Environment and Natural Resources Division. "Those who break the law will pay a high price. This lawsuit is another example of the federal government's determination to ensure full compliance with the Clean Air Act."

On Monday, the Department filed suit in U.S. District Court in Washington, D.C. to respond to the company's termination of settlement negotiations by filing its own lawsuit against the federal government.

The suit alleges that Mack has been selling unlawful heavy duty diesel engines equipped with devices that defeat the engines' emissions control system, resulting in the emission of illegal amounts of oxides of nitrogen (NOx).

NOx is an air pollutant that contributes to smog, acid rain, and increased levels of lung disease. Heavy duty diesel engines are used in tractor trailers and other large trucks.

The suit asks the court to prohibit Mack from selling engines with defeat devices, to order Mack to recall and fix those engines currently on the road, and to require Mack to take additional steps to offset the harm caused to public health and the environment. The suit also seeks civil penalties for the violations.

"Mack's use of defeat devices had and will continue to have a significant adverse impact on the public, resulting in an estimated 700,000 tons of excess harmful nitrogen oxide emissions and more than \$1 billion in extra health care costs over the life of the engines," said Steve Herman, EPA Assistant Administrator for Enforcement and Compliance Assurance. "By filing the lawsuit, we are taking action to ensure that the company does not compromise clean air and the public health now and in the future."

"There simply is no excuse for circumventing federal laws aimed at protecting and preserving our natural resources," said Wilma A. Lewis, United States Attorney for the District of Columbia. "This lawsuit is the result of a collaborative effort among the Environmental Protection Agency, the Environmental and Natural Resources Division of the Department of Justice and the U.S. Attorney's Office, and demonstrates our continuing commitment toward enforcing the Clean Air Act."

According to the charges, the company's engine software controls the timing of fuel injection into the combustion chamber, causing the engine to emit excessive amounts of NOx while the truck is running on the open road. However, the company's engine software is designed in such a way so that these emission levels do not show up on the federal test. Changing the timing of fuel injection can increase fuel economy, but at the expense of much higher emissions of NOx.

The suit also alleges that these engines are not covered by EPA's certificates of conformity, which all engines must have to be lawfully sold in this country.

Under the Clean Air Act, a manufacturer is prohibited from selling or offering for sale any new motor vehicle or motor vehicle engine equipped with any device designed to defeat the engines' emission control system.

The government estimates that the affected engines, if not fixed, could result in total increases in NOx emissions in excess of 700,000 tons over the life of the engines.

Oxides of Nitrogen combine with volatile organic compounds in the presence of sunlight to form ozone, one of six criteria pollutants for which EPA has established National Ambient Air Quality Standards. An abundance of ozone near the earth's surface is harmful to humans, agricultural crops and plants. In addition, oxides of nitrogen can cause acid rain, which is harmful to fish, and high levels of nitrates in drinking water, which is a human health hazard, especially for infants.

Last week, the Department settled allegations that American Honda Motor Co. Inc. and Ford Motor Company violated the Clean Air Act by selling vehicles with disabled emission control diagnostic systems and illegally installing defeat devices, respectively.

Mack's failure to disclose to EPA the existence of these defeat devices on its engines obstructed the EPA's ability to protect public welfare and the environment before the engines were sold.

###

98-281

# Exhibit 15

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The Muse Jay-Z's New Album Features 'Becky' Admission, His Mom Coming Out Today 11:00am

# How The EPA Won \$1 Billion From Diesel Cheaters Long Before VW

Raphael Orlove 9/21/15 4:05pm Filed to: DIESELGATE

186 15



Volkswagen's current diesel disaster is not the first time the Environmental Protection Agency has discovered that a vehicle manufacturer had been cheating on their diesel emissions tests. Here's how the U.S. government won \$1 billion from diesel cheaters nearly two decades ago.

Your Guide To Dieselgate: Volkswagen's Diesel Cheating Catastrophe Yes, it's a catastrophe. There's no other way to describe the allegations from the Environmental... Read more

That VW's small diesel passenger car engines were spewing out significantly more toxic NOx than law allowed is, quite surprisingly, not extremely remarkable in the world of governing the auto industry. In the past nine years alone, Europe has gone through not one but two major scandals with diesel engines producing way too much NOx.

These issues were called "cycle beating," where an automaker builds a car that passes emissions tests only during the test itself and never anytime else. They surfaced both in 2006 (read the full report right here) and in 2014 (read the full report on this in German here). Both may yet weigh on VW's case here in 2015.

But there was another case that precedes VW's current issues right here in America, again with diesels, again even with defeat devices. And there's bad news for VW: the EPA won.

The drama unfolded in 1998 when the Justice Department on behalf of the EPA straight up sued every major diesel engine manufacturer in the United States. The suit alleged these companies' heavy trucks were "equipped with devices that defeat the engines' emissions control system, resulting in the emission of illegal amounts of oxides of nitrogen."

The engines met the requirements when run on the EPA's 20-minute test

procedure, but had three times the legal NOx emissions in highway driving.

Sound familiar?

As the EPA recounts, the suit named Caterpillar, Inc., Cummins Engine Company, Detroit Diesel Corporation, Mack Trucks, Inc., Navistar International Transportation Corporation, Renault Vehicules Industriels, s.a., and the Volvo Truck Corporation.

A critical story in the libertarian-minded policy journal *The Independent Review* detailed the case just as it had been settled, elaborating the 'absurdity' of the EPA suing engine producers for making engines that technically passed all of their tests.

In other words, one man's cheat was another man's way of just passing a test.

In a good example of the regulatory doublespeak common at the EPA, the engine controllers were said to have "defeated" the emissions standards by ensuring that the engines met precisely the EPA standards using EPA's tests.

Because the EPA's engine test focused only on simulating urban driving conditions, however, meeting the test standard allowed the engine controllers to focus on mileage rather than on emissions under highway driving conditions. In effect, the EPA sued the engine manufacturers because the engine makers had not designed their engines to meet a test procedure EPA had not created.

Despite the legal absurdity of the EPA's position, in 1998 the firms and the EPA signed a \$1 billion settlement that tightens the previous regulatory standards and specifies how the industry will regulate emissions of nitrogen oxides (NOx).

The companies were forced to spend a collective *one billion dollars* in total, including an \$83.4 million civil penalty, at the time the largest ever for violation of environmental law.

(I sincerely hope somebody at the EPA held a pinkie up to their mouth Dr. Evil style when they made the announcement. Indeed, *Austin Powers* came out in 1997, so it would still be fresh in their minds. You do feel old reading that.)

Now, as *The Independent Review* pointed out, it does seem strange that the EPA was punishing companies for passing the EPA's own tests. The engine makers made this exact point when they argued against their regulators, as the *New York Times* reported. You might think the onus would be on the EPA at that point for making a bad test, but the EPA was having none of that.

Then again, if the tests are designed to simulate real-world conditions and how the trucks perform in regular driving, and the goal of the regulation is to make sure we have clean air, you can see the issue.

"These defeat devices are really deceit devices," EPA administrator Carol Browner said at the time. "They defeat important public health protections and deceive the American people."

If you go and look up the full text of the Clean Air Act and search for 'defeat,' you will come up with this very clear explanation explicitly states under the 'Prohibited Acts' section, that is it prohibited "for any person to manufacture or sell, or offer to sell, or install, any part or component intended for use with, or as part of, any motor vehicle or motor vehicle engine, where a principal effect of the part or component is to bypass, defeat, or render inoperative any device or element of design installed on or in a motor vehicle or motor vehicle engine in compliance with regulations under this subchapter, and where the person knows or should know that such part or component is being offered for sale or installed for such use or put to such use."

This note on defeat devices is exactly what left diesel engine manufacturers at

This note on defeat devices is exactly what led diesel engine manufacturers at a loss. If you're wondering why they all settled, this section of the Clean Air Act looks like the key reasoning. The EPA has said as much themselves to VW.

This 1998 case is startling because it almost exactly mirrors the drama that VW is going through at the moment. Yes, VW's diesels passed all of the EPA's tests while the EPA was testing them.

But this case from 1998 (along with the wording of the Clean Air Act it affirms) set the precedent that if you use a defeat device to do exactly as the EPA tells you, don't expect to pay less than nine figures.

*Photo Credit: Getty Images (Diesel trucks are pictured here marching on Washington, if you can call it that, protesting high diesel prices. The photo was taken in the year 2000.)*

**If You're Looking For Specifics On VW's Current Case, Check These Articles**



Volkswagen Sees Billions Wiped Off Market As Stock Tumbles 20 Percent Amid Dieselgate



Volkswagen Is Screwed



Your Guide To Dieselgate: Volkswagen's Diesel Cheating Catastrophe

Contact the author at [raphael@jalopnik.com](mailto:raphael@jalopnik.com).

↪ Reply | 186 replies

👍 Like 536



# Exhibit 16

**Department of Justice**

Office of Public Affairs

FOR IMMEDIATE RELEASE

Monday, February 22, 2010

**Cummins Inc. Agrees to Pay \$2.1 Million Penalty for Diesel Engine Clean Air Act Violations**

WASHINGTON—Cummins Inc., a major motor vehicle engine company based in Columbus, Ind., will pay a \$2.1 million penalty and recall 405 engines under a settlement agreement resolving alleged violations of the Clean Air Act, the Justice Department and U.S. Environmental Protection Agency (EPA) announced today.

According to a complaint filed simultaneously with the settlement in federal court in the District of Columbia, between 1998 and 2006 Cummins shipped more than 570,000 heavy duty diesel engines to vehicle equipment manufacturers nationwide without pollution control equipment included, in violation of the Clean Air Act. This equipment, known as exhaust after-treatment devices (ATDs), controls engine exhaust emissions once the emissions have exited the engine and entered the exhaust system. Typical ATDs include catalytic converters and diesel particulate filters.

Engine manufacturers must prove through testing that their engine designs meet EPA's emissions standards and seek certificates of conformity. According to the complaint, Cummins tested the engines with the ATDs to meet the standards, but failed to include the ATDs with the engines when Cummins shipped the engines to the vehicle manufacturers. Instead, Cummins relied upon the vehicle manufacturers to purchase and install the correct ATDs. The United States alleges that the shipment of engines to vehicle manufacturers without the ATDs violates the Clean Air Act's prohibition on the sale of engines not covered by certificates of conformity.

The settlement requires Cummins to recall approximately 405 engines that were found to have reached the ultimate consumers without the correct ATDs in order to install the correct ATDs.

"This settlement assures that the environment suffers no ill effects because it requires that Cummins not only install the proper pollution control devices but also mitigate the effects of the harmful emissions released as a result of its actions," said Ignacia S. Moreno, Assistant Attorney General for the Justice Department's Environment and Natural Resources Division.

"Reliable and effective pollution control systems are essential to protect human health and the environment from harmful engine emissions," said Cynthia Giles, Assistant Administrator for EPA's Office of Enforcement and Compliance Assurance. "These requirements are a critical part of EPA's program to reduce air pollution and secure clean air so that all Americans can breathe easier."

EPA estimates that Cummins actions resulted in approximately 167 excess tons of nitrogen oxides and hydrocarbon emissions, and 30 excess tons of particulate matter emissions over the lifetime of the non-conforming engines. Cummins will mitigate the effects of excess emissions from its non-conforming engines through permanent retirement of emission credits equal to the excess tons of pollution.

Over half the air pollutants in America come from "mobile sources" of air pollution, such as cars, trucks, buses, motorcycles, construction, agricultural and lawn and garden equipment, marine vessels, outboard motors, jet skis and snowmobiles. Mobile source pollutants include smog-forming volatile organic compounds and nitrogen oxides, toxic air pollutants such as cancer-causing benzene, and particulate matter or "soot." These pollutants are responsible for asthma and other respiratory illnesses.

The state of California Air Resources Board will receive \$420,000 of the civil penalty under a separate settlement agreement with Cummins, continuing a federal government practice of sharing civil penalties with states that participate in clean air enforcement actions.

The Cummins settlement was lodged today in the U.S. District Court for the District of Columbia, and is subject to a 30-day public comment period. A copy of the consent decree is available on the Justice Department Web site at [http://www.justice.gov/enrd/Consent\\_Decrees.html](http://www.justice.gov/enrd/Consent_Decrees.html).

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**Component(s):**

Environment and Natural Resources Division

**Press Release Number:**

10-173

*Updated September 15, 2014*

# Exhibit 17

FORTUNE 500

## Cummins: An Engine Maker Bets on Clean Air—and Wins

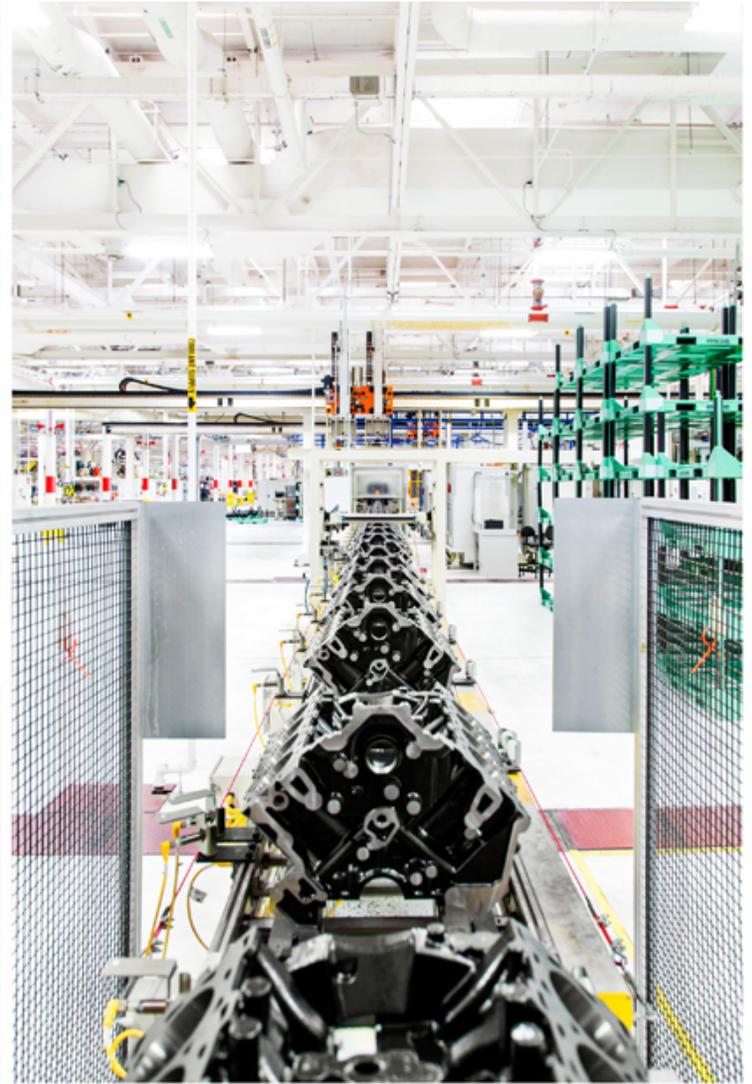
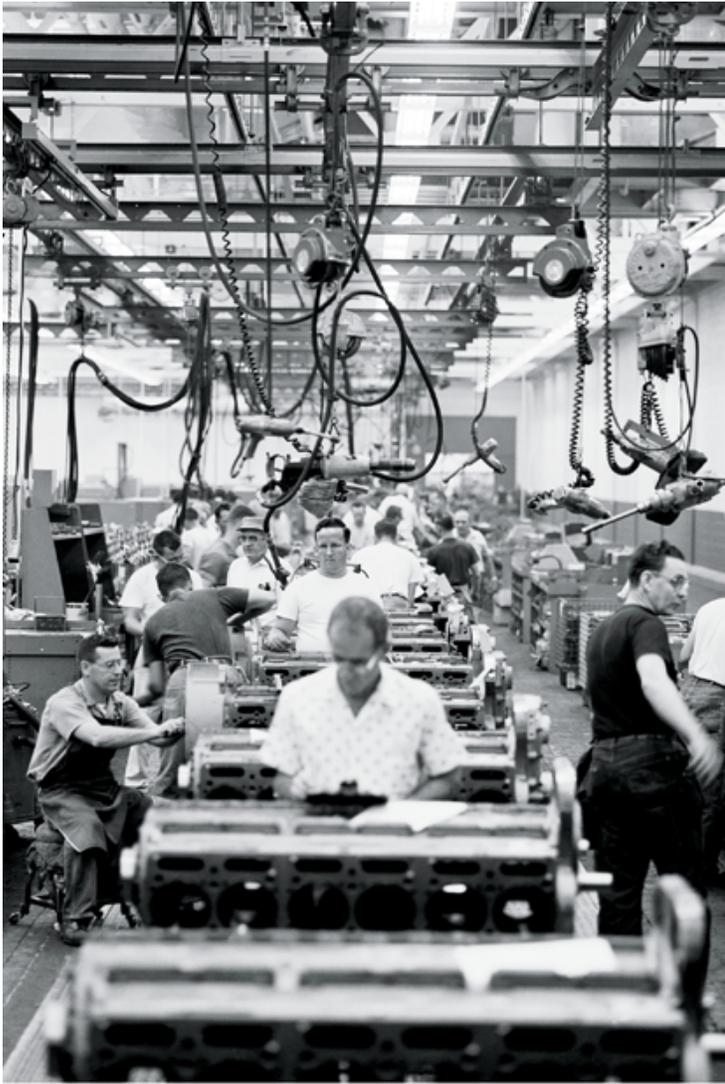
Clay Risen

Jun 08, 2015



**D**rive across the Midwest, and you'll see the same scene in town after town: shuttered factories, Main Streets full of empty storefronts, workforces hollowed out by the steep decline in the once-mighty American manufacturing sector. So you may find yourself doing a double-take when you get to Columbus, Ind., pop. 46,000, the home of [Cummins \(CMI, +1.17%\)](#), the country's leading diesel-engine manufacturer. You'll see a thriving downtown, weekend street fairs, and crowds flocking to trendy cafés and restaurants. With 17% of the local workforce employed directly by [Cummins](#), Columbus is a one-business town—and business is good. The local economy is at 4.4% unemployment, compared with 5.8% for Indiana as a whole. “When I was growing up, my hometown of Anderson, an hour north of here, had 20,000 [GM \(GM, +0.11%\)](#) employees, and 30 years later it has none,” says Jason Hester, executive director of the Columbus Economic Development Board. “Right now, in this community, if you want a job, you're hired.” For that you can thank diesel engines—bulky, unglamorous machines that may make you think of battered pickups and lumbering semis, or maybe of Europe, where diesel passenger cars are the norm. And yet in an American economy driven by tech startups and high finance, Cummins has not only survived but thrived in heavy industry. Driven by global demand for its energy-efficient, low-emission engines, the company's sales have popped since the end of the Great Recession; revenues jumped from \$10.8 billion in 2009 to \$19.2 billion in 2014. It operates in 90 countries, with almost 50% of its 2014 sales coming from overseas. In the U.S. and many other markets, it's the company to beat in diesel. Says Larry De Maria, an analyst with William Blair: “Cummins arguably makes the best engines in the world.”

**Cummins and Columbus, from Past to Present:** In 1958, Architectural Forum magazine hired Ezra Stoller to photograph the home of Cummins CEO J. Irwin Miller in Columbus, the company's hometown. That encounter led to more commissions, between 1962 and 1971, for which Stoller shot pictures of Cummins's factories and Columbus itself. Here, his vintage photos are paired with new images captured for Fortune by Ryan Donnell.



On the line, then and now: Cummins workers put the finishing touches on engines in a Columbus factory in 1962 (left); engine blocks destined for Nissan pickups await machining in that same factory today. Vintage Photograph: Ezra Stoller—Esto; Photograph by Ryan Donnell for Fortune

Cummins first found success riding the postwar boom; it's one of only 57 companies that have appeared on the *Fortune 500* every year since 1955. But more impressive is how the company has sustained that success in a tumultuous time for U.S. industry. When many manufacturers fled to cheaper overseas labor, Cummins took a more sophisticated tack, investing in its domestic workforce and facilities while establishing fifty-fifty joint ventures abroad. And when many automotive companies fought Washington on clean-air regulations, Cummins embraced them—and then used its mastery of clean-tech diesel to build a moat around itself. “We like things where the business is hard to do,” says Rich Freeland, Cummins’s president and chief operating officer. “Only a few people can get there, and we think we can.”

## 2014 COMPANY PROFILE

Rank in *Fortune 500*:

154

Revenues:	\$19.2 billion
Profits:	\$1.65 billion
Employees:	54,600
Total Return to Shareholders (2004-2014 Annual Rate):	23.1%

That sort of confidence, along with a corporate culture that emphasizes investing in employees and their communities, has helped Cummins evolve into something truly unusual. It's a multi-national, technology-driven, very contemporary company that retains some qualities of an Eisenhower-era, take-care-of-your-workers industrial giant—a business model so traditionally American that it now seems practically un-American. It's a combination that has Cummins poised to continue capitalizing on the growing global trucking industry, and one that could keep it firing on all cylinders for many years to come.

Though you would never confuse Cummins with [Apple \(AAPL, +0.57%\)](#) or [HP \(HPQ, -0.03%\)](#), it, too, got its start in a garage. In 1919, Clessie Lyle Cummins, an auto mechanic and chauffeur in Columbus, persuaded his boss, a local banker named William G. Irwin, to invest in an exotic engine technology developed by the German engineer Rudolf Diesel.

At the time, few Americans had heard of diesel, and those who had heard of it figured the bulky design was best suited for generators and farm equipment. But Cummins saw the possibility of using it on the highway, and through the 1920s and '30s his eponymous company churned out increasingly powerful, sophisticated engines, with the goal of serving the burgeoning commercial trucking sector.



Assembling engines for Dodge Ram trucks at a Cummins plant today; workers on one of the company's original assembly lines in

1962. Photograph by Ryan Donnell for Fortune; Vintage photograph: Ezra Stoller—Esto

The advent of World War II and the postwar expansion of the highway system and the interstate trucking industry created an unquenchable demand for immensely powerful engines, and diesel was unmatched in that category. Under the leadership of Irwin's nephew, J. Irwin Miller, the company grew from \$26 million in gross sales in 1944 to \$1.26 billion in 1977—14-fold growth after adjusting for inflation.

If Clessie Cummins was responsible for creating the company, Miller deserves credit for making it a global powerhouse. He was an unlikely candidate for the role of industrial magnate: Born into wealth, he went to Yale and Oxford, where he played classical violin, rowed crew, and gravitated toward circles of architects and artists. Once in place at Cummins, though, Miller proved to be a natural executive. He understood the long-term potential of overseas growth, so even as Cummins made a mint on domestic trucking, it began to expand internationally. Miller opened Cummins's first overseas factory in 1956 in Scotland; six years later he formed a fifty-fifty joint venture to build heavy-duty engines in Pune, India—decades before most American firms dared invest in that country. In 1975, Miller was one of the first American executives to visit China after President Richard Nixon normalized relations.

Miller paid equal attention to the company's hometown. To attract top-flight engineering and management talent to rural Indiana, he had the corporate philanthropy, the Cummins Foundation, sink millions into local schools. And he offered to pay the architect's fees for any public building project that agreed to choose from a list of firms he provided; as a result, Columbus has one of the greatest concentrations of modern architecture in the country. I.M. Pei designed the public library. Eero Saarinen did a local church. Richard Meier designed a school; Robert A.M. Stern, a hospital. "It's a matter of enlightened self-interest," says Hester at the local economic development board. "Cummins can attract employees who but for these amenities would not come here."



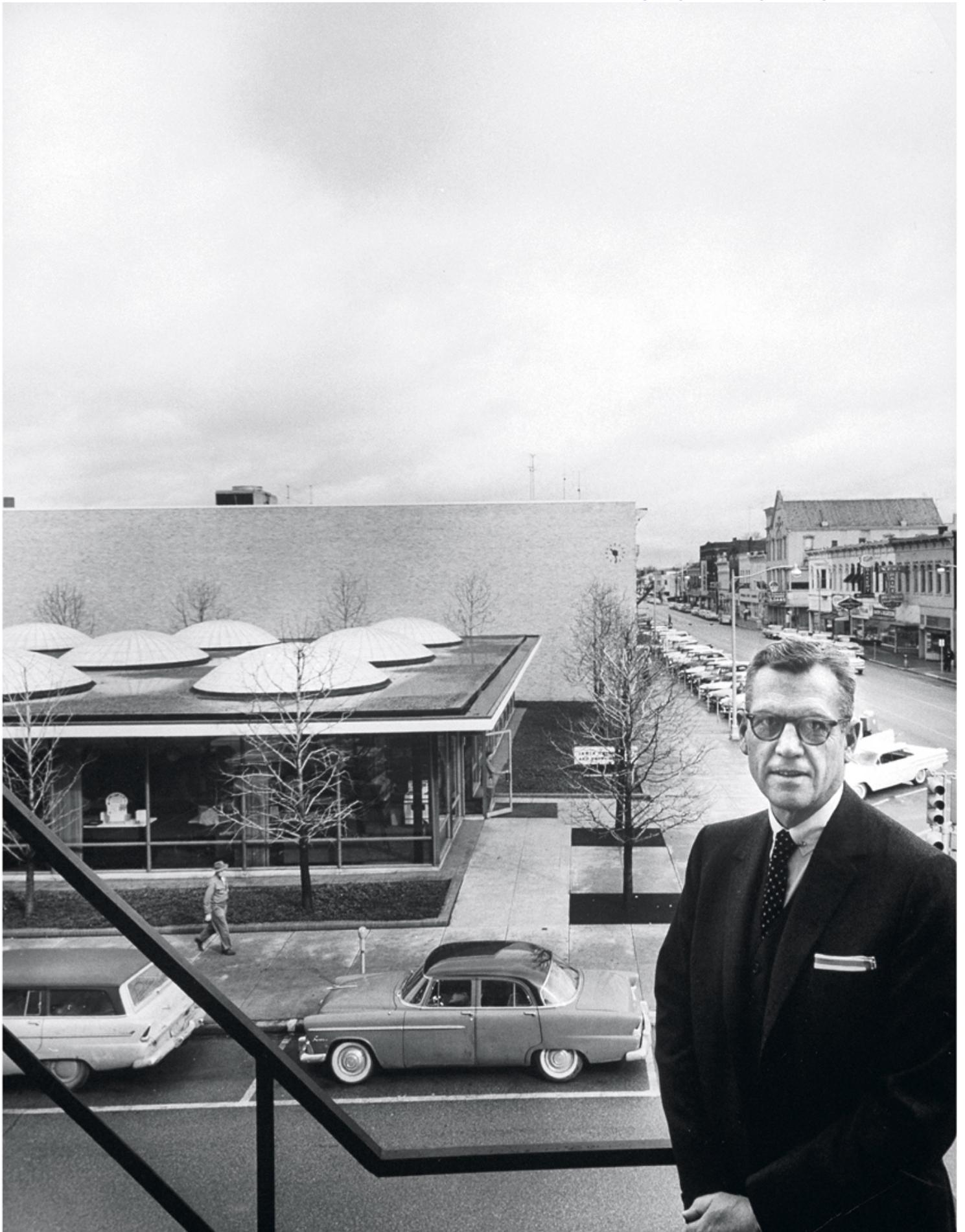
One of Cummins's major architectural commissions in Columbus, Elial Saarinen's First Christian Church, is shown here reflected in a  
<http://fortune.com/2015/06/08/cummins-diesel-engine/>

Miller's public activism extended beyond Columbus, as Charles Rentschler, a former Cummins executive, documents in *The Cathedral Builder*, a new biography of Miller. In 1960 he became the first lay president of the National Council of Churches, and he used his business and religious ties to push Midwestern congressmen to support the Civil Rights Act of 1964. He was strongly pro-union and fought against Indiana's right-to-work law when it was first introduced. "I wouldn't know how to run a big company without a strong union," he told a *Fortune* reporter in 1957. (Even today about 40% of Cummins's global workforce is unionized.)

Though Miller died in 2004, the company continues to reflect his philosophy of serving stakeholders beyond its shareholders—including customers, employees, and the community. In 2012, after the Columbus city council rejected a plan to provide universal curbside recycling, Cummins led a consortium of local firms to pay for the program's capital costs, including trucks and totes, a \$500,000 commitment. "I meet other mayors who say I'm lucky to be mayor of Columbus," says Kristen Brown, a sixth-generation resident—and a daughter of a lifetime Cummins employee—who was elected in 2011. "They say, 'I'd love to have a Cummins.'"

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Miller's legacy was put to the test in 1997, when the Environmental Protection Agency began investigating whether special shutoff switches in the company's engines could be used to disable emissions controls. They could, apparently to the surprise and dismay of Cummins engineers. The next year the EPA forced Cummins and several other manufacturers to agree to reprogram the devices and sign an \$83.4 million consent decree, the highest civil penalty in environmental enforcement to date. The EPA then moved forward the deadline for new, lower-emission engines from 2004 to October 2002.



CEO J. Irwin Miller funded big civic architecture projects—including this Eero Saarinen–designed bank—to help Cummins lure talent to

Some at Cummins wondered whether a company built on dirty, heavy-duty diesel could survive the EPA's order, says Freeland, the president and COO, who has been with the company since 1979. Cummins's leadership considered suing, but eventually cooler heads prevailed, and rather than fight the EPA, Cummins decided to work with it. "We said we'd double down, because we thought there was a way to be different," Freeland says. Cummins was, after all, the leader in diesel technology. If it could quickly meet the EPA's new standards, it stood to reap enormous benefits.

Under Theodore M. Solso, who was chairman and chief executive from 2000 to 2011 and is now chairman of General Motors, Cummins set out to become the first diesel company to hit the EPA targets. "The whole industry said there was no way anyone could meet it," Solso now recalls. But Solso made meeting the goal a centerpiece of a bigger internal revolution. In the early 2000s he implemented Six Sigma management systems and ended the wildly popular (but profit-reducing) practice of offering discounts on most sales. Above all, he poured money into research and development, traditionally a weak spot for diesel makers. From 2002 to 2007, Cummins boosted annual R&D spending by 60%, to \$321 million, with almost a quarter dedicated to meeting future EPA engine standards. That emphasis yielded important new technologies, including advances in "deep spray" injection, a process that reduced engines' emissions without sacrificing efficiency by pushing fuel farther into the cylinder.

Cummins did indeed hit the EPA's standards first, and saw it pay off almost immediately. By 2010, [Caterpillar \(CAT, +1.37%\)](#) and Detroit Diesel, its two largest domestic rivals, had bowed out of the on-highway heavy-duty diesel market, which Cummins now dominates with a 39% share. Annual revenues have more than tripled since 2002, when that EPA deadline kicked in, and experts within and outside the company say Cummins's early commitment to a low-emissions strategy will help it maintain its lead as regulations ratchet up over coming decades.

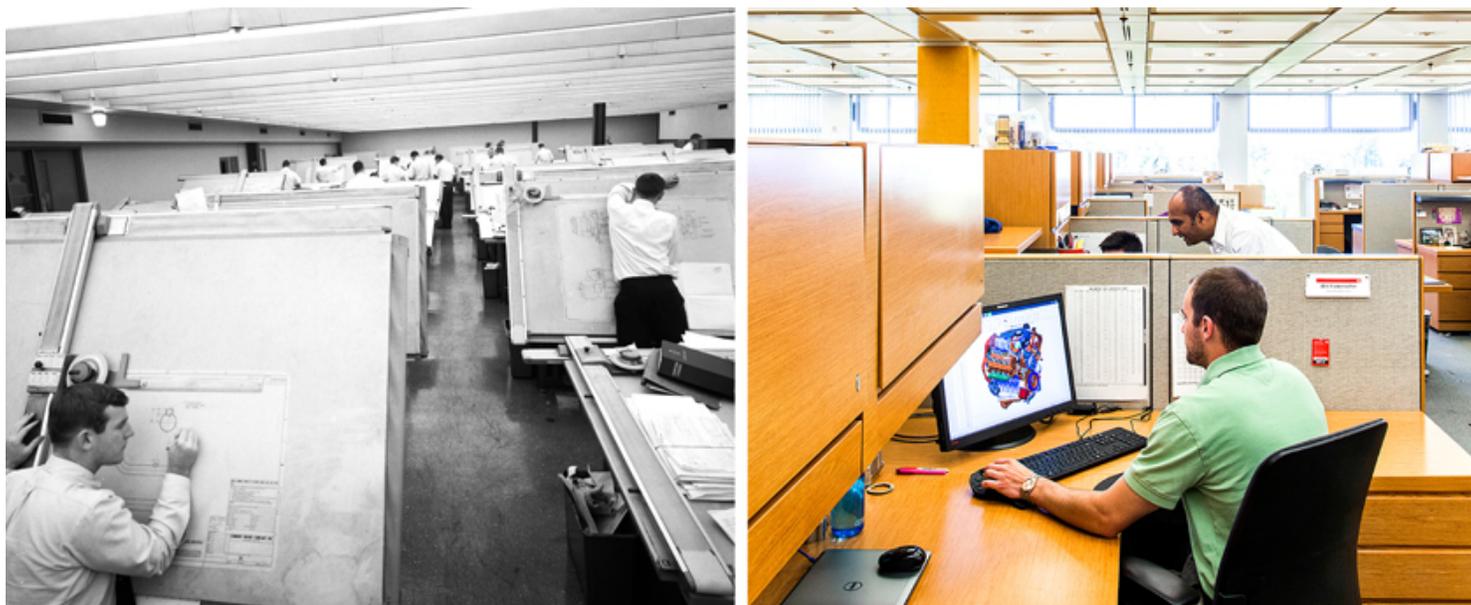


Technicians at work on a prototype engine in 1962; a present-day prototype at rest in the Technical Center. Vintage Photograph: Ezra Stoller—Esto; Photograph by Ryan Donnell for Fortune

“The on- and off-highway emissions standards were the best thing that ever happened to Cummins,” says Mike Brezonick, editor-in-chief of *Diesel Progress* magazine. “They make such better engines now. It was the equivalent of the Manhattan Project.” The company also controls about 41% of the North American market for after-market components that lower emissions on other companies’ engines, a huge new source of revenue. “You hear in the news that pollution controls are hurting jobs,” says John Wall, the chief technology officer. “For us it’s the exact opposite.” Last year the components business brought in \$5.1 billion, or a little over a quarter of total revenues.

Cummins continues to work closely with the EPA on the next generation of standards. Wall, coincidentally, had been meeting with agency officials the day before giving an interview to *Fortune*. “We’ll take [regulators] through technologies being developed, explain how long it will take to get them to market,” Wall says, hoping that the industry’s needs are on their minds when the rules are finally written. That kind of cooperation has made Cummins a poster child for emissions controls; Solso and his successor, current CEO Tom Linebarger, have both stood beside President Obama as he announced rounds of clean-air standards.

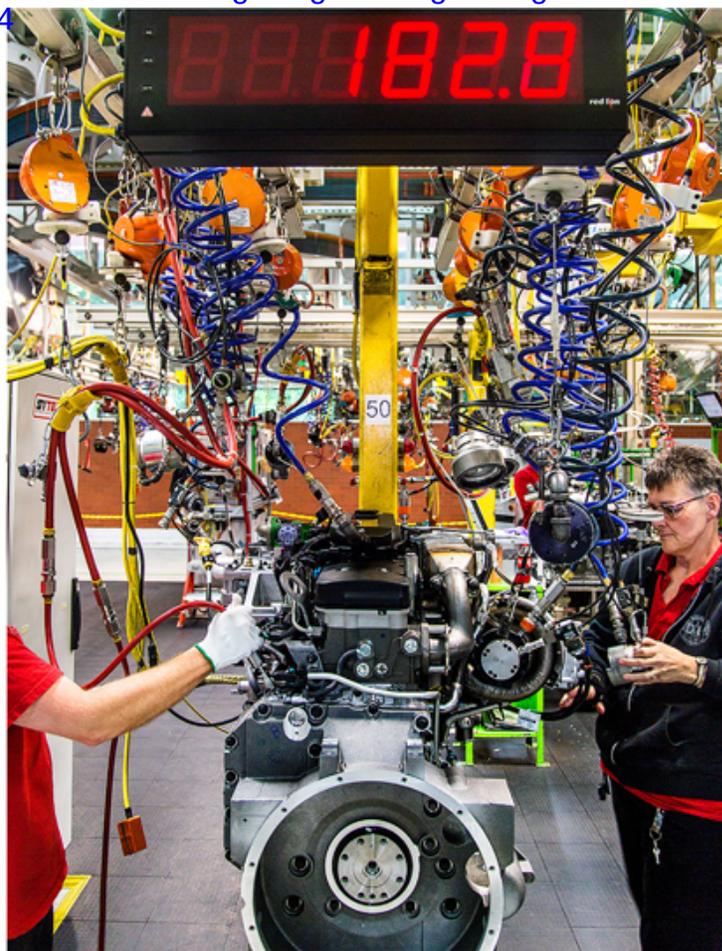
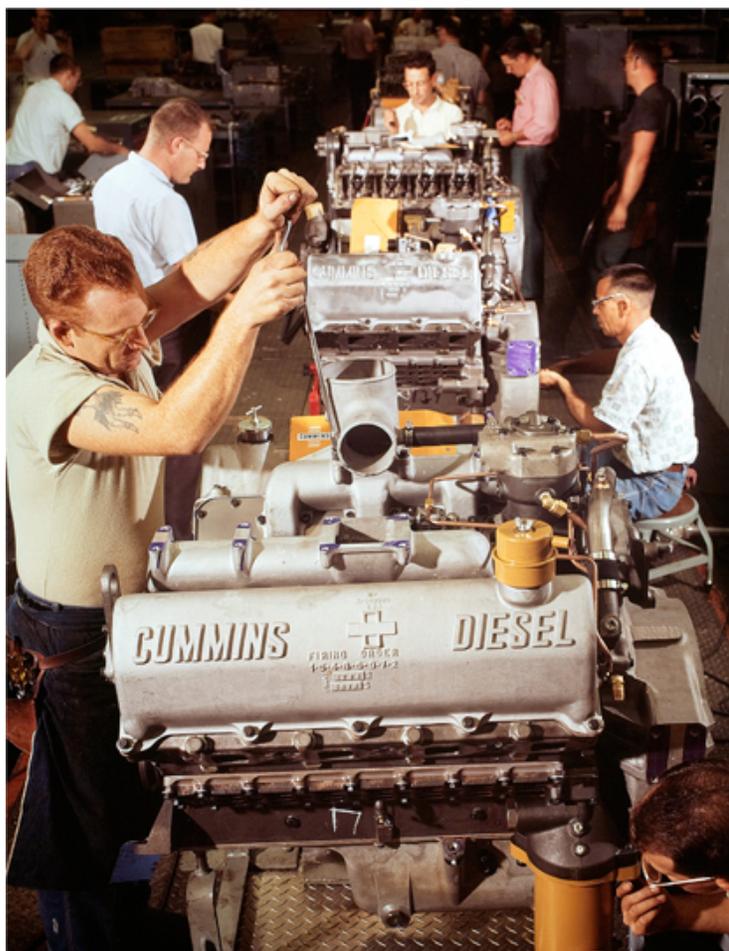
Cummins's clean-engine investments mesh in important ways with its other major strategic initiative of the past decade and a half: its rapid growth overseas. Under Solso the company opened dozens of new foreign joint ventures and deepened its investments in East Asia and Latin America. By 2005, China and India alone were generating \$1.9 billion in sales, almost 23% of Cummins's total. Today, of its 54,600 employees, 63% work outside the U.S., up from about 50% a decade ago.



Cummins engineers working at drafting tables in 1963; doing similar work with the help of computer-aided design software at the Cummins Technical Center. Vintage Photograph: Ezra Stoller—Esto; Photograph by Ryan Donnell for Fortune

As developing nations improve their own clean-air standards, Cummins's lead in meeting U.S. rules could leave it well positioned to take advantage. And its diversity, both in product lines and markets, has already bolstered Cummins enormously by severing it from the chains of cyclicity in the diesel-engine industry. During the downturn of the late 1990s and early 2000s, Cummins struggled and had unprofitable years, but it emerged from the Great Recession relatively unscathed, thanks to its broad exposure to the developing world.

The benefits of global breadth were on display in Cummins's most recent quarterly earnings call. The company forecast big dropoffs in truck engine sales in China and Brazil, but it also said that U.S. demand would be more than strong enough to offset the declines, and investors shrugged off the news. Cummins stock is up 105% over the past five years, compared with 95% for the S&P 500, and it remains an analyst darling.



Blue-collar technicians and white-collar engineers often team up on Cummins assembly lines, as in this 1962 photo. Today, a digital clock tracks the time spent on particular tasks. Vintage Photograph: Ezra Stoller—Esto; Photograph by Ryan Donnell for Fortune

Cummins is far from the only U.S. manufacturer to have expanded overseas, of course. But unlike many big companies that fly solo, Cummins insists on splitting ownership fifty-fifty, and it stocks its overseas offices with local talent. Going half-and-half has allowed Cummins to get into tough markets, like China, that might resist a company that tried to force its own terms. And it means that Cummins gets a better sense of local conditions more quickly. China in particular is littered with the hulks of failed ventures by U.S. companies that didn't understand the territory. In 2013, for example, [Caterpillar](#), one of Cummins's rivals, had to write down \$580 million after it gobbled up a Chinese mining-equipment company, Siwei. Caterpillar said it had discovered, months after the deal closed, that Siwei's value had been inflated by "accounting misconduct" at the Chinese company.

As it expands globally, Cummins looks to local talent to boost not just its rank and file but also its management. Its leadership development program, an 18-month executive education program, trains 15 promising employees from other countries—including China, India, and Brazil—to become leaders either in their own countries or in other regions where

Cummins operates. “It’s part of our belief in building capability locally,” Freeland says. “We’re not there to extract value.”



The offices and printing plant of the Columbus Republic newspaper designed by Myron Goldsmith of Skidmore, Owings & Merrill, shown shortly after completion in 1971, and today. Appropriately enough for a factory-town paper, its bright-yellow printing press was visible to the public. Vintage photograph: Ezra Stoller—Esto; Photograph by Ryan Donnell for Fortune

Developing local talent is also important because of the way Cummins tackles overseas product development. Instead of taking products made for the U.S. and tweaking them (or “de-contenting” them, in industry lingo) to fit local needs, the company approaches each region as a blank slate and develops engines and other products to match it. That’s more expensive upfront, but it means a better and more profitable fit in the long run. It’s also a running source of ideas and products that might find export markets of their own. For example, Cummins’s ISF 2.8-liter engine was designed for the Chinese commercial truck market, where engines tend to be smaller and lower in power than in the U.S. and Europe. But it turns out that for the U.S. market, the ISF works perfectly in pickup trucks. Last year Nissan presented a concept version of its Frontier pickup, with a Cummins ISF 2.8, at the Chicago Auto Show.

Cummins also invests heavily in the overseas communities it enters, in projects that show how corporate citizenship and a strategy for the company’s future can complement each other. Among its initiatives: an engineering college for women in India, which now enrolls about 1,800 students, many of whom the company hopes will help it meet its goal of a 50% female workforce in that country. Efforts like these follow the example that Irwin Miller set decades ago in Indiana, Wall says: “We take this model with us all around the world.” Brezonick of *Diesel Progress* also sees a little bit of Columbus in the company’s global

investments. “When push comes to shove,” he says, “they’re a straight-shooting Indiana company.” Albeit one with employees in Pune, Xiangyang, and São Paulo.

*A version of this article appears in the June 15, 2015 issue of Fortune magazine with the headline 'An Engine Maker's High-Tech Makeover.'*

**Clarification, June 9, 2015:** *An earlier version of this article said that Nissan would soon offer a version of the Cummins ISF 2.8 in its Frontier pickup; Nissan used the engine in a concept version of the truck in 2014, but has opted not offer it in production versions.*

# Exhibit 18



# Dodge Introduces Cleaner, Quieter and More Powerful 6.7-liter Cummins Turbo-Diesel Engine at State Fair of Texas

Engine available in January on new 2007 Dodge Ram 2500/3500 models

\* Increased output with 350 horsepower and 650 lb.-ft. of torque \* New, fuel-saving six-speed automatic transmission features best-in-class gear-ratio spread; standard Electronic Range Select (ERS) \* First-ever integrated exhaust brake available direct from the factory \* 50-percent quieter engine; 3 DbA reduction in cabin sound levels \* Life-to-major overhaul intervals of 350,000 miles, providing more than a 100,000-mile advantage over the competition

Sep 28, 2006, 01:00 ET from Chrysler Group



DALLAS, Sept. 28 /PRNewswire-FirstCall/ -- The war among America's diesel-powered pickup trucks rumbles into a new round with Dodge announcing more horsepower, torque, refinement and a host of advanced towing features.

Today at the State Fair of Texas, Dodge will reveal more details about the 2007 Dodge Ram Heavy Duty's new 6.7-liter Cummins turbo-diesel engine, which replaces the current 5.9-liter engine. Producing 350 horsepower at 3,000 rpm and 650 lb.-ft. of torque at 1,500 rpm, the 6.7-liter engine features an all-new six-speed automatic transmission that delivers improved fuel economy and performance.

The engine will be available in 2007 Dodge Ram 2500 and 3500 models beginning January 2007. A commercial-use 6.7-liter Cummins turbo-diesel engine was introduced in early 2006 with the all-new Dodge Ram Chassis Cab, which is available now.

"The 2007 Dodge Ram Heavy Duty's new 6.7-liter Cummins turbo-diesel engine sets the performance standard with an outstanding combination of horsepower, torque, refinement and emissions-reducing technology," said Scott Kunselman, Chief Engineer - Dodge Ram. "Providing superior trailer towing, acceleration, throttle response and drivability, the new 6.7-liter engine is not only more powerful, it's also cleaner with B5 biodiesel compatibility and a reduction in particulates and nitrogen oxide (NOx) that comply with the 50-state 2007 heavy-duty emission standards."

Based on the proven DNA of the 5.9-liter Cummins turbo-diesel engine, the new 6.7-liter engine is 50-percent quieter, while featuring a 107mm bore by 124mm stroke (versus 102mm bore by 120mm stroke for the 5.9-liter engine). The new engine retains more than 40 percent of its components from the 5.9-liter engine and shares more than 80 percent of its components with the new Dodge Ram chassis cab.

The high-performance 408-cubic-inch inline-six intercooled turbo-diesel is clean and quiet, and meets all 2007 U.S. federal and state emission requirements, which require a 90-percent reduction in particulate matter and 50-percent reduction in NOx.

Offered for the first time in Dodge Ram Heavy Duty trucks are features including an integrated exhaust brake, standard Electronic Range Select (ERS) and "Smart" tow/haul controls that provide customers flexibility and increased safety when towing heavy loads.

Improved Performance, Durability and Emissions

Dodge Ram Heavy Duty's new 6.7-liter turbo-diesel engine features improved performance, durability and significantly reduced emissions.

Enhancing diesel-powered performance of 2007 Dodge Ram Heavy Duty trucks is an electronically-controlled Variable Geometry Turbocharger (VGT), which precisely matches boost pressure with the engine's needs. The 6.7-liter engine's VGT utilizes 16 fixed vanes and a sliding yoke, providing variable geometry, as well as an electric valve. The VGT produces optimum combustion control, reduced emissions and a quiet and lag-free throttle response.

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Decreasing NOx emissions is a next-generation cooled Exhaust Gas Recirculation (EGR) system. The Cummins 6.7-liter engine's EGR system is water cooled, with the air reintroduced into the intake system, keeping turbo and intercooler components clean, which increases the engine's durability.

Within the 6.7-liter Dodge Ram Heavy Duty exhaust system, reducing particulate matter is achieved through a self-cleaning Diesel Particulate Filter (DPF). The muffler is isolated from the emissions control system, therefore customers may remove the muffler without violating emissions compliance. The emissions system is designed for a government-certified 120,000 miles.

As durable as it is powerful, the Cummins 6.7-liter turbo-diesel engine has life-to-major overhaul intervals of 350,000 miles, providing more than a 100,000-mile advantage over the competition.

Quiet and Refined Driving Experience

In addition to improving emissions and durability, occupant comfort is central to the 2007 Dodge Ram Heavy Duty. The new 6.7-liter turbo-diesel engine incorporates several new features that contribute to a 50-percent quieter engine and a 3 Dba reduction in cabin sound levels, increasing the vehicle's overall refinement.

New engine mounts, a constrained-layered oil pan, intake silencer and engine-block shield create a quiet cabin environment inside the 2007 Dodge Ram Heavy Duty. In addition, an over-running alternator pulley eliminates sounds generated from the diesel engine shut down process, and machined crankshaft counter weights significantly contribute to quiet acceleration.

First-ever Optional Exhaust Brake

For the first time in a Dodge Ram Heavy Duty truck, an integrated exhaust brake is available direct from the factory. Utilizing the 6.7-liter Cummins turbo-diesel engine's new turbocharger, the exhaust brake significantly improves control when towing heavy applications, such as pulling RV fifth wheels and horse trailers, providing added control and brake savings by transforming horsepower into braking power.

"Towing and hauling capability is critical for our customers, as more than 90 percent of Dodge Ram Heavy Duty customers tow with their truck," said Kunselman.

Benefits of the exhaust brake include:

- \* Increased vehicle control to provide the owner additional peace of mind when towing
- \* Enhanced safety by reducing overheating and fading of brakes on downhill grades
- \* Lower cost of ownership, extending brake life by as much as three times
- \* Capability for faster cold-weather cab warming

The 2007 Dodge Ram Heavy Duty's 6.7-liter Cummins turbo-diesel engine's VGT is capable of creating the maximum exhaust restriction through a wide range of operating speeds, improving braking performance at low and high engine speeds. Testing has shown more than a 30 percent improvement in retarding torque at 2000 rpm compared with traditional brake exhaust methods.

Six-speed Automatic Transmission with Electronic Range Select (ERS)

Mated to the 6.7-liter Cummins turbo-diesel engine is a new six-speed 68RFE automatic transmission, which delivers optimum fuel economy and performance. A new Electronic Range Select (ERS) system is integrated with the transmission, enabling customers to select desired gears that match driving conditions.

The new six-speed automatic transmission features a best-in-class gear ratio spread of 5.16:1, allowing for superior launch capability. The sixth gear, also known as the second overdrive gear, provides an extremely low rpm at highway speeds, improving Dodge Ram Heavy Duty's fuel economy and passenger comfort. In addition, an added compounder and two clutches provide optimal shift quality, improved quietness and durability.

The transmission's new ERS system complements the 2007 Dodge Ram Heavy Duty's tow/haul mode, allowing for driver-actuated gear selection with a shifter-mounted switch. ERS provides greater control in unique driving conditions, such as towing heavy loads on severe inclines. The system includes electronic safeguards to prevent shifting that could cause engine damage.

Towing/Hauling

In addition to more horsepower and torque, Dodge Ram Heavy Duty boasts towing capability of 16,400 lbs., a payload of 5,020 lbs. and Gross Combined Weight Rating (GCWR) and Gross Vehicle Weight Rating (GVWR) of 23,000 lbs. and 12,200 lbs., respectively.

The 2007 Dodge Ram Heavy Duty provides a combination of standard and optional features that make towing easier, such as a Class IV hitch receiver with a seven-circuit wiring harness, 750-amp battery, heavy-duty engine cooling and an auxiliary transmission oil cooler.

Distinctive trailer-tow mirrors featured on Dodge Ram Heavy Duty trucks offer a large rear-viewing area that may be customized to drivers' needs and preferences. Mirrors provide two views on both sides: close-up and wide-out. In addition, mirrors flip up 90 degrees for viewing beyond wide trailers.

Chrysler Group Diesel-Powered Models

In the United States, current diesel-powered models include the Dodge Ram Heavy Duty, Dodge Sprinter and the new 3.0-liter V6 diesel Jeep Grand Cherokee, which hits the market in early 2007. In 1988, the Chrysler Group made a significant impact with the introduction of the Cummins 5.9-liter I-6 in heavy duty applications. Customer recognition is still exceptional and will continue with the new Cummins 6.7-liter turbo diesel.

In Europe, diesel-powered models account for more than half of Chrysler Group sales. The Chrysler 300C, Chrysler PT Cruiser and Dodge Caravan models continue to be popular.

Advanced diesel technology is part of the Chrysler Group's advanced propulsion technology umbrella, which also includes efficient gasoline engines, hybrids, flex-fuel vehicles and biodiesel capability.

Dodge Brand

With a U.S. market share of 7 percent, Dodge is the Chrysler Group's best-selling brand and the fifth largest nameplate in the U.S. automotive

market. In 2005, Dodge sold more than 1.4 million vehicles in the global market. Dodge continues to lead the minivan market with a 19 percent market share in the U.S. In the highly competitive truck market, Dodge has a 16 percent market share. This year, Dodge enters key European volume segments.

Cummins

Cummins Inc., a global power leader, is a corporation of complementary business units that design, manufacture, distribute and service engines and related technologies, including fuel systems, controls, air handling, filtration, emission solutions, and electrical power generation systems. Headquartered in Columbus, Indiana, Cummins serves customers in more than 160 countries through its network of 550 company-owned and independent distributor facilities and more than 5,000 dealer locations. Cummins produces the diesel for the Dodge Ram 2500 and 3500 series.

2007 Dodge Ram Heavy Duty Cummins 6.7-liter Turbo-diesel Engine Details

Engine

6.7L 107mm bore x 124mm stroke  
High swirl (2.4 DCS) combustion system  
17.2:1 Compression ratio  
Machined crankshaft counter weights  
Viscous vibration damper

Air Handling

VGT - sliding nozzle (16 vane to eliminate turbine blade pass whistle)  
Cooled EGR with cold-side EGR valve  
Air inlet throttle  
EGR cooler bypass  
CCV with coalescing filter

Oil system

Tested with low ash oil API C34 (PC10)  
Drain interval - 7500 miles  
Total capacity - 13 qts on initial fill  
Sump capacity - 9 qts low, 11 qts high  
Typical oil change capacity - 12 qts  
Dump to sump to provide oil pressure quicker  
Constrained layer oil pan to reduce transmitted noise

Fuel system

Bosch 3rd generation common rail system  
7 micron spin on filter  
Tested with ultra low sulfur fuel - 15 ppm  
Approved for bio-diesel fuel

Cooling system

Molded composite impeller for improved coolant flow

Electronics

CM2100 ECM  
Double the CPU processing speed (40 to 80 MHz)  
40% increase in memory

NVH

Constrained layer oil pan  
Over running alternator pulley (eliminate shut down squeal)  
Intake silencer  
Machined crankshaft counter weights  
Combustion system (multi injection events)  
Block shields  
Pulleys modified to reduce 'speaker' effect  
Stuffer between transmission adapter and pan  
Viscous vibration damper

Specifications

ENGINE: 6.7-LITER HIGH OUTPUT CUMMINS TURBO DIESEL I-6  
Availability ---- Opt. - 2500, 3500; available Jan. 1, 2007  
Type and Description ---- Six-cylinder, inline, liquid-cooled, turbocharged, intercooled  
Displacement ---- 408 cu. in. (6690 cu. cm)  
Bore x Stroke ---- 4.21 x 4.88 (107 x 124)  
Valve System ---- OHV, 24 valves, solid lifters  
Fuel Injection ---- Electronic high-pressure common rail  
Construction ---- Cast-iron block and head  
Compression Ratio ---- 17.3:1  
Power (SAE net) ---- 350 bhp (261 kW) @ 3,000 rpm  
Torque (SAE net) ---- 650 lb.-ft. (881 N\*m) @ 1,500 rpm w/6-spd. automatic;  
610 lb.-ft. (827 N\*m) @1,400 rpm w/6-spd. manual  
Maximum High-idle Engine Speed ---- 3,500 rpm  
Fuel Requirement ---- Ultra Low Sulfur Diesel  
Oil Capacity ---- 12 qt. (11.3L) with filter  
Coolant Capacity ---- 29.5 qt. (28.0L)  
Emission Controls ---- Exhaust after-treatment systems and internal engine features

TRANSMISSION: 68RFE ORION-AUTOMATIC, SIX-SPEED

Availability ---- Opt. with 6.7L turbo diesel engine; available Jan. 1, 2007  
Description ---- Three planetary gear sets, one overrunning clutch, full electronic control, electronically controlled converter clutch

Gear Ratios

1st ---- 3.231  
2nd ---- 1.837  
3rd ---- 1.410  
4th ---- 1.0

5th ---- 0.816  
 6th ---- 0.625  
 Reverse ---- 4.444  
 Overall Top Gear Ratio ---- 2.33 with 3.73 axle ratio; 2.56 with 4.10 axle ratio

SOURCE Chrysler Group

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Advanced diesel technology is part of the Chrysler Group's advanced propulsion technology umbrella, which also includes efficient gasoline engines, hybrids, flex-fuel vehicles and biodiesel capability.

**Dodge Brand**

With a U.S. market share of 7 percent, Dodge is the Chrysler Group's best-selling brand and the fifth largest nameplate in the U.S. automotive market. In 2005, Dodge sold more than 1.4 million vehicles in the global market. Dodge continues to lead the minivan market with a 19 percent market share in the U.S. In the highly competitive truck market, Dodge has a 16 percent market share. This year, Dodge enters key European volume segments.

**Cummins**

Cummins Inc., a global power leader, is a corporation of complementary business units that design, manufacture, distribute and service engines and related technologies, including fuel systems, controls, air handling, filtration, emission solutions, and electrical power generation systems. Headquartered in Columbus, Indiana, Cummins serves customers in more than 160 countries through its network of 550 company-owned and independent distributor facilities and more than 5,000 dealer locations. Cummins produces the diesel for the Dodge Ram 2500 and 3500 series.

**2007 Dodge Ram Heavy Duty Cummins 6.7-liter Turbo-diesel Engine Details**

**Engine**

- 6.7L 107mm bore x 124mm stroke
- High swirl (2.4 DCS) combustion system
- 17.2:1 Compression ratio
- Machined crankshaft counter weights
- Viscous vibration damper

**Air Handling**

- VGT - sliding nozzle (16 vane to eliminate turbine blade pass whistle)
- Cooled EGR with cold-side EGR valve
- Air inlet throttle
- EGR cooler bypass
- CCV with coalescing filter

**Oil system**

- Tested with low ash oil API CJ4 (PC10)
- Drain interval - 7500 miles
- Total capacity - 13 qts on initial fill
- Sump capacity - 9 qts low, 11 qts high
- Typical oil change capacity - 12 qts
- Dump to sump to provide oil pressure quicker
- Constrained layer oil pan to reduce transmitted noise



# Exhibit 19



Top 10  
Ways Cummins Is  
Redefining  
Value.



# Top 10 Ways Cummins Is Redefining Value.



## 1 Superior Fuel Economy

Cummins offers leading fuel economy for a lower cost of operation.



## 2 Proven Dependability

The reliability and durability of Cummins and Cummins Westport engines have been demonstrated in every type of vehicle working every type of duty cycle, for decades.

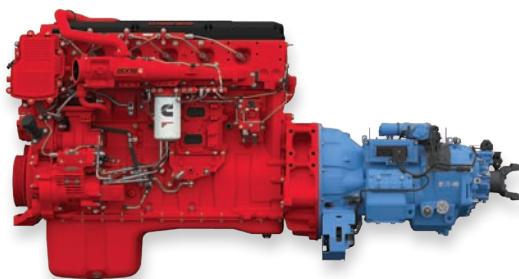
## 3 ADEPT™ Technology

The system continuously makes minor adjustments to speed, power and transmission gear to take advantage of vehicle momentum, maximizing efficiency and using less fuel while allowing the driver to concentrate on the road ahead.



## 4 SmartAdvantage™ Powertrain

The smart way to get 3-6% better fuel economy. Cummins and Eaton® have joined together to deliver a fully integrated powertrain with unprecedented performance and fuel economy.





# 5

## World-Class Support

Cummins has the largest and most capable parts and service network in North America, with over 3,500 locations. Cummins Care is available 24/7 to assist you.

# 6

## Single Module Aftertreatment



Cummins Emission Solutions has developed an ultra high efficiency aftertreatment system that takes up less space and is easier to install and simpler to maintain.

# 7

## Next-Generation ISX15

The 2017 ISX15 is optimized for every application, improving operational efficiency, reducing downtime and improving profitability. Proven technology, demonstrated with nearly 9 million miles of real-world experience at launch.



# 8

## Leading Performance

Cummins fully integrated technology, from air handling to exhaust aftertreatment, allows us to optimize performance in ways that other manufacturers can't match.

# 9

## Connected Diagnostics™

Compatible with leading telematics providers, this application wirelessly connects your engine to Cummins for engine fault diagnosis, determining the potential root cause within seconds and providing clear recommendations for immediate action.



# 10

## Broadest Product Range

No one has the breadth and strength of the Cummins product line, which includes diesel and natural gas engines from 5 to 15 liters, and no other engine is available in trucks made by every major OEM in North America.

# Redefining Efficiency.



**CumminsTour.com**

 **@CumminsTour**

Cummins is showcasing our industry-leading technology in a tour across North America. The Redefining Tour is your chance to experience in person how Cummins is redefining efficiency for the entire trucking industry and find out how our advanced technology can add value for your business. The tour includes everything from the current ISX15 to the ISB6.7, ADEPT™ dynamic powertrain technology, Connected Diagnostics™, the SmartAdvantage™ Powertrain, Cummins Westport natural gas engines and a preview of our 2017 ISX15.



**Cummins Inc.**  
**Box 3005**  
**Columbus, IN 47202-3005**  
**U.S.A.**

Phone: 1-800-DIESELS™ (1-800-343-7357)  
Internet: cumminsengines.com

Twitter.com/CumminsEngines  
YouTube.com/CumminsEngines

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# Exhibit 20

RAM TRUCKS & VANS SHOPPING TOOLS RAM COMMERCIAL TOWING & CAPABILITY RAM LIFE OWNERS DEALERS & VEHICLES BUILD & PRICE

2017 Ram 2500 Overview Powertrain Gallery Features Specs Special Editions



**NOW GET 0% APR**  
FOR 36 MONTHS

PLUS **\$3,000** BONUS CASH  
OR GET **\$10,086** IN TOTAL VALUE

ON 2017 2500 LARAMIE MODELS.

**AMERICA'S LONGEST-LASTING PICKUPS**

View Current Offers for 98101 CHANGE ZIP

MSRP\* STARTING AT  
**\$32,145**

2017 Ram 2500 as shown. Price starting at MSRP\* \$47,645

**BUILD & PRICE**

**SEARCH NEW INVENTORY**



### 2017 Off-Road Truck of Texas

The All-New 2017 Ram Power Wagon was named the Off-Road Truck of Texas by the Texas Auto Writers Association. Special consideration was given for off-road capability on the rugged Texas terrain.

## RAM 2500 TRIMS

Available in multiple trims with the choice of a gas or diesel engine: the Proven and Legendary 6.7L Cummins® Turbo Diesel Engine and the Heavy-Duty 6.4L HEMI® V8 Engine. Select a truck to explore.

TRADESMAN\* SLT BIG HORN\* LARAMIE\*



### 2017 RAM 2500 BIG HORN®

4x2  4x4

Crew Cab / 6'4" box

- Premium Cloth 40/20/40 Split-Bench Front Seats
- 10-Way Power Driver Seat with Two-Way Power Lumbar Adjustment
- Available Uconnect® 8.4 delivers SiriusXM® Satellite Radio with a One-Year Subscription Included
- Seating for up to Six People
- Fold-Flat Load Floor (Crew Cab Models Only)
- Available ParkView® Rear Back Up Camera

PRODUCTION COLORS

LOW VOLUME COLORS



Granite Crystal Metallic Clear Coat Exterior Paint

MSRP\* STARTING AT

\$42,725

[BUILD & PRICE >](#)

[SEARCH NEW INVENTORY >](#)



**Proven and Legendary 6.7L Cummins® Turbo Diesel I6 Engine**

The available Proven and Legendary 6.7L Cummins® Turbo Diesel I6 engine offers 800 pound-feet of maximum diesel torque.



**Five-Link Coil Rear Suspension**

Utilizing proprietary spring technology, the Class-Exclusive five-link coil rear suspension helps reduce overall friction in the system without sacrificing heavy-duty towing capability. The result? Improved turning ability and an enhanced ride that gives the driver confidence on every driving surface.



**Rear Auto-Level Air Suspension**

The available Class-Exclusive rear Auto-Level air suspension ensures level loads no matter the cargo or terrain. With the push of a button, the driver can select from two smart ride height selections, payload and trailer, with automatic electronic adjustments to maintain a level load. Contained within the frame-mounted compressor, tank and lines, it's all done in relative silence.



**RamBox® Cargo Management System**

The Class-Exclusive available RamBox® Cargo Management System offers lockable storage. With the available AllSecure® Central Locking System, access is as easy as a push of a button. And with lighted, drainable storage, it's perfect for tools, gear or beverages. This comprehensive system also includes a cargo bed extender/divider, cargo bed rails with four adjustable tie-down cleats, and cargo box lighting. Not available with Low Volume paint colors.

# 126 RAM 2500 TRUCKS IN YOUR AREA

Find Your Truck

[SEARCH NEW INVENTORY >](#)

## POWERTRAIN

### GAS OR DIESEL POWER TO PERFORM



- Proven 6.7L Cummins® Turbo Diesel I6 Engine with 800 Pound-Feet of Torque
- Legendary Heavy-Duty 6.4L HEMI V8 Engine with Best-in-Class 410 Horsepower

[EXPLORE POWERTRAIN >](#)





Optional equipment shown.



Aftermarket and optional equipment shown. Properly secure all cargo. Always tow within the vehicle's capacity.

## CAPABILITY

MAX DIESEL TOWING

**17,980** POUNDS <sup>1</sup>

MAX DIESEL TORQUE

**800** LB-FT

BEST-IN-CLASS GAS HORSEPOWER <sup>2</sup>

**410** HP

MAX GAS TORQUE

**429** LB-FT



Optional equipment shown.

## DISCOVER THE DIFFERENCE

The Ram 2500 is engineered to deliver outstanding performance in the toughest of conditions.

### FEATURES

- Best-In-Class Max Gas Towing of 16,320 Pounds<sup>2</sup> and a Max Gas Payload of 3,990 Pounds<sup>1</sup>
- Available Class-Exclusive Rear Auto-Level Air Suspension<sup>3</sup>
- Class-Exclusive Five-Link Coil Rear Coil Suspension<sup>3</sup>

[EXPLORE CAPABILITY >](#)



Aftermarket and optional equipment shown. Properly secure all cargo. Always tow within the vehicle's capacity.

# EXTERIOR



Optional equipment shown.

## GEAR UP

Ram 2500 is outfitted with exterior features designed to help you bring along all the tools and equipment you need for the job.

### FEATURES

- Available Factory-Installed Fifth-Wheel/Gooseneck Prep Package
- Available Class-Exclusive RamBox® Cargo Management System
- Available Cargo-View Camera
- Available Wheel-to-Wheel Side Steps
- Available ParkView® Rear Back Up Camera System
- Available LED Bed Lighting
- Available ParkSense® Front and Rear Park Assist Sensors

[EXPLORE EXTERIOR >](#)



Optional equipment shown.

# INTERIOR



Optional equipment shown.



## SOPHISTICATED COMFORT IN A HARD-WORKING TRUCK

The rugged power of a Ram truck meets the comfort of a luxury interior. We designed the Ram 2500 with the comfort of our passengers in mind, giving every surface the utmost attention to detail.

### FEATURES

- Luxury Interior Touches
- Versatile Seating Options for Optimum Passenger Comfort
- Multiple Storage Solutions

[EXPLORE INTERIOR >](#)



Uconnect® 8.4-Inch Full-Color Touchscreen

The Largest-in-Class available 8.4-inch touchscreen puts the driver in complete command. The Uconnect® 8.4 features SiriusXM® Satellite Radio with one-year subscription included.



Built-In Storage

Extra storage always comes in handy. That's why we've equipped our Crew Cab trucks with standard under-seat storage space and rear in-floor storage bins to help keep the essentials close at hand.

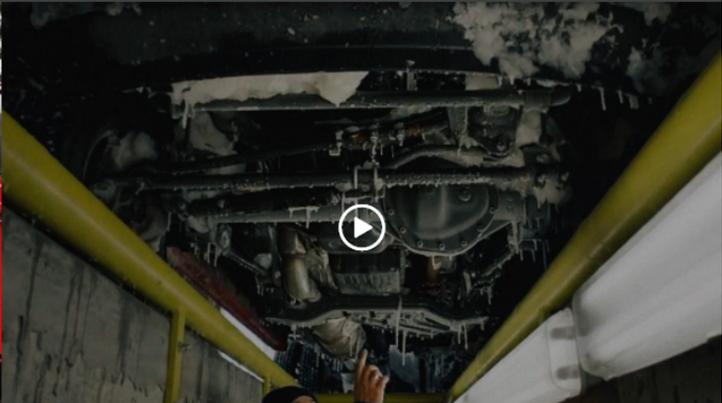


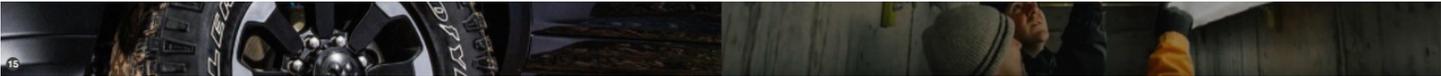
Full-Color 7-Inch Cluster Display

Keep track of your vehicle's performance with the available full-color 7-inch Driver Information Digital Cluster Display, which includes a speedometer, tachometer, fuel gauge and more.

## DURABILITY

 <p><b>5-YEAR/ 100,000-MILE</b></p> <p><small>DIESEL POWERTRAIN LIMITED WARRANTY</small></p>	 <p><b>5-YEAR/ 100,000-MILE</b></p> <p><small>ROADSIDE ASSISTANCE</small></p>	 <p><b>5-YEAR/ 100,000-MILE</b></p> <p><small>RUST-THROUGH LIMITED WARRANTY</small></p>	 <p><b>5-YEAR/ 60,000-MILE</b></p> <p><small>GAS POWERTRAIN LIMITED WARRANTY</small></p>
---	--	--	---





## LONG-LASTING POWER

Ram Heavy Duty trucks are built to last for years to come, having endured upwards of 40,000 hours of intense vehicle system testing in the harshest scenarios on and off the road. Proven power and rugged capability combine to keep your truck going for as long as you do.

### FEATURES

- 50,000-PSI Steel Frame
- Unsurpassed 5-Year/60,000-Mile Gas Powertrain Limited Warranty
- Unsurpassed 5-Year/100,000-Mile Diesel Powertrain Limited Warranty

[EXPLORE DURABILITY >](#)



## GALLERY



Aftermarket and optional equipment shown. Properly secure all cargo. Always tow within the vehicle's capacity.



[VIEW FULL GALLERY >](#)

## AVAILABLE PACKAGES

Off-Road Package
Tradesman® with Power Wagon® Package

Go off the beaten path with the Off-Road Package. This feature bundle combines off-road capability with the power to push, pull and haul an impressive amount of weight. Available on Ram 2500 Crew and Mega Cab® 4x4 models. Features include: Hill Descent Control, wheel flares, a transfer plate, skid plates and tow hooks.



- Laramie® Sport Appearance Package
- Big Horn® Sport Appearance Package

**HIGHLIGHTED FEATURES**

- 4x4 Decal** ^  
Wear it loud. Wear it proud. The 4x4 decal lets everyone on the road know that where you're going, you won't need roads.
- Bilstein® Monotube Shocks v
- All-Terrain Tires v



4X4 DECAL

**126**

TRUCKS IN YOUR AREA  
Find Your Truck



**BUILD & PRICE**  
Select a model and add the options you want

**8**

DEALERS NEAR YOU  
Locate Dealers

[SEARCH NEW INVENTORY >](#)

[BUILD & PRICE >](#)

[FIND A DEALER >](#)

[AUTOMOBILITY](#)   [Contact Us](#)   [Site Map](#)   [Careers](#)   [Find Your Country](#)   [Español](#)

[SEARCH](#)

**VEHICLES**

- Ram 1500
- Ram 2500
- Ram 3500
- Ram Chassis Cab
- Ram ProMaster City®
- Ram ProMaster®
- Ram Commercial

**RESEARCH**

- Build & Price
- Compare Models
- Download a Brochure
- Upfits
- Warranty
- Sign Up for Updates
- Mail Me a Brochure

**CAPABILITY**

- Towing & Payload
- Engine Performance
- Fuel Efficiency
- Uconnect® Systems
- EcoDiesel

**OWNERS**

- Owners Site Log In
- Owners Manuals & User Guides
- Register My Vehicle
- Recall Information

**FOLLOW US**



**SUPPORT**



**SPECIAL EDITIONS**

- 2017 Ram 1500 Sublime Green
- 2017 Ram 1500 Copper
- 2017 Ram 1500 Night
- 2017 Ram 1500 Rebel® Black
- 2017 Ram 1500 Mojave Sand
- 2017 Ram 2500 Night
- 2017 Ram 3500 Night
- 2018 Ram 1500, 2500 and 3500 Limited Tungsten

**LOCATE**

- Search New Inventory
- Find a Dealer
- Schedule a Test Drive
- Search Pre-Owned Vehicles

**COST**

- View Incentives & Offers
- Military Bonus Cash
- Calculate Payment
- Find Your Trade-In Value
- Get a Quote
- Apply for Credit
- Get Prequalified

**RAM WORLD**

- Longest-Lasting Pickups
- Ram Nation
- Partners
- Farmer-Next Crop
- RamZone Blog
- Merchandise
- Ram Rewards Card
- Download Mobile Apps
- Just the Facts
- Miranda Lambert
- Explore the City
- Ram Life

**LEGAL**

- Privacy Policy
- Terms of Use
- Copyright
- AdChoices
- Legal, Safety and Trademark Information

**SHOP PARTS & ACCESSORIES**



**UPCOMING VEHICLES**

- Ram 1500 Rebel® TRX Concept



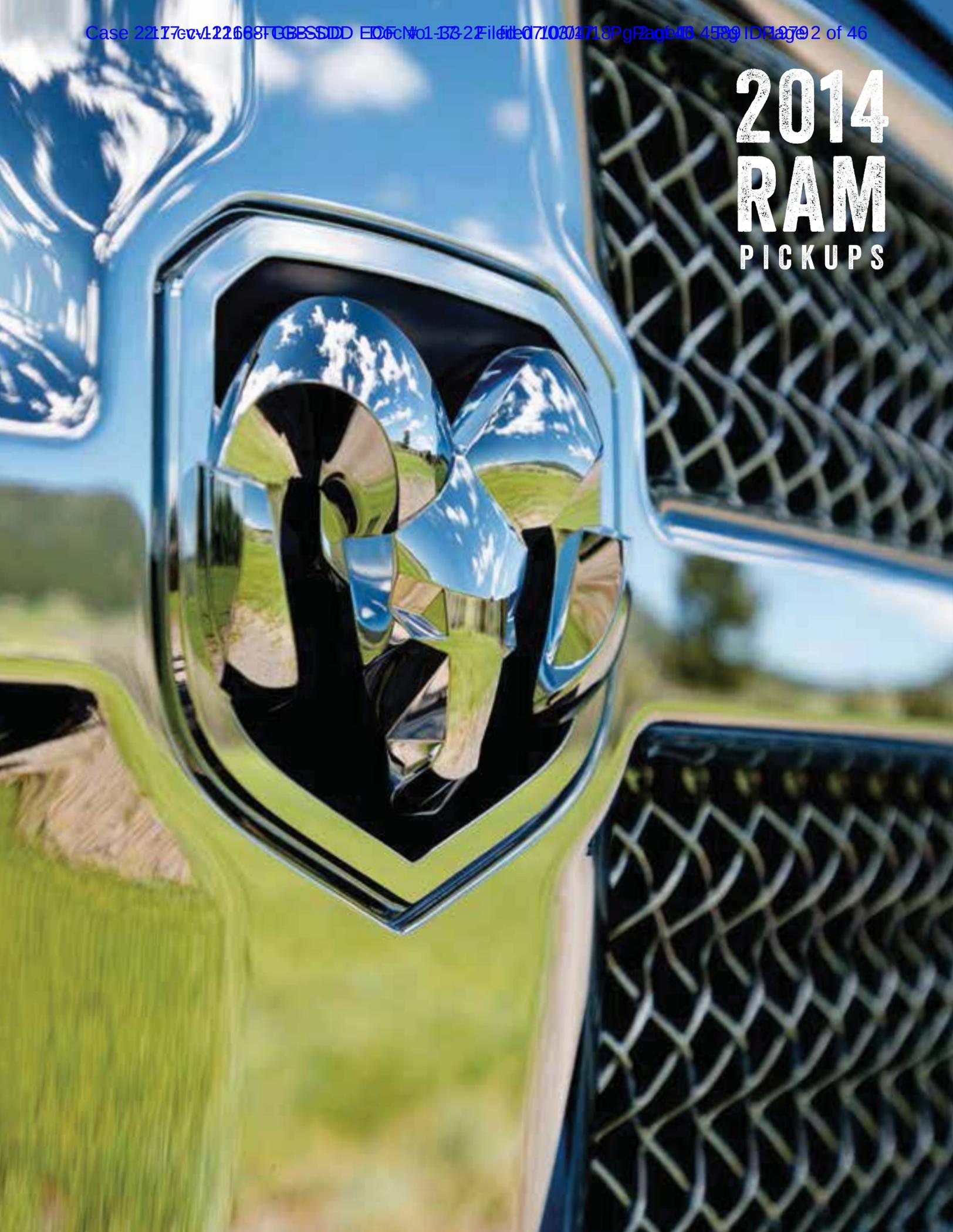
CHRYSLER DODGE JEEP RAM MOPAR SRT FIAT ALFA ROMEO

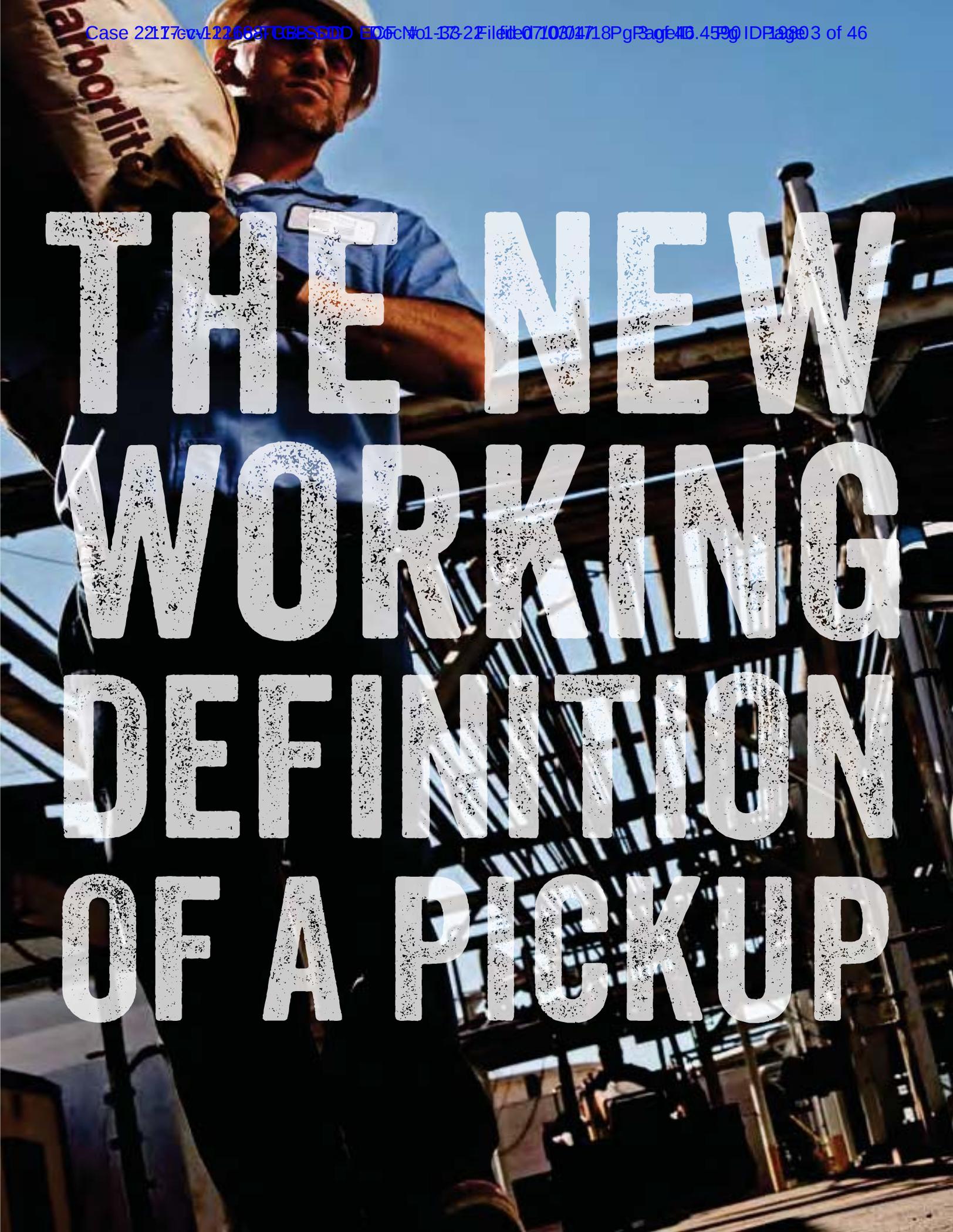
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\*MSRP excludes destination, taxes, title and registration fees. Starting at price refers to the base model, optional equipment not included. A more expensive model may be shown. Pricing and offers may change at any time without notification. To get full pricing details, see your dealer.

# Exhibit 21

# 2014 RAM PICKUPS





**THE NEW  
WORKING  
DEFINITION  
OF A PICKUP**

**OUTSTANDING ATTRIBUTES FOR EFFICIENCY, CAPABILITY AND POWER. CHOOSE THE CLASS TO MEET THE NEED: RAM WILL TAKE YOU TO THE TOP OF THAT CLASS. 2014 RAM 1500 AND 2500/3500 HEAVY DUTY OFFER A WEALTH OF ADVANTAGES FOR THAT SELDOM-TRAVELED ROAD TO LEADERSHIP. THIS IS THE YEAR OF THE POWERTRAIN.** ACROSS THE BOARD AND ACROSS THE COUNTRY, THE 2014 RAM PICKUPS REDRAW THE GEOGRAPHY OF TECHNOLOGY, WITH THE NEW AVAILABLE ECODIESEL V6\* FOR RAM 1500, THE RAM FIRST AVAILABLE 6.4-LITER HEMI® V8 FOR HEAVY DUTY, THE GROUNDBREAKING TORQUEFLITE® 8 AUTOMATIC FOR RAM 1500 AND THE NEW AND CLASS-EXCLUSIVE<sup>(†)</sup> AVAILABLE AUTO-LEVEL REAR AIR SUSPENSION\* FOR RAM HEAVY DUTY. **STANDOUT TECHNOLOGY TRANSLATES INTO COMPONENTS THAT STAND UP—AND STAND APART.** THIS IS RAM: CAPABILITY THAT EXCEEDS THE NEED, BACKED BY ULTRA-EFFICIENT PERFORMANCE. RAM DOESN'T REST WITH MERELY BEING BETTER. OUR AIM IS TO ACHIEVE BEST-IN-CLASS. **2014 RAM.** THE NEW WORKING DEFINITION OF A PICKUP.

**2014 RAM PICKUPS: 1500, 2500, 3500**

**CONTENTS**

4	<i>Ram 1500 Introduction</i>	18	<i>Ram Pickup Interior</i>	26	<i>Ram 2500/3500 Introduction</i>
7	<i>Ram 1500 Powertrain</i>	19	<i>Ram Pickup Electronics</i>	28	<i>Ram 2500/3500 Towing/Payload</i>
10	<i>Ram 1500 Chassis/Suspension</i>	21	<i>Ram Pickup Cargo Capability</i>	30	<i>Ram 2500/3500 Powertrain</i>
13	<i>Ram 1500 Wheels</i>	23	<i>Ram Pickup Exterior</i>	33	<i>Ram 2500/3500 Capability Specs</i>
13	<i>Ram 1500 Trim Levels</i>	24	<i>Ram Pickup Interior Fabrics</i>	35	<i>Ram 2500/3500 Chassis/Suspension</i>
16	<i>Ram 1500 Buyer's Guide</i>			37	<i>Ram 2500/3500 Wheels</i>
				38	<i>Ram 2500/3500 Trim Levels</i>
				41	<i>Ram 2500/3500 Buyer's Guide</i>



\*Late availability. †Note: all disclaimers and disclosures can be found on the last page.



# MORE STRENGTHS THAN EVER. THIS IS THE YEAR OF RAM.

**T**ake a good look at the 2014 Ram 1500 pickups. Recent developments take this portfolio into new territory for fuel-efficient performance, capability and comfort, and now with more powertrain choices than ever.

Our directive was clear: design and manufacture strengths so good, they strive for best-in-class status. The 2014 Ram 1500 breaks new ground with the available 3.0-liter EcoDiesel V6\*, mating phenomenal torque with the class-exclusive<sup>[2]</sup> TorqueFlite® 8 automatic—a sophisticated and powerful transmission that features close-ratio gearing for effortless acceleration and great fuel efficiency. The impressive array of powertrain offerings also includes the award-winning Pentastar® V6 and available legendary HEMI® V8 engines; transmissions now range from the proven 6-speed automatic to the smooth-shifting TorqueFlite 8. Bolstered by ramped up GCWRs and GVWRs, these pickups are ready to handle it all.

Top it all off with the quality that comes from our unsurpassed<sup>[2]</sup> 5-Year/100,000-Mile Powertrain Limited Warranty<sup>[3]</sup> and you've got every strength you need in a light-duty pickup. 2014 Ram 1500.

Shown on next page.

**TOP:** Ram 1500 Crew Cab Laramie, shown with Maximum Steel Metallic and Bright Silver Metallic two-tone exterior, equipped with the available 5.7-liter HEMI V8. Ram Crew Cab offers expansive rear-seat room and can effortlessly tow up to 9,800 lb (as shown)†

**MIDDLE LEFT:** The Ram leader for fuel efficiency, the Ram 1500 HFE (High Fuel Efficiency) in Flame Red. Available in Regular Cab only, Ram 1500 HFE features the ideal combination for gas-powered fuel-sipping performance: the 3.6-liter Pentastar V6/TorqueFlite 8 powertrain. Further enablers for fuel efficiency include the class-exclusive<sup>[2]</sup> Active Grill Shutters and Stop/Start Technology.

**MIDDLE RIGHT:** Ram 1500 Laramie, shown in a Crew Cab configuration with the Black and Bright Silver Metallic two-tone exterior and powered by the available 5.7-liter HEMI V8 engine, offers trailering capability that can handle up to 9,800 lb (as shown)†

**BOTTOM:** Shown from above, this Ram 1500 Crew Cab Tradesman in Bright White features the class-exclusive<sup>[2]</sup> RamBox® Cargo Management System, available for select Ram 1500 models with 5-foot 7-inch or 6-foot 4-inch beds. The bedside compartments are drainable, illuminated and lockable—with lock control an integral part of the available class-exclusive<sup>[2]</sup> All-Secure™ Locking System.

Meet the fast-growing truck brand that everybody's talking about—and for all the right reasons. From long-distance towing to long-term quality, 2014 Ram 1500 is completely in command of it all.

\*Late availability. †When properly equipped.



Properly secure all cargo.

# THE 2014 RAM 1500 POWERTRAIN LINEUP: OUR MOST VERSATILE AND FUEL-EFFICIENT SELECTION EVER.

**5 YEAR/100,000 MILE**  
**POWERTRAIN LIMITED WARRANTY<sup>[3]</sup>**

ALL RAM POWERTRAINS ARE COVERED BY A FULLY TRANSFERABLE POWERTRAIN LIMITED WARRANTY.<sup>[3]</sup>

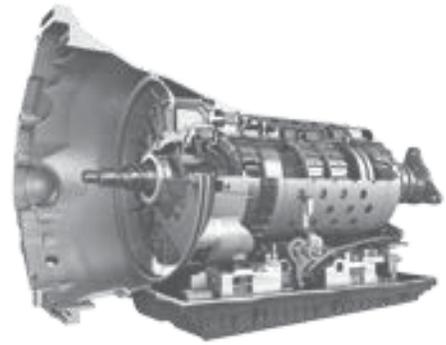
## SHIFTING AT THE SPEED OF INGENUITY: THE TORQUEFLITE® 8.

THE BENCHMARK TORQUEFLITE 8 AUTOMATIC. AVAILABLE FOR RAM 1500 WITH ALL ENGINES.



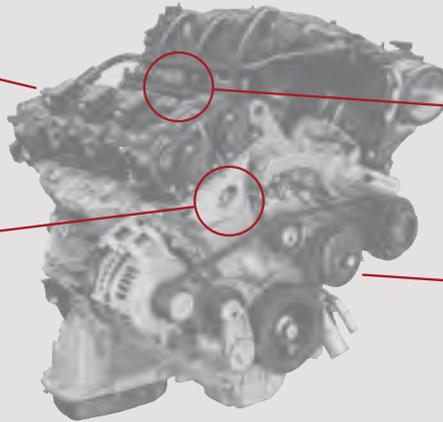
*Dual focus, one vision: provide outstanding shift qualities and impeccable performance from highway cruising to heavy hauling—while making a very real contribution to the impressive Ram 1500 fuel efficiency figures. The groundbreaking TorqueFlite 8 is the answer.*

*For a more refined operation, new Ram 1500 models equipped with the TorqueFlite 8 use steering wheel-mounted buttons for manual gear range selection—offering more control when towing and hauling heavy loads.*



Thermal management is critical: the 3.6-liter Pentastar® V6 keeps temperatures at peak operating figures for ideal performance and fuel-efficient operation.

Aluminum alloy pistons are lightweight with outstanding durability. The design reduces the reciprocating mass inside the engine to enhance performance and overall efficiency.



Flex Fuel capability gives you welcome latitude when filling the tank. The E-85 calibration permits use of either unleaded gasoline or ethanol.

The 21<sup>st</sup>-century engineering that went into the development of the Pentastar V6 engine has made it a multiple award-winner. Features like Variable Valve Timing (VVT) enable efficient power and precise operation. Performance is exceptional.

## 3.6L PENTASTAR V6

**305** HORSEPOWER **269** LB-FT OF TORQUE **25** MPG HWY\*

### V6 EFFICIENCY AND CAPABILITY. 100% RAM.



Ram broke new ground last year when it combined the efficient capability of the Pentastar V6 with the first-ever truck application of an 8-speed automatic transmission—the class-exclusive<sup>[2]</sup> TorqueFlite 8. The 2014 Ram 1500 carries on that tradition, providing acclaimed figures for towing and hauling—and then topping it off with best-in-class<sup>[4]</sup> mpg highway.

Little wonder why this powertrain combination has led to major awards and critical acclaim from journalists, professional drivers and independent third-party testing facilities. The formidable Pentastar V6 with the TorqueFlite 8 handles double duties at every turn, providing V8-equivalent power with proven V6 economies, enabling available 4x4 toughness (the working definition of full-size truck capability), and with remarkably little noise, vibration and harshness (NVH). In every way, the Pentastar is the benchmark for a V6.

**DURABILITY, DEFINED.** *Pentastar V6 factors for long-life performance and that best-in-class<sup>[4]</sup> ranking for mpg highway include the “Silent Chain” timing drive, dual overhead cams, high-flow “tumble” intake ports and a seriously authoritative 10.2:1 compression ratio.*

**THERMAL MANAGEMENT.** *The Pentastar V6 and TorqueFlite 8 automatic utilize Thermal Management Systems, keeping fluids at ideal operating temperatures for top-level performance and fuel-efficient operation.*

**PULSE-WIDTH MODULATION.** *This technology is all about modulating electrical energy for specific vehicle needs rather than running at a constant rate. Ram 1500 utilizes pulse-width modulation for the fuel pump, cooling fan and HVAC blower controls.*

### 3.6L PENTASTAR V6 CAPABILITY

(WHEN PROPERLY EQUIPPED)



REGULAR CAB 6'4" BOX  
7,300-LB MAX TOW CAPACITY  
1,590-LB PAYLOAD CAPACITY



REGULAR CAB 8' BOX  
7,300-LB MAX TOW CAPACITY  
1,900-LB PAYLOAD CAPACITY



QUAD CAB® 6'4" BOX  
7,450-LB MAX TOW CAPACITY  
1,920-LB PAYLOAD CAPACITY

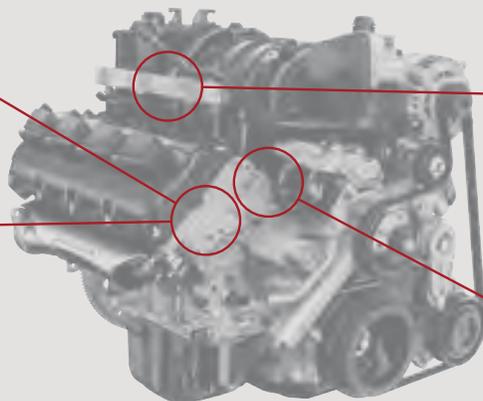


CREW CAB 5'7" BOX  
7,400-LB MAX TOW CAPACITY  
1,870-LB PAYLOAD CAPACITY

\*EPA estimated 17 mpg city/25 mpg highway on Ram 1500 V6 4x2.

# RAM OWNS POWER.

OUR POWERTRAIN LINEUP IS AS BOLD AS IT IS EXTENSIVE.



Better by design: the engineering of the hemispherical head promotes complete combustion and increased power.

The focus to achieve ever-better levels of fuel efficiency has been a hallmark of HEMI® V8 engine design—as has the pioneering development of Fuel Saver Technology.

Along with Fuel Saver Technology, the iDFSO (interactive Deceleration Fuel Shut-Off) seamlessly ceases fuel flow while decelerating, helping to achieve excellent fuel efficiency.

Aluminum cylinder heads combine with a cast-iron block and dual spark plug technology—two plugs per cylinder. The system is refined, robust and quiet, smoothing the idle and improving emissions.

## 5.7L HEMI V8

**395** HORSEPOWER **410** LB-FT OF TORQUE **22** MPG HWY\*



The engineering ingenuity that created the hemispherical head is one of the major steps that led to American dominance in transportation and automobile design; the applications of this truly legendary powerplant have included everything from prototype aircraft to muscle cars. The most recent iterations give Ram 1500 pickups enviable status in the truck world.

The available 5.7-liter HEMI V8 in Ram 1500 utilizes some of the most advanced engineering protocols ever developed. Few engines enjoy the ongoing popularity and respect that the HEMI V8 has earned. Detailed at right are the overwhelming advantages that give the Ram 1500 owner beyond-capable performance for towing, hauling, highway cruising and acceleration.

**SAVING FUEL EVERY MOMENT.** *The 5.7L HEMI V8 in Ram 1500 incorporates the brilliant Multi-Displacement System. Also known as Fuel Saver Technology, the system invisibly shuts off four of the eight cylinders when less power is required. When you need it, you've got a mighty V8; when you're not expecting it, you've got a fuel-sipping four-cylinder under the hood.*

**VARIABLE VALVE TIMING (VVT).** *VVT opens and closes the valves with breathtaking precision, allowing optimal engine breathing. The technology uses fuel efficiently, and it delivers critical increased torque for towing and hauling.*

**SHORT RUNNER VALVE (SRV).** *The SRV, which is inside the Active Intake Manifold, controls airflow intake by changing the port length based on engine rpm, enhancing both horsepower and torque.*

### 5.7L HEMI V8 CAPABILITY

(WHEN PROPERLY EQUIPPED)



**REGULAR CAB 6'4" BOX**  
9,200-LB MAX TOW CAPACITY  
1,630-LB PAYLOAD CAPACITY



**REGULAR CAB 8' BOX**  
10,450-LB MAX TOW CAPACITY  
1,730-LB PAYLOAD CAPACITY



**QUAD CAB® 6'4" BOX**  
10,400-LB MAX TOW CAPACITY  
1,830-LB PAYLOAD CAPACITY



**CREW CAB 5'7" BOX**  
10,350-LB MAX TOW CAPACITY  
1,770-LB PAYLOAD CAPACITY



**CREW CAB 6'4" BOX**  
10,300-LB MAX TOW CAPACITY  
1,730-LB PAYLOAD CAPACITY

\*EPA estimated 15 mpg city/22 mpg highway on Ram 1500 V8 4x2 with 8-speed transmission.

## A RAM 1500 EXCLUSIVE: AVAILABLE V6 DIESEL EFFICIENCY, V8-QUALITY TORQUE.

IT ADDS UP TO OUTSTANDING PERFORMANCE. AND ONLY RAM 1500 HAS IT.

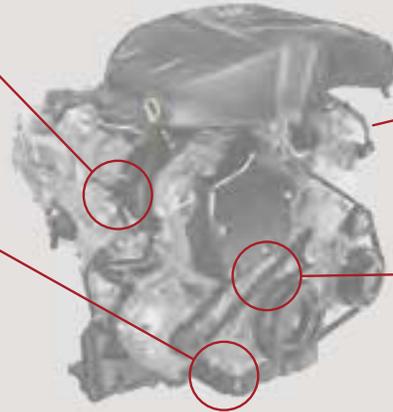
Only 2014 Ram 1500 delivers such a complete package: this available small-displacement turbo diesel mated to the class-exclusive<sup>[2]</sup> TorqueFlite® 8 automatic gives you best-in-class<sup>[5]</sup> diesel fuel economy.

YOU DEMANDED FUEL-EFFICIENT CAPABILITY. THE AVAILABLE ECODIESEL V6\* TAKES EFFICIENCY TO THE NEXT LEVEL.

The clean aspect of the EcoDiesel V6\* even extends to the service station. Look for a new capless Fuel Filler System that makes filling the tank cleaner and more convenient.

Aluminum alloy pistons are lightweight with outstanding durability. The design reduces the reciprocating mass inside the engine to enhance performance and overall efficiency.

The Compact Graphite Iron (CGI) cylinder block and bedplate ensure higher strength and exceptional reliability. The CGI process creates the ideal matrix of graphite and iron for ultrahigh toughness and durability.



The EcoDiesel V6\* uses 5W30 synthetic oil and a standard oil cooler; the combined technology contributes to a recommended 10,000-mile oil change interval—with oil status indicated in the instrument-panel cluster display.

Engineering is comprehensive, and includes an aluminum cylinder head, an electronically controlled Variable Geometry Turbocharger (VGT), high-temperature fast-acting ceramic glow plugs and high-dispersion fuel-injection nozzles.



*All-New* **3.0L ECODIESEL V6\***  
**240 HORSEPOWER 420 LB-FT OF TORQUE**

## A POWERFUL AND CLEAN BREAK FROM CONVENTION.



For 2014 Ram 1500, we created an all-new powertrain so good, it delivers best-in-class<sup>[5]</sup> diesel fuel economy and an impressive driving range.

Long-proven in tough commercial applications, the new Ram application of the available 3.0L EcoDiesel V6\* is where Ram 1500 takes a different road than the rest of the pack: no other light-duty pickup offers a small-displacement high-performing turbo diesel mated to a class-exclusive<sup>[2]</sup> 8-speed automatic transmission. This is an all-new game with all-new rules—and this Ram just earned top-ranking stats.

Put it all together, and the 3.0L EcoDiesel V6\*/TorqueFlite 8 do it right: incredible torque. Fuel-efficient performance. B20-capable. 10K oil change intervals. Top-notch DEF System. In short, this is *pure power*.

### CLEAN BY DESIGN—AN INVALUABLE DUAL-FILTRATION SYSTEM.

*Fuel sources vary in quality; climates across the continent are like night and day. The available 3.0L EcoDiesel V6\* utilizes dual-filtration technology for greater protection against contamination, reduced injector corrosion and enhanced durability.*

### CLEAN BY NATURE—WITH BEST-IN-CLASS<sup>[5]</sup> DIESEL FUEL ECONOMY.

*With minimal CO<sub>2</sub> levels and biodiesel (B20)-approved, this is what truck buyers have demanded—and the 2014 Ram 1500 is the answer.*

**EXCEPTIONAL DRIVING RANGE.** *The combination of available EcoDiesel V6\* power and TorqueFlite 8 sophistication gives you the most miles from every tank of fuel.*

### 3.0L ECODIESEL V6\* CAPABILITY (WHEN PROPERLY EQUIPPED)



REGULAR CAB 8' BOX  
 9,200-LB MAX TOW CAPACITY  
 1,580-LB PAYLOAD CAPACITY



QUAD CAB® 6'4" BOX  
 9,050-LB MAX TOW CAPACITY  
 1,430-LB PAYLOAD CAPACITY



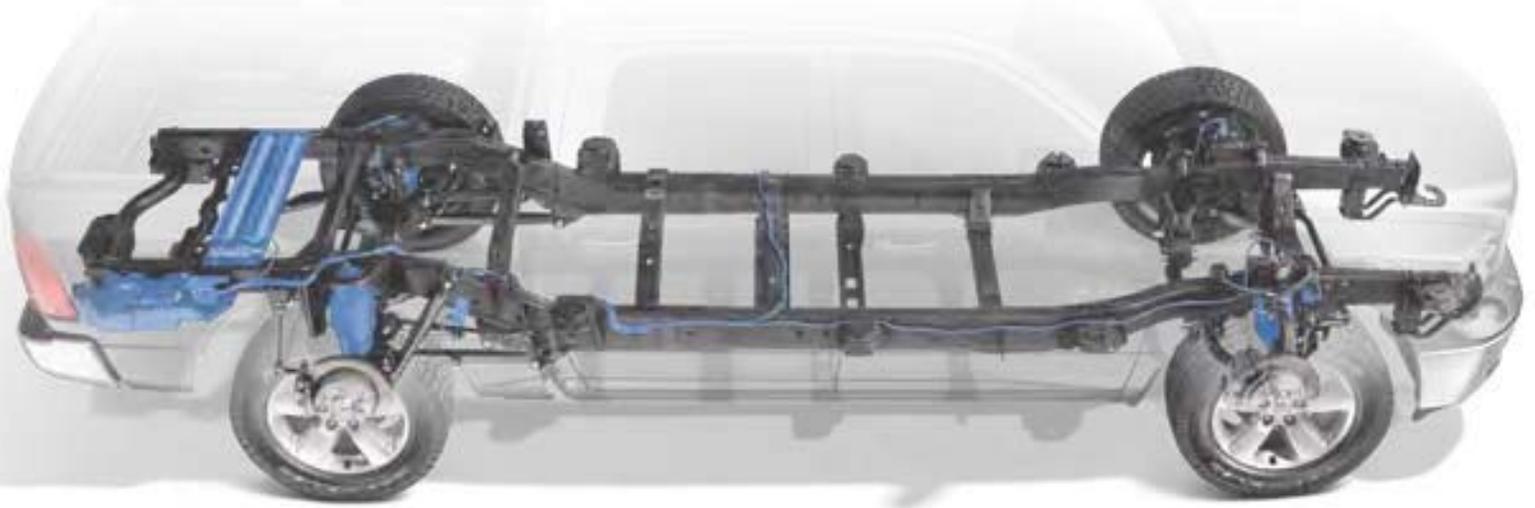
CREW CAB 5'7" BOX  
 8,950-LB MAX TOW CAPACITY  
 1,470-LB PAYLOAD CAPACITY



CREW CAB 6'4" BOX  
 8,900-LB MAX TOW CAPACITY  
 1,400-LB PAYLOAD CAPACITY

\*Late availability.

# WE POURED OUR HEARTS INTO THIS FOUNDATION.



The 4- and 7-pin trailer tow connectors are part of the trademark towing capability of Ram 1500—and they're standard on every model.

The structural rear bumper is rated for Class III towing and easily handles trailers up to 5,000 lb when properly equipped. For tougher trailer towing capability, the available Class IV hitch receiver bolts directly to the frame of your Ram 1500.

Reducing weight helps improve fuel efficiency: where heavy steel isn't needed, 2014 Ram 1500 employs down-gauged but stronger steel. The results give you a full-size tough pickup with weight savings that help contribute to the fuel-sipping performance.

By design, the frame is low-torsion and features fully boxed side rails—engineering that strengthens the Ram 1500 reputation for minimal noise, vibration and harshness (NVH).

The front frame unit is constructed of hydroformed tubular high-strength steel; this ultra-stiff yet light component further reduces the overall weight for Ram 1500—another very real contribution to its notably fuel-efficient operation.

Available and class-exclusive<sup>[2]</sup> Active Grille Shutters instantly adapt to speed, load and engine needs for cooling; the shutters significantly reduce aerodynamic drag to help improve fuel efficiency for Ram 1500 models.

## NEW. RAM FIRST: FRONT PARK ASSIST.<sup>[7]</sup>

New for 2014 Ram 1500: technology that simplifies parking and maneuvering. The new available Front Park Ultrasonic Assist System is a first-time-ever for a full-size Ram 1500 pickup, serving as convenient aid when parallel parking. Four integrated sensors use ultrasonic waves to detect objects as far as 47.2 inches away from the front bumper, picking up the echo of a signal when it bounces off an object. Using classic echo triangulation, the system determines relative distance. Readouts located in the cluster display team up with audible chimes to notify the driver of any proximity to front and/or rear objects.

## THE ELECTRONIC STABILITY CONTROL (ESC)<sup>[6]</sup> SYSTEM.

In Ram 1500, ride manners and towing control combine with safety and security. Some features of the comprehensive ESC, standard on every model, include:

**AntiLock Brake System (ABS).** Monitoring each wheel's speed, ABS allows back-up braking should one of the two braking circuits be compromised.

**Electronic Brake Force Distribution** regulates brake pressure from front to rear, minimizing stopping distances.

**Traction Control** regulates wheel spin. Slippage during acceleration results in throttle control to reduce torque; in extremes (e.g., when accelerating from pavement to ice) it will apply certain brakes to maintain control. It can be turned off with a console-mounted button.

**Ready Alert Braking** senses when the driver's foot is lifted from the accelerator, and applies an imperceptible brake force to ensure that pads and discs are lined up should an emergency stop be required.

**Rain Brake Support.** Activate the windshield wipers, and the brake calipers pulse against the rotor, removing water from the pads.

**Hydraulic Boost Compensation.** Should a failure occur in the vacuum brake booster or any related line (e.g., a rupture from tough off-roading), the brake controller will run the ABS pump; brakes will perform as normal until the failure is serviced.

**Trailer Sway Control<sup>[6]</sup>** detects yaw and applies selective brake pressure on the tow vehicle's opposite side to counteract and reduce the sway.

**Hill Start Assist.** While on hills or inclines, the system keeps your Ram 1500 stationary for two seconds after the brakes have been released.

## PUT IT TO THE TEST. AFTER ALL, WE DID—TIME AFTER TIME.

In a world as bustling and busy as yours, getting away from the rattling of jackhammers and drone of the dozers is priceless; that's why the 2014 Ram 1500 is built to be quiet. Extensive testing helps reduce NVH to minimal levels, leaving only silence and comfort. Leave it to the engineers of Ram 1500 to give you both peace of mind and some peace and quiet.

Little measures that count big:

### **Variable Displacement A/C Compressor (VDC).**

No longer a "fixed" displacement, the VDC automatically varies pumping capacity of the air conditioning compressor, lessening the load on the engine and reducing NVH and parasitic losses to help improve fuel efficiency.

### **New Pulse-Width Modulation Fan.**

This new blower design creates virtually infinite amounts of fan speed for the HVAC System, and with reduced sound levels that make operation all but unnoticeable; interior quietness in Ram 1500 is better than ever.

### **New Humidity Sensor.**

Formerly reserved for premium models, and now in every Ram 1500: the sensor acts to defog windows much more rapidly and works in tandem with the VDC and pulse-width modulation fan for optimal performance.

## IT COULD BE ARGUED THAT EVEN OUR RELIABILITY LEADS THE CLASS.

Design, engineering, components, build quality: add it all up, and the sum is greater than the parts—leaving you with a pickup that offers impressive residual and resale values. The numbers are conclusive, with endorsements and honors that include some 34 awards for Ram in 18 months—ample proof that all the effort we put into Ram 1500 pickups lets you get the most out of yours when it's time to upgrade the ride.

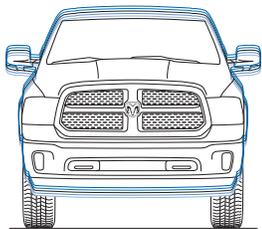
# TWO CLASS-EXCLUSIVE<sup>[2]</sup> SUSPENSION SYSTEMS.



## THE AVAILABLE ACTIVE-LEVEL™ FOUR-CORNER AIR SUSPENSION SYSTEM.

This is a level of ride quality and convenience that separates Ram from the rest. Or better said, *five levels*. The remarkable available Active-Level Four-Corner Air Suspension System features automatic leveling while under heavy payload, with five distinct operating levels (modes), all controlled with fingertip ease on the button bank.

### 4.1 INCHES OF LATITUDE.



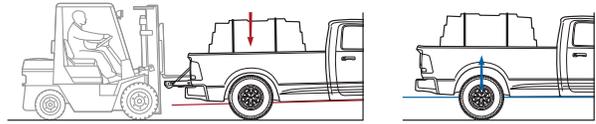
**+ OFF-ROAD 2 MODE.** Provides noteworthy ground clearance for the path and trail, with the greatest angles for approach, departure and breakover. Difference from Normal ride height: +2.0 in.

**+ OFF-ROAD 1 MODE.** Outstanding ride balance, with an extra degree of clearance when you need it. Difference from Normal: +1.2 in, front; +0.9 in, rear.

**NORMAL RIDE HEIGHT.** The most comfortable balance of ride and handling for everyday driving.

**- AERO MODE.** Aero automatically lowers the vehicle at highway speeds, reducing aerodynamic drag and "body roll"; the improvements to fuel efficiency are measurable. Difference from Normal: -1.1 in.

**- ENTRY/EXIT MODE.** Automatically lowers the entire vehicle for easier ingress/egress, loading/unloading, trailer hooking/unhooking. Controlled by internal button bank or with a button on the key fob. Difference from Normal: -2.1 in, front; -1.7 in, rear.



**ACTIVE-LEVEL AT WORK.** Pioneered by Ram I500, this available and class-exclusive<sup>[2]</sup> asset dramatically separates this light-duty pickup from the competition. Augmenting the Four-Corner Air Suspension technology, Active-Level engineering automatically equalizes your Ram I500 after loading; the system maintains the correct vehicle balance, a horizontal load plane and a level driving profile with a consistent headlamp-to-road angle.



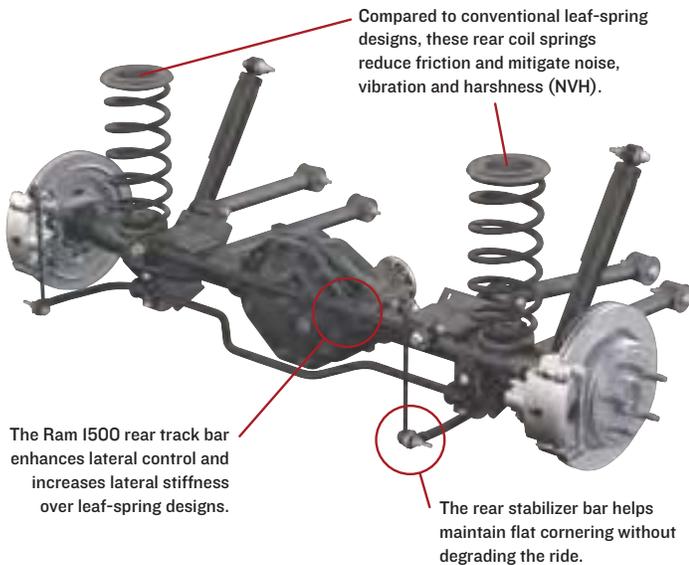
**FINGERTIP SUSPENSION CONTROL.** With this Integrated Switch Bank, operating the available Active-Level Four-Corner Air Suspension System is a snap: go from any mode to another with a push of a button for ideal ride height for the terrain and conditions. The switch bank also controls a raft of other features, including the available Stop/Start System (not shown in image), Electronic Stability Control (ESC),<sup>[6]</sup> Tow/Haul Mode, and available features like heat and ventilation for seats, the heated steering wheel—and more.



**PREMIUM KEYLESS ENTER 'N GO™** Key fobs are now more versatile than ever. Functions range from keyless (bladeless) operation to controlling systems that include the Remote Start System, the All-Secure™ Locking System and the panic button. The fobs also remotely access the Entry/Exit Mode of the available Active-Level Four-Corner Air Suspension System on Ram I500 models.

## REPUTATIONS RIDE ON THIS.

### THE MULTILINK COIL SPRING REAR SUSPENSION.



**IN A CLASS OF ITS OWN: CAPABILITY MEETS COMFORT.** Leave the competition's leaf-spring technology where it belongs: behind you. The standard rear suspension on every 2014 Ram I500 model is unique in the light-duty full-size pickup class. Fact: coil spring technology is the preferred suspension engineering for rail cars, offering the strength, durability, reliability and ride comfort that leaf springs just can't match. Supplying more lateral stiffness and greater vehicle control, this suspension ramps up trailer towing for dramatically increased capability.



**RUNS TRUE DAY IN AND DAY OUT.**



Properly secure all cargo.

« 1500 WHEELS »



17-inch Argent Steel  
Standard on Tradesman (WFP)



17-inch Painted Aluminum  
Standard on SLT, Outdoorsman and HFE • Optional on Tradesman (WFE)



17-inch Chrome-Clad Aluminum  
Optional on Big Horn/Lone Star and Laramie (WFI)



20-inch Aluminum  
Standard on Express (WHE)



20-inch Chrome-Clad Aluminum  
Optional on Express (WR2)



20-inch Chrome-Clad Aluminum  
Standard on Big Horn/Lone Star (WHK)



20-inch Polished Aluminum with Painted Pockets  
Standard on Sport (WRF)



20-inch Chrome-Clad Aluminum  
Standard on Laramie (WRG)



20-inch Aluminum with Polished Face and White Gold-Clad Inserts  
Standard on Two-Tone Laramie Longhorn (WRH)



20-inch Aluminum with Polished Face and Painted Inserts  
Standard on Laramie Longhorn with Available Monotone Paint (WRJ)



20-inch Aluminum Painted Satin Carbon with Chrome Inserts  
Standard on Laramie Limited (WRM)



20-inch Black Painted Aluminum  
Optional on Express (WNN) and Outdoorsman (WHF)



22-inch Polished Forged Aluminum  
Standard on Regular Cab R/T (WPZ)

« 1500 TRIM LEVELS »

TRADESMAN



CABS



Regular Cab

BEDS



6'4" Box or  
8' Box

SEATING



40/20/40  
Bench Seat



Quad Cab\*



6'4" Box



40/20/40  
Bench Seat



Crew Cab



5'7" Box or  
6'4" Box



40/20/40  
Bench Seat

MECHANICAL

3.6L Pentastar® V6 with 8-speed automatic transmission • Electronic Stability Control (ESC)<sup>(6)</sup> System includes 4-wheel ABS, Brake Assist, Rain Brake Support, Ready Alert Braking, All-Speed Traction Control, Electronic Roll Mitigation, Hill Start Assist and Trailer Sway Control<sup>(6)</sup> • Multilink coil spring rear suspension • 26-gallon fuel tank (32-gallon fuel tank with 8-foot-box models) • Electronic part-time transfer case on 4x4 models

INTERIOR

Vinyl 40/20/40 front bench seat • Vinyl folding rear bench on Quad Cab and Crew Cab models • Vinyl floor covering • Advanced multistage front air bags<sup>(6)</sup> • Supplemental side-curtain air bags<sup>(6)</sup> • Supplemental front-seat side-mounted air bags<sup>(6)</sup> • Tilt steering wheel • Automatic headlamps • Air conditioning • Power windows and power door locks on Quad Cab and Crew Cab models • 3.5-inch LCD Electronic Vehicle Information Center (EVIC) in the instrument cluster • Uconnect® 3.0 AM/FM radio • MP3 auxiliary jack and 1.5-amp USB port

EXTERIOR

Black front and rear bumpers • Black grille surround and inserts • Black front upper fascia • Quad-lens headlamps • Bed rail caps • Spray-in bedliner • Locking tailgate • 4- and 7-pin trailer wiring harness/connectors • Class IV trailer hitch receiver • 17-inch painted steel wheels with BSW tires • Black fold-in sideview mirrors

EXPRESS



Available Black Express Package shown

CABS

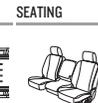


Regular Cab

BEDS



6'4" Box



40/20/40  
Bench Seat



Quad Cab



6'4" Box



40/20/40  
Bench Seat



Crew Cab



5'7" Box



40/20/40  
Bench Seat

MECHANICAL

5.7L HEMI® V8 with 6-speed automatic transmission and heavy-duty cooling system • ESC<sup>(6)</sup> System • Multilink coil spring rear suspension • 26-gallon fuel tank • Electronic part-time transfer case on 4x4 models

INTERIOR

Vinyl 40/20/40 front bench seat • Vinyl folding rear bench on Quad Cab and Crew Cab models • Carpet floor covering • Advanced multistage front air bags<sup>(6)</sup> • Supplemental side-curtain air bags<sup>(6)</sup> • Supplemental front-seat side-mounted air bags<sup>(6)</sup> • Tilt steering wheel • Automatic headlamps • Air conditioning • Power windows and power door locks on Quad Cab and Crew Cab models • 3.5-inch LCD EVIC in the instrument cluster • Uconnect 3.0 AM/FM radio • MP3 auxiliary jack and 1.5-amp USB port

EXTERIOR

Body-color full front fascia and rear bumper • Fog lamps • Body-color grille surround with Black inserts • Quad-lens headlamps • Bed rail caps • Locking tailgate • 4- and 7-pin trailer wiring harness/connectors • 20-inch painted aluminum wheels with BSW tires • Black fold-in sideview mirrors • 4-inch chrome-tipped dual exhaust

« 1500 TRIM LEVELS »

**HFE**



CABS BEDS SEATING



Regular Cab 6'4" Box 40/20/40 Bench Seat

**MECHANICAL**

3.6L Pentastar® V6 with 8-speed automatic transmission • Active Grille Shutters • Stop/Start Technology • 220-amp alternator • 800-amp battery • Remote keyless entry • Electronic Stability Control (ESC)<sup>(8)</sup> System • MultiLink coil spring rear suspension • 26-gallon fuel tank

**INTERIOR**

Cloth 40/20/40 front bench seat • Carpet floor covering • Advanced multistage front air bags<sup>(9)</sup> • Supplemental side-curtain air bags<sup>(9)</sup> • Supplemental front-seat side-mounted air bags<sup>(9)</sup> • Tilt steering wheel • Automatic headlamps • Air conditioning • 3.5-inch LCD Electronic Vehicle Information Center (EVIC) in the instrument cluster • Uconnect® 3.0 AM/FM radio • MP3 auxiliary jack and USB port

**EXTERIOR**

Black front and rear bumpers • Black grille surround with Black inserts • Black front upper fascia • Quad-lens headlamps • Black door handles • Bed rail caps • Locking tailgate • Tri-folding cargo bed tonneau cover • 4- and 7-pin trailer wiring harness/connectors • 17-inch painted aluminum wheels with BSW tires • Black, manual, fold-in sideview mirrors

**SLT**



CABS BEDS SEATING



Regular Cab 6'4" Box or 8' Box Bench Seat



Quad Cab® 6'4" Box Bench Seat



Crew Cab 5'7" Box or 6'4" Box Bench Seat

**MECHANICAL**

3.6L Pentastar V6 with 8-speed automatic transmission • Active Grille Shutters • Remote keyless entry • ESC<sup>(8)</sup> System • MultiLink coil spring rear suspension • 26-gallon fuel tank (32-gallon fuel tank with 8-foot-box models) • Electronic part-time transfer case on 4x4 models

**INTERIOR**

Cloth 40/20/40 front bench seat • Cloth folding rear bench on Quad Cab and Crew Cab models • Carpet floor covering • Advanced multistage front air bags<sup>(9)</sup> • Supplemental side-curtain air bags<sup>(9)</sup> • Supplemental front-seat side-mounted air bags<sup>(9)</sup> • Tilt steering wheel • Automatic headlamps • Air conditioning • Power windows and power door locks • 3.5-inch LCD EVIC in the instrument cluster • Uconnect 5.0 AM/FM/Bluetooth® radio with SiriusXM® Satellite Radio<sup>(9)</sup> • MP3 auxiliary jack and 2.5-amp USB port • Overhead console • Power sliding rear window on Quad Cab and Crew Cab models

**EXTERIOR**

Chrome front and rear bumpers • Chrome grille surround with Black inserts • Body-color front upper fascia • Quad-lens headlamps • Chrome door handles • Bed rail caps • Locking tailgate • 4- and 7-pin trailer wiring harness/connectors • 17-inch painted aluminum wheels with BSW tires • Black, power, heated, fold-in sideview mirrors

**BIG HORN/LONE STAR**



CABS BEDS SEATING



Regular Cab 6'4" Box or 8' Box Bench Seat



Regular Cab 6'4" Box or 8' Box Bucket Seats, Opt.



Quad Cab 6'4" Box Bench Seat



Quad Cab 6'4" Box Bucket Seats, Opt.



Crew Cab 5'7" Box or 6'4" Box Bench Seat

**MECHANICAL**

3.6L Pentastar V6 with 8-speed automatic transmission • Remote keyless entry • ESC<sup>(8)</sup> System • MultiLink coil spring rear suspension • 26-gallon fuel tank • Electronic on-demand transfer case on 4x4 models

**INTERIOR**

Premium cloth 40/20/40 front bench seat with power driver's side • Cloth 60/40 split-folding rear bench • Carpet floor covering • 115-volt power outlet • Advanced multistage front air bags<sup>(9)</sup> • Supplemental side-curtain air bags<sup>(9)</sup> • Supplemental front-seat side-mounted air bags<sup>(9)</sup> • Leather-wrapped tilt steering wheel with audio controls • Automatic headlamps • Air conditioning • Power windows and power door locks • 3.5-inch LCD EVIC in the instrument cluster • Uconnect 5.0 AM/FM/Bluetooth radio with SiriusXM Satellite Radio<sup>(9)</sup> • MP3 auxiliary jack and 2.5-amp USB port • Overhead console • Power sliding rear window

**EXTERIOR**

Chrome front and rear bumpers • Fog lamps • Chrome grille surround with chrome billet inserts • Body-color front upper fascia • Quad-lens headlamps • Chrome door handles • Bed rail caps • Locking tailgate • 4- and 7-pin trailer wiring harness/connectors • Class IV trailer hitch receiver • 20-inch chrome-clad aluminum wheels with BSW tires • Black, power, heated, fold-in sideview mirrors

**OUTDOORSMAN**



Shown with standard Black lower

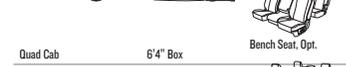


Available Monotone paint shown

CABS BEDS SEATING



Quad Cab 6'4" Box Bench Seat



Quad Cab 6'4" Box Bench Seat, Opt.



Quad Cab 6'4" Box Bench Seat, Opt.



Crew Cab 5'7" Box or 6'4" Box Bench Seat, Opt.

**MECHANICAL**

3.6L Pentastar V6 with 8-speed automatic transmission • Remote keyless entry • ESC<sup>(8)</sup> System • MultiLink coil spring rear suspension • 32-gallon fuel tank • Tow hooks • Limited-slip differential and skid plates for the transfer case and front suspension on 4x4 models • Remote Start and Security Group • Electronic part-time transfer case on 4x4 models

**INTERIOR**

Premium cloth front bucket seats • Power driver's seat • Full-floor center console • 115-volt power outlet • Cloth 60/40 split-folding rear bench • Carpet floor covering • Rubber all-weather floor mats • Luxury Group • Advanced multistage front air bags<sup>(9)</sup> • Supplemental side-curtain air bags<sup>(9)</sup> • Supplemental front-seat side-mounted air bags<sup>(9)</sup> • Leather-wrapped tilt steering wheel with audio controls • Automatic headlamps • Air conditioning • Power windows and power door locks • 7-inch Thin Film Transistor (TFT) premium programmable multiview display EVIC in the instrument cluster • Uconnect 8.4A AM/FM/Bluetooth/Access radio with SiriusXM Satellite Radio<sup>(9)</sup> • MP3 auxiliary jack, 2.5-amp USB port and SD card slot • Overhead console with Universal Garage Door Opener • Power sliding rear window

**EXTERIOR**

Two-tone paint with lower body, front bumper, rear bumper and fender flares in Black • Fog lamps • Body-color grille surround with Black inserts • Body-color front upper fascia • Quad-lens headlamps • Black door handles • Bed rail caps • Locking tailgate • 4- and 7-pin trailer wiring harness/connectors • Class IV trailer hitch receiver • 17-inch painted aluminum wheels with LT All-Terrain tires • Black power-heated/power-folding sideview mirrors with puddle lamps and turn signal indicators

« 1500 TRIM LEVELS »

**SPORT**



CABS	BEDS	SEATING
Regular Cab	6'4" Box	Bucket Seats
Quad Cab <sup>®</sup>	6'4" Box	Bucket Seats
Crew Cab	5'7" Box or 6'4" Box	Bucket Seats

**MECHANICAL**

5.7L HEMI<sup>®</sup> V8 with 8-speed automatic transmission • 3.92 axle ratio (R/T model) • Remote keyless entry • Electronic Stability Control (ESC)<sup>®</sup> System • ParkView<sup>®</sup> Rear Back-Up Camera<sup>[7]</sup> • Multilink coil spring rear suspension • 26-gallon fuel tank • Electronic on-demand transfer case on 4x4 models

**INTERIOR**

Premium cloth heated front bucket seats • Power driver's seat • Full-floor center console • 115-volt power outlet • Cloth 60/40 split-folding rear bench on Quad Cab and Crew Cab models • Carpet floor covering • Luxury Group • Advanced multistage front air bags<sup>[6]</sup> • Supplemental side-curtain air bags<sup>[6]</sup> • Supplemental front-seat side-mounted air bags<sup>[6]</sup> • Heated leather-wrapped tilt steering wheel with audio controls • Automatic headlamps • Automatic Temperature Control (ATC) • Power windows and power door locks • 7-inch Thin Film Transistor (TFT) premium programmable multiview display Electronic Vehicle Information Center (EVIC) in the instrument cluster • Uconnect<sup>®</sup> 8.4A AM/FM/Bluetooth<sup>®</sup>/Access radio with SiriusXM<sup>®</sup> Satellite Radio<sup>[9]</sup> • MP3 auxiliary jack, 2.5-amp USB port and SD card slot • Overhead console with Universal Garage Door Opener • Power sliding rear window on Quad Cab and Crew Cab models

**EXTERIOR**

Monochromatic paint with body-color full front fascia and rear bumper • Fog lamps • Body-color grille surround with chrome billet inserts • Premium Sport projector headlamps with LED turn signal/running lights • Body-color door handles • Bed rail caps • Locking tailgate • Premium LED Sport taillamps • 4- and 7-pin trailer wiring harness/connectors • 20-inch polished-face aluminum wheels with OWL tires • Body-color power-heated/power-folding sideview mirrors with puddle lamps and turn signal indicators • 4-inch chrome-tipped dual exhaust • R/T model-specific features (Regular Cab only): • 22-inch polished forged aluminum wheels with BSW tires • Sport performance hood • Black hex grille inserts with R/T emblem

**LARAMIE**



Shown with standard Silver lower



Available Monotone paint shown

CABS	BEDS	SEATING
Quad Cab	6'4" Box	Bench Seat
Crew Cab	5'7" Box or 6'4" Box	Bucket Seats, Opt.

**MECHANICAL**

3.6L Pentastar<sup>®</sup> V6 with 8-speed automatic transmission • Remote keyless entry • Security Alarm System • ESC<sup>®</sup> System • ParkView Rear Back-Up Camera<sup>[7]</sup> • Multilink coil spring rear suspension • 26-gallon fuel tank • Electronic on-demand transfer case on 4x4 models

**INTERIOR**

Leather-trimmed 40/20/40 front bench seat • Power driver's and front-passenger seats • Heated and ventilated front seats • 115-volt power outlet • Leather-trimmed 60/40 split-folding rear bench • Carpet floor covering • Advanced multistage front air bags<sup>[6]</sup> • Supplemental side-curtain air bags<sup>[6]</sup> • Supplemental front-seat side-mounted air bags<sup>[6]</sup> • Heated leather-wrapped tilt steering wheel with audio controls • Automatic headlamps • Automatic Temperature Control (ATC) • Power windows and power door locks • 7-inch TFT premium programmable multiview display EVIC in the instrument cluster • Uconnect 8.4A AM/FM/Bluetooth/Access radio with SiriusXM Satellite Radio<sup>[9]</sup> • MP3 auxiliary jack, 2.5-amp USB port and SD card slot • Premium 10-speaker Surround Sound Audio System • Overhead console with Universal Garage Door Opener • Power adjustable pedals with memory • Power sliding rear window

**EXTERIOR**

Two-tone paint with lower body and fender flares in Bright Silver Metallic • Chrome front and rear bumpers • Fog lamps • Chrome grille surround with chrome wave perforated inserts • Premium projector headlamps with LED turn signal/running lights • Chrome door handles • Bed rail caps • Locking tailgate • Premium LED taillamps • 4- and 7-pin trailer wiring harness/connectors • 20-inch chrome-clad aluminum wheels with BSW tires • Chrome power-heated/power-folding sideview mirrors with puddle lamps and turn signal indicators

**LARAMIE LONGHORN**



Shown with standard White Gold Metallic lower



Available Monotone paint shown

CABS	BEDS	SEATING
Crew Cab	5'7" Box or 6'4" Box	Bucket Seats

**MECHANICAL**

5.7L HEMI V8 with 8-speed automatic transmission • Remote keyless entry • Security Alarm System • Remote start • ESC<sup>®</sup> System • ParkSense<sup>®</sup> Front and Rear Park Assist<sup>[7]</sup> • ParkView Rear Back-Up Camera<sup>[7]</sup> • Multilink coil spring rear suspension • 32-gallon fuel tank • Electronic on-demand transfer case on 4x4 models

**INTERIOR**

Premium leather front bucket seats • Power driver's and front-passenger seats • Heated and ventilated front seats • Full-floor center console with leather cover • 115-volt power outlet • Premium leather heated 60/40 split-folding rear bench • Carpet floor covering • Premium floor mats with removable inserts • Advanced multistage front air bags<sup>[6]</sup> • Supplemental side-curtain air bags<sup>[6]</sup> • Heated leather-wrapped tilt steering wheel with wood accent and audio controls • Automatic headlamps • Automatic Temperature Control (ATC) • Power windows and power door locks • Ultra-premium instrument cluster with 7-inch TFT premium programmable multiview display EVIC in the instrument cluster • Uconnect 8.4AN AM/FM/Bluetooth/Access/NAV radio with SiriusXM Satellite Radio<sup>[9]</sup> SiriusXM Traffic<sup>[9]</sup> and SiriusXM Travel Link<sup>[10]</sup> • MP3 auxiliary jack, 2.5-amp USB port and SD card slot • Premium 10-speaker Surround Sound Audio System • Overhead console with Universal Garage Door Opener • Power adjustable pedals with memory • Power sliding rear window • LED additional interior lighting

**EXTERIOR**

Two-tone paint with lower body, fender flares, front bumper, rear bumper and running boards in White Gold Metallic • Fog lamps • Chrome grille surround with chrome wave mesh inserts • Unique Laramie Longhorn badging • Premium projector headlamps with LED turn signal/running lights • Chrome door handles • Bed rail caps • Spray-in bedliner • Locking tailgate • Premium LED taillamps • 4- and 7-pin trailer wiring harness/connectors • 20-inch polished aluminum wheels with White Gold-clad inserts and BSW tires • Chrome power-heated/power-folding sideview mirrors with puddle lamps and turn signal indicators • 4-inch chrome-tipped dual exhaust

**LARAMIE LIMITED**



CABS	BEDS	SEATING
Crew Cab	5'7" Box or 6'4" Box	Bucket Seats

**MECHANICAL**

5.7L HEMI V8 with 8-speed automatic transmission • Remote keyless entry • Security Alarm System • Remote start • ESC<sup>®</sup> System • ParkSense Front and Rear Park Assist<sup>[7]</sup> • ParkView Rear Back-Up Camera<sup>[7]</sup> • Active-Level<sup>™</sup> Four-Corner Air Suspension System • 32-gallon fuel tank • Electronic on-demand transfer case on 4x4 models

**INTERIOR**

Premium leather front bucket seats • Power driver's and front-passenger seats • Heated and ventilated front seats • Full-floor center console with leather cover • 115-volt power outlet • Premium leather heated 60/40 split-folding rear bench • Carpet floor covering • Premium floor mats with removable inserts • Advanced multistage front air bags<sup>[6]</sup> • Supplemental side-curtain air bags<sup>[6]</sup> • Supplemental front-seat side-mounted air bags<sup>[6]</sup> • Heated leather-wrapped tilt steering wheel with wood accent and audio controls • Automatic headlamps • Automatic Temperature Control (ATC) • Power windows and power door locks • Ultra-premium instrument cluster with 7-inch TFT premium programmable multiview display EVIC in the instrument cluster • Uconnect 8.4AN AM/FM/Bluetooth/Access/NAV radio with SiriusXM Satellite Radio<sup>[9]</sup> SiriusXM Traffic<sup>[9]</sup> and SiriusXM Travel Link<sup>[10]</sup> • MP3 auxiliary jack, 2.5-amp USB port and SD card slot • Premium 10-speaker Surround Sound Audio System • Power adjustable pedals with memory • Power sliding rear window • LED additional interior lighting

**EXTERIOR**

Monotone paint • Fog lamps • Chrome grille surround with chrome wave mesh inserts • Unique Laramie Limited badging • Premium projector headlamps with LED turn signal/running lights • Chrome door handles • Bed rail caps • Spray-in bedliner • Locking tailgate • Premium LED taillamps • 4- and 7-pin trailer wiring harness/connectors • 20-inch painted aluminum wheels with chrome inserts and BSW tires • Chrome power-heated/power-folding sideview mirrors with puddle lamps and turn signal indicators • 4-inch chrome-tipped dual exhaust

# 2014 RAM 1500 BUYER'S GUIDE

	TRADESMAN REG/QUAD/CREW	HFE	REGULAR CAB	EXPRESS REG/QUAD/CREW	ST	REG/QUAD/CREW	BIG HORN LONGHORN STAR REG/QUAD/CREW	OUTDOORSMAN QUAD/CREW	SPORT REG/QUAD/CREW	LARAMIE QUAD/CREW	LARAMIE LONGHORN CREW/CAB	LARAMIE LIMITED CREW CAB
<b>CPDS PACKAGE</b>	B	P	C	G	Z/Y	T	L	H	K	M		
<b>ENGINE / TRANSMISSION</b>												
3.6L Pentastar® Flex Fuel 24V VVT 6 / 8HP45 8-speed automatic	22B	22P	—	22G	22Y	22T	—	22H	—	—	—	—
3.0L EcoDiesel V6 / 8HP70 8-speed automatic (late availability)	28B	—	—	28G	28Y	28T	—	28H	28K	28M	—	—
5.7L HEMI® V8 with VVT and Fuel Saver Technology / 65RFE 6-speed automatic	25B	—	25C	—	—	—	—	—	—	—	—	—
5.7L HEMI V8 with VVT and Fuel Saver Technology / 8HP70 8-speed automatic	26B	—	26C	26G	26Y	26T	26L	26H	26K	26M	—	—
<b>MECHANICAL FEATURES</b>												
<b>ACTIVE GRILLE SHUTTERS</b> (included with 8-speed automatic transmission)	S	S	P	S	S	S	S	S	S	S	S	S
<b>ALTERNATOR</b> — 180-amp	S	—	S	S	S	S	S	S	S	S	S	S
— 220-amp (requires Stop/Start System)	—	S	—	—	—	—	—	—	—	—	—	—
— 230-amp (included with EcoDiesel V6)	P	—	—	P	P	P	—	P	P	P	—	—
<b>AXLE</b> — 3.21 ratio (not available with EcoDiesel V6 or Crew Cab 6'4" box model)	S	S	O	S	S	S	S	S	S	S	S	S
— 3.55 ratio (included with 6-speed transmission; included with EcoDiesel V6; standard with Crew Cab 6'4" box model)	P/S	—	S	O/P	O	O	O	O	O	O	O	O
— 3.92 ratio (included with 4x2 R/T and 4x4 Outdoorsman)	O	—	O	P	O	O/S	O/S	O	O	O	O	O
— Antispin rear differential (included with R/T 4x2 and Outdoorsman 4x4)	O	O	O	P	O	O/S	O/S	O	O	O	O	O
<b>BATTERY</b> — 730-amp	S	—	S	S	S	S	S	S	S	S	S	S
— 800-amp (included with EcoDiesel V6)	P	S	—	P	P	P	—	P	P	P	—	—
<b>ENGINE BLOCK HEATER</b>	O	O	O	O	O	O	O	O	O	O	O	O
<b>ENGINE COOLING</b> — Heavy-duty (included with EcoDiesel V6 and HEMI V8)	P	—	S	P	P	P	S	S	S	S	S	S
— Maximum-duty (optional with EcoDiesel V6)	O	—	O	O	O	O	—	O	O	O	O	O
<b>FUEL TANK</b> — 26-gallon (included with EcoDiesel V6)	S	S	S	S	S	S	P	S	S	P	P	—
— 32-gallon (included with 8' box model; not available with EcoDiesel V6 or on Regular Cab short-box models; optional on 6'4" and 5'7" box models)	O/P	—	O	P	O	S	O	O	S	S	S	S
<b>SHOCK ABSORBERS</b> — Front, heavy-duty	S	S	S	S	S	S	S	S	S	S	S	S
— Rear, heavy-duty	S	S	S	S	S	S	S	S	S	S	S	S
— Rear, extra heavy-duty (included with Outdoorsman 4x4 only)	—	—	—	—	—	P	—	—	—	—	—	—
<b>STABILIZER BAR</b> — Front	S	S	S	S	S	S	S	S	S	S	S	S
— Rear (not available on Regular Cab 4x2 8' box models; included with 3.6L V6 on Regular Cab 4x2 6'4" box; included with Regular Cab R/T 4x2 6'4" box)	S	S	S	S	S	S	S/P	S	S	S	S	S
<b>STEERING</b> — Electronic rack and pinion	S	S	S	S	S	S	S	S	S	S	S	S
<b>STOP/START SYSTEM</b> — HFE models only	—	S	—	—	—	—	—	—	—	—	—	—
<b>SUSPENSION</b> — Front, upper and lower A-arms, coil springs, twin-tube shocks	S	S	S	S	S	S	S	S	S	S	S	O
— Rear, five-link, coil springs, twin-tube shocks	S	S	S	S	S	S	S	S	S	S	S	O
— Active-Level™ Four-Corner Air Suspension System: includes front upper and lower A-arms, air springs, twin-tube shocks, rear five-link, air springs, twin-tube shocks, air compressor, dual closed-loop system storage tanks (Quad Cab® and Crew Cab only; not available for Crew Cab 4x2 models with 6'4" box)	O	—	O	O	O	O	O	O	O	O	O	S
<b>TRAILER HITCH</b> — Class IV hitch receiver (included with Trailer Tow Group)	S	—	O/P	P	S	S	O/P	S	S	S	S	S
<b>TRANSFER CASE</b> — Electronic part-time (4x4 models only)	S	—	S	S	—	—	—	—	—	—	—	—
— Electronic on-demand (4x4 models only)	—	—	—	—	S	—	S	S	S	S	S	S
<b>WINCH</b> — Tire carrier	S	S	S	S	S	S	S	S	S	S	S	S
<b>EXTERIOR FEATURES</b>												
<b>AIR DAM</b> — Flexible 0-mm (Outdoorsman only)	—	—	—	—	—	S	—	—	—	—	—	—
— Flexible 18-mm (included with Active-Level Four-Corner Air Suspension System; not available on Outdoorsman)	P	—	P	P	P	—	P	P	P	S	—	—
— Flexible 38-mm (not available with Active-Level Four-Corner Air Suspension System; not available on Outdoorsman)	S	S	S	S	S	—	S	S	S	—	—	—
<b>BED RAILS</b> — Chrome, tubular, for 5'7" and 6'4" bed sides (not available with RamBox® System, tonneau cover or Mossy Oak® Package)	—	—	O	O	O	O	O	O	O	O	O	O
<b>BEDLINER</b> — Spray-in	S	O	O	—	O	O	O	O	O	O	S	—
<b>BODY MODEL</b> — Regular Cab 6'4" box	O	S	O	O	O	—	O	—	—	—	—	—
— Regular Cab 8' box	O	—	O	—	—	—	—	—	—	—	—	—
— Quad Cab 6'4" box	O	—	O	O	O	O	O	O	O	—	—	—
— Crew Cab 5'7" box	O	—	O	O	O	O	O	O	O	O	O	O
— Crew Cab 6'4" box	O	—	O	O	O	O	O	O	O	O	O	O
<b>BODYSIDE MOLDINGS</b> — Chrome (optional with monotone paint only on Outdoorsman and Laramie; included with Limited Appearance Group)	O	—	—	O	O	O	—	O	—	P	—	—
<b>DOOR HANDLES</b> — Black	S	S	S	—	—	S	—	—	—	—	—	—
— Body-color	—	—	—	—	—	—	—	S	—	—	—	—
— Chrome with body-color bezel	—	—	—	S	S	—	—	S	S	S	—	—
<b>EXHAUST</b> — Single rear	S	S	—	S	S	—	—	S	—	—	—	—
— Dual rear (included with HEMI V8 or EcoDiesel V6)	—	—	S	—	P	—	S	P	S	S	—	—
<b>FOG LAMPS</b>	—	—	S	—	S	S	S	S	S	S	—	—
<b>GRILLE</b> — Black surround, Black hex-link	S	S	—	—	—	—	—	—	—	—	—	—
— Chrome surround, Black hex-link (included with Exterior Appearance Group)	P	—	—	S	—	—	—	—	—	—	—	—
— Body-color surround, Black hex-link (included with R/T models)	—	—	S	—	S	P	—	—	—	—	—	—
— Body-color surround, chrome billet-perf	—	—	—	—	—	S	—	—	—	—	—	—
— Chrome surround, chrome billet-perf	—	—	—	—	—	—	—	S	—	—	—	—
— Chrome surround, chrome wave-perf	—	—	—	—	—	—	—	—	S	—	—	—
— Chrome surround, chrome wave-mesh	—	—	—	—	—	—	—	—	—	S	—	—
<b>HEADLAMPS</b> — Automatic	S	S	S	S	S	S	S	S	S	S	S	S
— Quad-lens halogen	S	S	S	S	S	S	—	—	—	—	—	—
— Sport bi-function halogen projector with LED turn/running lights (included with Black Express Group)	—	—	P	—	—	—	—	S	—	—	—	—
— Premium bi-function halogen projector with LED turn/running lights	—	—	—	—	—	—	—	S	S	S	—	—
— Auto High-Beam Headlamp Control (included in Convenience Group)	—	—	—	—	—	—	—	P	P	P	S	—

S = Standard. O = Optional. P = Part of package. Note: some features and/or applications may be late availability.

	TRADESMAN REG/QUAD/CREW	HFE	REGULAR CAB	EXPRESS REG/QUAD/CREW	ST	REG/QUAD/CREW	BIG HORN LONGHORN STAR REG/QUAD/CREW	OUTDOORSMAN QUAD/CREW	SPORT REG/QUAD/CREW	LARAMIE QUAD/CREW	LARAMIE LONGHORN CREW/CAB	LARAMIE LIMITED CREW CAB
<b>CPDS PACKAGE</b>	B	P	C	G	Z/Y	T	L	H	K	M		
<b>EXTERIOR FEATURES (continued)</b>												
<b>MIRRORS</b> — Manual, Black, 6 x 9-inch (Regular Cab only)	S	S	S	—	—	—	—	—	—	—	—	—
— Power, heated, folding, Black, 6 x 9-inch (included with Power and Remote Entry Group on Regular Cab Tradesman and Express models)	P/S	—	P/S	S	S	—	—	—	—	—	—	—
— Manual, folding trailer tow, Black, 7 x 11-inch (included with Trailer Tow Group; Regular cab only)	P	—	P	—	—	—	—	—	—	—	—	—
— Power, heated, auto-dimming, power-folding, Black, 6 x 9-inch; includes exterior courtesy lamps and supplemental turn signal (included with Luxury Group)	—	—	—	—	P	S	—	—	—	—	—	—
— Power, heated, power-folding, auto-dimming, body-color 6 x 9-inch; includes exterior courtesy lamps and supplemental turn signal	—	—	—	—	—	—	S	—	—	—	—	—
— Power trailer tow, manual folding, Black, 7 x 11-inch; includes exterior courtesy lamps and supplemental turn signal (included with Trailer Tow Group; not available on Regular Cab Tradesman or Express models)	P	—	P	P	P	P	—	—	—	—	—	—
— Power multifunction, heated, auto-dimming, power-folding, chrome, 6 x 9-inch; includes position memory, exterior courtesy lamps and supplemental turn signal	—	—	—	—	—	—	—	—	S	S	S	—
— Power trailer tow multifunction, heated, auto-dimming, manual folding, chrome, 7 x 11-inch, with position memory, exterior courtesy lamps and supplemental turn signal (included with Trailer Tow Group)	—	—	—	—	—	—	—	—	P	P	P	—
<b>RUNNING BOARDS</b> — Accent-color	—	—	—	—	—	—	—	—	—	—	S	—
<b>SKID PLATE</b> — Front suspension, 4x4 only (included with Protection Group)	P	—	—	—	P	S	—	P	P	—	—	—
— Transfer case, 4x4 only (included in Protection Group)	P	—	—	—	P	S	—	P	P	—	—	—
<b>STORAGE</b> — RamBox Cargo Management System: includes pickup box with integrated bins which are weatherproof, lockable and drainable, bed rails with four adjustable cleats and a dual-purpose bed divider/extender (5'7" and 6'4" box models only; not available with 8' box)	O	—	O	—	O	O	O	O	O	O	O	O
<b>TAILLAMPS</b> — Incandescent	S	S	S	S	S	S	—	—	—	—	—	—
— Sport (LED turn signals/stop lamps/running lights; included with Black Express Group)	—	—	P	—	—	—	—	S	—	—	—	—
— Premium (LED turn signals/stop lamps/running lights)	—	—	—	—	—	—	—	—	S	S	S	—
<b>TIRES</b> — P265/70R17 BSW All-Season	S	S	—	S	—	—	—	—	—	—	—	—
— P265/70R17 OWL All-Season (included with 17-inch aluminum chrome-clad wheel)	—	—	—	—	P	—	—	—	P	—	—	—
— LT265/70R17E OWL On-/Off-road	O	—	—	—	—	S	—	—	—	—	—	—
— P275/60R20 BSW All-Season	—	—	S	—	S	—	—	—	S	S	S	—
— P275/60R20 OWL All-Season (included with WR2 and WHE 20-inch wheels)	—	—	P	—	O	P	S	O	O	O	O	O
— P285/45R22 BSW All-Season (Regular Cab R/T 4x2 model only)	—	—	—	—	—	—	—	—	S	—	—	—
— Spare, full-size	S	S	S	S	S	S	S	S	S	S	S	S
<b>TONNEAU COVER</b> — Soft, tri-fold (available with or without RamBox System)	O	S	O	O	O	O	O	O	O	O	O	O
<b>TOW HOOKS</b> — Included with Protection Group	P	—	—	—	P	S	—	O/P	S	—	—	—
<b>WHEELS</b> — Steel spare	S	S	S	S	S	S	S	S	S	S	S	S
— 17 x 7-inch styled steel, painted Argent (WFP)	—	—	—	—	—	—	—	—	—	—	—	—
— 17 x 7-inch painted cast aluminum (included with Exterior Appearance Group) (WFE)	P	S	—	S	—	S	—	—	—	—	—	—
— 17 x 7-inch chrome-clad aluminum (WFJ)	—	—	—	—	O	—	—	O	—	—	—	—
— 20 x 8-inch painted Silver, aluminum (WHE)	—	—	S	—	—	—	—	—	—	—	—	—
— 20 x 8-inch painted Black, aluminum (included with Black Express Group) (WHN) (WHF)	—	—	P	—	—	O	—	—	—	—	—	—
— 20 x 8-inch chrome-clad aluminum (WHK)	—	—	—	—	—	—	—	—	—	—	—	—
— 20 x 9-inch chrome-clad aluminum (WR2)	—	—	O	—	—	—	—	—	—	—	—	—
— 20 x 9-inch aluminum, polished face, painted Silver pockets (WRF)	—	—	—	—	—	—	—	—	S	—	—	—
— 20 x 9-inch chrome-clad aluminum (WRG)	—	—	—	—	—	—	—	—	—	S	—	—
— 20 x 9-inch aluminum, multi-insert, polished, with Gold-clad accents (WRH)	—	—	—	—	—	—	—	—	—	—	S	—
— 20 x 9-inch aluminum, multi-insert, polished with Silver-clad accents (included with monotone paint) (WRJ)	—	—	—	—	—	—	—	—	—	—	P	—
— 20 x 9-inch aluminum, multi-insert, Satin Carbon painted with chrome-clad accents (WRM)	—	—	—	—	—	—	—	—	—	—	—	S
— 22 x 9-inch polished forged aluminum (Regular Cab R/T 4x2 model only) (WPZ)	—	—	—	—	—	—	—	—	S	—	—	—
<b>INTERIOR FEATURES</b>												
<b>AIR CONDITIONING</b> — Manual	S	S	S	S	S	S	S	S	—	—		

CPQS PACKAGE	CPQS PACKAGE										
	B	P	C	G	Z/Y	T	L	H	K	M	
<b>INTERIOR FEATURES (continued)</b>											
<b>SEATS</b> — Manual adjusting driver and front passenger seats	S	S	S	S	—	—	—	—	—	—	—
— Power 10-way driver (included with *M9 and *MJ seats)	—	—	—	—	S	S	S	—	—	—	—
— Power 10-way driver and power 6-way passenger (included with *CJ seats)	—	—	—	—	—	—	P	—	—	—	—
— Power 10-way driver with memory and power 6-way passenger	—	—	—	—	—	—	—	S	S	S	—
— Power 2-way lumbar adjuster (driver's seat only; included with *M9 and *MJ seats)	—	—	—	—	S	S	S	S	S	S	—
— Seat belt, front, shoulder height-adjustable	S	S	S	S	S	S	S	S	S	S	—
— Heated, driver and front-passenger, includes heated steering wheel (included with Comfort Group and *CJ seats)	—	—	—	—	P	P	P	S	S	S	—
— Heated, driver and front-passenger, includes heated steering wheel (included with Comfort Group and *CJ seats)	—	—	—	—	—	—	—	P	S	S	—
— Heated, 2nd-row, Crew Cab only (included with *GJ bucket seats)	—	—	—	—	—	—	—	—	P	S	—
— Vinyl 40/20/40 split-bench front seat with folding front armrest/cup holder, floor-mounted storage tray on Crew Cab (Quad Cab® and Crew Cab models include folding rear bench seat trimmed in vinyl) (*TX)	S	—	S	—	—	—	—	—	—	—	—
— Cloth 40/20/40 split-bench front seat, front armrest with cup holder (Quad Cab and Crew Cab models include cloth folding rear bench seat; included with Popular Equipment Group) (*V9)	P	S	P	S	—	—	—	—	—	—	—
— Premium cloth-trimmed 40/20/40 split-bench front seat, front armrest with cup holder, power 10-way driver's seat, power lumbar adjuster, front center seat cushion storage, 115-volt auxiliary power outlet (Quad Cab and Crew Cab models include 60/40 split-folding rear bench seat with underseat storage and fold-flat load floor storage) (*M9)	—	—	—	—	S	0	—	—	—	—	—
— Premium cloth-trimmed low-back bucket seats, power 10-way driver's seat, power lumbar adjuster, full-length floor console, 115-volt auxiliary power outlet (Quad Cab and Crew Cab models include 60/40 split-folding rear bench seat trimmed in cloth with underseat storage and fold-flat load floor storage) (*M)	—	—	—	—	0	S	—	—	—	—	—
— Premium cloth/vinyl-trimmed high-back heated bucket seats, power 10-way driver's seat, power lumbar adjuster, full-length floor console, 115-volt auxiliary power outlet (Quad Cab and Crew Cab models include 60/40 split-folding rear bench seat trimmed in cloth/vinyl with underseat storage and fold-flat load floor storage) (*AJ)	—	—	—	—	—	—	S	—	—	—	—
— Leather-trimmed high-back, ventilated and heated bucket seats, includes power 10-way driver and power 6-way passenger, power lumbar adjuster, full-length floor console, 115-volt auxiliary power outlet (Quad Cab and Crew Cab models include 60/40 split-folding rear bench seat trimmed in vinyl with underseat storage and fold-flat load floor storage, not available on Regular Cab) (*C)	—	—	—	—	—	0	—	—	—	—	—
— Leather-trimmed 40/20/40 split-bench heated and ventilated front with power 10-way/memory for driver and power 6-way passenger, power lumbar adjuster, front center-seat cushion storage and folding center armrest with cup holder, 115-volt auxiliary power outlet (Quad Cab and Crew Cab models include 60/40 split-folding rear bench seat trimmed in vinyl with underseat storage and fold-flat load floor storage) (*VL)	—	—	—	—	—	—	—	S	—	—	—
— Leather-trimmed high-back, ventilated and heated bucket seats, includes power 10-way driver and power 6-way passenger, power lumbar adjuster, full-length floor console, 115-volt auxiliary power outlet and heated 2nd-row on Crew Cab models (Quad Cab and Crew Cab models include 60/40 split-folding rear bench seat trimmed in vinyl with underseat storage and fold-flat load floor storage) (*G)	—	—	—	—	—	—	—	0	—	—	—
— Premium leather with laser-etched design, high-back ventilated and heated bucket seats, includes power 10-way driver and power 6-way passenger, power lumbar adjuster, premium full-length floor console, 115-volt auxiliary power outlet, heated 2nd-row seats; includes 60/40 split-folding premium leather with laser-etched design rear bench seat with underseat storage (available only in Canyon Brown) (*X)	—	—	—	—	—	—	—	—	—	S	—
— Premium leather high-back, ventilated and heated bucket seats, includes power 10-way driver and power 6-way passenger, power lumbar adjuster, premium full-length floor console, 115-volt auxiliary power outlet, heated 2nd-row seats; includes 60/40 split-folding premium leather rear bench seat with underseat storage and fold-flat load floor storage (available in Canyon Brown or Cattle Tan) (*D)	—	—	—	—	—	—	—	—	0	—	—
— Premium leather high-back, ventilated and heated bucket seats, includes power 10-way driver and power 6-way passenger, power lumbar adjuster, premium full-length floor console, 115-volt auxiliary power outlet, heated 2nd-row seats; includes 60/40 split-folding premium leather rear bench seat with underseat storage and fold-flat load floor storage (available only in Black) (*UL)	—	—	—	—	—	—	—	—	—	—	S
<b>STEERING WHEEL</b> — Urethane	S	S	S	S	—	—	—	—	—	—	—
— Leather-wrapped with audio control buttons (included with Luxury Group)	—	—	—	—	S	S	S	S	—	—	—
— Leather-wrapped, genuine wood, heated, with audio control buttons	—	—	—	—	—	—	—	—	—	S	S
— Heated (included with Comfort Group)	—	—	—	—	P	P	S	S	S	S	—
<b>STORAGE</b> — Front-seat center cushion (included with *M9 and *VL seats)	—	—	—	—	—	S	P	—	S	—	—
— Front, behind the seats (Regular Cab only)	S	S	S	S	S	—	—	—	—	—	—
— Rear, in-floor bins, two with removable liners (Crew Cab only)	S	—	S	S	S	S	S	S	S	S	—
— Rear, underseat compartment (Quad Cab and Crew Cab models only)	S	—	S	S	S	S	S	S	S	S	—
— Dual glove boxes with closing doors	—	—	—	—	S	S	S	S	S	S	—
<b>SUNROOF</b> — Power (Quad Cab and Crew Cab models only)	—	—	—	—	0	0	0	0	0	0	—
<b>WINDOWS</b> — Manual (Regular Cab only)	S	S	S	—	—	—	—	—	—	—	—
— Power, front with driver's one-touch down (Regular Cab only; included with Power Remote Entry Group)	P	—	P	S	—	S	S	—	—	—	—
— Power, front and rear with driver's one-touch down and up (Quad Cab and Crew Cab models only)	S	—	S	S	S	S	S	S	S	S	—
— Rear backlight, fixed (standard on Regular Cab models)	S	S	S	S	S	S	—	—	—	—	—
— Rear backlight, sliding (Regular Cab only)	0	—	0	0	0	—	—	—	—	—	—
— Rear backlight, power sliding (Quad Cab and Crew Cab models only)	—	—	—	—	S	S	S	S	S	S	—
— Rear defroster (with fixed glass or power sliding rear backlight only)	—	—	—	—	0	0	0	0	0	0	—

CPQS PACKAGE	CPQS PACKAGE										
	B	P	C	G	Z/Y	T	L	H	K	M	
<b>CONNECTIVITY — Multimedia</b>											
<b>CONNECTIVITY</b> — Auxiliary input jack for mobile devices	S	S	S	S	S	S	S	S	S	S	—
— USB 1.5-amp fully functioning port	S	S	S	S	S	S	S	S	S	S	—
— USB 2.5-amp charging-only port (included with *V9, *M9, *MJ seats and Uconnect 5.0 radio)	P	P	P	S	S	S	S	S	S	S	—
— SD card (included with Uconnect 8.4A and 8.4AN radios)	—	—	—	P	P	S	S	S	S	S	—
<b>RADIO</b> — Uconnect 3.0 AM/FM	S	S	S	—	—	—	—	—	—	—	—
— Uconnect 5.0 AM/FM/Bluetooth® (included with Black Express Group)	0	0	0/P	S	—	—	—	—	—	—	—
— Uconnect 8.4A AM/FM/Bluetooth/ACCESS	—	—	—	0	0	S	S	F	—	—	—
— Uconnect 8.4AN AM/FM/Bluetooth/ACCESS/NAV	—	—	—	—	0	0	0	0	0	0	—
<b>RADIO CONTROLS</b> — Steering wheel-mounted audio controls (included with leather-wrapped steering wheel)	—	—	—	—	—	S	S	S	S	S	—
<b>SINGLE DISC CD PLAYER</b>	0	0	0	0	0	0	0	0	0	0	—
<b>SIRIUSXM® SATELLITE RADIO®</b> — Included with Popular Equipment Group	P	0	P	S	S	S	S	S	S	S	—
<b>SIRIUSXM TRAVEL LINK®</b> — Included with Uconnect 8.4AN radio	—	—	—	—	P	P	P	P	P	P	—
<b>SIRIUSXM TRAVEL LINK®</b> — Included with Uconnect 8.4AN radio	—	—	—	—	P	P	P	P	P	P	—
<b>SPEAKER SYSTEM</b> — Six, standard	S	S	S	S	S	S	S	S	S	S	—
— Premium I; seven speakers and eight-channel amplifier (Regular Cab only)	—	—	—	—	—	—	—	—	—	—	—
— Premium II; ten speakers including a subwoofer and 12-channel amplifier (included with Sport Premium Group, Quad Cab and Crew Cab models only)	—	—	—	—	0	0	P	S	S	S	—
<b>Uconnect ACCESS™</b> — Requires Uconnect 8.4A or 8.4AN radios	—	—	—	P	P	S	S	S	S	S	—
<b>Uconnect ACCESS™ VIA MOBILE SMARTPHONE</b> — Requires Uconnect 8.4A or 8.4AN radios	—	—	—	0	0	0	0	0	0	0	—
<b>Uconnect BLUETOOTH CONNECTIVITY</b> — Includes hands-free phone <sup>(11)</sup> , Streaming Audio, Voice Command <sup>(11)</sup> and Text Message Reader <sup>(15)</sup> (requires Uconnect 5.0, 8.4A or 8.4AN radios)	P	P	P	S	S	S	S	S	S	S	—
<b>SAFETY AND SECURITY</b>											
<b>AIR BAGS®</b> — Advanced multistage front	S	S	S	S	S	S	S	S	S	S	—
— Supplemental side-curtain	S	S	S	S	S	S	S	S	S	S	—
— Supplemental front-seat side-mounted	S	S	S	S	S	S	S	S	S	S	—
<b>BRAKES</b> — Power-assisted 4-wheel antilock disc	S	S	S	S	S	S	S	S	S	S	—
<b>ELECTRONIC STABILITY CONTROL (ESC)®</b> — Includes 4-wheel ABS, Brake Assist, All-Speed Traction Control, Rainy Day Braking, Ready Alert Braking, Electronic Roll Mitigation, Hill Start Assist and Trailer Sway Control <sup>(6)</sup>	S	S	S	S	S	S	S	S	S	S	—
<b>PARKSENSE® FRONT AND REAR PARK ASSIST™</b> — Not available on Regular Cab (included with Rear Camera and Park Assist Group)	—	—	—	—	0	0	0	0	0	0	—
<b>PARKVIEW® REAR BACK-UP CAMERA™</b> — With dynamic grid lines (grid lines not available with Uconnect 3.0 radio)	0	—	0	0	0/P	0/P	S	S	S	S	—
<b>REMOTE KEYLESS ENTRY WITH ALL-SECURE™</b> — Controls for power door locks, tailgate and RamBox® System (when equipped), illuminated entry system, panic alarm; includes two transmitters (included with Popular Equipment Group and Power and Remote Entry Group)	P	—	P	S	S	S	S	S	S	S	—
<b>REMOTE START SYSTEM</b> — Included with Remote Start and Security Group	—	—	—	—	P	S	P	0	S	S	—
<b>SECURITY ALARM</b> — Included with Remote Start and Security Group	—	—	—	—	P	S	P	0	S	S	—
<b>TRAILER BRAKE CONTROL</b> — Fully integrated electronic (included with Trailer Tow Group)	0/P	0/P	0/P	P	0/P	0/P	0/P	0/P	0/P	0/P	—
<b>PACKAGES / EQUIPMENT GROUPS</b>											
<b>BLACK EXPRESS GROUP</b> — Includes Popular Equipment Group, Power and Remote Entry Group, door and fender badge delete, Black tailgate badges, Sport projector head lamps, Sport LED taillamps, Black painted grille, Uconnect 5.0 radio and 20-inch Black painted wheels	—	—	0	—	—	—	—	—	—	—	—
<b>COMFORT GROUP</b> — Includes heated cloth seats and heated steering wheel	—	—	—	0	0	S	—	—	—	—	—
<b>CONVENIENCE GROUP</b> — Includes Passive Entry/Keyless Enter™ in Go!™ rain-sensing wipers, Auto High-Beam Headlamp Control	—	—	—	—	—	0	0	0	0	0	S
<b>EXTERIOR APPEARANCE GROUP</b> — Includes chrome front and rear bumpers, chrome grille surround and 17-inch painted aluminum wheels	0	—	—	—	—	—	—	—	—	—	—
<b>LIMITED APPEARANCE GROUP</b> — Includes chrome body-side moldings, body-color wheel flares and chrome front and rear bumpers	—	—	—	—	—	—	—	—	—	—	0
<b>LUXURY GROUP</b> — Includes switchable dome lamp, ashtray lamp, glove box lamp, underhood lamp, illuminated vanity mirror, auto day/night mirror, exterior mirrors with signal and puddle lamps, overhead console with Universal Garage Door Opener, leather-wrapped steering wheel, full-color 7-inch TFT programmable EVIC screen	—	—	—	—	—	0	S	S	—	—	—
<b>MOSSY OAK® PACKAGE</b> — Crew Cab 4x4 only — includes Mossy Oak logo on the seatbacks, decal on rear box side; camouflage pattern on exterior bed rail caps, tailgate caps, interior instrument panel center stack and door panel inserts; embroidered logo on four primary headrests (requires Canyon Brown/Light Frost Beige interior)	—	—	—	—	—	0	—	—	—	—	—
<b>POPULAR EQUIPMENT GROUP</b> — Includes cloth 40/20/40 bench seat, carpeted flooring, remote keyless entry, floor mats and SiriusXM Satellite Radio <sup>(9)</sup>	0	—	0	—	—	—	—	—	—	—	—
<b>POWER AND REMOTE ENTRY GROUP</b> — Includes premium vinyl door trim, remote keyless entry, foldaway Black power heated mirrors, power windows with front one-touch down and power locks (Regular Cab only)	0	—	0	—	—	—	—	—	—	—	—
<b>PROTECTION GROUP</b> — Includes tow hooks, front suspension and transfer case skid plates (4x4 models only)	0	—	—	—	0	S	—	—	—	—	—
<b>REAR CAMERA AND PARK ASSIST GROUP</b> — Includes ParkSense Front and Rear Park Assist <sup>(1)</sup> and ParkView Rear Back-Up Camera <sup>(1)</sup>	—	—	—	—	0	0	—	—	—	—	—
<b>REMOTE START AND SECURITY GROUP</b> — Includes security alarm and Remote Start System	—	—	—	—	0	S	0	—	—	—	—
<b>R/T PACKAGE</b> — Includes 3.92 axle ratio and antispin differential, P285/45R22 BSW All-Season tires, 22 x 9-inch forged polished aluminum wheels and Sport performance hood (Regular Cab 4x2 6'4" box models only)	—	—	—	—	—	—	—	—	S	—	—
<b>SPORT PREMIUM GROUP</b> — Includes Premium Surround Sound Speaker System (Quad Cab and Crew Cab only)	—	—	—	—	—	—	0	—	—	—	—
<b>TRAILER TOW GROUP</b> — Includes electronic trailer brake controller, Class IV hitch receiver and 7 x 11-inch trailer tow mirrors (included with Trailer and Traction Group)	0	—	0	P	0	0	0	0	0	0	—
<b>TRAILER AND TRACTION GROUP</b> — Includes Trailer Tow Group, 3.92 axle ratio with HEMI® V8 or EcoDiesel V6, or 3.55 axle ratio with Pentastar® V6	—	—	—	0	—	—	—	—	—	—	—

S = Standard. 0 = Optional. P = Part of package. Note: some features and/or applications may be late availability.



# LONGHORN

*No shortcuts when it comes to luxury.*

Here's to leaving nothing on the table in terms of luxury. Ram's engineers didn't put their pencils down before delivering the most comfortable Ram interiors to date.

With cab sizes varying by weight class—and with a Power Wagon® Laramie delivering astonishing off-road capability along with an unexpected level of opulence—Ram Laramie, Laramie Longhorn and new Laramie Limited models serve up a degree of sophistication and design that puts these Ram owners in an enviable class of their own.

Inside, Ram Laramie models distinguish themselves with distinctive leather-trimmed heated/ventilated seats, large and full-color multiview

displays, and a heated and leather-wrapped steering wheel with audio controls. Ram Laramie Longhorn, shown above in Cattle Tan/Black, also comes with a unique laser-etched treatment in the Canyon Brown color, both with stained and burled wood accents from rustic European origins.

The next step up is the Ram Laramie Limited—featuring an all-Black interior with subtle instrument panel treatments, also in aged European wood. This is luxury graded by unquestionable capability and impressive strength of character.



## MENU NAVIGATION THAT'S SECOND NATURE. REAL-TIME PERFORMANCE DATA THAT'S SECOND TO NONE. THIS IS A NEW KIND OF KNOW-HOW.



TOP: You need information. Ram is the source. The available six-ring instrument-panel cluster shown here is configured to include data for the new turbocharged EcoDiesel V6,\* reflecting turbo boost numbers and exhaust figures. The system is so sophisticated, it even includes data for internal transmission temperatures, DEF status and trailer brake operation.

BOTTOM: Scroll through the color interfaces using steering wheel-mounted toggle switches; you'll find dozens of graphics relating information on the most important mechanical and electrical functions.

We'll give a respectful nod to the past as we introduce the technology of the future: this is the truck of tomorrow. The 2014 Ram pickups come to work with each trim level presenting an individual and bold instrument panel cluster and EVIC (Electronic Vehicle Information Center) display. Select upscale models feature a six-ring instrumentation cluster with a 7-inch customizable multiview display. In every respect, it's pure Ram, all the way.

The experience of driving a pickup with this level of technology is singular: the vibrant, full-color available 7-inch multiview display Ram Control Center uses stunning Thin Film Transistor (TFT) technology for clarity typically seen on high-end flat screens. Scroll through roller-type interfaces with instant vehicle information,

including graphics that represent some 34 menu options. The level of information is astonishing—and this is how you control it all.

The Ram PowerNet electrical architecture is like having a high-speed Internet connection in your Ram. The electronics convey information about virtually every facet of vehicle operation through multiple smart modules in constant communication with each other.

What it all boils down to is knowledge: the 2014 Ram models with their intuitive steering wheel-mounted toggle switches take you through dozens of different pieces of real-time information—everything from trailer data to critical pressures and powertrain operating temperatures. This is technology driving to be the best.

\*Late availability.



## UCONNECT® PUTS YOUR PHONE, NAV, MUSIC, INFORMATION, CLIMATE CONTROLS, AND GENERALLY THE WHOLE WORLD AT YOUR FINGERTIPS.

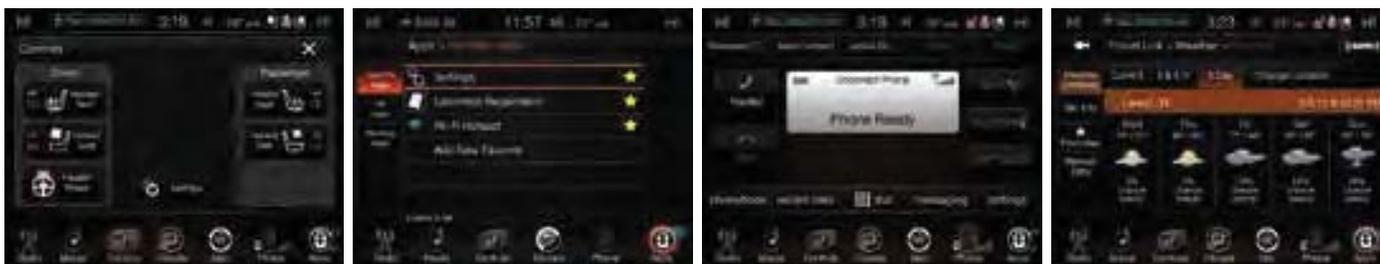
In a 2014 Ram pickup, staying in touch and staying in tune comes together through a comprehensive and intuitive technology: Uconnect®. This blend of state-of-the-art electronics and classic “what-works-best” ergonomics gives you an intelligent system that benchmarks where integrated technology is going. Count on full-color touch screens, clear displays, and familiar knobs and buttons for information, music, searches, NAV, interior controls and communications—either at your fingertips, or with hands-free Voice Command!<sup>[11]</sup>

### UCONNECT ACCESS<sup>[12]</sup> GIVES YOU EVEN MORE.

The 2014 Ram pickups deliver outstanding technology to keep you in touch—and the next-generation connectivity from Uconnect provides it all. By registering for the included trial<sup>[13]</sup>\* of Uconnect Access<sup>[12]</sup> services you get available on-demand WiFi Hotspot<sup>[14]†</sup> with the convenience of Remote Commands,<sup>[6]</sup> Voice Texting,<sup>[6]</sup> Yelp®, emergency assistance and more.

#### Uconnect Access services include:

Yelp	Roadside Assistance <sup>[7]</sup>	Remote Vehicle Start <sup>[6]</sup>	WiFi Hotspot <sup>[14]†</sup>
Voice Texting <sup>[6]</sup>	Stolen Vehicle Assistance	Remote Horn and Lights <sup>[6]</sup>	<small>*Uconnect 8.4A: 6-month trial. Uconnect 8.4AN: 12-month trial. †Additional charges apply.</small>
9-1-1 Call <sup>[6]</sup>	Theft Alarm Notification	Remote Door Lock/Unlock <sup>[6]</sup>	



## AVAILABLE UCONNECT RADIOS FOR RAM 1500/2500/3500



**UCONNECT 3.0.** With four-line LCD display; AM/FM with remote USB; iPod® integration. Available: SiriusXM® Satellite Radio<sup>[9]</sup> and remote CD player.



**UCONNECT 5.0.** With 5-inch full-color touch-screen display; AM/FM with remote USB; iPod integration; Bluetooth® connectivity for hands-free phone;<sup>[10]</sup> Streaming Audio, Voice Command,<sup>[11]</sup> Voice Text Reply;<sup>[6]</sup> rearview camera<sup>[7]</sup>-ready; SiriusXM Satellite Radio<sup>[9]</sup> Available: remote CD player.



**UCONNECT 8.4A.** With 8.4-inch full-color touch-screen display; AM/FM with remote USB/SD; iPod integration; Bluetooth connectivity for hands-free phone;<sup>[10]</sup> Streaming Audio, Voice Command,<sup>[11]</sup> Voice Text Reply;<sup>[6]</sup> also includes dealer-activated navigation; HVAC control integration; smartphone connectivity; rearview camera<sup>[7]</sup>-ready; SiriusXM Satellite Radio<sup>[9]</sup> Available: remote CD player.



**UCONNECT 8.4AN.** All features of all previous descriptions, plus navigation with one-step voice-destination entry; 3D city modeling and landmarks; digital terrain modeling; HD radio; SiriusXM Satellite Radio;<sup>[9]</sup> SiriusXM Travel Link;<sup>[12]</sup> SiriusXM Traffic.<sup>[9]</sup> Available: remote CD player.



### SIRIUS ALL ACCESS PACKAGE.

All satellite radio-equipped vehicles come with a one-year trial to the Sirius All Access Package, providing over 150 channels of the best programming for all the places life takes you.

- In your vehicle: you'll get every channel available on your radio, including all the premium programming like Howard Stern, every NFL® game, Oprah radio, MLB® Network Radio™ and more.
- On the go: with a SiriusXM Internet Radio subscription included with the All Access trial, you'll get SiriusXM on your computer, smartphone or tablet. Go to [siriusxm.com/getallaccess](http://siriusxm.com/getallaccess) for more information.

# IF YOU'VE GOT SOMETHING TO CARRY, WE'VE GOT YOUR BACK.

**R**am pickups are designed to deliver incredible hauling capability and storage capacity everywhere you look.

You've got every resource for helping friends move or hauling items for your next project. Depending on model, rear seats fold up or down for level-floor hauling and front-center seats open for valuable at-hand storage. Accessible and huge in-door bins offer serious volume, while the in-floor storage bins on Crew Cab set the benchmark for keeping valuables out of sight.

For select Ram models with 5'7" and 6'4" beds, the class-exclusive<sup>[1][2]</sup> available RamBox® Cargo Management System provides a complete package: a bed extender/divider, cargo bed rails with four adjustable tie-down cleats and the RamBox System bins—two large, illuminated, drainable and locking bed-side compartments. (There are even Authentic Accessories from Mopar® for the RamBox System created specifically for the sportsman. Check it out at mopar.com)

**BELOW:** No other pickup on the planet offers it: the class-exclusive<sup>[1][2]</sup> available RamBox Cargo Management System enlarges cargo-carrying with cavernous side boxes, a bed extender/divider, cargo rails and tie-down cleats.

Shown on next page.

**TOP:** Dual glove boxes ramp up storage capacity; extra-large in-door bins hold oversize bottles, with ample space for large items.

**MIDDLE:** In-floor storage bins of Ram Crew Cab models are convenient—and drainable; seats triple-up: the front-row center position can be a seat, a fold-flat writing surface or a storage compartment with cup holders.

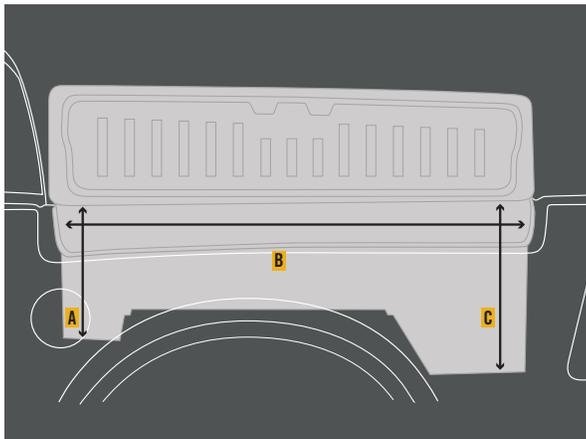
**BOTTOM:** Under-the-seat storage spaces are ideal when you want to stash items best left out of sight; fold-flat load floor on Crew Cab and Quad Cab® models is a built-in convenience for tools, groceries or fragile cargo.

### THE ALL-SECURE™ LOCKING SYSTEM

Versatile key fobs control another Ram advantage: the available All-Secure Locking System, which locks/unlocks all doors, the tailgate and (if equipped) both RamBox System bed-side compartments. Available fob functions include Remote Start; panic button; even the Entry/Exit Mode of the available Active-Level™ Four-Corner Air Suspension System for Ram 1500.



## THE CLASS-EXCLUSIVE<sup>[1][2]</sup> AVAILABLE RAMBOX CARGO MANAGEMENT SYSTEM



RAMBOX SYSTEM DIMENSIONS	5'7" CARGO BED (1500 MODELS ONLY)	6'4" CARGO BED
A	14.4"	18.6"
B	51.6"	60.2"
C	18.9"	18.9"





« RAM PICKUP EXTERIOR COLORS » 1500, 2500, 3500 »



Black



Black Gold Pearl



Bright White



Bright Silver Metallic



Blue Streak Pearl



Deep Cherry Red Crystal Pearl



Flame Red



Maximum Steel Metallic



Granite Crystal Metallic



Prairie Pearl



True Blue Pearl

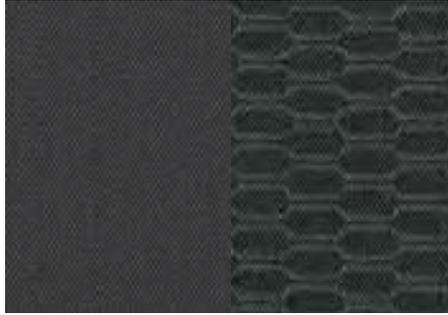


Western Brown Pearl

« RAM PICKUP INTERIOR FABRICS » 1500, 2500, 3500 »



**Vinyl**  
**Diesel Gray**  
 1500: Tradesman and Express  
 2500/3500: Tradesman



**Sedoso/Embossed Cloth**  
**Diesel Gray**  
 1500: Tradesman, Express, SLT and HFE  
 2500/3500: Tradesman, SLT and Power Wagon®



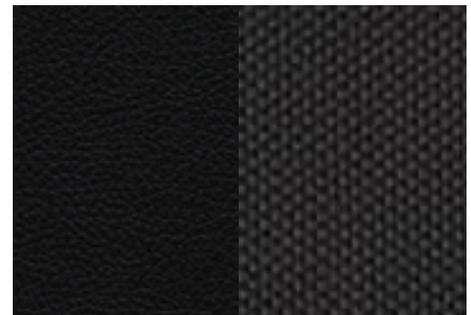
**Sedoso/Embossed Cloth**  
**Canyon Brown**  
 1500: SLT  
 2500/3500: SLT and Power Wagon



**Sedoso/Carbide Cloth**  
**Diesel Gray**  
 1500: Big Horn/Lone Star and Outdoorsman  
 2500/3500: SLT, Big Horn/Lone Star, Outdoorsman and Power Wagon



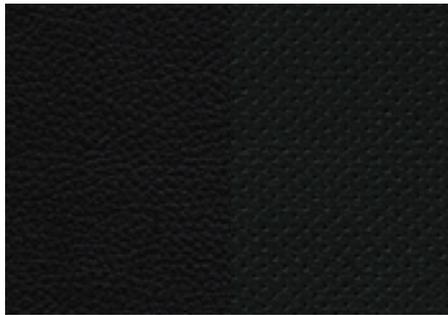
**Sedoso/Carbide Cloth**  
**Canyon Brown**  
 1500: Big Horn/Lone Star and Outdoorsman  
 2500/3500: SLT, Big Horn/Lone Star, Outdoorsman and Power Wagon



**Bristol Vinyl/Sport Mesh Cloth**  
**Black**  
 1500: Sport



**Bristol Leather/Perforated Leather Trim**  
**Light Frost Beige**  
 1500: Laramie  
 2500/3500: Laramie



**Bristol Leather/Perforated Leather Trim**  
**Black**  
 1500: Sport and Laramie  
 2500/3500: Laramie



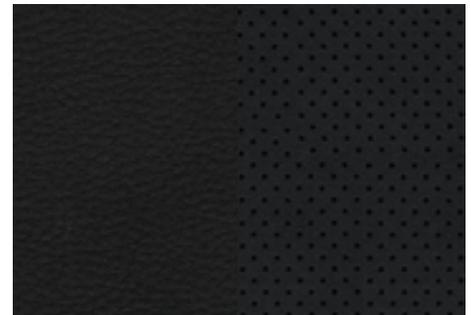
**Natura Leather/Perforated Leather with Black Piping and Black Accent Stitching**  
**Cattle Tan**  
 1500: Laramie Longhorn  
 2500/3500: Laramie Longhorn



**Natura Leather/Perforated Leather with Dark Saddle Piping and Tan Accent Stitching**  
**Canyon Brown**  
 1500: Laramie Longhorn  
 2500/3500: Laramie Longhorn



**Natura Leather with Laser Etching/Perforated Leather with Dark Saddle Piping and Tan Accent Stitching**  
**Canyon Brown**  
 1500: Laramie Longhorn  
 2500/3500: Laramie Longhorn



**Natura Leather/Perforated Leather with Medium Gray Stone Accent Stitching**  
**Black**  
 1500: Laramie Limited  
 2500/3500: Laramie Limited



# RAM. UNCOMPROMISING



# THE BOLDEST WORK BEST WITH A HEAVY-DUTY ATTITUDE.

It's a promise that's poured into the mold of the Heavy Duty badge itself: this is a truck that can take a beating while knocking down jobs with no punch list in sight. That's why the 2014 Ram Heavy Duty 2500/3500 models are built to put their shoulders down and deliver.

With numerous best-in-class and class-exclusive advantages where they count the most, Ram Heavy Duty 2500/3500 stand ready to serve.

These trucks have a history of arriving on job sites and ranches with a certain amount of attitude—and they have a stronger history of backing it up. The 2014 Ram 2500/3500 models build upon that rich tradition. Partnerships like the one that bore the available Cummins® Turbo Diesels help to fuel this lineup with resources. The innovations that are funneled into the Heavy Duty family help give Ram its top ranking in categories like towing capability.<sup>[1]</sup>\* Sometimes, it's easier for the strong to get even stronger.

Start with an all-new gas engine that will redefine the segment—the formidable 6.4-liter HEMI® V8, available for all 2014 Ram 2500 and 3500 models. Mated to the robust 66RFE 6-speed automatic, the addition of the 6.4L HEMI V8 gives Ram more clout than ever when it comes to powertrain choices.

Front and rear suspension technology for Ram 2500 gets a major upgrade, putting it on par with levels recently pioneered by Ram 3500. Helping ensure overall handling and road manners—and improving what's already an unquestionably comfortable ride—are the unique three-link

coil spring front and five-link coil spring rear suspensions. A new electronic front axle disconnect is also an upgrade for Ram 2500 4x4 models to help improve efficiency.

Even better: the 2014 Ram 2500 and 3500 Heavy Duty models now offer an available new class-exclusive<sup>[1]</sup> Auto-Level Rear Air Suspension System.<sup>†</sup> With two driver-selectable modes—specifically addressing payload and towing—this is heavy-duty capability that results in best-in-class<sup>[1]</sup> towing\* for Ram 2500 and 3500 Heavy Duty models.

Tougher. Stronger. More comfortable and capable, with greater operator control and more versatile powertrain choices than ever. That's the new 2014 Ram Heavy Duty 2500/3500.

Shown on next page.

**TOP:** *Ram Heavy Duty 3500 Crew Cab Big Horn dually (branded in Texas as Lone Star) in Deep Cherry Red Crystal Pearl, equipped with the available 6.7-liter Cummins Turbo Diesel and the available 17-inch polished aluminum wheels.*

**MIDDLE LEFT:** *The working symbol of luxury: the Ram Heavy Duty 3500 Laramie Longhorn badge.*

**MIDDLE RIGHT:** *Ram Heavy Duty 3500 Regular Cab Tradesman dually in Bright White, with optional Chrome Appearance Group.*

**BOTTOM:** *Ram Heavy Duty 2500 Crew Cab Big Horn in Deep Cherry Red Crystal Pearl.*

**Ram 2500: new five-link rear suspension improves comfort.**  
**Ram 2500/3500: new available dual-mode Auto-Level Rear Air Suspension System<sup>†</sup> ramps up towing\* and hauling capability.**  
**Ram 2500/3500: best-in-class<sup>[1]</sup> towing\*. This is leadership.**

\*When properly equipped. †Late availability.





\*When properly equipped. Properly secure all cargo.

# GET THE MOST WHERE IT COUNTS THE MOST.



Go in the know: select Ram models feature a full-color EVIC display with dozens of graphic interfaces covering virtually every mechanical function.



In-cabin view of the cargo bed: only Ram Heavy Duty<sup>®</sup> offers an available Cargo-View Camera<sup>™</sup> to see it all.



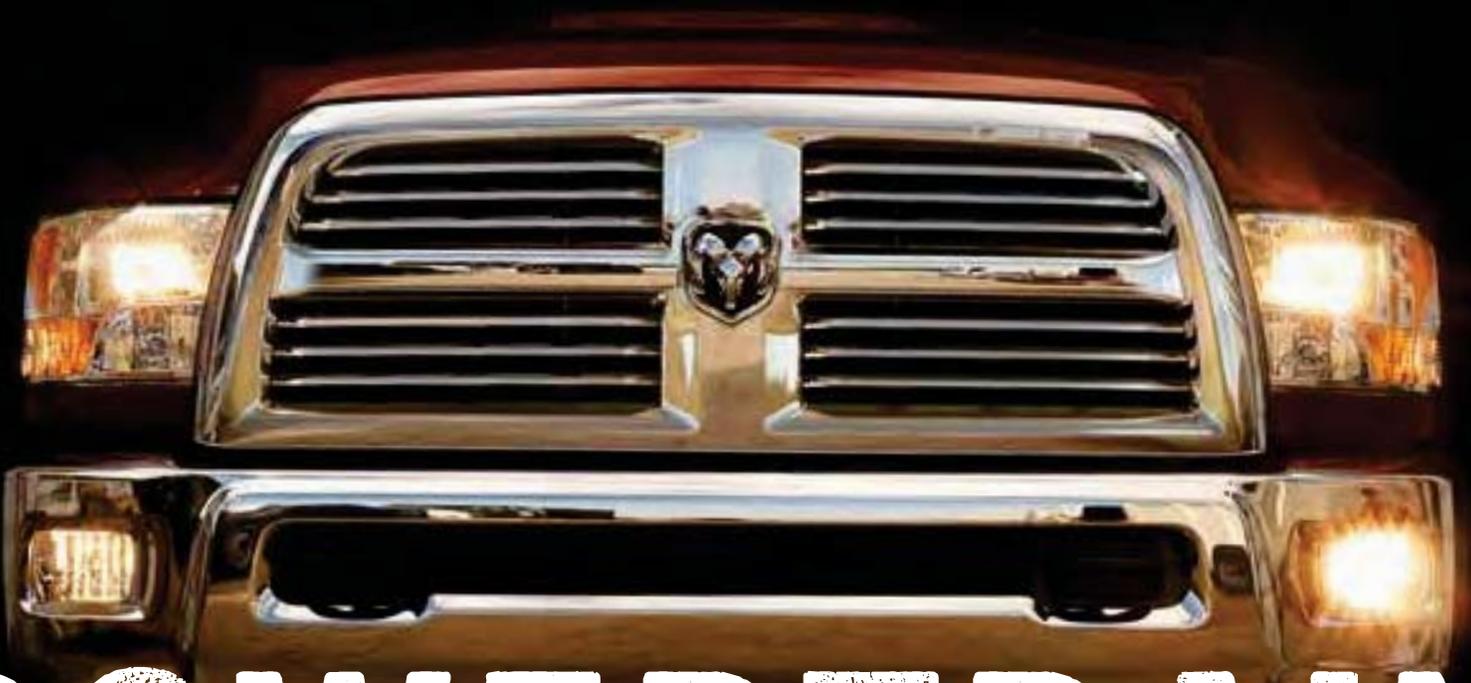
Available frame-mounted Gooseneck Hitch from Mopar<sup>®</sup> with easy ball removal (ball not included). Optional Fifth-Wheel/Gooseneck Prep Package includes in-bed 7-pin connector.



Available Fifth-Wheel Hitch from Mopar features sliding rails and simple-to-remove engineering.



Class-exclusive<sup>®</sup> Ram Active Air<sup>™</sup> Technology switches the air-intake path to ensure optimal power and torque under all grades, climates and load/towing conditions.



# POWERTRAIN SUPERIORITY

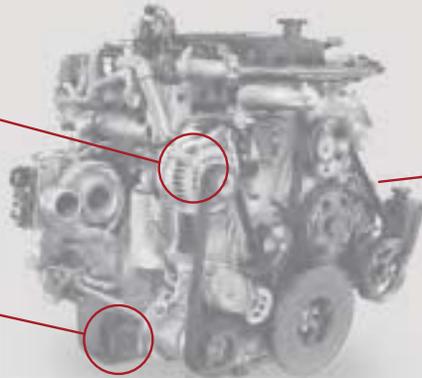
**5 YEAR/100,000 MILE**  
**POWERTRAIN LIMITED WARRANTY<sup>®</sup>**

ALL RAM POWERTRAINS ARE COVERED BY A FULLY TRANSFERABLE POWERTRAIN LIMITED WARRANTY.<sup>®</sup>

# TOP-LEVEL TORQUE.

## CUMMINS® IS IN CHARGE—WITH BEST-IN-CLASS<sup>[1]</sup> AVAILABLE TORQUE.

New for 2014 Ram 2500 models—and bringing them up to Ram 3500 electrical specs—are the available dual alternators with the Cummins Turbo Diesel. The optional in-tandem 220-amp units churn out an impressive 440 amps, with the invaluable “auto idle-up” automatically adjusting electrical output when greater power is needed.



Green by design: biodiesel compatibility includes full B20 operational compliance—an advantage to every Cummins engine.

Generous—and infrequent—oil-change intervals are part of the low-cost-of-ownership equation: a best-in-class<sup>[1]</sup> 15,000 miles under normal operation.

“Low-slung”—positioned charge air cooler and faster-sequenced water pumps ramp up efficiency.

## THE 6.7L CUMMINS TURBO DIESEL

**385 HORSEPOWER** **850 LB-FT OF TORQUE**



**AVAILABLE FOR RAM 2500/3500.** There’s one diesel engine designed to play a pivotal role in the heavy-duty world: the Cummins Turbo Diesel. Virtually indestructible in design, the 6.7L Cummins Turbo Diesel is engineered to the tolerances, quality and durability to power semi-class big rigs. As the available diesel engine for Ram 2500 and 3500 Heavy Duty, the Cummins for 2014 is calibrated specifically for ideal job-rated use and optimal transmission output. The results for Ram Heavy Duty once again culminate in best-in-class<sup>[1]</sup> available torque for Ram 3500—the working measure for towing and hauling.

+ **Best-in-class<sup>[1]</sup> towing** for Ram 3500 is part of the Cummins legacy. Equip your truck with the available Cummins High Output Turbo Diesel, and take advantage of 850 lb-ft of torque and 385 horsepower, with towing rated at 30,000 lb. (All towing figures apply to trucks that have been properly equipped.)

+ Incredible torque for Ram 2500 comes from the available Cummins rated at 370 hp and 800 lb-ft of torque, mated to the proven 68RFE 6-speed automatic; this beefed-up powertrain configuration is also available for 2014 Ram 3500 models.

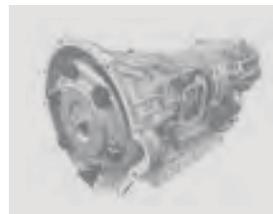
Cummins has been a leader in Turbo Diesel technology for decades—and the most recent iterations of Cummins engines prove why. Here’s where you’ll find three distinctive power outputs for 2014 Ram Heavy Duty. A next-generation Diesel Exhaust Fluid (DEF) System. A super-efficient Diesel Cooling System with 11-blade fan. A class-exclusive<sup>[1]</sup> “smart” diesel exhaust brake. And, of course, a Cummins High Output version that gives Ram 3500 best-in-class<sup>[1]</sup> available torque of 850 lb-ft.

Cummins + Ram Heavy Duty. The combination actually adds up to more than two million applications—the growing figure that sums up the enduring quality of this working partnership.

+ **The class-exclusive<sup>[1]</sup> G56 6-speed manual** transmission is the standard powertrain partner to the 350 hp/660 lb-ft Cummins Turbo Diesel. The 6-speed manual offers exceptional control when towing and hauling, and its availability for Ram 2500/3500 clearly separates Ram Heavy Duty from the contenders.

+ A recently revised Diesel Cooling System includes a revised Dual Radiator System; the modified engineering reduces heat by some 25% over the previous design.

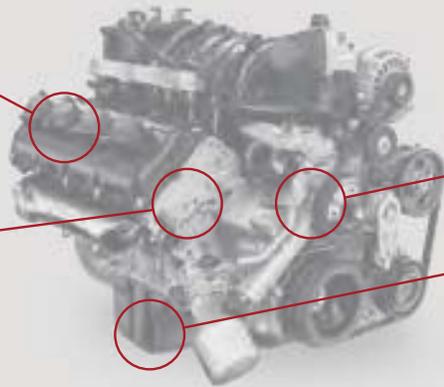
**TRANSMISSIONS:** *The incredible output of the Cummins Turbo Diesels compel that the mated transmissions can handle the torque over the decades. Standard with the Cummins engine is the class-exclusive<sup>[1]</sup> G56 6-speed manual; available for the 370/800 Cummins is the 68RFE automatic, with the AISIN® heavy-duty 6-speed automatic transmission easily handling the best-in-class<sup>[1]</sup> 850 lb-ft of available torque generated by the Cummins High Output Turbo Diesel.*



The AISIN heavy-duty 6-speed automatic is packaged with the available Cummins High Output Turbo Diesel. AISIN advantages include a sophisticated Transmission Control Module which momentarily turns off the exhaust brake (on the Cummins), and a ramped-up Tow/Haul Mode with a more aggressive downshift schedule to meet industrial-grade hauling demands.

# HEAVY-DUTY LEADERSHIP.

## 2014 RAM HEAVY DUTY: OUTSTANDING POWERTRAIN SELECTION, OUTPUT AND CAPABILITY.



Dual-ignition technology—two spark plugs per cylinder—increases peak power and torque, reduces exhaust emissions, helps improve fuel efficiency and smoothes the idle.

Aluminum cylinder heads combine with hemispherical combustion chambers for outstanding airflow leading to indispensable power and torque.

Variable Valve Timing (VVT) improves performance and also contributes to outstanding torque output over a large rpm range.

10,000-mile oil change intervals help keep costs-of-ownership in check.

### THE LEGENDARY 5.7L HEMI® V8

**383** HORSEPOWER **400** LB-FT OF TORQUE

**STANDARD ON RAM 2500/3500 SRV.** The credentials of this extraordinary gas powerplant rank as ideal examples of technical proficiency and the limits of engineering, for the properties of the hemispherical engine head are all about power. Since its introduction, the varied applications of the hemispherical head have included WWII-era prototype aircraft (and even some tank applications), and attained unprecedented dominance during the distinctively American muscle car era. Today, with its refinement reaching new levels of fuel efficiency and power, it's the obvious choice as standard engine for the 2014 Ram Heavy Duty pickups.

+ The competitive fuel efficiency generated by the 5.7L HEMI V8 accompanies serious performance capability. For single-rear-wheel models, the 5.7-liter HEMI V8 delivers incredible standard power and torque compared to other V8 engines.

+ The incorporation of iDFSO (interactive Deceleration Fuel Shut-Off) adds to the fuel-efficient performance of the 5.7L HEMI V8. iDFSO turns off the flow of fuel during deceleration, with no noticeable change in engine performance—a real-world and bottom-line advantage to this powerplant.

**TRANSMISSIONS:** *The 5.7-liter HEMI V8 is mated to the long-proven 66RFE 6-speed automatic, a component that exceeds typical demands for anticipated towing and hauling. The transmission features driver-adaptive shifting, three multiple clutch packs and dual filters on a dual-stage pump; an independent lubrication cooler on the 66RFE ensures ample pressures under all driving and load conditions.*

In Ram Heavy Duty models, this iteration of the 5.7L HEMI V8 delivers every pound-foot of torque you need—with unexpected and perhaps even surprising fuel-efficient performance. Combined advantages here include VVT, outstanding transfer cases for 4x4 applications and the ideal transmission: the 66RFE 6-speed automatic. All work together to contribute to the HEMI V8 legacy: outstanding performance with fuel-sipping operation.

### RAM TOUGH TRANSFER CASES

The two transfer cases utilized by the Ram Heavy Duty models more than meet the need. The BorgWarner BW 44-46 transfer case features responsive electronic shift-on-the-fly engineering, with three operating ranges, plus Neutral.

The manually activated BW 44-47 transfer case features three operating ranges, plus Neutral. Both of these impressive units offer a low-range reduction ratio of 2.64:1—an ideal ratio when off-road in a slow rock-climbing situation, or when using Ram tough 4x4 capability on steep grades. It's all about capability and performance and, in both scenarios, Ram Heavy Duty pickups are designed to excel.

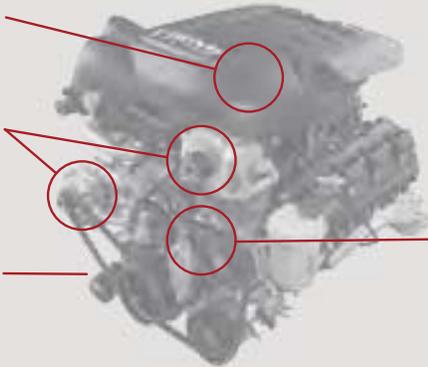
# MEET THE NEW BOSS.

## BEST-IN-CLASS<sup>(1)</sup> GAS HORSEPOWER AND TORQUE—AND THE EFFICIENCY OF FUEL SAVER TECHNOLOGY.

The Active Intake Manifold helps give this engine exceptional low-end torque and impressive power.

Need above-average electrical output? The 6.4L HEMI<sup>®</sup> V8 offers a gas-driven power first: available dual alternators, combining 220- and 160-amp units for a total of 380 working amps.

Count on premium performance—with wallet-friendly 87-octane unleaded gas.



The high-wear, powdered-metal materials used in the valves and valve seats have been fully tested—in fact, to the equivalent of 200,000 customer miles of operation.

Variable Valve Timing (VVT), a high-compression ratio and dual 100,000-mile platinum spark plugs all contribute to refined and powerful performance.

All-New

## THE FORMIDABLE 6.4L HEMI V8

**410** HORSEPOWER **429** LB-FT OF TORQUE



**AVAILABLE FOR RAM 2500/3500.** Take the proven engineering assets of the hemispherical combustion chamber, increase cylinder bores for greater displacement, and incorporate technology like Variable Valve Timing (VVT) and Fuel Saver Technology to get the most of every drop of fuel. The results give you the new available engine for Ram Heavy Duty—the 6.4-liter HEMI V8. And *that* gives 2014 Ram Heavy Duty 2500/3500 pickups a new position of absolute power, backed by a succession of commercial-grade best-in-class attributes.

+ Count on **best-in-class<sup>(1)</sup> gas horsepower** from the 6.4-liter HEMI V8: 410 hp (and 370 hp for 3500 Mega Cab<sup>®</sup> only). It's the ideal for acceleration and highway merging and cruising, even under the heaviest loads.

+ Fuel-efficient performance is engineered into the electro-mechanical heart of the 6.4-liter HEMI V8. MDS/Fuel Saver Technology helps save fuel with no compromise or noticeable changes in engine operation.

+ The corollary to that best-in-class<sup>(1)</sup> gas horsepower is **best-in-class<sup>(1)</sup> gas torque**; the 6.4-liter HEMI V8 torque levels are rated at a super-competent 429 lb-ft @ 4,000 rpm.

+ Fuel Saver Technology plays a significant role towards fuel-efficient performance. While cruising at highway speeds, the engine automatically (and seamlessly) shuts off four of the eight cylinders, letting you maintain speeds with the economies of a four-cylinder.

The big picture? 2014 Ram Heavy Duties deliver all-new clout where clout is needed, respected—and preferred. The engines described here reflect the most comprehensive lineup in our history. The 6.4-liter HEMI V8 delivers total capability and a stunning list of best-in-class features, detailed below.

When you build trucks of this power and quality, comparisons are encouraged. Other truck manufacturers can only envy the Ram Heavy Duty lineup for powertrain selection, horsepower levels and torque output.

+ **Best-in-class<sup>(1)</sup> gas towing** is the natural by-product of the best-in-class<sup>(1)</sup> gas power. On Ram 2500 models with the 6.4L HEMI V8, towing is rated at 16,300 lb. On Ram 3500 DRW models, towing jumps to 16,450 lb. (All towing figures apply to trucks that have been properly equipped.)

+ The cooled Exhaust Gas Recirculation (EGR) System is one of the first of its kind for a gas engine; common to diesel engines, the EGR System is designed to enhance fuel efficiency in heavy-load and uphill towing situations.

+ **Best-in-class<sup>(1)</sup> payload** rounds it out. The available 6.4-liter HEMI V8 in Ram 3500 delivers a jaw-dropping payload rating of 7,320 lb (when properly equipped). This is pure capability at your service.

+ The 6.4-liter HEMI V8 offers another first-time Ram application of advanced technology: Individual Cylinder Fuel Control, a diagnostic monitoring enabling air/fuel refinements and ensuring ideal mixtures for each individual cylinder.

**TRANSMISSIONS:** *The new 6.4-liter HEMI V8 is mated to the long-proven 66RFE 6-speed automatic, a component that exceeds typical demands for anticipated towing and hauling. The transmission features driver-adaptive shifting, three multiple clutch packs and dual filters on a dual-stage pump; an independent lubrication cooler on the 66RFE ensures ample pressures under all driving and load conditions.*

« 2500/3500 TOWING CAPABILITY »

## 2500 TOWING SPECS

Maximum loaded trailer weights (when properly equipped)

				2500											
				REGULAR CAB				CREW CAB				MEGA CAB®			
				8' BOX		6'4" BOX		6'4" RAMBOX®		8' BOX		6'4" BOX		6'4" RAMBOX	
				4x2	4x4	4x2	4x4	4x2	4x4	4x2	4x4	4x2	4x4	4x2	4x4
AT	ENGINE	AXLE RATIO	GCWR												
	5.7L HEMI® V8 CNG/ 66RFE 6-SPEED	3.73	15,000								7,230				
	5.7L HEMI V8/ 66RFE 6-SPEED	3.73	18,000	11,860	11,490	11,490	11,200	11,340	10,990	11,320	10,990	11,040	10,750	10,960	10,570
		4.10	20,000	13,860	13,490	13,490	13,200	13,340	12,990	13,320	12,990	13,040	12,750	12,960	12,570
	6.4L HEMI V8/ 66RFE 6-SPEED	3.73	19,500	13,300	12,930	12,920	12,580	12,760	12,430	12,760	12,400	12,480	12,220	12,400	12,050
4.10		22,500	16,300	15,930	15,920	15,580	15,760	15,430	15,760	15,400	15,480	15,220	15,400	15,050	
	6.7L CUMMINS® TURBO DIESEL I-6/ 68RFE 6-SPEED	3.42	25,000	17,970	17,550	17,550	17,200	17,380	17,080	17,360	17,030	17,150	16,790	17,000	16,640
MT	6.7L CUMMINS TURBO DIESEL I-6/ G56 6-SPEED	3.42	24,000	16,870	16,460	16,490	16,130	16,320	16,010	16,290	15,960	16,090	15,720	15,930	15,570

## 3500 TOWING SPECS

Maximum loaded trailer weights (when properly equipped)

				3500																	
				REGULAR CAB				CREW CAB				MEGA CAB									
				8' BOX		8' BOX DRW		6'4" BOX		6'4" RAMBOX		8' BOX		8' BOX DRW		6'4" BOX		6'4" RAMBOX		6'4" BOX DRW	
				4x2	4x4	4x2	4x4	4x2	4x4	4x2	4x4	4x2	4x4	4x2	4x4	4x2	4x4	4x2	4x4	4x2	4x4
AT	ENGINE	AXLE RATIO	GCWR																		
	5.7L HEMI V8/ 66RFE 6-SPEED	3.73	18,000	11,850	11,490			11,440	11,200	11,320	11,050	11,310	10,980			11,220	10,960	11,090	10,810		
		4.10	20,000	13,850	13,490			13,440	13,200	13,320	13,050	13,310	12,980			13,220	12,960	13,090	12,810		
	6.4L HEMI V8/ 66RFE 6-SPEED	3.73	19,500	13,310	12,950	12,950	12,560	12,900	12,660	12,780	12,510	12,770	12,440	12,380	12,070	12,680	12,420	12,550	12,270	12,300	12,010
		4.10	22,500	16,310	15,950			15,900	15,660	15,780	15,510	15,770	15,440			15,680	15,420	15,550	15,270		
		4.10	23,000			16,450	16,060							15,880	15,570					15,800	15,510
	6.7L CUMMINS TURBO DIESEL I-6/ 68RFE 6-SPEED	3.42	25,000	17,910	17,580	17,550	17,200	17,520	17,240	17,390	17,080	17,380	17,030	17,000	16,660	17,200	16,880	17,070	16,740	16,820	16,480
		3.73	27,000			19,550	19,200							19,000	18,660					18,820	18,480
		4.10	30,000			22,550	22,200							22,000	21,660					21,820	21,480
		4.10	37,500					29,540						29,340	29,000					29,170	28,820
6.7L CUMMINS HIGH OUTPUT TURBO DIESEL I-6/ AISIN® 6-SPEED	3.42	25,000	17,760	17,430			17,360	17,080	17,240	16,920	17,230	16,880			17,050	16,720	16,920	16,580			
	3.42	29,000			21,400	21,040							20,840	20,500					20,670	20,320	
	3.73	32,000			24,400	24,040							23,840	23,500					23,670	23,320	
	4.10	37,500																			
	4.10	37,600			30,000																
MT	6.7L CUMMINS TURBO DIESEL I-6/ G56 6-SPEED	3.42	24,000	16,860	16,530	16,500	16,150	16,470	16,200	16,350	16,040	16,330	15,990	15,950	15,610	16,150	15,830	16,020	15,690	15,770	15,430
		3.73	26,000			18,500	18,150							17,950	17,610					17,770	17,430

AT = AUTOMATIC TRANSMISSION MT = MANUAL TRANSMISSION DRW = DUAL REAR WHEEL | WEIGHTS GIVEN IN LB. | NUMBERS IN BLACK BOXES REFLECT MAX RATINGS.  
The maximum tongue weight for the Class V hitch receiver is limited to 1,700 lb. For trailers over 17,000 lb, a 5" wheel or gooseneck hitch is required. For trailers over 25,000 lb, a gooseneck hitch is required. The tongue weight, including hitch equipment, for a 5" wheel or gooseneck hitch should never exceed payload, GAWR and hitch recommendation.

« 2500/3500 PAYLOAD CAPABILITY »

## 2500 PAYLOAD SPECS

Maximum payload capacities (when properly equipped)

			2500											
			REGULAR CAB				CREW CAB				MEGA CAB®			
			8' BOX		6'4" BOX		6'4" RAMBOX®		8' BOX		6'4" BOX		6'4" RAMBOX	
			4x2	4x4	4x2	4x4	4x2	4x4	4x2	4x4	4x2	4x4	4x2	4x4
AT	ENGINE	GVWR												
	5.7L HEMI® V8 CNG/ 66RFE 6-SPEED	9,000								1,400				
	5.7L HEMI V8/ 66RFE 6-SPEED	9,000	3,030	2,660	2,660	2,370	2,510	2,160	2,490	2,160	2,210	1,920	2,130	1,740
	6.4L HEMI V8/ 66RFE 6-SPEED	10,000	3,970	3,600	3,590	3,250	3,430	3,100	3,430	3,070	3,150	2,890	3,070	2,720
MT	6.7L CUMMINS® TURBO DIESEL I-6/ 68RFE 6-SPEED	10,000	3,140	2,720	2,720	2,370	2,550	2,250	2,530	2,200	2,320	1,960	2,170	1,810
	6.7L CUMMINS TURBO DIESEL I-6/ G56 6-SPEED	10,000	3,040	2,630	2,660	2,300	2,490	2,180	2,460	2,130	2,260	1,890	2,100	1,740

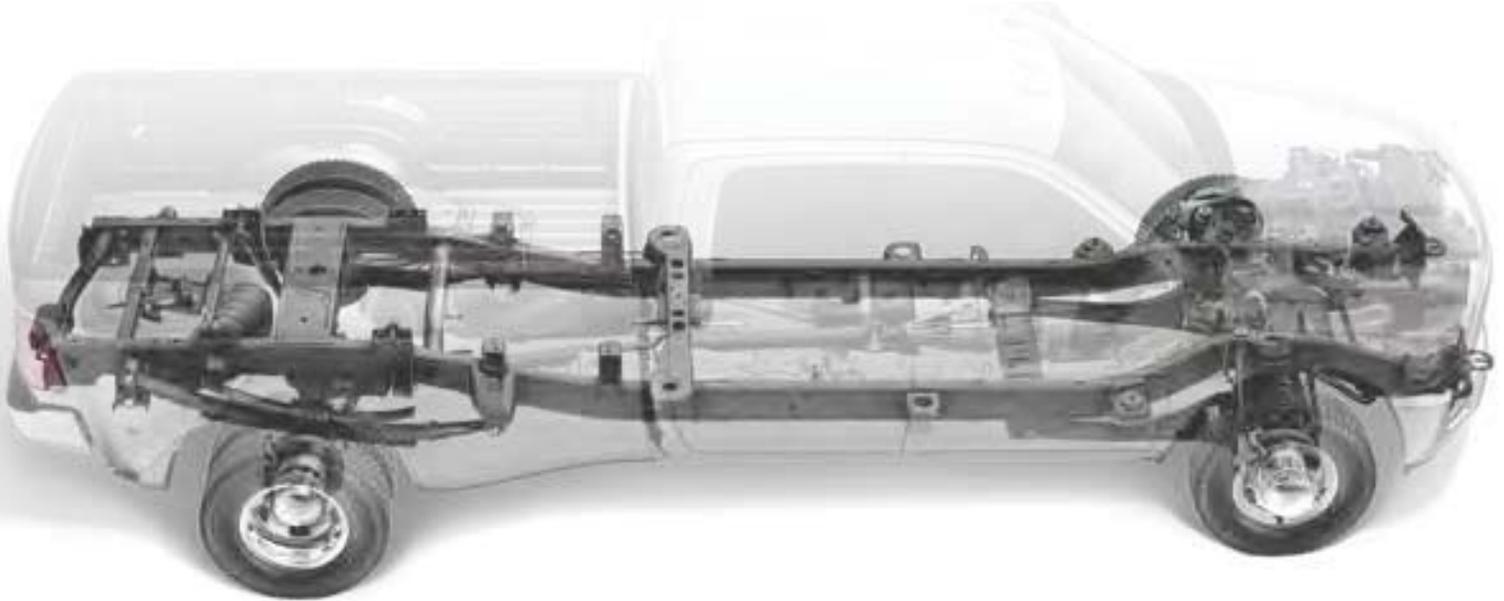
## 3500 PAYLOAD SPECS

Maximum payload capacities (when properly equipped)

			3500																		
			REGULAR CAB				CREW CAB						MEGA CAB								
			8' BOX		8' BOX DRW		6'4" BOX		6'4" RAMBOX		8' BOX		8' BOX DRW		6'4" BOX		6'4" RAMBOX		6'4" BOX DRW		
			4x2	4x4	4x2	4x4	4x2	4x4	4x2	4x4	4x2	4x4	4x2	4x4	4x2	4x4	4x2	4x4	4x2	4x4	
AT	5.7L HEMI V8/ 66RFE 6-SPEED	10,100	4,120																		
		10,300		3,960																	
		10,500					4,110		3,990												
		10,700						4,070		3,920											
		11,000									4,480					4,390		4,260			
		11,300										4,450				4,430		4,280			
	6.4L HEMI V8/ 66RFE 6-SPEED	10,200	4,180																		
		10,400		4,020																	
		10,500					4,070		3,950												
		10,800						4,130		3,980											
		11,100									4,540										
		11,200														4,550		4,420			
		11,400										4,510				4,490		4,340			
		13,300			6,920	6,530							6,350	6,040						6,270	5,980
	13,700			7,320	6,930																
	13,900																			6,870	
	14,000											7,050	6,740							6,680	
	6.7L CUMMINS TURBO DIESEL I-6/ 68RFE 6-SPEED	11,100	4,180																		
		11,500		4,250			4,190		4,060												
		11,600													3,970		3,840				
11,700							4,110		3,950												
12,000										4,550											
12,300											4,500										
12,400															4,450		4,310				
14,000				6,720	6,370							6,170	5,830						5,990	5,650	
6.7L CUMMINS HIGH OUTPUT TURBO DIESEL I-6/ AISIN® 6-SPEED	11,100	4,030																			
	11,500		4,100			4,030		3,910													
	11,600													3,820		3,690					
	11,700						3,950		3,790												
	12,000									4,400											
	12,300										4,350										
6.7L CUMMINS TURBO DIESEL I-6/ G56 6-SPEED	12,400													4,290		4,150					
	14,000			6,570	6,210						6,010	5,670							5,840	5,490	
	11,100	4,130																			
	11,500		4,200			4,140		4,020							3,920		3,780				
	11,600																				
	11,700						4,070		3,910												
MT	6.7L CUMMINS TURBO DIESEL I-6/ G56 6-SPEED	12,000								4,500											
		12,300									4,460										
		12,400													4,400		4,260				
		14,000			6,670	6,320						6,120	5,780							5,940	5,600

AT = AUTOMATIC TRANSMISSION MT = MANUAL TRANSMISSION DRW = DUAL REAR WHEEL | WEIGHTS GIVEN IN LB. | NUMBERS IN BLACK BOXES REFLECT MAX RATINGS.

# OUR COURAGE STARTS WITH THE SPINE.



- » Like Ram 3500, which introduced it in 2013, 2014 Ram 2500 models feature a new rear frame structural crossmember. It's all about providing instant capability for a fifth-wheel or gooseneck hitch—leaving no doubt how to apply those best-in-class<sup>(1)</sup> towing\* numbers. New Ram Heavy Duty has serious backbone: these pickups are designed and built for the toughest towing jobs out there.
- » The 2014 Ram 2500 frame now matches the recently upgraded 3500 frame, using 50 ksi steel—up from 35 ksi, with two new, additional crossmembers contributing to robust towing and hauling. Hydroformed front and rear sections supply durable strength and mass efficiencies, with rail contours ideally placed for the suspension components and ancillary mounts.
- » Whether it's for work or recreation, a Ram Heavy Duty is all about mastering the toughest tasks. This frame strength measures up for all of them; so does the enhanced frame width. Resilient yet stiff, the 2014 Ram 2500 high-strength steel frame is now upgraded to 50 ksi steel strength—and it's some two inches wider than the previous frame. This stronger and larger frame gives new Ram 2500 the backbone to support new suspension systems fore and aft; you'll see it in your own confidence level and Ram tough capability—especially when towing and hauling.
- » The new Ram 2500 frame is tougher, stronger and larger. Now with eight crossmembers (up from six), the 2500 frame also features newly widened rails. Extending the front rails by two total inches enables front suspension springs to be positioned slightly outboard, generating more roll stiffness for an improved ride.
- » All-new for 2014 Ram 2500 4x4 models is the front axle disconnect technology, which automatically disengages the front drive axle when reengaging the 4x2. First applied to the 2013 Ram 3500, the front axle disconnect helps reduce parasitic losses to help improve fuel efficiency.
- » The expanded, proven ladder frame also features a new front suspension crossmember that's dramatically larger, with hydroformed front and rear sections, roll-formed center rail sections, and a new, outwardly curved position to improve rear spring and shock placement.
- » New for 2014 Ram 2500—and founded on the groundbreaking introduction by Ram 3500 last year—is the unique three-link front suspension, replacing the previous independent front suspension (on 4x2 models) and the five-link suspension (on 4x4 models). The three-link front suspension also features a larger track bar, ensuring the roll stiffness required by the higher GVW ratings—up to 10,000 lb for Ram 2500 (both gas and diesel), and up to 14,000 lb for Ram 3500.

## RAM 2500 CAPABILITY: STRONGER THAN EVER.

New 2014 Ram 2500 Heavy Duty: major upgrades to the frame; fully integrated new rear structural crossmember; three-link front suspension for the front axle; new electronic 4x4 front axle disconnect; the best combination of ride, handling and capability.

MAX PAYLOAD*	<b>3,970 LB</b>	MAX TOWING*	<b>17,970 LB</b>
MAX GVWR	<b>10,000 LB</b>	MAX GCWR	<b>25,000 LB</b>



## RAM 3500 CAPABILITY: BEST-IN-CLASS<sup>(1)</sup> TOWING\* AT YOUR SERVICE.

New 2014 Ram 3500 Heavy Duty: unique three-link front suspension with solid axle; recently reconfigured Hotchkiss rear suspension and wider rails; large front suspension crossmember; fully integrated rear structural crossmember; in total, eight high-strength crossmembers, with high-strength hydroformed front and rear rail sections.

MAX PAYLOAD*	<b>7,320 LB</b>	MAX TOWING*	<b>30,000 LB</b>
MAX GVWR	<b>14,000 LB</b>	MAX GCWR	<b>37,600 LB</b>



\*When properly equipped.

## NEW. CLASS-EXCLUSIVE:<sup>[1]</sup> 2500

THE FIVE-LINK COIL SPRING REAR SUSPENSION



IT'S THE FIRST-OF-ITS-KIND REAR SUSPENSION FOR A HEAVY-DUTY PICKUP and it's the standard for Ram 2500 models. The class-exclusive<sup>[1]</sup> five-link coil spring rear suspension features unique, multirate coil springs and heavy-duty fixed-displacement twin-tube shock absorbers; both are placed in a more outboard position that optimizes performance and minimizes noise/vibration. A huge 11.5-inch solid rear axle rounds it out for exceptional handling, especially when carrying heavy loads.

## NEW. CLASS-EXCLUSIVE:<sup>[1]</sup> 2500

THE AVAILABLE AUTO-LEVEL REAR AIR SUSPENSION SYSTEM\*



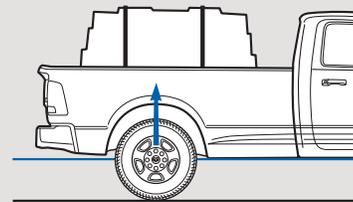
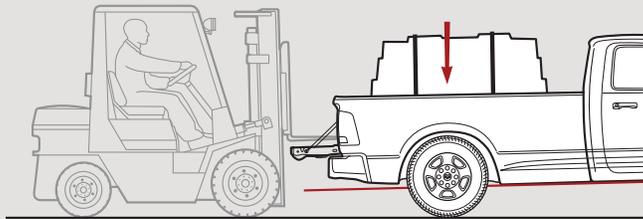
THE NEW AVAILABLE AUTO-LEVEL REAR AIR SUSPENSION SYSTEM\* FOR RAM 2500 is based on the available Active-Level™ Four-Corner Air Suspension System introduced by Ram 1500, here in an operator-selectable two-mode configuration to accommodate the higher GCWRs of the weight class.

**PAYLOAD MODE** provides a level load profile by monitoring ride heights on both sides of the vehicle, adjusting for shifts in load or changes in road surfaces.

**TRAILER/TOW MODE** lowers the rear suspension about an inch, keeping an even alignment between the hitch and trailer tongue for a level load and a parallel, level relationship between the vehicle and trailer. The "rake" from pickup front end to rear of the trailer remains consistent, ensuring level ride and handling with superb towing and hauling characteristics.

## NEW. CLASS-EXCLUSIVE:<sup>[1]</sup> 3500

THE AVAILABLE AUTO-LEVEL REAR AIR SUSPENSION SYSTEM\*



Class-pioneering, the available new Auto-Level Rear Air Suspension System\* for 2014 Ram 3500 models adapts the technology introduced by Ram 1500 with its class-exclusive<sup>[2]</sup> available Active-Level™ Four-Corner Air Suspension System—here in a two-mode Rear Air Suspension System engineered for the higher GCWRs expected from Ram Heavy Duty 3500.

The engineering employed by Ram 3500 SRW and DRW models is specific to the task: a single leaf spring replaces the multi-leaf spring, with air springs mounted on top of the axle; additional links on each side of the rear axle allow the air springs and leaf springs to work in tandem for load carrying—with yet further support from the links.

As with Ram 2500, the two driver-selectable modes help improve payload and towing control.<sup>†</sup> In Payload Mode, the system continually monitors ride heights on both sides of the vehicle and adjusts for load shifting or changes in road surfaces; a level load—even under groaning hauling assignments—is assured.

In the Trailer/Tow Mode, the system lowers the rear suspension (about an inch) for even alignment between the hitch and trailer tongue; Trailer/Tow ensures a level load and creates a parallel, level relationship between the vehicle and trailer—for an even "rake" from the front of the pickup through the rear of the trailer.

\*Late availability. †When properly equipped.

« 2500 » 3500 SRW WHEELS »



17-inch Steel, Argent Painted Finish  
Standard on 2500 Tradesman (WDA)



17-inch Polished Aluminum  
Standard on 2500 Power Wagon® Models (WFV)  
(late availability)



18-inch Steel, Argent Painted Finish  
Standard on 3500 Tradesman  
Optional on 2500 Tradesman (WBN)



18-inch Steel, Chrome-Clad  
Standard on SLT  
Optional on Tradesman (WBH)



18-inch Polished Forged Aluminum  
Standard on Big Horn/Lone Star and Outdoorsman  
Optional on SLT (WBJ)



18-inch Polished Aluminum  
Standard on Laramie (WBL)



18-inch Polished Aluminum  
with White Gold Pockets  
Standard on Laramie Longhorn with  
Two-Tone Exterior Paint (WBM)



18-inch Polished Aluminum  
with Silver Pockets  
Standard on Laramie Longhorn with  
Available Monotone Exterior Paint (WBA)

« 2500 » 3500 SRW WHEELS »



20-inch Painted Satin Carbon Aluminum  
with Chrome Inserts  
Standard on Laramie Limited  
Optional on SLT, Big Horn/Lone Star, Outdoorsman and Laramie (WRJ)



20-inch Black Painted Aluminum  
Included with Black Appearance Group (WF3)



20-inch Polished Aluminum  
with White Gold Pockets  
Optional on Laramie Longhorn  
with Two-Tone Exterior Paint (WRK)



20-inch Polished Aluminum  
with Silver Pockets  
Optional on Laramie Longhorn  
with Available Monotone Exterior Paint (WRA)

« 3500 DRW WHEELS »



17-inch Steel, Argent Painted Finish  
 Standard on Tradesman (WFU)



17-inch Steel, Chrome Finish  
 Standard on SLT and Big Horn/Lone Star  
 Optional on Tradesman (WD4)



17-inch Polished Aluminum  
 Standard on Laramie and Laramie Limited  
 Optional on SLT and Big Horn/Lone Star (WF7)



17-inch Polished Aluminum  
 with Unique Longhorn Center Cap  
 Standard on Laramie Longhorn (WF9)

« 2500 » 3500 TRIM LEVELS »

TRADESMAN



2500		
CABS	BEDS	SEATING
 Regular Cab	 SRW: 8' Box	 40/20/40 Bench Seat
 Crew Cab	 SRW: 6'4" or 8' Box	 40/20/40 Bench Seat

3500			
CABS	BEDS	DRW	SEATING
 Regular Cab	 SRW: 8' Box	 DRW: 8' Box	 40/20/40 Bench Seat
 Crew Cab	 SRW: 6'4" or 8' Box	 DRW: 8' Box	 40/20/40 Bench Seat

**MECHANICAL**

**2500:** 5.7L HEMI® V8 with heavy-duty cooling and 66RFE 6-speed automatic transmission

**3500 SRW:** 5.7L HEMI V8 with heavy-duty cooling and 66RFE 6-speed automatic transmission • 7 x 11-inch trailer tow mirrors • Tow hooks

**3500 DRW:** 6.4L HEMI V8 with heavy-duty cooling and 66RFE 6-speed automatic transmission • 7 x 11-inch trailer tow mirrors • Tow hooks

**2500/3500:** Electronic Stability Control (ESC)<sup>(6)</sup> System, which includes 4-wheel ABS, Brake Assist, Rain Brake Support, Ready Alert Braking, All-Speed Traction Control, Electronic Roll Mitigation, Hill Start Assist and Trailer Sway Control<sup>(6)</sup> • Manual part-time transfer case (on 4x4 models) • 31-gallon fuel tank (6' 4" box models) • 32-gallon fuel tank (8' box models)

**INTERIOR**

Vinyl 40/20/40 front bench seat • Vinyl folding rear bench on Crew Cab models • Vinyl floor covering • Multistage front air bags<sup>(6)</sup> • Supplemental side-curtain air bags<sup>(6)</sup> • Supplemental front-seat side-mounted air bags<sup>(6)</sup> • Tilt steering wheel • Automatic headlamp control • Air conditioning • Power windows and door locks (on Crew Cab models) • Uconnect® 3.0 AM/FM radio • Media hub with MP3 auxiliary jack and 1.5-amp USB port • 3.5-inch Electronic Vehicle Information Center (EVIC) located in instrument panel cluster

**EXTERIOR**

Black front and rear bumpers • Black grille surround and inserts • Black fold-in sideview mirrors • Quad-lens halogen headlamps • Bed rail caps • Locking tailgate (Regular Cab) • Power locking tailgate (Crew Cab) • 4- and 7-pin trailer wiring harness/connectors • Class V trailer hitch receiver • 17-inch steel wheels (2500/3500 DRW) • 18-inch steel wheels (3500 SRW)

SLT



2500			
CABS	BEDS	SEATING	
 Regular Cab	 SRW: 8' Box	 40/20/40 Bench Seat	 Bucket Seats, Opt.
 Crew Cab	 SRW: 6'4" or 8' Box	 40/20/40 Bench Seat	 Bucket Seats, Opt.

3500			
CABS	BEDS	DRW	SEATING
 Mega Cab <sup>(6)</sup>	 SRW: 6'4" Box	 40/20/40 Bench Seat	 Bucket Seats, Opt.

3500				
CABS	BEDS	DRW	SEATING	
 Regular Cab	 SRW: 8' Box	 DRW: 8' Box	 40/20/40 Bench Seat	 Bucket Seats, Opt.
 Crew Cab	 SRW: 6'4" or 8' Box	 DRW: 8' Box	 40/20/40 Bench Seat	 Bucket Seats, Opt.
 Mega Cab	 SRW: 6'4" Box	 DRW: 6'4" Box	 40/20/40 Bench Seat	 Bucket Seats, Opt.

**MECHANICAL**

**2500:** 5.7L HEMI V8 with heavy-duty cooling and 66RFE 6-speed automatic transmission

**3500 SRW:** 5.7L HEMI V8 with heavy-duty cooling and 66RFE 6-speed automatic transmission • 7 x 11-inch trailer tow mirrors • Tow hooks

**3500 DRW:** 6.4L HEMI V8 with heavy-duty cooling and 66RFE 6-speed automatic transmission • 7 x 11-inch trailer tow mirrors • Tow hooks

**2500/3500:** ESC<sup>(6)</sup> System • Electronic part-time transfer case (on 4x4 models) • Electronic trailer brake controller • Remote keyless entry • 31-gallon fuel tank (6' 4" box models) • 32-gallon fuel tank (8' box models)

**INTERIOR**

Cloth 40/20/40 front bench seat • Cloth folding rear bench on Crew Cab and Mega Cab models • Carpet floor covering • Multistage front air bags<sup>(6)</sup> • Supplemental side-curtain air bags<sup>(6)</sup> • Supplemental front-seat side-mounted air bags<sup>(6)</sup> • Tilt steering wheel • Automatic headlamp control • Air conditioning • Power windows and door locks • Uconnect 5.0 AM/FM/Bluetooth<sup>(6)</sup> radio with SiriusXM<sup>(6)</sup> Satellite Radio<sup>(6)</sup> • Media hub with MP3 auxiliary jack and 1.5-amp USB port • 3.5-inch EVIC located in instrument panel cluster • Overhead console • Power sliding rear window on Crew Cab and Mega Cab models

**EXTERIOR**

Chrome front and rear bumpers • Chrome grille surround with Black inserts • Quad-lens halogen headlamps • Chrome door handles • Black, power heated fold-in sideview mirrors • Bed rail caps • Power locking tailgate • 4- and 7-pin trailer wiring harness/connectors • Class V trailer hitch receiver • 17-inch chrome steel wheels (3500 DRW) • 18-inch chrome steel wheels (2500/3500 SRW)

« 2500 » 3500 TRIM LEVELS »

**BIG HORN/LONE STAR**



**2500**



Crew Cab SRW: 6'4" or 8' Box 40/20/40 Bench Seat Bucket Seats, Opt.



Mega Cab<sup>®</sup> SRW: 6'4" Box 40/20/40 Bench Seat Bucket Seats, Opt.

**3500**



Crew Cab SRW: 6'4" or 8' Box DRW: 8' Box 40/20/40 Bench Seat Bucket Seats, Opt.



Mega Cab SRW: 6'4" Box DRW: 6'4" Box 40/20/40 Bench Seat Bucket Seats, Opt.

**MECHANICAL**

**2500:** 5.7L HEMI<sup>®</sup> V8 with heavy-duty cooling and 66RFE 6-speed automatic transmission

**3500 SRW:** 5.7L HEMI V8 with heavy-duty cooling and 66RFE 6-speed automatic transmission • 7 x 11-inch trailer tow mirrors • Tow hooks

**3500 DRW:** 6.4L HEMI V8 with heavy-duty cooling and 66RFE 6-speed automatic transmission • 7 x 11-inch trailer tow mirrors • Tow hooks

**2500/3500:** Electronic Stability Control (ESC)<sup>[6]</sup> System • Electronic part-time transfer case (on 4x4 models) • Electronic trailer brake controller • Remote keyless entry • Remote Start (requires automatic transmission) • 31-gallon fuel tank (6' 4" box models) • 32-gallon fuel tank (8' box models)

**INTERIOR**

Premium cloth 40/20/40 front bench seat • Cloth 60/40 split-folding rear bench seat • Carpet floor covering • Multistage front air bags<sup>[6]</sup> • Supplemental side-curtain air bags<sup>[6]</sup> • Supplemental front-seat side-mounted air bags<sup>[6]</sup> • Leather-wrapped tilt steering wheel with audio controls • 115-volt power outlet • Automatic headlamp control • Air conditioning • Power windows and door locks • Uconnect<sup>®</sup> 5.0 AM/FM/Bluetooth<sup>®</sup> touch-screen radio with SiriusXM<sup>®</sup> Satellite Radio<sup>[6]</sup> • Media hub with MP3 auxiliary jack, 1.5-amp and 2.5-amp USB ports • 3.5-inch Electronic Vehicle Information Center (EVIC) located in instrument panel cluster • Overhead console • Power sliding rear window

**EXTERIOR**

Quad-lens halogen headlamps • Fog lamps • Chrome front and rear bumpers • Chrome grille surround with chrome billet inserts • Black, power heated fold-in sideview mirrors • Chrome door handles • Bed rail caps • Power locking tailgate • 4- and 7-pin trailer wiring harness/connectors • Class V trailer hitch receiver • 17-inch chrome steel wheels (3500 DRW) • 18-inch polished aluminum wheels (2500/3500 SRW)

**OUTDOORSMAN**



**2500**



Crew Cab SRW: 6'4" or 8' Box Bucket Seats 40/20/40 Bench Seat, Opt.

**MECHANICAL**

**2500 Crew Cab 4x4 only:** 5.7L HEMI V8 with heavy-duty cooling and 66RFE 6-speed automatic transmission • ESC<sup>[6]</sup> System • Remote keyless entry • Electronic part-time transfer case • Electronic trailer brake controller • Transfer case skid plate • Remote Start (requires automatic transmission) • Security alarm • 31-gallon fuel tank (6' 4" box models) • 32-gallon fuel tank (8' box models)

**INTERIOR**

Luxury group • Leather-wrapped tilt steering wheel with audio controls • Premium cloth front bucket seats with center console • Power driver's seat • Cloth 60/40 split-folding rear bench • Carpet floor covering • Rubber all-weather floor mats • Multistage front air bags<sup>[6]</sup> • Supplemental side-curtain air bags<sup>[6]</sup> • Supplemental front-seat side-mounted air bags<sup>[6]</sup> • Automatic headlamp control • Air conditioning • Power windows and door locks • Uconnect 8.4A AM/FM/Bluetooth/Access touch-screen radio with SiriusXM Satellite Radio<sup>[6]</sup> • Media hub with MP3 auxiliary jack, 1.5-amp and 2.5-amp USB ports, and SD card slot • 115-volt power outlet • Premium six-ring instrument panel cluster with full-color 7-inch multiview display • Overhead console with Universal Garage Door Opener • Power sliding rear window

**EXTERIOR**

Two-tone paint with Black front bumper, rear bumper and fender flares • Body-color grille surround with Black inserts • Black door handles • Black, power heated fold-in sideview mirrors with puddle lamps and turn signal indicators • Fog lamps • Quad-lens halogen headlamps • Bed rail caps • Power locking tailgate • 4- and 7-pin trailer wiring harness/connectors • Class V trailer hitch receiver • Tow hooks • 18-inch polished aluminum wheels

**POWER WAGON<sup>®</sup>**



Late availability on all Power Wagon models

**2500**



Crew Cab SRW: 6'4" Box 40/20/40 Bench Seat

**MECHANICAL**

**2500 Crew Cab 4x4 only:** 6.4L HEMI V8 with heavy-duty cooling and 66RFE 6-speed automatic transmission • 180-amp alternator • Tow hooks • Skid plates for the fuel tank and transfer case • Electronic disconnecting front stabilizer (or sway) bar • Front and rear electronic locking differentials • 4.10:1 axle ratio • 12,000-lb WARN<sup>®</sup> winch • 31-gallon fuel tank • Remote keyless entry • ESC<sup>[6]</sup> System • Manual part-time transfer case • Electronic trailer brake controller

**INTERIOR**

Cloth front 40/20/40 bench seat • Cloth folding rear bench • Tilt steering wheel • Carpet floor covering • Multistage front air bags<sup>[6]</sup> • Supplemental side-curtain air bags<sup>[6]</sup> • Supplemental front-seat side-mounted air bags<sup>[6]</sup> • Automatic headlamp control • Air conditioning • Power windows and door locks • Uconnect 5.0 AM/FM/Bluetooth touch-screen radio with SiriusXM Satellite Radio<sup>[6]</sup> • Media hub with MP3 auxiliary jack, 1.5-amp and 2.5-amp USB ports • 3.5-inch EVIC in the instrument panel cluster • Overhead console • Power sliding rear window

**EXTERIOR**

Two-tone paint with front and rear chrome bumpers • Black wheel flares • Chrome grille surround with chrome billet inserts • Black, power heated fold-in sideview mirrors • Black door handles • Black bed rail caps • Fog lamps • Premium 70-mm projector headlamps • Premium LED taillamps • Power locking tailgate • Power Wagon Decal Package • Class V trailer hitch receiver • 4- and 7-pin trailer wiring harness/connectors • 17-inch forged aluminum wheels with 33-inch LT All-Terrain tires

**POWER WAGON TRADESMAN**



**MECHANICAL IN ADDITION TO TRADESMAN EQUIPMENT**

**2500 Crew Cab 4x4 with 6'4" box only:** 6.4L HEMI V8 with heavy-duty cooling and 66RFE 6-speed automatic transmission • 180-amp alternator • Skid plates for the fuel tank and transfer case • Electronic disconnecting front stabilizer (or sway) bar • Front and rear electronic locking differentials • 4.10:1 axle ratio • 12,000-lb WARN winch • ESC<sup>[6]</sup> System • Manual part-time transfer case • 31-gallon fuel tank

**EXTERIOR IN ADDITION TO TRADESMAN EQUIPMENT**

Monotone paint with chrome front and rear bumpers • Fog lamps • Black grille surround and inserts • Black headlamp filler panel • Black wheel flares • Power Wagon tailgate decal • 17-inch forged aluminum wheels with 33-inch LT All-Terrain tires

**POWER WAGON LARAMIE**



**MECHANICAL IN ADDITION TO LARAMIE TRIM (NEXT PAGE)**

**2500 Crew Cab 4x4 with 6'4" box only:** 6.4L HEMI V8 with 66RFE 6-speed automatic transmission • 180-amp alternator • Skid plates for the fuel tank and transfer case • Electronic disconnecting front stabilizer (or sway) bar • Front and rear electronic locking differentials • 4.10:1 axle ratio • 12,000-lb WARN winch • ESC<sup>[6]</sup> System • Manual part-time transfer case • 31-gallon fuel tank

**EXTERIOR IN ADDITION TO LARAMIE TRIM (NEXT PAGE)**

Monotone painted body and wheel flares • Power Wagon tailgate badge • 17-inch forged aluminum wheels with 33-inch LT All-Terrain tires

« 2500 » 3500 TRIM LEVELS »

LARAMIE



2500

CABS	BEDS	SEATING
Crew Cab	SRW: 6'4" or 8' Box	40/20/40 Bench Seat Bucket Seats, Opt.
Mega Cab <sup>®</sup>	SRW: 6'4" Box	40/20/40 Bench Seat Bucket Seats, Opt.

3500

CABS	BEDS	SEATING
Crew Cab	SRW: 6'4" or 8' Box	DRW: 8' Box 40/20/40 Bench Seat Bucket Seats, Opt.
Mega Cab	SRW: 6'4" Box	DRW: 6'4" Box 40/20/40 Bench Seat Bucket Seats, Opt.

MECHANICAL

**2500:** 5.7L HEMI<sup>®</sup> V8 with heavy-duty cooling and 66RFE 6-speed automatic transmission

**3500 SRW:** 5.7L HEMI V8 with heavy-duty cooling and 66RFE 6-speed automatic transmission • 7 x II-inch trailer tow mirrors • Tow hooks

**3500 DRW:** 6.4L HEMI V8 with heavy-duty cooling and 66RFE 6-speed automatic transmission • 7 x II-inch trailer tow mirrors • Tow hooks

**2500/3500:** Electronic Stability Control (ESC)<sup>(6)</sup> System • ParkSense<sup>®</sup> Rear Park Assist<sup>(7)</sup> • Electronic part-time transfer case (on 4x4 models) • Electronic trailer brake controller • Remote keyless entry • ParkView<sup>®</sup> Rear Back-Up Camera<sup>(7)</sup> • Security alarm • 31-gallon fuel tank (6' 4" box models) • 32-gallon fuel tank (8' box models)

INTERIOR

Leather-trimmed heated and ventilated front 40/20/40 bench seat • Power driver and front-passenger seats • Leather-trimmed 60/40 split-folding rear bench • 115-volt power outlet • Carpet floor covering • Multistage front air bags<sup>(8)</sup> • Supplemental side-curtain air bags<sup>(8)</sup> • Supplemental front-seat side-mounted air bags<sup>(8)</sup> • Heated leather-wrapped tilt steering wheel with audio controls • Automatic headlamp control • Automatic Temperature Control • Power windows and door locks • Uconnect<sup>®</sup> 8.4A AM/FM/Bluetooth<sup>(9)</sup>/Access touch-screen radio with SiriusXM<sup>®</sup> Satellite Radio<sup>(9)</sup> • Media hub with MP3 auxiliary jack, 1.5-amp and 2.5-amp USB ports, and SD card slot • Premium 10-speaker Surround Sound Audio System • Premium six-ring instrument panel cluster with full-color 7-inch multiview display • Overhead console with Universal Garage Door Opener • Power sliding rear window

EXTERIOR

Two-tone paint treatment with lower body and wheel flares in Bright Silver Metallic • Chrome front and rear bumpers • Chrome door handles • Chrome grille surround with chrome wave inserts • Chrome, power heated fold-in sideview mirrors with puddle lamps and turn signal indicators • Premium 70-mm projector headlamps • Premium LED taillamps • Fog lamps • Bed rail caps • Power locking tailgate • 4- and 7-pin trailer wiring harness/connectors • Class V trailer hitch receiver • 17-inch polished aluminum wheels (3500 DRW) • 18-inch polished aluminum wheels (2500/3500 SRW)

LARAMIE LONGHORN



2500

CABS	BEDS	SEATING
Crew Cab	SRW: 6'4" or 8' Box	Bucket Seats
Mega Cab	SRW: 6'4" Box	Bucket Seats

3500

CABS	BEDS	SEATING
Crew Cab	SRW: 6'4" or 8' Box	DRW: 8' Box Bucket Seats
Mega Cab	SRW: 6'4" Box	DRW: 6'4" Box Bucket Seats

MECHANICAL

**2500:** 5.7L HEMI V8 with heavy-duty cooling and 66RFE 6-speed automatic transmission

**3500 SRW:** 5.7L HEMI V8 with heavy-duty cooling and 66RFE 6-speed automatic transmission • 7 x II-inch trailer tow mirrors

**3500 DRW:** 6.4L HEMI V8 with heavy-duty cooling and 66RFE 6-speed automatic transmission • 7 x II-inch trailer tow mirrors

**2500/3500:** Tow hooks • ESC<sup>(6)</sup> System • ParkSense Rear Park Assist<sup>(7)</sup> • ParkView Rear Back-Up Camera<sup>(7)</sup> • Electronic part-time transfer case (on 4x4 models) • Electronic trailer brake controller • Remote keyless entry • Security alarm • Remote Start (requires automatic transmission) • 31-gallon fuel tank (6' 4" box models) • 32-gallon fuel tank (8' box models)

INTERIOR

Premium leather front bucket seats • Power driver and front-passenger seats • Heated and ventilated front seats • Full-floor center console with leather console cover • 115-volt power outlet • Premium leather heated 60/40 split-folding rear bench • Carpet floor covering • Premium floor mats with removable inserts • Multistage front air bags<sup>(8)</sup> • Supplemental side-curtain air bags<sup>(8)</sup> • Supplemental front-seat side-mounted air bags<sup>(8)</sup> • Heated leather-wrapped tilt steering wheel with wood accent and audio controls • Automatic headlamp control • Automatic Temperature Control • Power windows and door locks • Uconnect<sup>®</sup> 8.4AN AM/FM/Bluetooth/NAV/Access touch-screen radio with SiriusXM Satellite Radio<sup>(9)</sup> SiriusXM Traffic<sup>(9)</sup> and SiriusXM Travel Link<sup>(9)</sup> • Media hub with MP3 auxiliary jack, 1.5-amp and 2.5-amp USB ports, and SD card slot • Premium 10-speaker Surround Sound Audio System • Premium six-ring instrument panel cluster with full-color 7-inch multiview display • Overhead console with Universal Garage Door Opener • Power sliding rear window

EXTERIOR

Two-tone paint treatment with lower body, wheel flares, front bumper, rear bumper and running boards in White Gold Metallic • Premium 70-mm projector headlamps • Premium LED taillamps • Fog lamps • Chrome grille surround with chrome wave mesh inserts • Chrome, power heated fold-in sideview mirrors with puddle lamps and turn signal indicators • Unique Laramie Longhorn badging • Chrome door handles • Black bed rail caps • Spray-in bedliner • Power locking tailgate • 4- and 7-pin trailer wiring harness/connectors • Class V trailer hitch receiver • 17-inch polished aluminum wheels (3500 DRW) • 18-inch polished aluminum wheels (2500/3500 SRW)

LARAMIE LIMITED



2500

CABS	BEDS	SEATING
Crew Cab	SRW: 6'4" or 8' Box	Bucket Seats
Mega Cab	SRW: 6'4" Box	Bucket Seats

3500

CABS	BEDS	SEATING
Crew Cab	SRW: 6'4" or 8' Box	DRW: 8' Box Bucket Seats
Mega Cab	SRW: 6'4" Box	DRW: 6'4" Box Bucket Seats

MECHANICAL

**2500:** 5.7L HEMI V8 with heavy-duty cooling and 66RFE 6-speed automatic transmission

**3500 SRW:** 5.7L HEMI V8 with heavy-duty cooling and 66RFE 6-speed automatic transmission • 7 x II-inch trailer tow mirrors

**3500 DRW:** 6.4L HEMI V8 with heavy-duty cooling and 66RFE 6-speed automatic transmission • 7 x II-inch trailer tow mirrors

**2500/3500:** Tow hooks • ESC<sup>(6)</sup> System • ParkSense Rear Park Assist<sup>(7)</sup> • ParkView Rear Back-Up Camera<sup>(7)</sup> • Electronic part-time transfer case (on 4x4 models) • Electronic trailer brake controller • Remote keyless entry • Security alarm • Remote Start (requires automatic transmission) • 31-gallon fuel tank (6' 4" box models) • 32-gallon fuel tank (8' box models)

INTERIOR

See Laramie Longhorn specs, at left

EXTERIOR

Monotone paint treatment • Premium 70-mm projector headlamps • Premium LED taillamps • Fog lamps • Chrome grille surround with chrome wave mesh inserts • Chrome, power heated fold-in sideview mirrors with puddle lamps and turn signal indicators • Unique Laramie Limited badging • Chrome door handles • Black bed rail caps • Spray-in bedliner • Power locking tailgate • RamBox<sup>®</sup> Cargo Management System • 4- and 7-pin trailer wiring harness/connectors • Class V trailer hitch receiver • 17-inch polished aluminum wheels (3500 DRW) • 20-inch painted aluminum wheels with chrome pockets (2500/3500 SRW)

# 2014 RAM 2500/3500 BUYER'S GUIDE

	TRADESMAN REG/CREW	POWER WAGON® TRADESMAN CREW	SLT REG/CREW/MEGA	BIG HORN/ONE STAR CREW/MEGA	OUTDOORS/SMN CREW	POWER WAGON CREW	LARAMIE CREW/MEGA	POWER WAGON LARAMIE CREW	LARAMIE LONGHORN CREW/MEGA	LARAMIE LIMITED CREW/MEGA
<b>CPOS PACKAGE</b>	2TA	2TB	2TG	2TZ	2TT	2TP	2TH	2TJ	2TK	2TM
2500	X	X	X	X	X	X	X	X	X	X
3500 SRW/DRW (6'4" box not available with Crew Cab DRW)	X/X	—	X/X	X/X	—	—	X/X	—	X/X	X/X
<b>ENGINE / TRANSMISSION</b>										
5.7L HEMI® V8 gas engine / 6-speed automatic (66RFE, SRW only) 383 hp/400 lb-ft of torque	26A	—	26G	Z/Y	26T	—	26H	—	26K	26M
5.7L HEMI Bi-fuel CNG/gas engine / 6-speed automatic (66RFE; 2500 Crew Cab 8' box only) 383 hp/400 lb-ft of torque	27A	—	27G	—	—	—	—	—	—	—
6.4L HEMI V8 gas engine with MDS / 6-speed automatic (66RFE) 410 hp/429 lb-ft of torque (370 hp 3500 Mega Cab® only)	22A	22B	22G	Z/Y	22T	22P	22H	22J	22K	22M
6.7L Cummins® Turbo Diesel engine / 6-speed manual (G56) 350 hp/660 lb-ft of torque	2EA	—	2EG	Z/Y	2ET	—	2EH	—	—	—
6.7L Cummins Turbo Diesel engine / 6-speed automatic (68RFE) 370 hp/800 lb-ft of torque	2FA	—	2FG	Z/Y	2FT	—	2FH	—	2FK	2FM
6.7L Cummins Turbo Diesel engine / 6-speed AISIN® heavy-duty automatic (3500 only) 385 hp/850 lb-ft of torque	28A	—	28G	Z/Y	—	—	28H	—	28K	28M
Diesel Exhaust Fluid (DEF) System (standard with diesel engine)	P	—	P	P	P	—	P	—	P	P
<b>MECHANICAL FEATURES</b>										
<b>ALTERNATOR</b> — 160-amp (standard with gas engine)	S	—	S	S	S	—	S	—	S	S
— 180-amp (standard on diesel; included with Snowplow Prep Group on HEMI V8-equipped models)	O/P	S	O/P	O/P	O/P	S	O/P	S	O/P	O/P
— 220-amp (included with Snowplow Prep Group on diesel- and 6.4L gas-equipped models; also included in dual alternator options)	O/P	—	O/P	O/P	O/P	—	O/P	—	O/P	O/P
— Dual-rated at 380 amps (6.4L gas V8 only; includes 160-amp and 220-amp alternators)	O	O	O	O	O	O	O	O	O	O
— Dual-rated at 440 amps (6.7L diesel only; includes two 220-amp alternators)	O	—	O	O	—	—	O	—	O	O
<b>AXLES</b> — Antispring rear differential (standard on 3500)	O/S	—	O/S	S	S	—	O/S	—	O/S	O/S
— Electronically locking front and rear differentials	—	S	—	—	—	S	—	—	S	—
— 3.42 ratio (standard for diesel)	O	—	O	—	—	O	—	—	O	O
— 3.73 ratio (standard for gas; available for 3500 DRW diesel)	S/O	—	S/O	S/O	S	—	S/O	—	S/O	S/O
— 4.10 ratio (optional for gas; available for 3500 DRW diesel)	O	S	O	O	S	O	S	O	S	O
— 11.5-inch rear axle — SRW	S	S	S	S	S	S	S	S	S	S
— 11.5-inch rear axle — 3500 DRW only (included with 6.4L gas engine, diesel/G56 manual transmission, diesel/68RFE or diesel/AISIN transmission with 3.42 axle ratio)	P	—	P	P	—	—	P	—	P	P
— 11.8-inch rear axle — 3500 DRW only (included with diesel/AISIN transmission with 3.73 and 4.10 axle ratios)	P	—	P	P	—	—	P	—	P	P
<b>BATTERY</b> — 730-amp, maintenance-free (two required for diesel)	S	S	S	S	S	S	S	S	S	S
<b>DIESEL EXHAUST BRAKE</b> — With "smart" function (included with diesel engine)	P	—	P	P	P	—	P	—	P	P
<b>ELECTRONIC UPFITTER MODULE</b> — N/A with premium speakers	O	O	O	O	O	O	—	—	—	—
<b>ENGINE BLOCK HEATER</b> — Included with Cold Weather Group on diesel	O/P	O	O/P	O/P	O/P	O	O/P	O	O/P	O/P
<b>FIFTH-WHEEL/GOOSENECK PREP PACKAGE</b> — Includes in-box 7-pin harness connector (not available with RamBox® System)	O	—	O	O	O	—	O	—	O	O
<b>FUEL TANKS</b> — 8-gallon tank (included with CNG engine)	P	—	P	—	—	—	—	—	—	—
— 18.2-G.G.E. (gasoline gallon equivalent) dual CNG tanks (included with CNG engine)	P	—	P	—	—	—	—	—	—	—
— 28-gallon tank (included with Regular Cab diesel)	P	—	P	—	—	—	—	—	—	—
— 31-gallon tank (included with 6'4" box)	S	S	S	S	S	S	S	S	S	S
— 32-gallon tank (included with 8' box; available with CNG engine)	S/O	—	S/O	S	S	—	S	—	S	S
<b>SHOCKS</b> — Front, heavy-duty	S	—	S	S	S	—	S	—	S	S
— Rear, heavy-duty	S	—	S	S	S	—	S	—	S	S
— Bilstein® gas-charged monotube	—	S	—	—	—	S	—	—	S	—
<b>SKID PLATES (4x4)</b> — Transfer case (included in Protection Group and Snowplow Prep Group)	P	S	P	P	S	S	P	S	P	P
— Fuel tank	—	S	—	—	—	S	—	—	S	—
<b>STEERING</b> — Power recirculating ball	S	S	S	S	S	S	S	S	S	S
<b>SUSPENSION</b> — Front, three-link coil spring suspension	S	S	S	S	S	S	S	S	S	S
— Front electronic disconnecting stabilizer bar	—	S	—	—	—	S	—	—	S	—
— Front stabilizer bar	S	—	S	S	S	—	S	—	S	S
— Rear, five-link coil spring suspension (2500 only)	S	S	S	S	S	S	S	S	S	S
— Rear, Hotchkiss leaf spring suspension (3500 only)	S	—	S	S	—	—	S	—	S	S
— Rear, Auto-Level dual-mode air spring suspension system (late availability)	O	—	O	O	O	—	O	—	O	O
<b>TOW HOOKS</b> — 6.7L diesel engine	S	—	S	S	S	—	S	—	S	S
— Gas engines (optional on 4x2; included in Protection Group on 4x4; standard on 3500)	O/P/S	S	O/P/S	O/P/S	S	S	O/P/S	S	S	S
<b>TRAILER TOW</b> — 4-7-pin trailer harness plug (combination receptacle)	S	S	S	S	S	S	S	S	S	S
— Class V hitch receiver	S	S	S	S	S	S	S	S	S	S
<b>TRANSFER CASES (4x4 MODELS ONLY)</b> — Manual shift-on-the-fly	S	S	—	—	—	S	—	—	S	—
— Electronic shift-on-the-fly	O	—	S	S	—	—	S	—	S	—
<b>WINCH</b> — WARN® front, electric, 12,000-lb capacity	—	S	—	—	—	S	—	—	S	—
— Tire carrier	S	S	S	S	S	S	S	S	S	S
<b>EXTERIOR FEATURES</b>										
<b>BEDLINER</b> — Spray-in (not available with Ram 2500 CNG model)	O	O	O	O	O	O	O	O	O	S
<b>BODY MODEL AND BOX</b> — Regular Cab 8' box	O	—	O	—	—	O	—	—	O	—
— Crew Cab 6'4" box (SRW only)	O	S	O	O	O	S	O	S	O	O
— Crew Cab 8' box	O	—	O	O	O	—	O	—	O	O
— Mega Cab 6'4" box	—	O	—	O	—	—	O	—	O	—
<b>BUMPERS</b> — Painted Black	S	—	S	—	—	S	—	—	S	—
— Chrome (included in Chrome Appearance Group and with Monotone paint)	P	S	S	S	P	S	S	P	S	—
— Painted	—	—	—	—	—	—	—	—	—	S
<b>CLEARANCE LAMPS</b> — Cab (included on DRW)	O/P	O	O/P	O/P	O	O/P	O	O/P	O/P	O/P
— Box and rear fender (included on DRW)	P	—	P	—	—	P	—	—	P	P
<b>DOOR HANDLES</b> — Black (included with low-volume paint)	S	S	P	P	S	—	—	—	S	—
— Chrome	—	S	—	—	—	S	S	S	S	S
<b>FOG LAMPS</b>	—	S	O	S	S	—	S	—	S	S
<b>GRILLE</b> — Black surround with Black hex inserts	S	S	—	—	—	S	—	—	S	—
— Chrome surround with Black hex inserts (included in Chrome Appearance Group)	P	—	S	—	—	—	—	—	S	—
— Body-color surround with Black hex inserts	—	—	—	—	S	—	—	—	—	—
— Chrome surround with chrome billet inserts	—	—	—	—	—	S	—	—	—	—
— Chrome surround with chrome wave-perf inserts	—	—	—	—	—	S	—	—	—	—
— Chrome surround with chrome wave-mesh inserts	—	—	—	—	—	—	—	—	S	—

	TRADESMAN REG/CREW	POWER WAGON® TRADESMAN CREW	SLT REG/CREW/MEGA	BIG HORN/ONE STAR CREW/MEGA	OUTDOORS/SMN CREW	POWER WAGON CREW	LARAMIE CREW/MEGA	POWER WAGON LARAMIE CREW	LARAMIE LONGHORN CREW/MEGA	LARAMIE LIMITED CREW/MEGA
<b>CPOS PACKAGE</b>	2TA	2TB	2TG	2TZ	2TT	2TP	2TH	2TJ	2TK	2TM
2500	X	X	X	X	X	X	X	X	X	X
3500 SRW/DRW (6'4" box not available with Crew Cab DRW)	X/X	—	X/X	X/X	—	—	X/X	—	X/X	X/X
<b>EXTERIOR FEATURES (continued)</b>										
<b>HEADLAMPS / TAILLAMPS</b> — Automatic headlamps	S	S	S	S	S	S	S	S	S	S
— Quad halogen headlamps / incandescent taillamps	S	S	S	S	S	—	—	—	—	—
— Premium projector headlamps / premium LED taillamps	—	—	—	—	—	—	S	S	S	S
— Auto High-Beam Headlamp Control (included in Convenience Group)	—	—	—	—	—	—	P	P	P	S
<b>HEADLAMP FILLER PANEL</b> — Black (included with special-order paint)	O	S	O	O	—	—	S	—	—	—
— Body-color	S	—	S	S	S	—	S	S	S	S
<b>MIRRORS</b> — 2500 — Standard size, 6 x 9-inch	—	—	—	—	—	—	—	—	—	—
— Manual (Black; Regular Cab only)	S	—	—	—	—	—	—	—	—	—
— Power / heated (Black; included in Power and Remote Entry Group on Tradesman Regular Cab)	P/S	S	S	S	—	S	—	—	—	—
— Power folding / heated / puddle / turn / auto-dim (Black; included in Luxury Group)	—	—	P	P	S	P	—	—	—	—
— Power folding / heated / puddle / turn / auto-dim / memory (chromed)	—	—	—	—	—	—	S	S	S	S
<b>2500</b> — Available size, 7 x 11-inch (trailer-tow mirrors, two-position fold-away with convex edge)	—	—	—	—	—	—	—	—	—	—
— Manual (Black; Regular Cab only)	O	O	—	—	—	—	—	—	—	—
— Power / heated / puddle / turn (Black; requires Power and Remote Entry Group on Tradesman Regular Cab)	O	O	O	O	O	—	O	—	O	O
— Power / heated / puddle / turn / memory (chrome)	—	—	—	—	—	O	O	O	O	O
<b>3500</b> — Standard size, 7 x 11-inch (trailer-tow mirrors, two-position fold-away with convex edge)	—	—	—	—	—	—	—	—	—	—
— Manual (Black; Regular Cab only)	S	—	—	—	—	—	—	—	—	—
— Power / heated / puddle / turn (Black; included in Power and Remote Entry Group)	P	—	S	S	—	—	—	—	S	S
— Power / heated / puddle / turn / memory (chrome)	—	—	—	—	—	—	—	—	S	S
<b>RAMBOX CARGO MANAGEMENT SYSTEM</b> — With illuminated, lockable, drainable bins on both bed sides; stowable bed divider/extender; and Cargo Rail System with adjustable cleats (Short Box only; SRW only; Tradesman model requires remote keyless entry; N/A with low-volume paints)	O	O	O	O	O	O	O	O	O	S
<b>RUNNING BOARDS</b>	—	—	—	—	—	—	—	—	—	—
<b>SIDE STEPS</b> — Chrome, cab-length; included with Monotone Laramie Longhorn	O	—	O	O	O	—	O	—	O/P	—
— Chrome, wheel-to-wheel; not available on Regular Cab or DRW	O	—	O	O	O	—	O	—	O	S
<b>TONNEAU COVER</b> (not available with Ram 2500 CNG model)	O	O	O	O	O	O	O	O	O	O
<b>WHEEL FLARES</b> — Black	—	S	—	—	S	S	—	—	—	—
— Bright Silver Metallic	—	—	—	—	—	—	—	—	—	—
— White Gold Metallic	—	—	—	—	—	—	S	—	—	—
— Body-color (included with monotone paint)	—	—	—	—	—	P	P	S	P	—
<b>WINDSHIELD WIPERS</b> — Variable / intermittent	S	S	S	S	S	S	S	S	S	S
— Rain-sensing (included in Convenience Group)	—	—	—	—	—	P	P	P	S	S
<b>INTERIOR FEATURES</b>										
<b>AIR CONDITIONING</b>	S	S	S	S	S	S	S	S	S	S
<b>AIR CONDITIONING WITH DUAL-ZONE CONTROL</b>	—	—	—	—	—	—	S	S	S	S
<b>AUXILIARY INSTRUMENT PANEL SWITCHES</b> — N/A with Comfort Group or with Uconnect® 3.0 or 5.0 radios (late availability)	O	—	O	O	O	—	O	—	O	O
<b>BEZEL, CENTER STACK</b> — Black	S	S	—	—	—	—	—	—	—	—
— Color-keyed	—	—	S	S	S	—	—	—	—	—
— Woodgrain	—	—	—	—	—	—	S	—	—	—
— Real wood	—	—	—	—	—	—	—	—	S	S
<b>CIGAR LIGHTER</b> (included in Smoker's Group)	P	P	P	P	P	P	P	P	P	P
<b>CLUSTER</b> — 3.5-inch Electronic Vehicle Information Center (EVIC)	S	S	S	S	—	—	—	—	—	—
— 7-inch Thin Film Transistor (TFT) (included in Luxury Group)	—	—	P	P	S	S	—	—	—	—
— 7-inch TFT (with Laramie Longhorn filigree)	—	—	—	—	—	—	—	—	S	—
— 7-inch TFT (with unique Laramie Limited detail)	—	—	—	—	—	—	—	—	—	S
<b>CONSOLE</b> — Mini floor console (included with 6-speed manual transmission or manual transfer case)	P	S	P	P	P	P	S	P	S	—
— Full-size floor console (included with bucket seats)	—	—	P	P	P	—	P	—	S	S
— Overhead console	—	—	S	—	—	—	—	—	—	—
— Overhead console with Universal Garage Door Opener (included in Luxury Group)	—	—	P	P	S	P	S	S	S	S
<b>DOOR LOCKS</b> — Manual door locks (Regular Cab only)	S									

	TRADESMAN REG/CREW	POWER WAGON REG/CREW	TRADESMAN CREW	REG/CREW M9	BIG HORN/ONE STAR CREW/M9	OUTDOORSMAN CREW	POWER WAGON CREW	LARAMIE CREW/M9	POWER WAGON LARAMIE CREW	LARAMIE LONGHORN CREW/M9	LARAMIE LIMITED CREW/M9
	2TA	2TB	2TG	2T2/T1	2T1	2TP	2TH	2TJ	2TK	2TM	
<b>CPOS PACKAGE</b>											
<b>INTERIOR FEATURES (continued)</b>											
<b>SEATS (continued)</b>											
— Heated rear seats (Crew Cab and Mega Cab® only; included with *GJ seats)								P	S	S	
— Ventilated front seats											
<b>STEERING WHEEL</b> — Urethane	S	S	S				S	S	S	S	
— Leather-wrapped with audio controls (included in Luxury Group)			P	S	S	P					
— Leather-wrapped, heated with audio controls (included in Comfort Group)				P	P		S	S			
— Leather-wrapped, heated, with real wood and audio controls									S	S	
<b>STORAGE</b> — Behind the seat (Regular Cab and Mega Cab)	S		S	S	S		S	S	S	S	
— Front center-seat-cushion storage (included in *VL and *M9 seats)			P	P	P	P	P	P			
— Rear, under-seat compartment (Crew Cab only)	S	S	S	S	S	S	S	S	S	S	
— Rear, in-floor storage boxes (Crew Cab only)	S	S	S	S	S	S	S	S	S	S	
— Flat-folding load floor (Crew Cab only; included in *M9 seats and above)			P	S	S	P	S	S	S	S	
<b>VISORS</b> — Passenger-side, with vanity mirror			S	S		S					
— Driver and passenger-side, with illuminated vanity mirror (included with Luxury Group)			P	P	S	P	S	S	S	S	
<b>WINDOWS</b> — Manual windows (Regular Cab only)	S										
— Power windows, front one-touch down (Regular Cab; included in Power and Remote Entry Group)	P		S								
— Power windows, front one-touch up/down (Crew Cab and Mega Cab)	S	S	S	S	S	S	S	S	S	S	
— Rear fixed window	S	S									
— Rear sliding window, manual (Regular Cab)	O		S								
— Rear sliding window, power (Crew Cab and Mega Cab)			S	S	S	S	S	S	S	S	
— Rear window defroster (requires rear sliding window)			O	O	O	O	O	O	O	O	
<b>UCONNECT® MULTIMEDIA</b>											
<b>CONNECTIVITY</b> — 12-volt DC auxiliary	S	S	S	S	S	S	S	S	S	S	
— 115-volt AC auxiliary (included with *M9 and *MJ seats)			P	S	S	P	S	S	S	S	
— 2.5-amp charging USB port (included with Uconnect 5.0, 8.4A and 8.4AN radios, or *M9 and *MJ seats)	P	P	P	P	S	P	S	S	S	S	
<b>MEDIA HUB</b> (included with Uconnect 3.0 and 5.0 radios)	S	S	S	S		S					
— 1.5-amp fully functional USB port, auxiliary jack for mobile devices			P	P	S	P	S	S	S	S	
<b>MEDIA HUB</b> (included with Uconnect 8.4A and 8.4AN radios)			P	P	S	P	S	S	S	S	
— 1.5-amp fully functional USB port, auxiliary jack for mobile devices and SD card slot											
<b>RADIOS</b> — Uconnect 3.0 AM/FM	S	S									
— Uconnect 5.0 AM/FM/SAT/Bluetooth® (5-inch touch-screen display)	O	O	S	S		S					
— Uconnect 8.4A AM/FM/SAT/Bluetooth/NAV-ready/Voice Command <sup>(11)</sup> (8.4-inch touch-screen display)			O	O	S	O	S	S			
— Uconnect 8.4AN AM/FM/SAT/Bluetooth/NAV/Voice Command <sup>(11)</sup> (8.4-inch touch-screen display)					O	O	O	O	S	S	
<b>RADIO CONTROLS</b> — Steering wheel-mounted audio controls (included in Luxury Group)			P	S	S	P	S	S	S	S	
<b>RCALL/ECALL</b> (packaged with Uconnect 8.4A and 8.4AN radios)			P	P	S	P	S	S	S	S	
<b>SINGLE-DISC CD PLAYER</b>	O	O	O	O	O	O	O	O	O	O	
<b>SIRIUSXM® SATELLITE RADIO</b> <sup>(9)</sup> (included in Tradesman Popular Equipment Group)	P	P	S	S	S	S	S	S	S	S	
<b>SIRIUSXM TRAFFIC® AND SIRIUSXM TRAVEL LINK</b> <sup>(10)</sup> (included with Uconnect 8.4 AN radio)			P	P	P	P	P	P	S	S	
<b>SPEAKER SYSTEMS</b> — Six speakers	S	S	S	S	S	S					
— Six premium speakers (Regular Cab only)			O								
— Nine amplified speakers with subwoofer (Surround Sound requires ADA and *M9 or higher seat)			O	O	O	O	S	S	S	S	
<b>UCONNECT VOICE COMMAND</b> <sup>(11)</sup> (included with Uconnect 5.0, 8.4A and 8.4AN radios)	P	P	S	S	S	S	S	S	S	S	
<b>TIRES AND WHEELS</b>											
<b>TIRES</b> — 2500											
— LT245/70R17E BSW All-Season tires	S										
— LT285/70R17D OWL All-Terrain tires		S					S				
— LT275/70R18E BSW All-Season tires (included with Chrome Appearance Group)	P		S	S			S				
— LT275/70R18E OWL On-/Off-Road tires (included with Popular Equipment Group)	O		P/O	O	S		O			O	
— LT285/60R20E OWL On-/Off-Road tires (included with optional 20-inch wheels)			P	P	P		P		P	S	
— Full-size spare tire	S	S	S	S	S	S	S	S	S	S	
— Add full-size spare tire (requires Box Delete)	O		O								
<b>3500 Single Rear Wheel</b>											
— LT275/70R18E BSW All-Season tires	S		S	S			S		S		
— LT275/70R18E OWL On-/Off-Road tires (included with Popular Equipment Group)	O		P/O	O			O				
— LT285/60R20E OWL On-/Off-Road tires (included with optional 20-inch wheels)			O	O			O		O	S	
<b>3500 Dual Rear Wheel</b>											
— LT235/80R17E BSW All-Season tires	S		S	S			S		S	S	
— LT235/80R17E OWL On-/Off-Road tires (included with Popular Equipment Group)	O		O/P	O			O		O	O	
<b>WHEELS</b> — 2500											
— 17 x 7.5-inch steel painted	S										
— 17 x 8-inch polished forged aluminum		S					S		S		
— 18 x 8-inch steel painted	O										
— 18 x 8-inch steel chrome-clad (included with Chrome Appearance Group)	P		S								
— 18 x 8-inch polished forged aluminum			O	S	S						
— 18 x 8-inch polished aluminum								S			
— 18 x 8-inch polished aluminum with White Gold pockets									S		
— 18 x 8-inch polished aluminum with Silver pockets (included with Monotone paint)										P	
— 20 x 8-inch aluminum painted Black wheel (included with Black Appearance Group)					P						
— 20 x 8-inch aluminum painted Satin Carbon with chrome inserts			O	O	O				O		S
— 20 x 8-inch polished aluminum with White Gold pockets										O	
— 20 x 8-inch polished aluminum with Silver pockets (optional with Monotone paint)										O	
— Steel spare wheel	S	S	S	S	S	S	S	S	S	S	

	TRADESMAN REG/CREW	POWER WAGON REG/CREW	TRADESMAN CREW	REG/CREW M9	BIG HORN/ONE STAR CREW/M9	OUTDOORSMAN CREW	POWER WAGON CREW	LARAMIE CREW/M9	POWER WAGON LARAMIE CREW	LARAMIE LONGHORN CREW/M9	LARAMIE LIMITED CREW/M9
	2TA	2TB	2TG	2T2/T1	2T1	2TP	2TH	2TJ	2TK	2TM	
<b>CPOS PACKAGE</b>											
<b>TIRES AND WHEELS (continued)</b>											
<b>3500 Single Rear Wheel</b>											
— 18 x 8-inch steel painted	S										
— 18 x 8-inch steel chrome-clad (included in Chrome Appearance Group)	P		S								
— 18 x 8-inch polished forged aluminum			O	S							
— 18 x 8-inch polished aluminum								S			
— 18 x 8-inch polished aluminum with White Gold pockets									S		
— 18 x 8-inch polished aluminum with Silver pockets (included with Monotone paint)										P	
— 20 x 8-inch aluminum painted Black (included with Black Appearance Group)				P			P				
— 20 x 8-inch aluminum painted Satin Carbon with chrome inserts			O	O			O			S	
— 20 x 8-inch polished aluminum with White Gold pockets										O	
— 20 x 8-inch polished aluminum with Silver pockets (optional with Monotone paint)										O	
— Steel spare wheel	S		S	S		S		S	S	S	
<b>3500 Dual Rear Wheel</b>											
— 17 x 6-inch steel painted	S										
— 17 x 6-inch steel with chrome finish (included in Chrome Appearance Group)	P		S	S							
— 17 x 6-inch polished aluminum			O	O				S		S	
— 17 x 6-inch polished aluminum with Laramie Longhorn cap										S	
— 17-inch steel spare (included with DRW)	S		S	S		S		S	S	S	
<b>SAFETY AND SECURITY</b>											
<b>AIR BAGS</b> <sup>(9)</sup> — Multistage front and knee bolsters	S	S	S	S	S	S	S	S	S	S	S
— Supplemental side-curtain	S	S	S	S	S	S	S	S	S	S	S
— Supplemental front-seat side-mounted	S	S	S	S	S	S	S	S	S	S	S
<b>BRAKES</b> — Four-wheel antilock disc brakes	S	S	S	S	S	S	S	S	S	S	S
<b>CARGO-VIEW CAMERA</b> <sup>(7)</sup> (requires Uconnect 8.4A or 8.4AN radios)			O	O	O	O	O	O	O	O	
<b>ELECTRONIC STABILITY CONTROL</b> <sup>(8)</sup> — Includes Brake Assist, Electronic Roll Mitigation, Hill Start Assist, Rain Brake Support, Ready Alert Braking, All-Speed Traction Control and Trailer Sway Control <sup>(8)</sup>	S	S	S	S	S	S	S	S	S	S	S
<b>ELECTRONIC TRAILER BRAKE CONTROLLER</b>	O	O	S	S	S	S	S	S	S	S	S
<b>KEY ALIKE</b> (3500 only; N/A with Keyless Enter™ n Go™; late availability)	O	O	O	O	O	O	O	O	O	O	O
<b>PARKSENSE® REAR PARK ASSIST</b> <sup>(7)</sup>	O	O	O	O	O	O	O	O	S	S	S
<b>PARKVIEW® REAR BACK-UP CAMERA</b> <sup>(7)</sup> — Video displayed in rearview mirror with Uconnect 3.0 radio or on-screen with Cargo-View Camera <sup>(7)</sup> with other radios	O	O	O	O	O	O	O	S	S	S	S
<b>REMOTE KEYLESS ENTRY</b> — Controls for power door locks, tailgate, RamBox® System, illuminated entry system, panic alarm (included in Tradesman Popular Equipment or Power and Remote Entry Group)	P	P	S	S	S	S	S	S	S	S	S
<b>REMOTE START</b> (requires automatic transmission)			O	S	S	O	O	O	O	S	S
<b>SECURITY ALARM</b> — Detects break-in			O	O	O	O	O	S	S	S	S
<b>SENTRY KEY® THEFT DETERRENT SYSTEM</b> — Engine immobilizer	S	S	S	S	S	S	S	S	S	S	S
<b>TIRE PRESSURE MONITORING (TPM)</b> with EVIC display and alert (2500 only)	S	S	S	S	S	S	S	S	S	S	S
<b>TIRE PRESSURE INFORMATION SYSTEM WITHOUT ALERT</b> (3500 models only)	S		S	S			S		S	S	
<b>PACKAGES / EQUIPMENT GROUPS</b>											
<b>BLACK APPEARANCE GROUP</b> — Includes Black door handles, Black exterior mirrors, Black Ram tailgate badge, Black 4x4 badge (4x4 only), blacked-out projector head lamps and LED taillamps, Black painted front and rear bumpers, Black grille and 20-inch Black painted wheels with OWL tires (SRW Models only)				O			O				
<b>BOX DELETE</b> — Regular Cab, Crew Cab, with 5.7L gas engine	O		O	O							
<b>CHROME APPEARANCE GROUP</b> — Includes chrome bumpers, chrome grille surround and steel chrome-clad wheels (SRW) or steel wheels with chrome finish (DRW)	O										
<b>CHROME LIMITED APPEARANCE GROUP</b> — Includes chrome bodyside molding, body-color fender flares and chrome bumpers											O
<b>COLD WEATHER GROUP</b> — Includes engine block heater and winter front grille cover (diesel only)	O		O	O	O		O		O	O	
<b>COMFORT GROUP</b> — Includes heated cloth seats and heated leather steering wheel (requires *M9 or *MJ seats; included with Luxury Group); also includes remote start (with automatic transmission) and leather-wrapped steering wheel				O/P	O	O					
<b>CONVENIENCE GROUP</b> — Auto High-Beam Headlamp Control, rain-sensing wipers (N/A with Cargo-View Camera <sup>(7)</sup> )									O		O
<b>DOT-CERTIFIED ROADSIDE SAFETY KIT</b> — Includes DOT fire extinguisher, three reflecting triangles, two red vinyl flags and spare fuses	O	O	O	O	O	O	O	O	O	O	O
<b>DUAL REAR WHEEL GROUP</b> — 3500 only; N/A with Crew Cab 6'4" box (includes clearance lamps for the cab, box and fenders)	O		O	O							O
<b>FIFTH-WHEEL/GOOSENECK TOWING PREP GROUP</b> — Includes in-bed 7-pin harness connector and mounting provisions for 5th-wheel or gooseneck hitches	O		O	O	O		O		O	O	O
<b>LUXURY GROUP</b> — Includes 7-inch EVIC, switchable dome lamp, ashtray lamp, illuminated vanity mirror, auto day/night mirror, exterior power folding mirrors with signal and puddle lamps, overhead console with Universal Garage Door Opener; for 2TG/2TP only: leather-wrapped steering wheel with audio controls, glove box lamp, under-hood lamp; for 2TY/2TZ only: Comfort Group				O	O	S	O				
<b>POPULAR EQUIPMENT GROUP</b> — Includes 40/20/40 cloth bench seat, carpeted flooring, floor mats, remote keyless entry and SiriusXM Satellite Radio <sup>(9)</sup>	O	O									
<b>POPULAR EQUIPMENT GROUP</b> — Premium cloth 40/20/40 bench seat, fog lamps, OWL tires (Regular Cab only)			O								
<b>POWER AND REMOTE ENTRY GROUP</b> — Includes premium vinyl door trim, remote keyless entry, power heated mirror, power windows and power locks (Regular Cab only)	O										
<b>PROTECTION GROUP (4x4 ONLY)</b> — Includes tow hooks and transfer case skid plate	O		O	O	S		O		O	O	O
<b>SMOKER'S GROUP</b> — Includes removable ashtray and cigar lighter	O	O	O	O	O	O	O	O	O	O	O
<b>SNOWPLOW PREP GROUP</b> — 180-amp alternator (gas), 220-amp (diesel), transfer case skid plate (4x4 models only)	O		O	O	O		O		O	O	O

S = Standard. O = Optional. P = Part of package. N/A = Not available. Note: some features and/or applications may be late availability.



# LET'S KEEP IT AUTHENTIC.



Ram 2500 Crew Cab Tradesman in Bright White shown with available Mopar Wheel Flares, Black Tubular Side Steps, RamBox® System Cargo Organizer, Sliding Toolbox and Bed Step. Properly secure all cargo.



## MOPAR. SUPPORTING YOU AND YOUR RAM—FOR THE LONG HAUL.

Make your new Ram truck the ideal ride—for today, and for years to come.

The Authentic Ram Parts and Accessories by Mopar are engineered by the same experts who designed your Ram, ensuring perfect fit, function and finish. You'll benefit from trained technicians who know your make and model best and use genuine parts to keep your Ram going strong.

Today, Mopar provides more than just Authentic Accessories for your Ram truck. Our all-inclusive advantages encompass Mopar Express Lane Service to minimize waiting and downtime, Mopar Vehicle Protection™ Plans—the only extended protection plans backed by the manufacturer—and our state-of-the-art Mopar Owner Connect™ Web site. Here's where you'll find online access to your service records, vehicle information and exclusive money-saving offers that give you the best from Mopar—for less. In every way, Mopar support is all about keeping you happy and your Ram truck at its best. For more, visit us at [mopar.com](http://mopar.com)



Sport Performance Hood Decal Kit (Ram I500)



Under-the-Rail Bedliner



Roll-Up Tonneau Cover



Fifth-Wheel Hitch with Glider



[1] Based on latest available competitive information. Class based on 250/2500 and 350/3500 pickups. [2] Based on latest available competitive information. Class based on light-duty pickups. [3] Transferable. See dealer for complete details and a copy of the 5-Year/100,000-Mile Powertrain Limited Warranty. [4] Based on Standard Pickup class. EPA estimated mpg based on V6 4x2. Actual results may vary. [5] Only diesel in the Light-Duty Pickup class. [6] No system, no matter how sophisticated, can repeal the laws of physics or overcome careless driving actions. Performance is limited by available traction, which snow, ice, and other conditions can affect. When the ESC warning lamp flashes, the driver needs to use less throttle and adapt speed and driving behavior to prevailing road conditions. Always drive carefully, consistent with conditions. Always wear your seat belt. [7] Always look before proceeding, electronic drive aid is not a substitute for conscientious driving, always be aware of your surroundings. [8] The Advanced Front Air Bags in this vehicle are certified to the new U.S. federal regulations for advanced air bags. Children 12 years old and younger should always ride buckled up in a rear seat. Infants in rear-facing child restraints should never ride in the front seat of a vehicle with a passenger front air bag. All occupants should always wear their lap and shoulder belts properly. [9] SiriusXM services require subscriptions, sold separately after the 12-month trial included with the new vehicle purchase. If you decide to continue your service at the end of your trial subscription, the plan you choose will automatically renew and bill at then-current rates until you call SiriusXM at 1-866-635-2349 to cancel. See SiriusXM Customer Agreement for complete terms at [www.siriusxm.com](http://www.siriusxm.com). 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Your trial begins the day you take delivery of your vehicle, so register as soon as possible. To activate the trial, you must register with Uconnect Access. [14] WiFi Hotspot does not enable direct communication between multiple in-vehicle devices. Factors affecting the performance of WiFi Hotspot include: cellular network, signal strength and quality, time of day, number of channels used by the service provider, type of connection, number of clients using WiFi Hotspot and client device. [15] Voice Text Reply and Voice Texting features require a compatible mobile device enabled with Bluetooth Message Access Profile (MAP). iPhone and some other smartphones do not currently support Bluetooth MAP. Vehicle must be registered for Uconnect Access and you must fulfill minimum subscription requirements. Also requires the use of a compatible smartphone that supports text messaging and Bluetooth. Visit [www.UconnectPhone.com](http://www.UconnectPhone.com) for system and device compatibility. [16] The 9-1-1 Call button will connect you directly with Emergency Assistance. If you accidentally press the button, you have 10 seconds to cancel the call by either pressing the 9-1-1 button on the rearview mirror or the cancel button on the Uconnect touch screen. [17] If Roadside Assistance is provided to your vehicle, you agree to be responsible for any additional roadside assistance service costs that you may incur. In order to provide Uconnect Services to you, we may record and monitor your conversations with Roadside Assistance, Uconnect Care or Vehicle Care, whether such conversations are initiated through the Uconnect Services in your vehicle, or via landline or mobile telephone, and may share information obtained through such recording and monitoring in accordance with regulatory requirements. You acknowledge, agree and consent to any recording, monitoring or sharing of information obtained through any such call recordings. [18] Vehicle must be within the United States, have network coverage and must be registered with Uconnect Access with an active subscription that includes the applicable feature and you must fulfill minimum subscription requirements. It must also be equipped with features that enable remote commands, such as keyless entry, and must be in active and usable cellular range. The Uconnect Access App must be installed and launched on your mobile device to use these remote commands. Remote features are available only on vehicles that are properly equipped. [19] Always sit properly with the head restraint properly adjusted. Never place anything in front of the head restraint.

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**GO MOBILE.** Take a multimedia tour of your vehicle on your mobile device. Visit the Chrysler Group LLC page in iTunes® from your smartphone or iPad® to download the most up-to-date vehicle apps. Log on to the [ramtrucks.com](http://ramtrucks.com) mobile site for an at-a-glance review of what you need to know about your Ram truck. Experience visual and interactive demonstrations while gaining access to product information at your fingertips, wherever you go.

**THE RAM OUTFITTER**

Owning a new 2014 Ram opens up a world of new apparel, tools, and a variety of equipment for work and play. The one place to find it all is the Ram Outfitter site.

This is the online shopping center for gear and gifts for the Ram enthusiast. With the Ram identity prominently featured, you can choose from authentic wear, sports equipment, electronics and attire. Log on. It's all at [ramtrucks.com/outfitter](http://ramtrucks.com/outfitter)



# Exhibit 22

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## NEWS

# TWO-MILLIONTH CUMMINS PICKUP ENGINE ROLLS OFF LINE FOR CHRYSLER



Jeff Caldwell, Executive Director – Viking Program and General Manager-Global Pickup/Van Business at Cummins talks about Cummins relationship with Chrysler.

Cummins built its 2-millionth pickup truck engine for the Chrysler Group LLC in December, the latest development in a more than 25-year partnership between the two companies.

"This milestone build is a significant achievement for Cummins and our employees, and is an accomplishment of which we are immensely proud," said Wayne Ripberger, General Manager – Pickup and Light Commercial Vehicle Operations. "At Cummins, we take great pride in each and every engine we build – whether it's the first or the 2-millionth."

A small ceremony was held at the Columbus MidRange Engine Plant to mark the occasion. The actual engine will go on display, touring the United States.

In its own news release Dec. 10 marking the occasion, Chrysler noted the partnership has benefited both companies.

"The Ram Truck-Cummins diesel partnership is one of the industry's most enduring and certainly fitting of such a tribute," said Fred Diaz, President and CEO – Ram Truck Brand and Chrysler de Mexico in the news release. "Both companies have benefited greatly, but Ram diesel customers are the real beneficiaries. Every day they experience the toughness and capability a Cummins-powered Ram can deliver."

The first Cummins Turbo Diesel engine was produced for Chrysler at the Rocky Mount Engine Plant in Rocky Mount, N.C. in 1988. The Cummins-powered Ram has been known for its power as well as its durability ever since and has developed an extremely loyal following of pickup truck owners.

The 2013 Cummins-powered Ram will feature the kind of innovation that customers have come to expect, including:

- A 10 percent fuel economy improvement and best-in-class torque.
- Smoother handling thanks to a "Smart" exhaust break.
- A 15,000 mile – best in class – fuel change interval.

## TWITTER

Tweets by @Cummins

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- INNOVATION SUSTAINABILITY
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- The capability to use a B20 fuel blend.

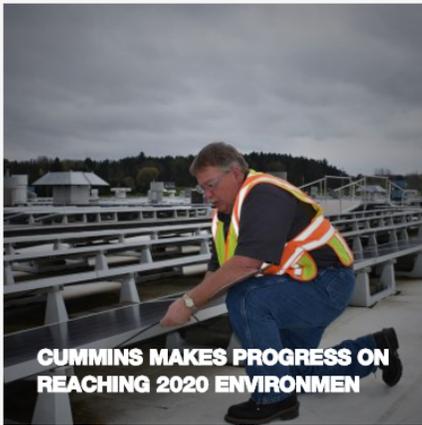
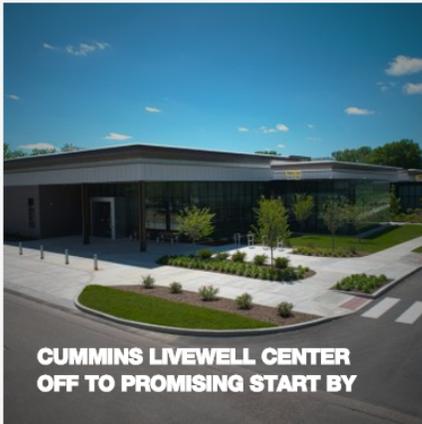
The high output Cummins Turbo Diesel that powers the 2013 Ram Heavy Duty pickup will produce 385 horsepower and a best-in-class 850 foot-pounds of torque.



**BLAIR CLAFLIN**

Blair Claflin is the Director of Sustainability Communications for Cummins Inc. Blair joined the Company in 2008 as the Diversity Communications Director. Blair comes from a newspaper background. He worked previously for the Indianapolis Star (2002-2008) and for the Des Moines Register (1997-2002) prior to that.

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# Exhibit 23

# 2016 2500/3500

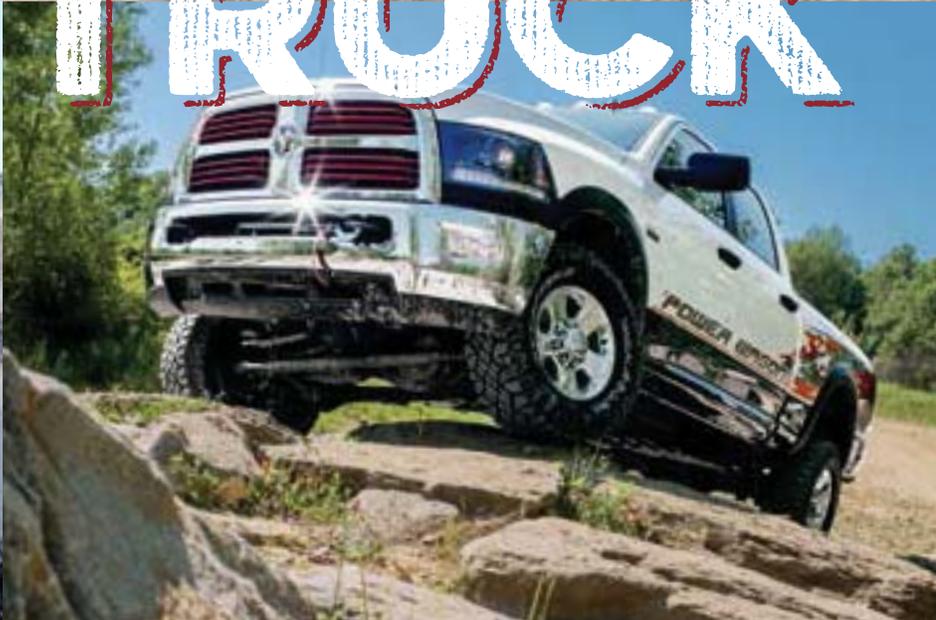


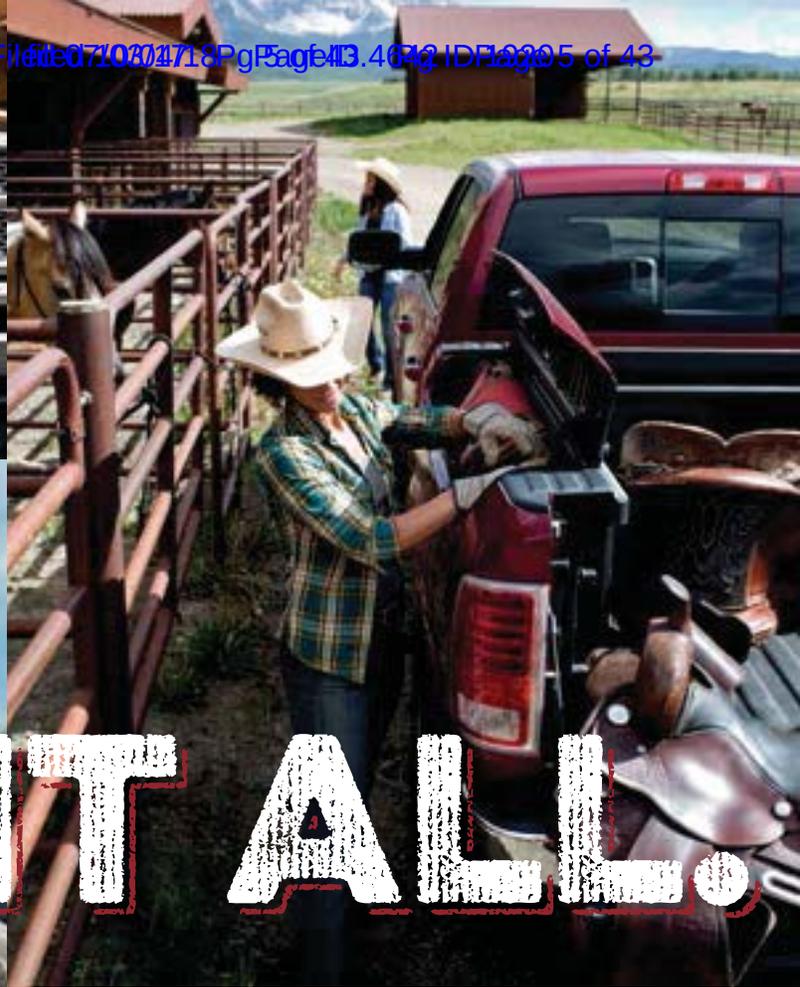


**ONE TOOL IS  
DESIGNED TO  
MASTER EVERY  
JOB OUT THERE.**



# THIS TRUCK





# DOES IT ALL.



# JOB-RATED CAPABILITY.



## FROM HEAD TO TOE, IT'S MADE TO TOW.



By design, these trucks are born and bred to pull and haul. Huge available 7 x 11-inch trailer-towing mirrors with a power-folding feature make your Ram Heavy Duty a command and control center for towing.



Go—and tow—in the know: the full-color high-resolution screens in select Ram models feature dozens of graphics, conveying real-time data on virtually every mechanical function.



Available frame-mounted Mopar® Gooseneck Hitch Assembly with easy ball removal for fast flatbed conversion. Optional Fifth-Wheel/Gooseneck Prep Package includes in-bed 7-pin connector. (Ball not included in Packages.)



Available Mopar Fifth-Wheel Hitch enables super-tough trailer towing with authority. Options include a hitch with sliding rails or one that mounts directly into the optional Fifth-Wheel/Gooseneck Prep Package mounts, saving time and effort.



### HOW RAM VIEWS TOWING.

There's no looking back...to the old days, that is. Only Ram Heavy Duty offers an available, class-exclusive<sup>(1)</sup> Cargo-View Camera<sup>(2)</sup> for an invaluable on-screen display of the cargo bed—ideal for gooseneck or fifth-wheel hookups. Add the available ParkView® Rear Back-Up Camera<sup>(3)</sup> to ease conventional trailer hookups—plus the capability to toggle between the two views on the 8.4-inch touchscreen—and you're looking at exceptional towing convenience.




**31,210-LB  
MAX  
TOWING<sup>(1)</sup>**

Ram 3500 with available Cummins® High Output Turbo Diesel



**7,390-LB  
MAX  
PAYLOAD<sup>(1)</sup>**

Ram 3500 with 6.4L HEMI® V8



**900 LB-FT  
MAX  
TORQUE<sup>(1)</sup>**

Ram 3500 with available Cummins High Output Turbo Diesel

<sup>1</sup>A note about this brochure: all disclaimers and disclosures can be found on the last page. <sup>2</sup>When properly equipped. Properly secure all cargo.

## RAM 2500/3500 TOWING CAPABILITY

### 2500 TOWING SPECS

Maximum loaded trailer weights (when properly equipped)

				2500 — SAE J2807 STANDARD COMPLIANT											
				Regular Cab		Crew Cab				Mega Cab®					
				8' BOX		6'4" BOX		8' BOX		6'4" BOX					
				4x2	4x4	4x2	4x4	4x2	4x4	4x2	4x4				
POWERTRAIN	Axle Ratio	GCWR													
Automatic Transmission	5.7L HEMI® V8 CNG/ 66RFE 6-speed	3.73	15,000	12,520	9,980			9,190	6,960						
	5.7L HEMI V8/ 66RFE 6-speed	3.73	18,300	11,890	11,510	11,520	11,200	11,390	11,030	11,040	10,780				
		4.10	20,300	13,890	13,510	13,520	13,190	13,390	13,020	13,040	12,780				
	6.4L HEMI V8/ 66RFE 6-speed	3.73	19,800	13,320	12,930	12,940	12,630	12,810	12,460	12,520	12,240				
		4.10	17,500			10,030									
		4.10	22,800	16,320	15,930	15,940	15,630	15,810	15,460	15,520	15,240				
6.7L Cummins® Turbo Diesel I-6/ 68RFE 6-speed	3.42	25,300	17,980	17,540	17,510	17,210	17,370	17,030	17,170	15,540					
MT	6.7L Cummins Turbo Diesel I-6/ G56 6-speed	3.42	24,300	16,890	16,450	16,450	16,140	16,300	15,960	16,100	14,870				

### 3500 TOWING SPECS

Maximum loaded trailer weights (when properly equipped)

				3500 — SAE J2807 STANDARD COMPLIANT													
				Regular Cab				Crew Cab				Mega Cab®					
				8' BOX		8' BOX DRW		6'4" BOX		8' BOX		8' BOX DRW		6'4" BOX		6'4" BOX DRW	
				4x2	4x4	4x2	4x4	4x2	4x4	4x2	4x4	4x2	4x4	4x2	4x4	4x2	4x4
POWERTRAIN	Axle Ratio	GCWR															
Automatic Transmission	5.7L HEMI® V8/ 66RFE 6-speed	3.73	18,400	11,910	11,560			11,520	11,200	11,410	11,020			11,270	10,990		
		4.10	20,400	13,910	13,560			13,520	13,200	13,410	13,020			13,270	12,990		
	6.4L HEMI V8/ 66RFE 6-speed	3.73	19,900	13,370	12,970	13,020	12,640	12,970	12,640	12,830	12,470	12,450	12,100	12,710	12,400	12,210	12,020
		4.10	22,900	16,370	15,970			15,970	15,640	15,830	15,470			15,710	15,400		
	6.7L Cummins® Turbo Diesel I-6/ 68RFE 6-speed	3.42	25,300	17,910	17,560	17,550	17,180	17,490	17,200	17,360	17,010	17,000	16,660	17,160	16,800	16,770	16,460
		3.73	27,300			19,550	19,180					19,000	18,660			18,770	18,460
	6.7L Cummins High Output Turbo Diesel I-6/ AISIN® 6-speed	4.10	30,300			22,550	22,180					22,000	21,660			21,770	21,460
		3.42	25,300	17,770	17,420			17,350	17,050	17,210	16,860			17,020	16,660		
		3.42	29,300			21,410	21,030					20,860	20,510			20,620	20,320
		3.73	33,800			25,910	25,530					25,360	25,010			25,120	24,820
MT	6.7L Cummins Turbo Diesel I-6/ G56 6-speed	3.42	24,300	16,870	16,520	16,510	16,130	16,450	16,160	16,320	15,960	15,960	15,610	16,120	15,760	15,720	15,420
		3.73	26,300			18,510	18,130					17,960	17,610			17,720	17,420

MT = Manual Transmission | DRW = Dual Rear Wheel | Weights given in lb. | Numbers in **Black boxes** reflect max ratings.

1. Payload and Max Trailer Weights are ESTIMATED values and rounded to the nearest 10 lb.
2. Payload = GVWR - Base Weight.
3. Payload and Trailer Weight Rating are mutually exclusive.
4. GAWRs, GVWRs and GCWRs should never be exceeded.
5. Trailer Weight Rating and Tow Vehicle Trailing Weight are calculated as specified in SAE J2807. Passenger Weight = 300 lb. Options Weight = 100 lb. Trailing Equipment Weight: 75 lb for conventional hitch, 70 lb for gooseneck and 250 lb for 5th-wheel. Tongue weight: 10 percent of the gross trailer weight for conventional hitch, 15 percent of the gross trailer weight for a 5th-wheel or gooseneck hitch. Payload and GAWR should never be exceeded and must account for all of the above weights, including the appropriate trailering equipment and tongue weight. Box-Off Body Completion Weight = 80 lb per foot from end of cab to end of frame.
6. The maximum tongue weight for Class V (hitch receiver) is limited to 1,800 lb.
7. A 5th-wheel or gooseneck hitch is required for trailers over 18,000 lb. A gooseneck hitch is required for trailers over 25,000 lb.
8. 13,800 lb. GVW stated for Regular Cab, 4x2, 6.4L V8 with 4.10 axle ratio applies to Tradesman® and ST packages only. All other price classes for this configuration (Regular Cab, 4x2, 6.4L V8 with 4.10 axle ratio) is 13,700 lb.

## RAM 2500/3500 PAYLOAD CAPABILITY

### 2500 PAYLOAD SPECS

Maximum payload capacities (when properly equipped)

			2500							
			Regular Cab		Crew Cab				Mega Cab®	
			8' BOX		6'4" BOX		8' BOX		6'4" BOX	
			4x2	4x4	4x2	4x4	4x2	4x4	4x2	4x4
Automatic Transmission	POWERTRAIN	GVWR								
	5.7L HEMI® V8 CNG/66RFE 6-speed	9,200	2,350	1,970			1,850	1,630		
	5.7L HEMI V8/66RFE 6-speed	9,000	3,060	2,680	2,690	2,370	2,560	2,200	2,210	1,960
	6.4L HEMI V8/66RFE 6-speed	8,510 10,000				1,510				
MT	6.7L Cummins® Turbo Diesel I-6/68RFE 6-speed	10,000	3,160	2,720	2,690	2,380	2,540	2,200	2,340	2,030
	6.7L Cummins Turbo Diesel I-6/G56 6-speed	10,000	3,060	2,630	2,630	2,310	2,470	2,130	2,280	1,960

### 3500 PAYLOAD SPECS

Maximum payload capacities (when properly equipped)

			3500															
			Regular Cab				Crew Cab				Mega Cab®							
			8' BOX		8' BOX DRW		6'4" BOX		8' BOX		8' BOX DRW		6'4" BOX		6'4" BOX DRW			
			4x2	4x4	4x2	4x4	4x2	4x4	4x2	4x4	4x2	4x4	4x2	4x4	4x2	4x4		
Automatic Transmission	POWERTRAIN	GVWR																
		10,100	4,080															
	5.7L HEMI® V8/66RFE 6-speed	10,300		3,930														
		10,500					4,090											
		10,700						3,970										
		11,000							4,480					4,340				
		11,300								4,390					4,360			
		12,000	4,140															
	6.4L HEMI V8/66RFE 6-speed	10,400		3,940														
		10,500					4,040											
		10,800						4,010										
		11,100							4,500									
		11,200											4,480					
		11,400								4,440					4,370			
		13,300			6,890	6,510						6,320	5,970			6,080	5,890	
		13,700			7,290	6,910												
		13,800			7,390													
		13,900															6,680	
	6.7L Cummins® Turbo Diesel I-6/68RFE 6-speed	14,000										7,020	6,670				6,590	
		11,100	4,180															
		11,500		4,230			4,160											
		11,600												3,930				
		11,700						4,070										
		12,000							4,530									
12,300									4,480									
12,400														4,270				
6.7L Cummins High Output Turbo Diesel I-6/ AISIN® 6-speed	14,000			6,720	6,350						6,170	5,830			5,940	5,630		
	11,100	4,040																
	11,500		4,090			4,020												
	11,600												3,790					
	11,700						3,920											
	12,000							4,380										
	12,300								4,330									
MT	6.7L Cummins Turbo Diesel I-6/G56 6-speed	11,100	4,140															
	11,500		4,190			4,120												
	11,600												3,890					
	11,700						4,030											
	12,000							4,490										
	12,300								4,430									
	12,400													4,230				
14,000				6,680	6,300					6,130	5,780			5,890	5,590			

MT = Manual Transmission | DRW = Dual Rear Wheel | Weights given in lb. | Numbers in **Black boxes** reflect max ratings.

1. Weights are estimated values rounded to the nearest 10 lb.

2. Payload = GVWR minus Base Weight.

3. Payload and Trailer Weight Rating are mutually exclusive.

4. GAWRs, GVWRs and GCWRs should never be exceeded.

5. 3500 Regular Cab, 4x2, 6.4L V8 with 4.10 axle ratio, GVWR of 13,800 lb applies to Tradesman® package only. All other price classes for this configuration (Regular Cab, 4x2, 6.4L V8 with 4.10 axle ratio), GVWR is 13,700 lb.

**ONLY RAM HEAVY DUTY OFFERS THE MOST GAS-POWERED V8 ENGINE OPTIONS.<sup>1</sup>**

# A LEGEND

## 5.7L HEMI® V8 • 383 HP 400 LB-FT OF TORQUE



+ Competitive fuel efficiency, accompanied by performance and capability measured in tens of thousands of miles. When compared to other V8 engines in the class, the 5.7-liter HEMI V8 in single-rear-wheel Ram Heavy Duty models delivers incredible standard power and torque.

+ iDFO (interactive Deceleration Fuel Shut-Off) turns off the flow of fuel during deceleration, with no noticeable changes in operation, helping enhance fuel efficiency.

+ You expect this powerhouse to do the job. Heavy-duty cooling is standard on all HEMI V8 engines.

# A BRUTE

## 6.4L HEMI V8 • 410 HP 429 LB-FT OF TORQUE



+ **Best-in-class<sup>1</sup> gas horsepower** from the 6.4-liter HEMI V8: 410 working horses give you the ideal gas engine for acceleration and highway merging and cruising, even under the heaviest loads.

+ **Best-in-class<sup>1</sup> gas towing** with the 6.4-liter HEMI V8 gives Ram Heavy Duty unrivaled authority—up to 16,320 lb on 2500 models, and up to 16,520 lb on Ram 3500 DRW models. (All towing figures apply to properly equipped trucks.)

+ Along with that **best-in-class<sup>1</sup> gas horsepower** is **best-in-class<sup>1</sup> gas torque**; the 6.4-liter HEMI V8 torque levels are rated at a super-competent 429 lb-ft @ 4,000 rpm.

+ The 6.4-liter HEMI V8 offers the advanced technology of Individual Cylinder Fuel Control, a diagnostic monitoring system that enables air/fuel refinements and ensures ideal mixtures for each individual cylinder.

+ The cooled Exhaust Gas Recirculation (EGR) System is **unique for a gas engine**; common to diesel engines, the EGR System is designed to enhance fuel efficiency in heavy-load and uphill towing situations. Heavy-duty cooling further enhances performance.

+ Fuel-efficient performance is engineered into the electro-mechanical heart of the 6.4-liter HEMI V8. Operating with seamless precision, our MDS/Fuel Saver Technology helps save fuel with no compromise or noticeable changes in engine operation. While cruising at highway speeds, the engine shuts off four of the eight cylinders, maintaining speeds with four-cylinder-like efficiency.

+ **Best-in-class<sup>1</sup> payload** rounds it out. A Ram 3500 equipped with the available 6.4-liter HEMI V8 delivers a top-tier payload rating of 7,390 lb when properly equipped.

**THE TRANSMISSION:** *The 5.7-liter HEMI V8 and the 6.4-liter HEMI V8 are mated to the long-proven 66RFE 6-speed automatic. This component delivers heavy-duty levels of capability for towing and hauling. Count on driver-adaptive shifting, three multiple clutch packs, dual filters on a dual-stage pump and an independent lubrication cooler to ensure ample pressures—and peace of mind—under all driving situations and towing/hauling conditions.*

## RAM TOUGH TRANSFER CASES

The two transfer cases employed by Ram 2500/3500 Heavy Duty are exactly what you need for ultra-4x4 capability. The BorgWarner BW 44-46 transfer case features responsive electronic shift-on-the-fly engineering, with three operating ranges, plus Neutral.

The manually activated BW 44-47 transfer case also features three operating ranges, plus Neutral. Both of these impressive units offer a low-range reduction ratio of 2.64:1—an ideal ratio when off road in a slow rock-climbing situation, or when using your Ram 4x4 on challenging terrain or steep grades. You need capability and performance that exceeds the need, and Ram Heavy Duty pickups are designed to excel.



# A MONSTER

## 6.7L CUMMINS® TURBO DIESEL 385 HP • 900 LB-FT OF TORQUE

Proven in worldwide use, the 6.7L Cummins Turbo Diesel is engineered to the tolerances and durability to power semi-class big rigs. As available diesel engine for Ram 2500/3500 Heavy Duty, each of the three Cummins calibrations specifically addresses job-rated use and optimal transmission output. The results give Ram Heavy Duty models uncompromising strength for towing and hauling.

All power outputs of the Cummins feature a next-generation Diesel Exhaust Fluid (DEF) System, a super-efficient Diesel Cooling System with 11-blade fan and,

exclusive to the class,<sup>[1]</sup> a “smart” diesel exhaust brake. Output culminates in that best-in-class<sup>[1]</sup> available torque of 900 lb-ft that the Cummins High Output churns out in Ram 3500 models.

Cummins + Ram Heavy Duty. It’s a working combination that’s now in excess of two million applications—the ever-growing figure that sums up the enduring quality of this working partnership.

+ **Best-in-class<sup>[1]</sup> diesel towing** for Ram 3500 is part of the Cummins legacy. With the available Cummins High Output Turbo, you can take advantage of that **best-in-class<sup>[1]</sup> 900 lb-ft of torque** and 385 horsepower, with towing rated at 31,210 lb. (All towing figures apply to properly equipped trucks.)

+ Incredible torque for Ram 2500 comes from the available Cummins rated at 370 hp and 800 lb-ft, mated to the proven 68RFE 6-speed automatic; this beefed-up powertrain configuration is also available for Ram 3500 models.

+ **The class-exclusive<sup>[1]</sup> G56 6-speed manual** transmission is packaged with the 350 hp/660 lb-ft Cummins Turbo Diesel. **The 6-speed manual offers exceptional control when towing and hauling**, and its availability for Ram 2500/3500 clearly separates Ram Heavy Duty from the contenders.

+ **Best-in-class<sup>[1]</sup> diesel oil change intervals**—up to 15,000 miles—seriously reduce downtime and costs of regular maintenance.

**TRANSMISSIONS:** *These components are designed to manage awesome levels of torque over decades of use. Packaged with the 350 hp/660 lb-ft Cummins is the class-exclusive<sup>[1]</sup> G56 6-speed manual; available for the 370/800 Cummins is the 68RFE automatic. For the Cummins High Output Turbo Diesel and its best-in-class<sup>[1]</sup> 900 lb-ft of available torque, the AISIN® Heavy-Duty 6-speed automatic transmission ably steps up to the task.*



The AISIN Heavy-Duty 6-speed automatic is packaged with the available Cummins High Output Turbo Diesel. AISIN advantages include a sophisticated Transmission Control Module which momentarily turns off the exhaust brake (on the Cummins), and a ramped-up Tow/Haul Mode with a more aggressive downshift schedule to meet anticipated commercial-grade hauling demands.

# HEAVY-DUTY CONTROL



Properly secure all cargo.



## ONLY RAM RIDES ON TECHNOLOGY THIS ADVANCED.

Ram Heavy Duty is the working definition of a “can-do” attitude, with standards that permit no compromise when it comes to capability—or to conventional suspensions. Unique to Ram 2500 is a standard three-link coil spring front suspension and a class-exclusive<sup>(1)</sup> five-link coil spring rear suspension. Snapshot: innovative Ram engineering for the heaviest loads. Upshot: exceptional comfort and control. So leave the others where they belong—far behind you.

### STANDARD HEAVY-DUTY SUSPENSIONS FOR RAM 2500/3500



**2500: THE CLASS-EXCLUSIVE<sup>(1)</sup> FIVE-LINK COIL SPRING REAR SUSPENSION**, standard on Ram 2500, is revolutionary in the heavy-duty pickup segment. Engineered to spec, it provides outstanding ride/handling characteristics and beyond-dependable hauling and payload capability, irrespective of load.



**3500: THE STANDARD HOTCHKISS LEAF SPRING REAR SUSPENSION** capably meets every need for payload and occupant comfort. For Ram 3500 Dually models, the spring package employs separate auxiliary leaves—engineering that helps enhance the rear handling and which also allows for higher payloads.

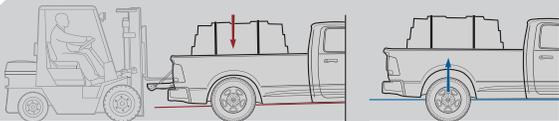
# HEAVY-DUTY CONFIDENCE



## WE'LL LEVEL WITH YOU. RAM HEAVY DUTY OWNS THE RIDE.

The true measure of confidence is to invite comparisons, and we're inviting you to find another suspension system as refined as this. The available Auto-Level Rear Air Suspension System for Ram 2500/3500 Heavy Duty is all about the ride—which translates into supreme comfort for occupants and incontestable control when towing and hauling. The Normal Load-Leveling Mode is contrasted with the driver-selectable Alternate Ride Height Mode—invaluable for trailer alignment, and sharply ramping up road manners. No surprise to find it on the same pickup that gives you available best-in-class<sup>[1]</sup> towing.\* Again, Ram ranks above the rest; for the technical details, see below.

## HOW RAM EASILY ADAPTS TO BIG PAYLOADS AND TOUGH TOWING.



Ram Heavy Duty models know leadership—which you'll see in this groundbreaking technology to help enhance hauling and towing: the available Auto-Level Rear Air Suspension System for Ram 2500/3500 Heavy Duty.

This dual-mode operator-activated system is specifically engineered for the exceptional GVWRs and GCWRs expected from these relentless workers. In Normal Load-Leveling Mode, the system monitors the ride heights on both sides of the vehicle, adjusting for shifts in the load or changes in road surfaces; you'll welcome the constant level load profile and proper headlamp-to-road angle, especially during heavy hauling assignments.

Alternate Ride Height Mode lowers the rear suspension about an inch—just right to keep the hitch/trailer alignment even. This mode establishes capable and comfortable towing by creating a parallel and level relationship between the vehicle and the trailer, ensuring an even "rake" from the front of the pickup through the trailer.

## TWO INGENUOUS SOLUTIONS, ONE INDISPENSABLE ADVANTAGE.

**2500: THE AVAILABLE AUTO-LEVEL REAR AIR SUSPENSION SYSTEM.** Unique to Ram 2500, the engineering is based on the available Ram 1500 Active-Level™ Four-Corner Air Suspension System. This specific adaptation was designed to meet the exacting demands and higher GVWRs and GCWRs of the class.



**3500: THE AVAILABLE AUTO-LEVEL REAR AIR SUSPENSION SYSTEM** is engineered to meet the ultra-heavy-duty assignments typically met by Ram 3500 single-rear-wheel and dual-rear-wheel models. In this version, leaf springs are augmented with the air springs mounted on top of the axle. The result: air springs work with the leaf springs for ideal handling and performance while hauling big payloads.

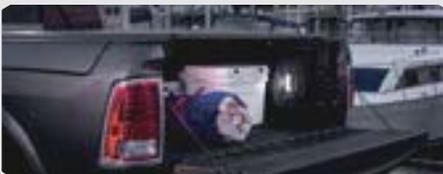


\*When properly equipped. Properly secure all cargo.

# FROM ANY ANGLE, CLEARLY A LEADER.



Ram Heavy Duty model frames employ an integrated rear axle crossmember with provisions for an available fifth-wheel and gooseneck hitch. Mounting provisions are integrated into the production box floor and include fifth-wheel pucks, gooseneck bolt plates and gooseneck center castings, with the 7-pin wiring connector mounted directly into the bed.



New for 2016 Ram 2500/3500: Available LED Bed Lighting that welcomes working at night and eliminates adjusting a tonneau cover. Installed right at the factory, this convenient lighting augments the CHMSL-mounted lamp to illuminate the rear area of the cargo bed. With multiple controls—either from the instrument panel-mounted switch or a button on the remote key fob—you have ample illumination on each side of the cargo bed that makes loading and unloading during dark hours easier than ever.



Ram 2500/3500 feature every mechanical advantage for nimble maneuverability—and then we went a step further. For 2016 Heavy Duty, available ParkSense® Front and Rear Park Assist<sup>23</sup> makes parallel parking easier and more convenient than ever.



Shared technology between Ram 2500/3500 also includes the indispensable front axle disconnect, which automatically disengages the front drive axle when reengaging the rear-wheel-drive mode on 4WD models. Our front axle disconnect is engineered with purpose: the design acts to reduce parasitic losses; the overall contribution helps improve fuel efficiency.

The Ram Heavy Duty frame is no-nonsense from the get-go. Tougher, stronger and larger than the previous generation, it features eight tough crossmembers, wide rails and a front rail extension. This two-inch extension positions the front suspension springs slightly outboard, generating more roll stiffness to improve the ride.

The ladder frame features hydroformed front and rear sections with a large front suspension crossmember. The tough roll-formed center rail sections feature an outwardly curved design to help improve rear spring and shock placement.

All Ram 2500/3500 models feature as standard equipment the unique three-link front suspension—and it gets better. Working with the three-link front suspension is an integrated large stabilizer bar to ensure the roll stiffness required by the GVWRs of Ram Heavy Duty—and they are impressive. For Ram 2500, GVWR is rated up to 10,000 lb; for Ram 3500, it vaults up to 14,000 lb.

Whether used for business or pleasure, a Ram Heavy Duty lets you take on the toughest tasks with total confidence. Frame strength is critical; you need resilient stiffness that translates into capability while towing, with the structural integrity that delivers occupant comfort while still hauling big payloads. The 2016 Ram Heavy Duty high-strength steel frames carry the solidity of 50,000-psi steel, providing a Ram tough chassis that'll take on nearly every towing and hauling assignment out there.

A formidable front axle works with a robust front suspension, making Ram Heavy Duty top choice for front-load accessories. Counting on earning a living? Count on a highest snow plow rating of 1,265 lb on 3500 models!<sup>11</sup>



## RAM 2500 CAPABILITY: BEST-IN-CLASS<sup>11</sup> TOWING\* AND GCWR SAYS IT ALL.

Ram 2500 Heavy Duty: three-link front suspension for the front axle; electronic 4x4 front axle disconnect; fully integrated rear structural crossmember; results: an outstanding combination of ride, handling and capability.

<b>MAX PAYLOAD*</b>	<b>3,990 LB</b>	<b>MAX TOWING*</b>	<b>17,980 LB</b>
<b>MAX GVWR</b>	<b>10,000 LB</b>	<b>MAX GCWR</b>	<b>25,300 LB</b>



## RAM 3500 CAPABILITY: BEST-IN-CLASS<sup>11</sup> TOWING\*, PAYLOAD\* AND GCWR.

Ram 3500 Heavy Duty: unique three-link front suspension with solid axle; heavy-duty Hotchkiss rear suspension and wide rails; large front suspension crossmember; fully integrated rear structural crossmember; in total, eight high-strength crossmembers with high-strength hydroformed front and rear rail sections.

<b>MAX PAYLOAD*</b>	<b>7,390 LB</b>	<b>MAX TOWING*</b>	<b>31,210 LB</b>
<b>MAX GVWR</b>	<b>14,000 LB</b>	<b>MAX GCWR</b>	<b>39,100 LB</b>



<sup>11</sup>When properly equipped. Properly secure all cargo.



ROOM WITH  
A VIEW.



# REFINEMENT

WHERE YOU MOST EXPECT IT.

### DRIVER INFORMATION DISPLAY

Your 2016 Ram Heavy Duty pickup is a rolling powerhouse of knowledge, information and communications technology. And it's all in your command: available and customizable full-color, largest-in-class<sup>(1)</sup> seven-inch multiview display. Some 34 menu options and graphics conveying instant vehicle data. On select models, a six-ring instrumentation cluster. Available 8.4-inch touchscreen (to no one's surprise, Ram Heavy Duty offers the largest in the class<sup>(2)</sup>) with some of the most cutting-edge telematics through Uconnect<sup>®</sup>.



## LIMITED

**LIFE IS GOOD WHEN YOU'RE IN THE BLACK.** Step in, and you've stepped up. With its monotone exterior and all-Black 100% leather seats, Ram Heavy Duty Limited makes a powerful statement of understated luxury. This top-of-the-line Heavy Duty features virtually every standard feature you can imagine. Standard heated steering wheel, full-color multiview display, RamBox<sup>®</sup> System and premium NAV system only start the list.



# LARAMIE LONGHORN®

**STATE-OF-THE-ART. AND YET TIMELESS.** Meet the 2016 Ram Heavy Duty Laramie Longhorn: a stunning two-tone exterior complemented by its luxurious interior, with touches that astonish. Think technology and electronics that set the benchmark. European burl wood accents. Beautifully etched leather. Heated and ventilated seats. The lasting impression? Modern instrumentation contrasting with seat buckles that take their cue from the silver watches and spurs of the Old West.





**TOWING.  
RAM EXCELS  
AT THE CRAFT.**

# FAMILY ROOM COMES OF AGE.



Properly secure all cargo.





Convenient driver's-side armrest controls.



Two-tone interior, in Canyon Brown and Light Frost Beige.



Center console with USB port.



Close-up, contrasting Canyon Brown and Light Frost Beige door panel.

# LARAMIE®

**SOPHISTICATION HAS A BIRTHPLACE. IT'S LARAMIE.** This is where it started: a model that made opulence the foundation—and then added on the good stuff, starting with standard monotone and optional two-tone exterior treatments, leather-trimmed interior and invaluable ParkSense® Front and Rear Park Assist!<sup>[2]</sup> You can build and price a Laramie model to your exacting specs anytime, at [RAMTRUCKS.COM](http://RAMTRUCKS.COM)



## REDESIGNED CENTER CONSOLE

In a Ram Heavy Duty, the available center console is an all-inclusive operations center, offering at-hand storage and a USB port.

For the 2016 model year, our team improved it, adding a handy cell phone mount and updated cup holders for all models. Here, the Outdoorsman® model is shown with the new open bin console design.





 iConnect®

**EVERYTHING YOU NEED  
TO STAY CONNECTED.**



## DISCOVER NEW PLACES

AT HOME OR ON THE ROAD:  
FIND THE BEST RESTAURANTS,  
SHOPPING AND ENTERTAINMENT  
VENUES—WITH A QUICK SEARCH.\*

\*Certain features not available  
while vehicle is in motion.



## START YOUR RAM FROM AFAR

WARM UP THE ENGINE AND CABIN,  
UNLOCK YOUR DOORS OR FLASH YOUR  
HEADLAMPS JUST BY USING  
YOUR PHONE.<sup>[5]</sup>



## NAVIGATE YOUR ADVENTURES

GET TURN-BY-TURN DIRECTIONS  
TO WHEREVER YOU'RE GOING—AND  
DON'T HESITATE TO EXPLORE  
ONCE IN A WHILE.



## LISTEN TO MUSIC, TALK SHOWS AND SPORTS

ACCESS IT ALL, AND ALL THE TIME.  
SIRIUSXM® SATELLITE RADIO<sup>[4]</sup> LETS  
YOU TUNE IN YOUR FAVORITES:  
ARTISTS, RADIO HOSTS AND  
(WE HOPE) WINNING TEAMS.



## DRAG AND DROP

NEW FOR UCONNECT® SELECT  
FROM A MENU OF APPS AND DRAG  
YOUR CHOICES INTO PLACE  
ALONG THE BOTTOM ROW FOR  
EASY CUSTOMIZATION.

## 9-1-1

## ASSIST IN EMERGENCIES

IT'S INVALUABLE AND POTENTIALLY  
LIFE-SAVING. ACCESS 9-1-1 CALL<sup>[6]</sup>  
AND ROADSIDE ASSISTANCE<sup>[9]</sup> WITH  
THE TOUCH OF A BUTTON.



## HOST A HOTSPOT

UPLOAD AND DOWNLOAD, POST AND  
SEARCH. UCONNECT WITH AVAILABLE  
WIFI HOTSPOT<sup>[10]</sup> LETS YOU CONNECT  
YOUR DEVICES DIRECTLY TO THE WEB.

<sup>†</sup>Additional charges apply.



## SPEAK UP AND BE HEARD

MAKE AND RECEIVE CALLS.  
SEND AND GET TEXTS<sup>[5]</sup> (NOT  
COMPATIBLE WITH IPHONE®)—  
ALL WHILE DRIVING SAFELY,  
WITH HANDS-FREE<sup>[7]</sup> CAPABILITY.

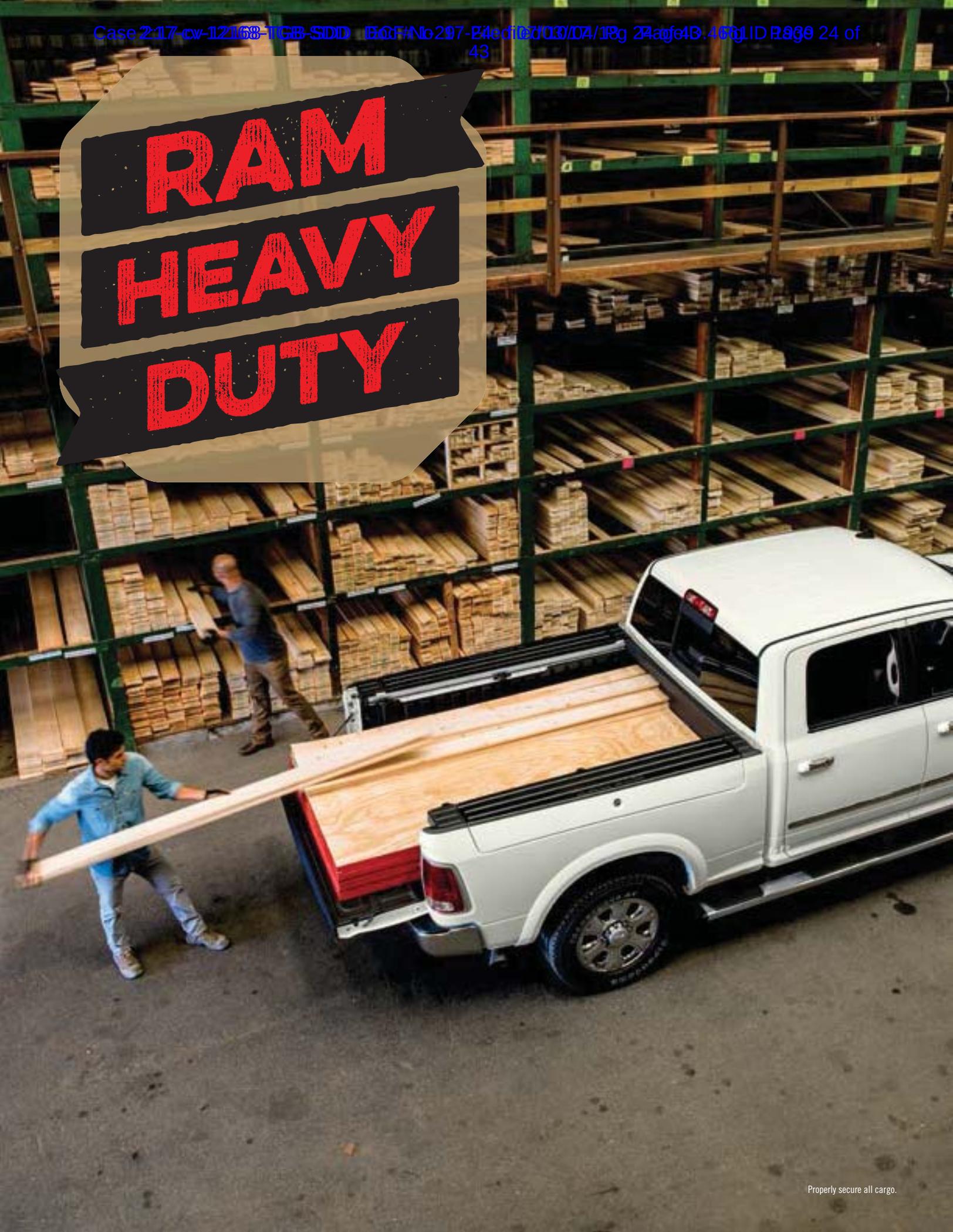


## SEE INTO THE FUTURE

TAKE ADVANTAGE OF WEATHER AND  
TRAFFIC REPORTS WITH A FIVE-YEAR  
TRIAL SUBSCRIPTION<sup>†</sup> TO SIRIUSXM®  
TRAVEL LINK<sup>[4]</sup> AND SIRIUSXM TRAFFIC.<sup>[4]</sup>

<sup>†</sup>Available on select Uconnect systems.  
See dealer for details.

# RAM HEAVY DUTY





Revised center console, now with cell phone holder.



In-door storage bins are oversized for large bottles.



Center storage doubles as a writing surface.



Dual glove boxes.



Available in-floor storage bins and under-the-seat storage spaces for Crew Cab models.



Available fold-flat load floors on Ram Heavy Duty Crew Cab models.

# RAMBOX® CARGO MANAGEMENT SYSTEM<sup>[1]</sup>



The multi-purpose cargo bed extender/divider gives you expanded versatility for any items you're planning to haul. With the tailgate open, it can be mounted to extend the storage area while still keeping things secure. It can also be moved throughout the bed to act as a cargo divider and conveniently stores at the front of the bed when not in use.



The RamBox System bins greatly broaden cargo-carrying capability and convenience. Add any of the numerous available Authentic Accessories from Mopar<sup>®</sup>—like this RamBox Cargo Organizer—and it's clear why Ram Heavy Duty is the go-to truck for storage and functionality.



## THE AVAILABLE CLASS-EXCLUSIVE<sup>®</sup> RAMBOX CARGO MANAGEMENT SYSTEM.

Make your Ram 2500/3500 stand out in every field. The ingenious RamBox System starts with two large, drainable, illuminated and lockable bed-side storage bins for everything from tools to sports equipment. The comprehensive system also includes a cargo bed extender/divider, cargo bed rails with four adjustable tie-down cleats, and, for 2016, the new LED Bed Lighting. It's factory-installed on Ram 2500/3500 models with the 6'4" bed—and is engineered to leave room for standard sheets of building materials.

Tie-down points merely start the story of capability offered by the RamBox System cleats. Movable along the bed-side rails, you can adjust each cleat to correctly—and securely—lock in your cargo.



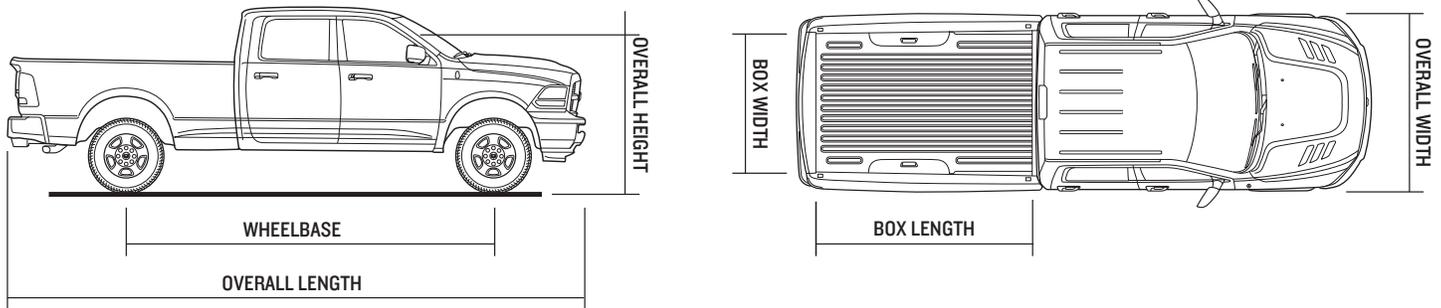
**EAGERLY TAKES ON ROADS  
LESS TRAVELED.**

# POWER WAGON

**IT'S THE MOST CAPABLE OFF-ROAD FULL-SIZE PICKUP.<sup>[3]</sup>** This 4x4 Crew Cab 2500 welcomes remote locations and the toughest vocations. Standard: 6.4-liter HEMI® V8 with MDS, 410hp/429lb-ft of torque; solid axles fore and aft, both with electronically locking differentials; generous additional front axle articulation via the electronic disconnecting sway bar; 4.10:1 axle ratio; 14.3-inch ground clearance, with 33.6-degree approach/26.2-degree departure angles—plus multiple skid plates; heavy-duty Bilstein® monotube shocks; front-mounted 12,000-lb-rated WARN® winch with quarter-inch aircraft cable, all of it riding on monster 33-inch Goodyear® Wrangler DuraTrac tires. This is the one Heavy Duty pickup when you're going to extremes. **The 2016 Ram Power Wagon.**



## RAM 2500/3500 DIMENSIONS



**RAM HEAVY DUTY CREW CAB WITH 8' BOX SHOWN**

### RAM HEAVY DUTY INTERIOR DIMENSIONS

All dimensions are in inches unless otherwise noted.	REGULAR CAB	CREW CAB	MEGA CAB®
<b>HEAD ROOM, FRONT/REAR</b>	39.9	41.0 / 39.9	41.0 / 40.3
<b>LEG ROOM, FRONT/REAR</b>	41.0	41.0 / 40.3	41.0 / 43.3
<b>SHOULDER ROOM, FRONT/REAR</b>	66.0	66.0 / 65.7	66.0 / 65.7
<b>HIP ROOM, FRONT/REAR</b>	62.9	63.2 / 63.2	63.2 / 63.2
<b>BEHIND SECOND ROW (CU FT)</b>	N/A	N/A	12.1
<b>TOTAL INTERIOR VOLUME (CU FT)</b>	62.5	125.3	142.65

### RAM 2500 EXTERIOR DIMENSIONS

All specs are for base models only; in inches unless otherwise noted.	REGULAR CAB	CREW CAB		MEGA CAB®
	8' BOX	6'4" BOX	8' BOX	6'4" BOX
<b>OVERALL BODY WIDTH</b>	79.4	79.4	79.4	79.4
<b>OVERALL HEIGHT (4x2 / 4x4)</b>	76.2 / 78.1	76.9 / 78.8	76.7 / 78.6	77.9 / 79.8
<b>OVERALL LENGTH</b>	230.4	237.3	259.4	248.4
<b>TRACK — FRONT (4x2 / 4x4)</b>	68.7 / 68.7	68.7 / 68.7	68.7 / 68.7	67.7 / 67.7
<b>TRACK — REAR (4x2 / 4x4)</b>	68.1 / 68.1	68.1 / 68.1	68.1 / 68.1	67.1 / 67.1
<b>WHEELBASE (4x2 / 4x4)</b>	140.2 / 140.4	149.1 / 149.3	169.1 / 169.3	160.2 / 160.4
<b>BOX HEIGHT</b>	20.2	20.1	20.2	20.1
<b>BOX LENGTH</b>	98.3	76.3	98.3	76.3
<b>BOX WIDTH, WALL TO WALL</b>	66.4	66.4	66.4	66.4
<b>BOX WIDTH, BETWEEN WHEELHOUSINGS</b>	51	51	51	51

### RAM 3500 EXTERIOR DIMENSIONS

All specs are for base models only; in inches unless otherwise noted.	REGULAR CAB		CREW CAB			MEGA CAB®	
	8' BOX	8' BOX DRW	6'4" BOX	8' BOX	8' BOX DRW	6'4" BOX	6'4" BOX DRW
<b>OVERALL WIDTH</b>	79.4	96.4	79.4	79.4	96.4	79.4	96.4
<b>OVERALL HEIGHT (4x2 / 4x4)</b>	77.7 / 79.1	77.7 / 79.1	78.4 / 79.8	77.4 / 79.6	77.4 / 79.6	78.3 / 79.7	77.5 / 79.0
<b>OVERALL LENGTH</b>	230.4	230.4	237.3	259.3	259.3	248.4	248.4
<b>TRACK — FRONT (4x2 / 4x4)</b>	67.7 / 67.7	68.6 / 69.5	67.7 / 67.7	67.7 / 67.7	68.6 / 69.5	67.7 / 67.7	68.6 / 69.5
<b>TRACK — REAR (4x2 / 4x4)</b>	67.1 / 67.1	75.8 / 75.8	67.1 / 67.1	67.1 / 67.1	75.8 / 75.8	67.1 / 67.1	75.8 / 75.8
<b>WHEELBASE (4x2 / 4x4)</b>	140.0 / 140.4	140.0 / 140.4	148.9 / 149.3	168.9 / 169.3	168.9 / 169.3	160.0 / 160.4	160.0 / 160.4
<b>BOX HEIGHT</b>	20.2	20.2	20.1	20.2	20.2	20.1	20.1
<b>BOX LENGTH</b>	98.3	98.3	76.3	98.3	98.3	76.3	76.3
<b>BOX WIDTH, WALL TO WALL</b>	66.4	66.4	66.4	66.4	66.4	66.4	66.4
<b>BOX WIDTH, BETWEEN WHEELHOUSINGS</b>	51	51	51	51	51	51	51

**RAM 2500/3500 SRW WHEELS**

**3500 DRW WHEELS**



17-inch Steel, Argent Painted Finish  
Standard on 2500 Tradesman® (WDA)



17-inch Polished Aluminum  
Standard on 2500 Power Wagon® Models (WFV)



18-inch Steel, Argent Painted Finish  
Standard on 3500 Tradesman  
Optional on 2500 Tradesman (WBN)



17-inch Steel, Argent Painted Finish  
Standard on Tradesman (WFU)



18-inch Steel, Chrome-Clad  
Standard on SLT  
Optional on Tradesman (WBH)



18-inch Polished Aluminum  
Standard on Big Horn®/Lone Star® and  
Outdoorsman® ■ Optional on SLT (WBE)



18-inch Polished Aluminum  
Standard on Laramie® (WBL)



17-inch Steel, Chrome Finish  
Standard on SLT and Big Horn/Lone Star®  
Optional on Tradesman (WD4)



18-inch Polished Aluminum  
with Painted Pockets  
LEFT: White Gold Standard on Laramie Longhorn®  
with Two-Tone Exterior Paint (WBM)  
RIGHT: Silver Standard on Laramie Longhorn with available  
Monotone Exterior Paint (WBA)



20-inch Polished Aluminum  
with White Gold Pockets  
Optional on Laramie Longhorn with  
Two-Tone Exterior Paint (WRK)



20-inch Painted Satin Carbon Aluminum  
with Chrome Inserts  
Optional on SLT, Big Horn/Lone Star®, Outdoorsman  
and Laramie (WRJ)



17-inch Polished Aluminum  
Standard on Laramie and Limited  
Optional on SLT and Big Horn/Lone Star® (WF7)



20-inch Aluminum Black Painted  
Included with Black Appearance Group  
and Sport Appearance Group (WF3)



20-inch Polished Aluminum  
with Silver Pockets  
Optional on Laramie Longhorn with available  
Monotone Exterior Paint (WRA)



20-inch Painted Aluminum  
with Chrome Pockets  
Standard on Limited (WH3)



17-inch Polished Aluminum  
with Unique Longhorn Center Cap  
Standard on Laramie Longhorn (WF9)

**CONFIGURATIONS**

	Cab			Box		Box, 3500 Only		Seating	
	Regular Cab	Crew Cab	Mega Cab*	SRW: 6'4" Box	SRW: 8' Box	DRW: 6'4" Box	DRW: 8' Box	40/20/40 Bench Seats	Bucket Seats
2500/3500 Tradesman	•	•	N/A	Available with Crew Cab	Available with Reg Cab or Crew Cab	N/A	Available with Reg Cab or Crew Cab	•	N/A
2500/3500 SLT	•	•	•	Available with Crew Cab or Mega Cab	Available with Reg Cab or Crew Cab	Available with Mega Cab	Available with Reg Cab or Crew Cab	•	Optional
2500/3500 Big Horn/Lone Star*	N/A	•	•	Available with Crew Cab or Mega Cab	Available with Crew Cab	Available with Mega Cab	Available with Crew Cab	•	Optional
2500 Outdoorsman	N/A	•	N/A	•	•	N/A	N/A	Optional	•
2500 Power Wagon Tradesman	N/A	•	N/A	•	N/A	N/A	N/A	•	N/A
2500 Power Wagon	N/A	•	N/A	•	N/A	N/A	N/A	•	N/A
2500 Power Wagon Laramie	N/A	•	N/A	•	N/A	N/A	N/A	•	N/A
2500/3500 Laramie	N/A	•	•	Available with Crew Cab or Mega Cab	Available with Crew Cab	Available with Mega Cab	Available with Crew Cab	•	Optional
2500/3500 Laramie Longhorn	N/A	•	•	Available with Crew Cab or Mega Cab	Available with Crew Cab	Available with Mega Cab	Available with Crew Cab	N/A	•
2500/3500 Limited	N/A	•	•	Available with Crew Cab or Mega Cab	Available with Crew Cab	Available with Mega Cab	Available with Crew Cab	N/A	•

\*Lone Star model available only in Texas.

## RAM 2500/3500 TRIM LEVELS

### TRADESMAN®

Tough, no-nonsense capability for the workman



### POWERTRAIN

- 5.7L HEMI® V8/6-speed automatic (26A)
- 6.4L HEMI V8 Multi-Displacement System (MDS)/6-speed automatic (22A)
- 6.7L I6 Cummins® Turbo Diesel/6-speed manual (2EA)
- 6.7L I6 Cummins Turbo Diesel/6-speed automatic (2FA)
- 6.7L I6 Cummins High Output Turbo Diesel/6-speed AISIN® automatic (28A) (3500 only)

### STANDARD FEATURES:



### INTERIOR AMENITIES

- Air conditioning
- Heavy-duty vinyl 40/20/40 split-bench seat
- Black vinyl floor covering
- Mini floor console
- Instrument panel Black bezel
- Tinted windows
- Rear fixed window
- Rearview day/night mirror
- I2-volt auxiliary power outlet
- Speed control
- 6-speaker audio system
- Manual 6 x 9-inch Black mirrors
- Automatic headlamps
- Tilt steering column
- Instrument cluster with 3.5-inch Driver Information Display
- Radio 3.0 AM/FM
- Media Hub with audio input jack and remote USB port

### EXTERIOR FEATURES

- Painted steel wheels
- Black front and rear bumper
- Black grille
- Quad-lens halogen headlamps
- Incandescent taillamps
- Black door handles
- Body-color headlamp filler panel

### SAFETY & SECURITY

- Six air bags<sup>[1]</sup> including driver and front-passenger, side-curtain and front seat side-mounted
- Four-wheel antilock disc brakes
- Locking tailgate
- Electronic Stability Control (ESC)<sup>[2]</sup>
- Sentry Key® Theft Deterrent System
- Variable/intermittent windshield wipers
- Tire Pressure Monitoring Display (2500)
- Tire Pressure Information System (3500)

### CAPABILITY & FUNCTIONALITY

- Manual shifting, part-time 4x4 transfer case
- Conventional front and rear differentials
- Dual 730-amp maintenance-free batteries (with available Cummins)
- Heavy-duty engine cooling
- Heavy-duty front and rear shock absorbers
- Front stabilizer bar
- Class V hitch receiver
- Trailer tow with 4- and 7-pin wiring harness connector

### POWER WAGON® TRADESMAN

Built for extreme work—and the extreme off-road  
2500 Crew Cab only



### POWERTRAIN

- 6.4L HEMI V8 MDS/6-speed automatic (22B)

### INCLUDES SELECT FEATURES FROM TRADESMAN, PLUS:



### EXTERIOR FEATURES

- Fog lamps
- Chrome rear bumper
- Black headlamp filler panel
- Chrome front bumper
- Black wheel flares
- 17-inch polished aluminum wheels
- LT285/70R17D OWL All-Terrain tires
- Power Wagon tailgate decal

### CAPABILITY & FUNCTIONALITY

- 180-amp alternator
- Hill Descent Control
- 4.10 rear axle ratio
- Tru-Lok® front and rear electronic locking axles
- Front electronic disconnecting stabilizer bar
- Bilstein® performance front and rear shocks
- Tow hooks
- Fuel tank skid plate shield
- Transfer case skid plate shield
- Front 12,000-lb WARN® winch

## RAM 2500/3500 TRIM LEVELS

### SLT

Uncompromising strength with welcome touches of comfort



### POWERTRAIN

- 5.7L HEMI® V8/6-speed automatic (26G)
- 6.4L HEMI V8 Multi-Displacement System (MDS)/6-speed automatic (22G)
- 6.7L I6 Cummins® Turbo Diesel/6-speed manual (2EG)
- 6.7L I6 Cummins Turbo Diesel/6-speed automatic (2FG)
- 6.7L I6 Cummins High Output Turbo Diesel/6-speed AISIN® automatic (28G) (3500 only)

#### INCLUDES SELECT TRADESMAN® FEATURES, PLUS:



### INTERIOR AMENITIES

- Cloth 40/20/40 bench seat
- Premium vinyl door trim with map pocket
- Carpet floor covering
- Front and rear floor mats
- Overhead console with map lights
- Chrome accent shift knob
- Uconnect® 5.0 touchscreen system with Bluetooth® Voice Command<sup>[7]</sup>
- Remote USB charge-only port
- Rearview mirror with microphone
- Rear power-sliding window
- Instrument panel color-keyed bezel

### EXTERIOR FEATURES

- Chrome front and rear bumpers
- Chrome grille
- Chrome door handles
- Steel chrome-clad wheels

### CAPABILITY & FUNCTIONALITY

- Electronic shifting, part-time 4x4 transfer case
- Remote Keyless Entry with AllSecure®
- Electronic trailer brake controller

### POWER WAGON®

The traditional Power Wagon: capability to the max  
2500 Crew Cab only



### POWERTRAIN

- 6.4L HEMI V8 MDS/6-speed automatic (22P)

#### INCLUDES SELECT SLT FEATURES, PLUS:



### EXTERIOR FEATURES

- Premium LED taillamps — Black
- Bifunctional projector headlamps — Black
- Clearance lamps
- Fog lamps
- Black headlamp filler panel
- Chrome grille surround with billets
- Black wheel flares
- Two-tone paint with Black lower
- 17-inch polished aluminum wheels
- LT285/70R17D OWL All-Terrain tires
- Power Wagon graphic decals

### CAPABILITY & FUNCTIONALITY

- Hill Descent Control
- 180-amp alternator
- Manual shifting, part-time 4x4 transfer case
- 4.10 rear axle ratio
- Tru-Lok® front and rear electronic locking axles
- Front electronic disconnecting stabilizer bar
- Bilstein® performance front and rear shocks
- Tow hooks
- Fuel tank skid plate shield
- Transfer case skid plate shield
- Front 12,000-lb WARN® winch

### POWER WAGON GRAPHICS

Tailgate Graphic	Standard		
Hood Decal	Standard		
Side Graphic	Standard		
Chrome Grille Surround with Red Billets	Standard (color-dependent)		
Exterior Color	Red Graphics	Gray Graphics	Red Grille
Bright White	X		X
Brilliant Black Crystal Pearl (Monotone)	X		X
Bright Silver Metallic	X		X
Granite Crystal Metallic	X		X
Flame Red		X	X
True Blue Pearl		X	
Maximum Steel Metallic		X	
Delmonico Red Pearl		X	
Blue Streak Pearl		X	

## RAM 2500/3500 TRIM LEVELS

### BIG HORN®/LONE STAR\*

Subtle upgrades inside and out—with its own brand for Texas



#### POWERTRAIN

- 5.7L HEMI® V8/6-speed automatic (26Z/26Y)
- 6.4L HEMI V8 Multi-Displacement System (MDS)/6-speed automatic (22Z/22Y)
- 6.7L I6 Cummins® Turbo Diesel/6-speed manual (2EZ/2EY)
- 6.7L I6 Cummins Turbo Diesel/6-speed automatic (2FZ/2FY)
- 6.7L I6 Cummins High Output Turbo Diesel/6-speed AISIN® automatic (28Z/28Y) (3500 only)

#### INCLUDES SELECT SLT FEATURES, PLUS:



#### INTERIOR AMENITIES

- Premium cloth 40/20/40 bench seat with 10-way power adjustment and power lumbar control on the driver's side
- Leather-wrapped steering wheel with remote audio controls
- 115-volt power outlet
- Fold-flat load floor (Crew Cab)
- 60/40 split-folding rear seat

#### EXTERIOR FEATURES

- Fog lamps
- Chrome grille surround with billetes
- 18-inch polished aluminum wheels (SRW)
- 17-inch steel wheels with chrome finish (DRW)
- Big Horn tailgate badge

#### SAFETY & SECURITY

- Remote Start System (automatic transmission only)

#### CAPABILITY & FUNCTIONALITY

- Antispin differential rear axle



#### AVAILABLE BLACK APPEARANCE GROUP

Includes:

- Black painted front and rear bumpers
- Black grille
- Black badges for fender/doors/tailgate
- Black bezel quad-lens halogen headlamps
- Black door handles
- 20-inch Black painted aluminum wheels
- ParkView® Rear Back-Up Camera<sup>[2]</sup>

### OUTDOORSMAN®

This outfit is designed exclusively for the sportsman  
2500 Crew Cab only



#### POWERTRAIN

- 5.7L HEMI V8/6-speed automatic (26T)
- 6.4L HEMI V8 MDS/6-speed automatic (22T)
- 6.7L I6 Cummins Turbo Diesel/6-speed manual (2ET)
- 6.7L I6 Cummins Turbo Diesel/6-speed automatic (2FT)v

#### INCLUDES SELECT SLT FEATURES, PLUS:



#### INTERIOR AMENITIES

- Premium cloth bucket seats
- Full-length floor center console (requires automatic transmission)
- Luxury Group
- Front and rear rubber floor mats
- Uconnect® 8.4-inch touchscreen system with Bluetooth® Voice Command<sup>[1]</sup>
- Premium cluster with 7-inch Driver Information Display

#### EXTERIOR FEATURES

- Protection Group
- Tow hooks
- Lower two-tone paint
- On-/off-road tires
- Skid plate
- Painted front and rear bumpers
- Body-color grille
- Accent wheel flares
- Outdoorsman tailgate badge

#### SAFETY & SECURITY

- Security alarm



#### AVAILABLE MONOTONE PAINT

- Includes chrome front and rear bumpers and body-color wheel flares

## RAM 2500/3500 TRIM LEVELS

### LARAMIE®

Heavy-duty capability joins heavy-duty luxury



### POWERTRAIN

- 5.7L HEMI® V8/6-speed automatic (26H)
- 6.4L HEMI V8 Multi-Displacement System (MDS)/6-speed automatic (22H)
- 6.7L I6 Cummins® Turbo Diesel/6-speed manual (2EH)
- 6.7L I6 Cummins Turbo Diesel/6-speed automatic (2FH)
- 6.7L I6 Cummins High Output Turbo Diesel/6-speed AISIN® automatic (28H) (3500 only)

#### INCLUDES SELECT BIG HORN® FEATURES, PLUS:



### INTERIOR AMENITIES

- Leather trim 40/20/40 bench seat
- Ventilated front seats
- Heated front seats
- Deluxe door trim panels
- Dual-Zone Automatic Temperature Control
- Instrument panel woodgrain bezel
- Power 10-way memory driver, 6-way passenger seats
- LED interior lighting
- Heated steering wheel
- Premium 11 10-speaker audio system with subwoofer
- Premium cluster with 7-inch Driver Information Display

### EXTERIOR FEATURES

- Premium LED taillamps — chrome
- Chrome exterior mirrors with memory function
- Bifunctional projector headlamps — chrome
- Chrome grille
- Body-color wheel flares
- Laramie badge
- 18-inch polished aluminum wheels (SRW)
- 17-inch polished aluminum wheels (DRW)

### CAPABILITY & FUNCTIONALITY

- Security alarm
- ParkView® Rear Back-Up Camera<sup>[2]</sup>
- ParkSense® Front and Rear Park Assist<sup>[2]</sup>



### AVAILABLE TWO-TONE PAINT

- Includes accent-color lower and wheel flares

### POWER WAGON® LARAMIE

The off-road giant with the sophistication of a Laramie  
2500 Crew Cab only



### POWERTRAIN

- 6.4L HEMI V8 MDS/6-speed automatic (22J)

#### INCLUDES SELECT LARAMIE FEATURES, PLUS:



### EXTERIOR FEATURES

- 17-inch polished aluminum wheels
- LT285/70R17D OWL All-Terrain tires
- Power Wagon tailgate badge

### CAPABILITY & FUNCTIONALITY

- Hill Descent Control
- 180-amp alternator
- Manual shifting, part-time 4x4 transfer case
- 4.10 rear axle ratio
- Tru-Lok® front and rear electronic locking axles
- Front electronic disconnecting stabilizer bar
- Bilstein® performance front and rear shocks
- Tow hooks
- Fuel tank skid plate shield
- Transfer case skid plate shield
- Front 12,000-lb WARN® winch

## RAM 2500/3500 TRIM LEVELS

### LARAMIE LONGHORN®

Impressive levels of power and refinement



#### POWERTRAIN

- 5.7L HEMI® V8/6-speed automatic (26K)
- 6.4L HEMI V8 Multi-Displacement System (MDS)/6-speed automatic (22K)
- 6.7L I6 Cummins® Turbo Diesel/6-speed automatic (2FK)
- 6.7L I6 Cummins High Output Turbo Diesel/6-speed AISIN® automatic (28K) (3500 only)

#### INCLUDES SELECT LARAMIE® FEATURES, PLUS:



#### INTERIOR AMENITIES

- Premium leather bucket seats
- Premium door trim panels
- Luxury front and rear floor mats
- Leather-wrapped shift knob
- Full-length premium upgraded floor console
- Laramie Longhorn instrument cluster
- Laramie Longhorn interior accents
- Heated second-row seats
- Uconnect® 8.4 NAV with Bluetooth® Voice Command<sup>[7]</sup> and premium navigation
- Premium wood/leather-wrapped steering wheel

#### EXTERIOR FEATURES

- Cargo Box Lighting
- Accent-color front bumper
- Accent-color rear bumper
- Mopar® door sill guards
- Chrome Laramie Longhorn grille
- Accent-color running boards
- Laramie Longhorn badge
- 18-inch polished aluminum wheels with Gold inserts (SRW)
- 17-inch polished aluminum wheels with Longhorn center cap (DRW)
- Tow hooks

#### CAPABILITY & FUNCTIONALITY

- Remote Start System
- Spray-in bedliner



#### AVAILABLE MONOTONE PAINT

- Includes chrome front and rear bumpers, body-color wheel flares, chrome side steps and 18-inch polished aluminum wheels with Silver inserts

### LIMITED

A premium all-Black leather interior sets this Ram apart



#### POWERTRAIN

- 5.7L HEMI V8/6-speed automatic (26M)
- 6.4L HEMI V8 MDS/6-speed automatic (22M)
- 6.7L I6 Cummins Turbo Diesel/6-speed automatic (2FM)
- 6.7L I6 Cummins High Output Turbo Diesel/6-speed AISIN automatic (28M) (3500 only)

#### INCLUDES SELECT LARAMIE FEATURES, PLUS:



#### INTERIOR AMENITIES

- Premium leather bucket seats
- Premium door trim panels
- Luxury front and rear floor mats
- Leather-wrapped shift knob
- Full-length premium upgraded floor console
- Limited instrument cluster
- Heated second-row seats
- Uconnect 8.4 NAV Radio with Bluetooth Voice Command<sup>[7]</sup> and premium navigation
- Premium wood/leather-wrapped steering wheel

#### EXTERIOR FEATURES

- Monotone paint
- Body-color front and rear bumpers
- Limited grille
- Limited chrome bodyside molding
- Unique Limited tailgate
- Chrome belt moldings
- Body-color wheel flares
- Wheel-to-wheel side steps (SRW only)
- 20-inch painted aluminum wheels with chrome inserts (SRW)
- 17-inch polished aluminum wheels (DRW)

#### CAPABILITY & FUNCTIONALITY

- Keyless Enter 'n Go™
- Rain-sensitive windshield wipers
- Auto High-Beam Headlamp Control
- RamBox® Cargo Management System (6'4" box SRW models only)



#### AVAILABLE CHROME BUMPER PACKAGE

- Includes chrome front and rear bumpers

## RAM 2500/3500 EXTERIOR COLORS



Brilliant Black Crystal Pearl



Black Forest Green Pearl



Granite Crystal Metallic



Bright White



Pearl White



Bright Silver Metallic



Flame Red



Delmonico Red Pearl



Luxury Brown Pearl



Blue Streak Pearl



True Blue Pearl



Maximum Steel Metallic

Colors shown in Big Horn® trim.

### PAINT COLORS AND TWO-TONE OPTIONS

	Tradesman®	SLT	Big Horn/ Lone Star*	Outdoorsman®	Power Wagon® Tradesman	Power Wagon	Power Wagon Laramie	Laramie®	Laramie Longhorn®	Limited
Delmonico Red	•	•	•	M, ■	•	• ■	•	M, ■	M, ■	•
Flame Red	•	•	•	M	•	• ■	•	M, ■	M	N/A
Luxury Brown	•	•	•	M	•	N/A	•	M, ■	M, ■	N/A
Black Forest	•	•	•	M	•	N/A	•	M, ■	M, ■	N/A
Blue Streak	•	•	•	M, ■	•	• ■	•	M, ■	N/A	N/A
True Blue	•	•	•	M, ■	•	• ■	•	M, ■	M	•
Bright Silver	•	•	•	M, ■	•	• ■	•	M	M	•
Granite Crystal	•	•	•	M, ■	•	• ■	•	M, ■	M	•
Maximum Steel	•	•	•	M	•	• ■	•	M, ■	M	•
Brilliant Black	•	•	•	M	•	M	•	M, ■	M, ■	•
Pearl White	N/A	N/A	N/A	N/A	N/A	N/A	•	M, ■	M, ■	•
Bright White	•	•	•	M	•	• ■	N/A	N/A	N/A	N/A

• = Available Color    M = Monotone    ■ = Black Lower    ■ = Silver Lower    ■ = White Gold Lower



Outdoorsman shown in Bright Silver Metallic with Black lower



Laramie shown in Blue Streak Pearl with Silver lower



Laramie Longhorn shown in Luxury Brown Pearl with White Gold lower

To see examples of all possible paint combinations, visit [ramtrucks.com](http://ramtrucks.com)

\*Lone Star model available only in Texas.

**RAM 2500/3500 INTERIOR FABRICS**



**Vinyl  
Diesel Gray**  
Tradesman® and Power Wagon® Tradesman



**Ram Work-Grade Vinyl  
Diesel Gray**  
Tradesman and Power Wagon Tradesman



**Sedoso/Alloy Cloth  
Diesel Gray**  
Tradesman, Power Wagon Tradesman, SLT and Power Wagon



**Sedoso/Alloy Cloth  
Canyon Brown**  
SLT and Power Wagon



**Sedoso/Carbide Premium Cloth  
Diesel Gray**  
SLT, Big Horn®/Lone Star\*, Outdoorsman® and Power Wagon



**Sedoso/Carbide Premium Cloth  
Canyon Brown**  
SLT, Big Horn/Lone Star\*, Outdoorsman and Power Wagon



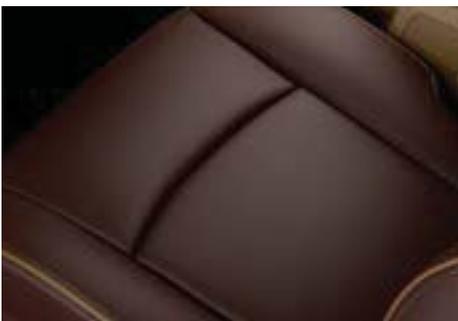
**Bristol Leather/Perforated Leather Trim  
Light Frost Beige**  
Laramie® and Power Wagon Laramie



**Bristol Leather/Perforated Leather Trim  
Black**  
Laramie and Power Wagon Laramie



**Natura Plus Leather/Perforated Leather with Black  
Piping and Accent Stitching  
Cattle Tan**  
Laramie Longhorn®



**Natura Plus Leather/Perforated Leather with  
Dark Saddle Piping and Tan Accent Stitching  
Canyon Brown**  
Laramie Longhorn



**Natura Plus Leather with Laser Etching/Perforated  
Leather with Dark Saddle Piping and Tan Accent  
Stitching  
Canyon Brown**  
Laramie Longhorn



**Natura Plus Leather/Perforated Leather with Medium  
Graystone Piping and Accent Stitching  
Black**  
Limited

\*Lone Star model available only in Texas.

## RAM 2500/3500 BUYER'S GUIDE

	TRADSMAN <sup>®</sup> REG./CREW	TRADSMAN POWER WAGON <sup>®</sup> CREW	S/T REG./CREW/MEGA	BIGHORN <sup>®</sup> /LONE STAR <sup>®</sup> CREW/MEGA	OUTDOORSMAN <sup>®</sup> CREW	POWER WAGON CREW	LARAMIE <sup>®</sup> CREW/MEGA	LARAMIE POWER WAGON CREW	LARAMIE LONGHORN <sup>®</sup> CREW/MEGA	LIMITED CREW/MEGA
<b>CPOS PACKAGE</b>										
2500	X	X	X	X	X	X	X	X	X	X
3500 SRW/DRW (6'4" box not available with Crew Cab DRW)	X/X	—	X/X	X/X	—	—	X/X	—	X/X	X/X
<b>ENGINE / TRANSMISSION</b>										
5.7L HEMI <sup>®</sup> Bi-fuel CNG / gas engine / 6-speed automatic (66RFE; 2500 Regular and Crew Cab 8' box only) 383 hp / 400 lb-ft of torque	27A	—	27G	—	—	—	—	—	—	—
5.7L HEMI V8 gas engine / 6-speed automatic (66RFE; SRW only) 383 hp / 400 lb-ft of torque	26A	—	26G	26 Z/Y	26T	—	26H	—	26K	26M
6.4L HEMI V8 gas engine with MDS / 6-speed automatic (66RFE) 410 hp / 429 lb-ft of torque (367 hp on Mega Cab <sup>®</sup> )	22A	22B	22G	22 Z/Y	22T	22P	22H	22J	22K	22M
6.7L Cummins <sup>®</sup> Turbo Diesel engine / 6-speed manual (G56) 350 hp / 660 lb-ft of torque	2EA	—	2EG	2E Z/Y	2ET	—	2EH	—	—	—
6.7L Cummins Turbo Diesel engine / 6-speed automatic (66RFE) 370 hp / 800 lb-ft of torque	2FA	—	2FG	2F Z/Y	2FT	—	2FH	—	2FK	2FM
6.7L Cummins Turbo Diesel engine / 6-speed AISIN <sup>®</sup> heavy-duty automatic (3500 only) 385 hp / 900 lb-ft of torque	28A	—	28G	28 Z/Y	—	—	28H	—	28K	28M
Diesel Exhaust Fluid (DEF) System (standard with diesel engine)	P	—	P	P	P	—	P	—	P	P
<b>MECHANICAL FEATURES</b>										
ALTERNATOR — 160-amp (standard with gas engine)	S	—	S	S	S	—	S	—	S	S
— 180-amp (standard on diesel; included with 6.4L HEMI V8; included with Snow Plow Prep Group or Snow Chief <sup>®</sup> Group on 5.7L HEMI V8-equipped models)	O/P	S	O/P	O/P	O/P	S	O/P	S	O/P	O/P
— 220-amp (included with Snow Plow Prep Group or Snow Chief Group on diesel- and 6.4L gas-equipped models; also included with dual alternator options)	O/P	—	O/P	O/P	O/P	—	O/P	—	O/P	O/P
— Dual-rated at 380 amps (6.4L gas V8 only; includes 160-amp and 220-amp alternators)	O	O	O	O	O	O	O	O	O	O
— Dual-rated at 440 amps (6.7L diesel only; includes two 220-amp alternators)	O	—	O	O	O	—	O	—	O	O
AXLES — Antispin rear differential (standard on 3500)	O/S	—	O/S	S	S	—	O/S	—	O/S	O/S
— Electronically locking front and rear differentials	—	S	—	—	—	S	—	S	—	—
— 3.42 ratio (standard for diesel)	O	—	O	O	O	—	O	—	O	O
— 3.73 ratio (standard for gas; available for 3500 DRW diesel)	S/O	—	S/O	S/O	S	—	S/O	—	S/O	S/O
— 4.10 ratio (optional for gas; available for 3500 DRW diesel)	O	S	O	O	O	S	O	S	O	O
— 11.5-inch rear — SRW	S	S	S	S	S	S	S	S	S	S
— 11.5-inch rear — 3500 DRW only (included with 6.4L gas engine, diesel / G56 manual transmission, diesel / 66RFE or diesel / AISIN transmission with 3.42 axle ratio)	P	—	P	P	—	—	P	—	P	P
— 11.8-inch rear — 3500 DRW only (included with diesel / AISIN transmission with 3.73 and 4.10 axle ratios)	P	—	P	P	—	—	P	—	P	P
BATTERY — 730-amp, maintenance-free (two required for diesel)	S	S	S	S	S	S	S	S	S	S
DIESEL EXHAUST BRAKE — With "smart" function (included with diesel engine)	P	—	P	P	P	—	P	—	P	P
ELECTRONIC UPFITTER MODULE — N/A with premium speakers	O	O	O	O	O	O	—	—	—	—
ENGINE BLOCK HEATER — Included with Cold Weather Group on diesel-equipped models	O/P	O	O/P	O/P	O/P	O	O/P	O	O/P	O/P
FIFTH-WHEEL/GOOSENECK PREP PACKAGE — Includes in-box 7-pin harness connector (N/A with RamBox <sup>®</sup> Cargo Management System)	O	—	O	O	O	—	O	—	O	O
FUEL TANKS — 8-gallon (included with CNG engine)	P	—	P	—	—	—	—	—	—	—
— 18.2-G.G.E. (gasoline gallon equivalent) dual CNG tanks (included with CNG engine)	P	—	P	—	—	—	—	—	—	—
— 28-gallon (included with Regular Cab models equipped with diesel)	P	—	P	—	—	—	—	—	—	—
— 31-gallon (included with 6'4" box)	S	S	S	S	S	S	S	S	S	S
— 32-gallon (included with 8' box; available with CNG engine)	S/O	—	S/O	S	S	—	S	—	S	S
SHOCKS — Front, heavy-duty	S	—	S	S	S	—	S	—	S	S
— Rear, heavy-duty	S	—	S	S	S	—	S	—	S	S
— Bilstein <sup>®</sup> gas-charged monotube	—	S	—	—	—	S	—	S	—	—
SKID PLATES (4x4) — Transfer case (included in Protection Group and Snowplow Prep Group)	P	S	P	P	S	S	P	S	P	P
— Fuel tank	—	S	—	—	—	S	—	S	—	—
STEERING — Power recirculating ball	S	S	S	S	S	S	S	S	S	S
SUSPENSION — Front, three-link coil spring	S	S	S	S	S	S	S	S	S	S
— Front electronic disconnecting stabilizer bar	—	S	—	—	—	S	—	S	—	—
— Front stabilizer bar	S	—	S	S	S	—	S	—	S	S
— Rear, five-link coil spring (2500 only)	S	S	S	S	S	S	S	S	S	S
— Rear, Hotchkiss leaf spring (3500 only)	S	—	S	S	—	—	S	—	S	S
— Rear, Auto-Level dual-mode Air Spring Suspension System	O	—	O	O	O	—	O	—	O	O
TOW HOOKS — On diesel-equipped models	S	—	S	S	S	—	S	—	S	S
— On gas engine-equipped models (optional on 4x2; included in Protection Group on 4x4; standard on 3500)	O/P/S	S	O/P/S	O/P/S	S	S	O/P/S	S	S	S
TRAILER TOW — 4- / 7-pin trailer harness plug (combination receptacle)	S	S	S	S	S	S	S	S	S	S
— Class V hitch receiver	S	S	S	S	S	S	S	S	S	S
TRANSFER CASES (4x4 models only) — Manual shift-on-the-fly	S	S	—	—	—	S	—	S	—	—
— Electronic shift-on-the-fly	O	—	S	S	S	—	S	—	S	S
WINCH — WARN <sup>®</sup> front, electric, 12,000-lb capacity	—	S	—	—	—	S	—	S	—	—
— Tire carrier	S	S	S	S	S	S	S	S	S	S
<b>EXTERIOR FEATURES</b>										
BEDLINER — Spray-in (not available with Ram 2500 CNG model)	O	O	O	O	O	O	O	O	S	S
BUMPERS — Painted Black	S	—	—	—	—	—	—	—	—	—
— Chrome (included in Chrome Appearance Group and Limited Appearance Group and with Monotone paint)	P	S	S	S	P	S	S	S	P	P
— Painted body color (included with Black Appearance Group)	—	—	—	P	S	—	P	—	S	S
CLEARANCE LAMPS — Cab (included on DRW)	O/P	O	O/P	O/P	O	S	O/P	O	O/P	O/P
— Box and rear fender (included on DRW)	P	—	P	P	—	—	P	—	P	P
DOOR HANDLES — Black (included with low-volume paint or Black Appearance Group)	S	S	P	P	S	S	P	—	—	—
— Chrome	—	—	S	S	—	—	S	—	S	S
FOG LAMPS	—	S	O	S	S	S	S	S	S	S
HEADLAMPS / TAILLAMPS — Automatic headlamps	S	S	S	S	S	S	S	S	S	S
— Quad-halogen headlamps / incandescent taillamps	S	S	S	S	S	—	—	—	—	—
— Premium projector headlamps / premium LED taillamps	—	—	—	—	—	S	S	S	S	S
— Auto High-Beam Headlamp Control (included in Convenience Group)	—	—	—	—	—	—	P	P	P	S
HEADLAMP FILLER PANEL — Black (included with special-order paint)	O	S	O	O	—	S	—	—	—	—
— Body-color	S	—	S	S	S	—	S	—	S	S
LED BED LIGHTING (included with Luxury Group or RamBox System)	O/P	O/P	P	P	S	P	O/P	O/P	S	S

S = Standard, O = Optional, P = Part of Package, — = Not available.  
 Note: some features and/or applications may be late availability.

<sup>1</sup>Lone Star model available only in Texas.

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	TRADESMAN® REG./CREW	TRADESMAN POWER WAGON® CREW	SLT REG./CREW/MEGA	BIGHORN®/LONE STAR® CREW/MEGA	OUTDOORSMAN® CREW	POWER WAGON CREW	LARAMIE® CREW/MEGA	LARAMIE POWER WAGON CREW	LARAMIE LONGHORN® CREW/MEGA	LIMITED CREW/MEGA
	2TA	2TB	2TG	2TZ/2TY	2TT	2TP	2TH	2TJ	2TK	2TM
<b>CPOS PACKAGE</b>										
<b>EXTERIOR FEATURES (continued)</b>										
MIRRORS — 2500 — Standard size, 6 x 9-inch, Manual (Black; Regular Cab only)	S	—	—	—	—	—	—	—	—	—
— Power / heated (Black; included in Power and Remote Entry Group on Tradesman Regular Cab)	P/S	S	S	S	—	S	—	—	—	—
— Power folding / heated / puddle / turn / auto-dimming (Black; included in Luxury Group)	—	—	P	P	S	P	—	—	—	—
— Power folding / heated / puddle / turn / auto-dimming / memory (chromed)	—	—	—	—	—	—	S	S	S	S
2500 — Available size, 7 x 11-inch (trailer-tow mirrors, two-position foldaway with convex edge) Manual (Black; Regular Cab only)	O	O	—	—	—	—	—	—	—	—
— Power / heated / puddle / turn (Black; requires Power and Remote Entry Group on Tradesman Regular Cab)	O	O	O	O	O	O	—	—	—	—
— Power / heated / puddle / turn / memory (chrome)	—	—	—	—	—	—	O	O	O	O
3500 — Standard size, 7 x 11-inch (trailer-tow mirrors, two-position foldaway with convex edge) Manual (Black; Regular Cab only)	S	—	—	—	—	—	—	—	—	—
— Power / heated / puddle / turn (Black; included in Power and Remote Entry Group)	P	—	S	S	—	—	—	—	—	—
— Power / heated / puddle / turn / memory (chrome)	—	—	—	—	—	—	S	—	S	S
RAMBOX® CARGO MANAGEMENT SYSTEM — With illuminated, lockable, drainable bins on both bed sides; stowable bed divider/extender; LED Bed Lighting and Cargo Rail System with adjustable cleats (Short Box only; SRW only; Tradesman model requires remote keyless entry; N/A with low-volume paints)	O	O	O	O	O	O	O	O	O	S
RUNNING BOARDS	—	—	—	—	—	—	—	—	S	—
SIDE STEPS — Chrome, cab-length; included with Monotone Laramie Longhorn	O	—	O	O	O	—	O	—	O/P	—
— Chrome, wheel-to-wheel; not available on Regular Cab or DRW	O	—	O	O	O	—	O	—	O	S
TONNEAU COVER (not available with Ram 2500 CNG model)	O	O	O	O	O	O	O	O	O	O
WHEEL FLARES — Black	—	S	—	—	—	S	—	—	—	—
— Body-color (included with monotone paint)	—	—	—	—	P	—	S	S	P	S
— Lower body-color	—	—	—	—	S	—	O	—	S	—
WINDSHIELD WIPERS — Variable / intermittent	S	S	S	S	S	S	S	S	S	S
— Rain-sensitive (included in Convenience Group)	—	—	—	—	—	—	P	P	P	S
<b>INTERIOR FEATURES</b>										
AIR CONDITIONING — Manual	S	S	S	S	S	S	—	—	—	—
— Dual-Zone Automatic Temperature Control (Included with Luxury Group or Comfort Group if equipped with 8.4-inch touchscreen system)	—	—	P	P	P	P	S	S	S	S
AUXILIARY INSTRUMENT PANEL SWITCHES — N/A with Comfort Group or with Radio 3.0 or Uconnect® 5.0 system (late availability)	O	—	O	O	O	—	O	—	O	O
CIGAR LIGHTER — Included in Smoker's Group	P	P	P	P	P	P	P	P	P	P
CLUSTER — 3.5-inch Driver Information Display	S	S	S	S	—	S	—	—	—	—
— 7-inch Driver Information Display (included in Luxury Group)	—	—	P	P	S	P	S	S	—	—
— 7-inch Driver Information Display (with Laramie Longhorn filigree)	—	—	—	—	—	—	—	—	S	—
— 7-inch Driver Information Display (with unique Limited detail)	—	—	—	—	—	—	—	—	—	S
CONSOLE — Mini floor console (included with 6-speed manual transmission or manual transfer case)	P	S	P	P	P	S	P	S	—	—
— Full-size floor console (included with bucket seats)	—	—	P	P	P	—	P	—	S	S
— Overhead console	—	—	S	—	—	S	—	—	—	—
— Overhead console with Universal Garage Door Opener (included in Luxury Group)	—	—	P	P	S	P	S	S	S	S
DOOR LOCKS — Manual door locks (Regular Cab only)	S	—	—	—	—	—	—	—	—	—
— Power door locks (included in Power and Remote Entry Group on Tradesman Regular Cab)	P/S	S	S	S	S	S	S	S	S	S
— Keyless Enter™ n Go™	—	—	—	—	—	—	O	O	O	S
FLOOR COVERING — Black vinyl (not available on Mega Cab®)	S	S	O	O	O	O	—	—	—	—
— Carpet (included in Popular Equipment Group)	P	P	S	S	S	S	S	S	S	S
MIRRORS — Rearview day/night	S	S	S	—	—	S	—	—	—	—
— Rearview day/night with microphone (included with Radio 3.0, Uconnect 5.0, 8.4 and 8.4 NAV systems without Luxury Group)	—	—	P	S	—	—	—	—	—	—
— Rearview auto-dimming with microphone (included with Luxury Group)	—	—	P	P	S	P	S	S	S	S
— Rearview auto-dimming with video display (included with Cargo-View Camera <sup>2</sup> in combination with ParkView® Rear Back-Up Camera <sup>2</sup> or with Radio 3.0 and ParkView Rear Back-Up Camera <sup>2</sup> )	P	P	P	P	P	P	P	P	P	P
— Recall/Ecall buttons (packaged with Uconnect 8.4 and 8.4 NAV systems)	—	—	P	P	P	P	S	S	S	S
PEDALS — Non-adjustable	S	S	S	S	S	S	S	S	—	—
— Power-adjustable (requires automatic transmission)	—	—	O	O	O	O	—	—	—	—
— Power-adjustable with memory (requires automatic transmission)	—	—	—	—	—	—	O	O	S	S
POWER SUNROOF (not available with Regular Cab)	—	—	O	O	O	O	O	O	O	O
SEATS — Manually adjustable driver and front-passenger (included with *TX and *V9)	S	S	S	—	—	S	—	—	—	—
— Ten-way power driver's and manual front-passenger (included with *M9 and *MJ)	—	—	P	S	S	P	—	—	—	—
— Ten-way power driver's with memory and 6-way power front-passenger (included with *VL, *GJ, *XJ, *DJ & *UL)	—	—	—	—	—	—	S	S	S	S
— Two-way power lumbar support (included with *M9 and *MJ)	—	—	P	S	S	P	S	S	S	S
— Heated front (included in Comfort Group)	—	—	—	P	P	P	S	S	S	S
— Heated rear (Crew Cab and Mega Cab® only; included with *GJ)	—	—	—	—	—	—	P	—	S	S
— Ventilated front	—	—	—	—	—	—	S	S	S	S
— Vinyl 40/20/40 split-bench front with folding front armrest/cup holder (*TX)	S	S	—	—	—	—	—	—	—	—
— Ram work-grade vinyl 40/20/40 split-bench front with folding front armrest/cup holder (*SX)	O	O	—	—	—	—	—	—	—	—
— Cloth 40/20/40 split-bench front, front armrest with cup holder (*V9)	O	O	S	—	—	S	—	—	—	—
— Premium cloth-trimmed 40/20/40 split-bench front, front armrest with cup holder (*M9)	—	—	O	S	O	O	—	—	—	—
— Premium cloth-trimmed low-back bucket with full-length floor console (*MJ)	—	—	O	O	S	—	—	—	—	—
— Leather-trimmed 40/20/40 split-bench heated and ventilated front (*VL)	—	—	—	—	—	—	S	S	—	—
— Leather-trimmed high-back, ventilated and heated bucket with full-length floor console (*GJ)	—	—	—	—	—	—	O	—	—	—
— Premium leather with laser-etched design, high-back ventilated and heated bucket with premium full-length floor console (available only in Canyon Brown) (*XJ)	—	—	—	—	—	—	—	—	S	—
— Premium leather high-back, ventilated and heated bucket with premium full-length floor console (available in Canyon Brown or Cattle Tan) (*DJ)	—	—	—	—	—	—	—	—	O	—
— Premium Natura leather high-back, ventilated and heated bucket with premium full-length floor console (available only in Black) (*UL)	—	—	—	—	—	—	—	—	—	S
STEERING WHEEL — Urethane	S	S	S	—	—	S	—	—	—	—
— Leather-wrapped with audio controls (included in Luxury Group)	—	—	P	S	S	P	—	—	—	—
— Leather-wrapped, heated with audio controls (included in Comfort Group)	—	—	—	P	P	P	S	S	—	—
— Leather-wrapped, heated, with real wood and audio controls	—	—	—	—	—	—	—	—	S	S

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	TRADESMAN® REG./CREW	TRADESMAN POWER WAGON® CREW	SLT REG./CREW/MEGA	BIGHORN®/LONE STAR® CREW/MEGA	OUTDOORSMAN® CREW	POWER WAGON CREW	LARAMIE® CREW/MEGA	LARAMIE POWER WAGON CREW	LARAMIE LONGHORN® CREW/MEGA	LIMITED CREW/MEGA
	2TA	2TB	2TG	2TZ/2TY	2TT	2TP	2TH	2TJ	2TK	2TM
<b>CPOS PACKAGE</b>										
<b>INTERIOR FEATURES (continued)</b>										
<b>STORAGE</b> — Behind the seat (Regular Cab and Mega Cab <sup>®</sup> )	S	—	S	S	S	—	S	—	S	S
— Front center-seat-cushion storage (included with remote CD player and with *VL and *M9 seats)	P	P	P	P	P	P	P	P	—	—
— Rear, under-seat compartment (Crew Cab only)	S	S	S	S	S	S	S	S	S	S
— Rear, in-floor storage boxes (Crew Cab only)	S	S	S	S	S	S	S	S	S	S
— Flat-folding load floor (Crew Cab only; included in *M9 seats and above)	—	—	P	S	S	P	S	S	S	S
<b>VISORS</b> — Passenger-side, with vanity mirror	—	—	S	S	—	S	—	—	—	—
— Driver and passenger-side, with illuminated vanity mirror (included with Luxury Group)	—	—	P	P	S	P	S	S	S	S
<b>WINDOWS</b> — Manual windows (Regular Cab only)	S	—	—	—	—	—	—	—	—	—
— Power windows, front one-touch down (Regular Cab; included in Power and Remote Entry Group)	P	—	S	—	—	—	—	—	—	—
— Power windows, front one-touch up/down (Crew Cab and Mega Cab)	S	S	S	S	S	S	S	S	S	S
— Rear fixed window	S	S	—	—	—	—	—	—	—	—
— Rear sliding window, manual (Regular Cab)	O	—	S	—	—	—	—	—	—	—
— Rear sliding window, power (Crew Cab and Mega Cab)	—	—	S	S	S	S	S	S	S	S
— Rear window defroster (requires rear sliding window)	—	—	O	O	O	O	O	O	O	O
<b>UCONNECT® MULTIMEDIA</b>										
<b>CONNECTIVITY</b> — 12-volt DC auxiliary	S	S	S	S	S	S	S	S	S	S
— 115-volt AC auxiliary (included with *M9 and *MJ seats)	—	—	P	S	S	P	S	S	S	S
— 2.5-amp charging USB port (included with Uconnect 5.0, 8.4 and 8.4 NAV systems or *M9 and *MJ seats)	P	P	P	P	P	P	S	S	S	S
<b>MEDIA HUB</b> — 1.5-amp fully functional USB port, auxiliary jack for mobile devices (included with Radio 3.0 and Uconnect 5.0 system)	S	S	S	S	—	S	—	—	—	—
— 1.5-amp fully functional USB port, auxiliary jack for mobile devices and SD card slot (included with Uconnect 8.4 and 8.4 NAV systems)	—	—	P	P	S	P	S	S	S	S
<b>RADIOS</b> — 3.0 AM/FM	S	S	—	—	—	—	—	—	—	—
— Uconnect 5.0 AM/FM/SAT/Bluetooth <sup>®</sup> (5-inch touchscreen display)	O	O	S	S	—	S	—	—	—	—
— Uconnect 8.4 AM/FM/SAT/Bluetooth/NAV-ready/Voice Command <sup>™</sup> (8.4-inch touchscreen display)	—	—	O	O	S	O	S	S	—	—
— Uconnect 8.4 NAV AM/FM/SAT/Bluetooth/NAV/Voice Command <sup>™</sup> (8.4-inch touchscreen display)	—	—	—	O	O	O	O	O	S	S
<b>RADIO CONTROLS</b> — Steering wheel-mounted audio controls (included with leather-wrapped steering wheel)	—	—	P	S	S	P	S	S	S	S
<b>RCALL/ECALL</b> — Packaged with Uconnect 8.4 and 8.4 NAV systems	—	—	P	P	S	P	S	S	S	S
<b>SINGLE-DISC CD PLAYER</b>	O	O	O	O	O	O	O	O	O	O
<b>SIRIUSXM<sup>®</sup> SATELLITE RADIO<sup>™</sup></b> (included in Tradesman Popular Equipment Group)	P	P	S	S	S	S	S	S	S	S
<b>SIRIUSXM TRAFFIC<sup>™</sup> AND SIRIUSXM TRAVEL LINK<sup>™</sup></b> (included with Uconnect 8.4 NAV system)	—	—	—	P	P	P	P	P	S	S
<b>SPEAKER SYSTEMS</b> — Six speakers	S	S	S	S	S	S	—	—	—	—
— Six premium speakers (Regular Cab only)	—	—	O	—	—	—	—	—	—	—
— Nine amplified speakers with subwoofer (Surround Sound requires ADA and *M9 or higher seat)	—	—	O	O	O	O	S	S	S	S
<b>UCONNECT VOICE COMMAND WITH BLUETOOTH<sup>™</sup></b> (included with Uconnect 5.0, 8.4 and 8.4 NAV systems)	P	P	S	S	S	S	S	S	S	S
<b>TIRES AND WHEELS</b>										
<b>TIRES</b> — 2500 LT245/70R17E BSW All-Season tires	S	—	—	—	—	—	—	—	—	—
— LT285/70R17D OWL All-Terrain tires	—	S	—	—	—	S	—	S	—	—
— LT275/70R18E BSW All-Season tires (included with Chrome Appearance Group)	P	—	S	S	—	—	S	—	S	—
— LT275/70R18E OWL On-/Off-Road tires (included with Snow Chief <sup>®</sup> Group and Popular Equipment Group; optional with Chrome Appearance Group)	O	—	P/O	O	S	—	O	—	O	—
— LT285/60R20E OWL On-/Off-Road tires (included with optional 20-inch wheels)	—	—	P	P	P	—	P	—	P	S
— Full-size spare tire	S	S	S	S	S	S	S	S	S	S
— Add full-size spare tire (requires Box Delete)	O	—	O	O	—	—	—	—	—	—
<b>3500 SINGLE REAR WHEEL</b> — LT275/70R18E BSW All-Season tires	S	—	S	S	—	—	S	—	S	—
— LT275/70R18E OWL On-/Off-Road tires (included with Snow Chief Group and Popular Equipment Group; optional with Chrome Appearance Group)	O	—	P/O	O	—	—	O	—	O	—
— LT285/60R20E OWL On-/Off-Road tires (included with optional 20-inch wheels)	—	—	O	O	—	—	O	—	O	S
<b>3500 DUAL REAR WHEEL</b> — LT235/80R17E BSW All-Season tires	S	—	S	S	—	—	S	—	S	S
— LT235/80R17E OWL On-/Off-Road tires (included with Popular Equipment Group)	O	—	O/P	O	—	—	O	—	O	O
<b>WHEELS</b> — 2500 —17 x 7.5-inch steel painted	S	—	—	—	—	—	—	—	—	—
— 17 x 8-inch polished forged aluminum	—	S	—	—	—	S	—	S	—	—
— 18 x 8-inch steel painted	O	—	—	—	—	—	—	—	—	—
— 18 x 8-inch steel chrome-clad (included with Chrome Appearance Group)	P	—	S	—	—	—	—	—	—	—
— 18 x 8-inch polished aluminum	—	—	O	S	S	—	—	—	—	—
— 18 x 8-inch polished aluminum	—	—	—	—	—	—	S	—	—	—
— 18 x 8-inch polished aluminum with White Gold pockets	—	—	—	—	—	—	—	—	S	—
— 18 x 8-inch polished aluminum with Silver pockets (included with Monotone paint)	—	—	—	—	—	—	—	—	P	—
— 20 x 8-inch aluminum painted Black (included with Black Appearance Group)	—	—	—	P	—	—	P	—	—	—
— 20 x 8-inch aluminum painted Satin Carbon with chrome inserts	—	—	O	O	O	—	O	—	—	—
— 20 x 8-inch polished aluminum with White Gold pockets	—	—	—	—	—	—	—	—	O	—
— 20 x 8-inch polished aluminum with Silver pockets (optional with Monotone paint)	—	—	—	—	—	—	—	—	O	—
— 20 x 8-inch aluminum premium painted with chrome inserts	—	—	—	—	—	—	—	—	—	S
— Steel spare	S	S	S	S	S	S	S	S	S	S
<b>3500 SINGLE REAR WHEEL</b> — 18 x 8-inch steel painted	S	—	—	—	—	—	—	—	—	—
— 18 x 8-inch steel chrome-clad (included in Chrome Appearance Group)	P	—	S	—	—	—	—	—	—	—
— 18 x 8-inch polished aluminum	—	—	O	S	—	—	—	—	—	—
— 18 x 8-inch polished aluminum	—	—	—	—	—	—	S	—	—	—
— 18 x 8-inch polished aluminum with White Gold pockets	—	—	—	—	—	—	—	—	S	—
— 18 x 8-inch polished aluminum with Silver pockets (included with Monotone paint)	—	—	—	—	—	—	—	—	P	—
— 20 x 8-inch aluminum painted Black (included with Black Appearance Group)	—	—	—	P	—	—	P	—	—	—
— 20 x 8-inch aluminum painted Satin Carbon with chrome inserts	—	—	O	O	O	—	O	—	—	—
— 20 x 8-inch polished aluminum with White Gold pockets	—	—	—	—	—	—	—	—	O	—
— 20 x 8-inch polished aluminum with Silver pockets (optional with Monotone paint)	—	—	—	—	—	—	—	—	O	—
— 20 x 8-inch aluminum premium painted with chrome inserts	—	—	—	—	—	—	—	—	—	S
— Steel spare	S	—	S	S	—	—	S	—	S	S

S = Standard, O = Optional, P = Part of Package, — = Not available.  
 Note: some features and/or applications may be late availability.

<sup>1</sup>Lone Star model available only in Texas.

## RAM 2500/3500 BUYER'S GUIDE

	TRADESMAN® REG./CREW	TRADESMAN POWER WAGON® CREW	SLT REG./CREW/MEGA	BIGHORN®/LONE STAR® CREW/MEGA	OUTDOORSMAN® CREW	POWER WAGON CREW	LARAMIE® CREW/MEGA	LARAMIE POWER WAGON CREW	LARAMIE LONGHORN® CREW/MEGA	LIMITED CREW/MEGA
	2TA	2TB	2TG	2TZ/2TY	2TT	2TP	2TH	2TJ	2TK	2TM
<b>CPQS PACKAGE</b>										
<b>TIRES AND WHEELS (continued)</b>										
3500 DUAL REAR WHEEL — 17 x 6-inch steel painted	\$	—	—	—	—	—	—	—	—	—
— 17 x 6-inch steel with chrome finish (included in Chrome Appearance Group)	P	—	\$	\$	—	—	—	—	—	—
— 17 x 6-inch polished aluminum	—	—	0	0	—	—	\$	—	—	\$
— 17 x 6-inch polished aluminum with Laramie Longhorn cap	—	—	—	—	—	—	—	—	\$	—
— 17-inch steel spare (included with DRW models)	\$	—	\$	\$	—	—	\$	—	\$	\$
<b>SAFETY AND SECURITY</b>										
AIR BAGS <sup>(1)</sup> — Multistage front and knee bolsters	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$
— Supplemental side-curtain	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$
— Supplemental front-seat side-mounted	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$
BRAKES — Four-wheel antilock disc brakes	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$
CARGO-VIEW CAMERA <sup>(2)</sup> (requires Uconnect® 8.4 or 8.4 NAV systems)	—	—	0	0	0	0	0	0	0	0
ELECTRONIC STABILITY CONTROL <sup>(2)</sup> — Includes All-Speed Traction Control, Brake Assist, Electronic Roll Mitigation, Hill Start Assist, Rain Brake Support, Ready Alert Braking and Trailer Sway Damping <sup>(2)</sup>	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$
ELECTRONIC TRAILER BRAKE CONTROLLER	0	0	\$	\$	\$	\$	\$	\$	\$	\$
KEY ALIKE (3500 only; not available with Keyless Enter 'n Go™)	0	0	0	0	0	0	0	0	0	0
PARKSENSE® FRONT AND REAR PARK ASSIST <sup>(2)</sup>	—	—	0	0	0	0	\$	\$	\$	\$
PARKSENSE REAR PARK ASSIST <sup>(2)</sup>	0	0	0	0	0	0	—	—	—	—
PARKVIEW® REAR BACK-UP CAMERA <sup>(2)</sup> — Video displayed in rearview mirror with Radio 3.0 or on-screen with Cargo-View Camera <sup>(2)</sup> with other systems	0	0	0	0	0	0	\$	\$	\$	\$
REMOTE KEYLESS ENTRY WITH ALLSECURE® — Controls for power door locks, tailgate, RamBox® System, illuminated entry system, panic alarm (included in Tradesman Popular Equipment Group or Power and Remote Entry Group)	P	P	\$	\$	\$	\$	\$	\$	\$	\$
REMOTE START — Requires automatic transmission	—	—	0	\$	\$	0	0	0	\$	\$
SECURITY ALARM — Detects break-in	—	—	0	0	\$	0	\$	\$	\$	\$
SENTRY KEY® THEFT DETERRENT SYSTEM — Engine immobilizer	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$
TIRE PRESSURE MONITORING (TPM) within Driver Information Display and alert (2500 only)	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$
TIRE PRESSURE INFORMATION SYSTEM without alert (3500 models only)	\$	—	\$	\$	—	—	\$	—	\$	\$
<b>PACKAGES / EQUIPMENT GROUPS</b>										
BLACK APPEARANCE GROUP — Includes Black door handles, Black exterior mirrors, Black Ram tailgate badge, Black 4x4 badge (4x4 only), black-out headlamps, Black painted front and rear bumpers, Black grille and 20-inch Black painted wheels with OWL tires (SRW Models only)	—	—	—	0	—	—	—	—	—	—
BOX DELETE — Regular Cab, Crew Cab, with 5.7L gas engine	0	—	0	0	—	—	—	—	—	—
CHROME APPEARANCE GROUP — Includes chrome bumpers, chrome grille surround and steel chrome-clad wheels (SRW) or steel wheels with chrome finish (DRW)	0	—	—	—	—	—	—	—	—	—
COLD WEATHER GROUP — Includes engine block heater and winter front grille cover (diesel only)	0	—	0	0	0	—	0	—	0	0
HEATED SEATS AND STEERING WHEEL GROUP — Includes heated cloth seats, heated leather steering wheel and if equipped with Uconnect 8.4 or 8.4 NAV systems, Dual-Zone ATC (requires *M9 or *MJ seats; included with Luxury Group)	—	—	—	0/P	0	0	—	—	—	—
CONVENIENCE GROUP — Includes Auto High-Beam Headlamp Control, rain-sensitive wipers (not available with Cargo-View Camera <sup>(2)</sup> )	—	—	—	—	—	—	0	0	0	—
DOT-CERTIFIED ROADSIDE SAFETY KIT — Includes DOT fire extinguisher, three reflecting triangles, two Red vinyl flags and spare fuses	0	0	0	0	0	0	0	0	0	0
DUAL REAR WHEEL GROUP — 3500 only; N/A with Crew Cab 6'4" box (includes clearance lamps for the cab, box and fenders)	0	—	0	0	—	—	0	—	0	0
FIFTH-WHEEL/GOOSENECK TOWING PREP GROUP — Includes in-bed 7-pin harness connector and mounting provisions for 5th-wheel or gooseneck hitches	0	—	0	0	0	—	0	—	0	0
CHROME BUMPER PACKAGE — Includes chrome front and rear bumpers	—	—	—	—	—	—	—	—	—	0
LUXURY GROUP — Includes 7-inch Driver Information Display, switchable dome lamp, ashtray lamp, illuminated vanity mirror, auto day/night mirror, LED Bed Lighting, exterior power folding mirrors with signal and puddle lamps, overhead console with Universal Garage Door Opener and if equipped with 8.4 inch radio, Dual-Zone ATC; for 2TG/2TP only; leather-wrapped steering wheel with audio controls, glove box lamp, under-hood lamp; for 2TY/2TZ only: Comfort Group	—	—	0	0	\$	0	—	—	—	—
POPULAR EQUIPMENT GROUP TRADESMAN — Includes 40/20/40 cloth bench seat, carpeted floor covering, floor mats, remote keyless entry and SiriusXM® Satellite Radio <sup>(4)</sup>	0	0	—	—	—	—	—	—	—	—
POPULAR EQUIPMENT GROUP SLT — Includes premium cloth 40/20/40 bench seat, fog lamps, OWL tires (Regular Cab only)	—	—	0	—	—	—	—	—	—	—
POWER AND REMOTE ENTRY GROUP — Includes premium vinyl door trim, remote keyless entry, power heated mirror, power windows and power locks (Regular Cab only)	0	—	—	—	—	—	—	—	—	—
PROTECTION GROUP (4x4 ONLY) — Includes tow hooks and transfer case skid plate	0	—	0	0	\$	—	0	—	0	0
SMOKER'S GROUP — Includes removable ashtray and cigar lighter	0	0	0	0	0	0	0	0	0	0
SNOW CHIEF® GROUP — Includes 180-amp alternator for 5.7L V8, (220-amp alternator for 6.4L V8 or 6.7L Cummins® Turbo Diesel), antispin differential, transfer case skid plate, auxiliary switches, clearance lamps, 18-inch wheels and OWL On-/Off-Road tires (single-rear-wheel models only)	0	—	0	0	0	—	0	—	0	0
SNOWPLOW PREP GROUP — Includes 180-amp alternator (gas), 220-amp (diesel), transfer case skid plate (4x4 models only)	0	—	0	0	0	—	0	—	0	0
SPORT APPEARANCE GROUP — Includes monotone paint, body-color door handles, Black exterior mirrors, Black Ram tailgate badge, Black 4x4 badge (4x4 only), black-out projector headlamps and black-out LED taillamps, body-color painted front and rear bumpers, body-color grille with Black insert and 20-inch Black painted wheels with OWL tires (SRW models only)	—	—	—	—	—	—	0	—	—	—

S = Standard. 0 = Optional. P = Part of Package. — = Not available.  
 Note: some features and/or applications may be late availability.

<sup>1</sup>Lone Star model available only in Texas.



# CUSTOM-MINDED.

Ram 3500 Regular Cab Tradesman® in Bright White shown with Mopar® Chrome Tubular Side Steps and Gooseneck Trailer Hitch. Properly secure all cargo.

## MOPAR. SUPPORTING YOU AND YOUR RAM TRUCK—FOR THE LONG HAUL.

Here's how to make your new Ram truck the ideal ride... for today, and for many years to come. It's through Mopar.

Authentic Parts and Accessories by Mopar are engineered by the same experts who designed your Ram truck. Fit, function and finish are perfect, and the trained technicians who service your pickup know your make and model inside out. With genuine parts and this level of knowledge, you're going to keep your Ram truck going strong and looking good.

Further Mopar advantages include Mopar Express Lane Service to minimize waiting and downtime; Mopar Vehicle Protection® Plans—the only extended protection backed by the manufacturer; and our state-of-the-art Mopar Owner Connect Web site. This gives you online access to your service records, vehicle information, and exclusive money-saving offers. Mopar. It's about keeping you happy, and your Ram truck at its best. Get it all at [MOPAR.COM](http://MOPAR.COM)



Ladder Rack, in Aluminum or Steel



Heavy-Duty Commercial Toolbox

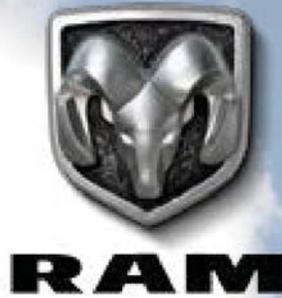


Direct-Mount Fifth-Wheel Hitch\*



Heavy-Duty Splash Guards

\*Check User Guide for hitch type, load capacity and heavy-duty equipment required. Do not exceed rated tow capacity of the vehicle as equipped. Trailer may require items not supplied by Mopar.



[1] Based on latest available competitive information. Class based on 250/2500 and 350/3500 pickups. [2] Always look before proceeding, electronic drive aid is not a substitute for conscientious driving; always be aware of your surroundings. [3] Based on latest available competitive information. Class based on all full-size pickups. [4] SiriusXM subscriptions for audio and data services are sold by SiriusXM to follow your trial subscription. **If you decide to continue listening after your trial, the subscription plan you choose will automatically renew thereafter and you will be charged according to your chosen payment method at then-current rates.** Fees and taxes apply. To cancel, you must call SiriusXM at 1-866-635-2349. See the SiriusXM Customer Agreement for complete terms and more information at [siriusxm.com](http://siriusxm.com). All fees and programming subject to change. Your equipment and features for SiriusXM services will vary depending upon the vehicle you select and may be limited in select markets. [5] Vehicle must be within the United States, have network coverage and must be registered with Uconnect Access with an active subscription that includes the applicable feature and you must fulfill minimum subscription requirements. It must also be equipped with features that enable remote commands, such as keyless entry, and must be in active and usable cellular range. The Uconnect Access App must be installed and launched on your mobile device to use these remote commands. Remote features are available only on vehicles that are properly equipped. Check state and local laws regarding the use of remote start systems. [6] Voice Text Reply and Voice Texting features require a compatible mobile device enabled with Bluetooth Message Access Profile (MAP). iPhone and some other smartphones do not currently support Bluetooth MAP. Visit [UconnectPhone.com](http://UconnectPhone.com) for system and device compatibility. Ensure MAP is ON and incoming message notification is enabled. Vehicle must be registered for Uconnect Access and you must fulfill minimum subscription requirements. Also requires the use of a compatible smartphone that supports text messaging and Bluetooth. Visit [UconnectPhone.com](http://UconnectPhone.com) for system and device compatibility. [7] Requires a mobile phone equipped with the Bluetooth Hands-Free Profile. Visit [UconnectPhone.com](http://UconnectPhone.com) for system and device compatibility. [8] The 9-1-1 Call button will connect you directly with Emergency Assistance. If you accidentally press the button, you have 10 seconds to cancel the call by either pressing the 9-1-1 button on the rearview mirror or the Cancel button on the Uconnect touchscreen. [9] Provides direct-dial access to Roadside Assistance Service. Vehicle must be within the United States, have network coverage and must be registered with Uconnect Access with an active subscription that includes the applicable feature. Additional roadside assistance charges may apply. Check warranty for details. [10] WiFi subscription required. Vehicle must be registered with Uconnect Access and fulfill minimum subscription requirements. Vehicle must be properly equipped and in active and usable cellular range for WiFi usage. WiFi Hotspot does not enable direct communication between multiple in-vehicle devices. Factors affecting the performance of WiFi Hotspot include: cellular network, signal strength and quality, time of day, number of channels used by the service provider, type of connection, number of clients using WiFi Hotspot and client device. This feature is not intended for use by the driver while the vehicle is in motion. Always drive safely. [11] The Advanced Front Air Bags in this vehicle are certified to the new U.S. Federal regulations for advanced air bags. Children 12 years old and younger should always ride buckled up in a rear seat. Infants in rear-facing child restraints should never ride in the front seat of a vehicle with a passenger front air bag. All occupants should always wear their lap and shoulder belts properly. [12] No system, no matter how sophisticated, can repeal the laws of physics or overcome careless driving actions. Performance is limited by available traction, which snow, ice and other conditions can affect. When the ESC warning lamp flashes, the driver needs to use less throttle and adapt speed and driving behavior to prevailing road conditions. Always drive carefully, consistent with conditions. Always wear your seat belt.

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Join our community on Facebook, submit your photos on Instagram, follow us on Twitter and check us out on YouTube.



Join fellow Ram enthusiasts and tell your story by posting comments, participating in discussions and sharing your photos and videos

### THE RAM OUTFITTER

Owning a new 2016 Ram Heavy Duty opens up a world of new apparel, tools and a variety of equipment for work and play. The one place to find it all is the Ram Outfitter site.

This is the online shopping center for gear and gifts for the Ram enthusiast. With the Ram identity prominently featured, you can choose from authentic wear, sports equipment, electronics and attire.

[RAMTRUCKS.COM/OUTFITTER](http://RAMTRUCKS.COM/OUTFITTER)



# RAMTRUCKS.COM

# Exhibit 24

2017  2500/3500  
**RAM**



# TEXAS' LONGEST-LASTING PICKUPS<sup>1\*</sup>



**CLASS-EXCLUSIVE<sup>2</sup> AVAILABLE REAR AIR SUSPENSION SYSTEM | DIESEL TOWING UP TO 31,210 LB<sup>†</sup>**

► **THE DEFINING BENCHMARK FOR CAPABILITY.** Ram pickups. It's where you rightfully pick up a heavy-duty attitude about comfort, capability, and safety and security, thanks to an impressive list of best-in-class advantages and class-exclusive features. Start here, and then bookmark [RAMTRUCKS.COM](https://RAMTRUCKS.COM)

\*A note about this catalog: all disclaimers and disclosures can be found on page 49. <sup>†</sup>When properly equipped.

**CLASS-EXCLUSIVE<sup>2</sup> RAMBOX<sup>®</sup> CARGO MANAGEMENT SYSTEM | MAX PAYLOAD UP TO 7,390 LB<sup>†</sup>**



**LARGEST AVAILABLE RADIO TOUCHSCREEN<sup>3</sup>-8.4" | ABUNDANT STORAGE | PLUG-IN CONNECTIVITY**

▶ **IT'S YOUR OWN DEPARTMENT OF THE INTERIOR.** Every Ram Heavy Duty pickup features a model-specific interior designed around convenience, comfort and sheer practicality. Count on easy-to-operate instrumentation, spacious seating, generous storage and beyond state-of-the-art telematics.

**INTUITIVE CONTROLS | SAFETY-CENTRIC TELEMATICS | VOICE-OPERATED<sup>4</sup> PHONE TECHNOLOGY**

**SOME STRENGTHS YOU WEIGH. OTHERS YOU COUNT. SO COUNT ON RAM HEAVY DUTY FOR THE BIG JOBS.**

Leadership is defined by the just-right working combination of brains and brawn—and the strengths of Ram 2500/3500 deliver everything a heavy-duty pickup should offer. From powertrains to advanced suspension technology to the indisputable assets of superb towing and torque, these powerhouses are ready and willing to work, taking on everything you put in front of them, or—in the case of hauling or towing trailers across mountains—whatever you put in back.

**THE FRAME.** No-nonsense tough from the get-go. This high-strength steel core features eight ultra-tough crossmembers, wide rails and a front rail extension of two inches that positions the front suspension springs slightly outboard; the engineering generates more roll stiffness to improve the ride. The hydroformed tubular front frame unit also employs high-strength steel.

**THE BOX.** It's all about capability, and 2017 Ram 2500/3500 measure up. Also utilizing high-strength steel, this cargo area is illuminated with the CHMSL-mounted light and available rear LED Bed Lighting. The distinguishing factor is, of course, the available and ingenious RamBox® Cargo Management System, a solution that leaves the average cargo box design eating Ram dust for lunch.

**PHENOMENAL TOWING AND GCWR.** It's your right to demand superior performance—and Ram Heavy Duty aims to deliver. A resilient frame of 50,000-psi steel delivers all the stiffness and structural integrity to easily take multi-axle trailers.

Engineering factors that play into the trailering include the unique front suspension, the rear crossmembers for an available fifth-wheel or gooseneck hitch, and smart electrical architecture that facilitates trailering connections. But the numbers say it all. With the available Cummins® High Output Turbo Diesel in a Ram 3500, you've got outstanding towing capability up to 31,210 lb,\* and jaw-dropping GCWR of 39,100 lb.\* Ram 2500 also joins in, with its robust GCWR that reaches up to a super-capable 25,300 lb.\*

# IT GETS DOWN TO TOTAL CAPABILITY.

RAM HEAVY DUTY LETS YOU MASTER EVERY JOB.



**FUEL EFFICIENCY.** When we build a heavy-duty truck designed for hundreds of thousands of miles and countless years of service, our focus is to get the most from every drop of fuel every day—for years.

Exterior design contributors to fuel efficiency include a sculpted aerodynamic body that glides through air, and available assets like wheel-to-wheel side steps.

But here, the powertrain is critical. Fuel-sipping technology on the available 6.4L HEMI® V8 gas engine includes the Multi-Displacement System (MDS), which seamlessly transforms the mighty V8 into an efficient four-cylinder during highway cruising. The crowning touch to the 6.4L HEMI V8? It also delivers best-in-class<sup>2</sup> gas horsepower.

**COMFORT.** We get it: you're choosing a Ram Heavy Duty pickup for what it will do for you. Which is why, while your Ram pickup is at work, you get an interior that provides exceptional occupant comfort.

From convenient window controls and door handles to the striking instrumentation panel, the interiors of every model reflect thoughtful and intuitive design. Buttons and controls are driver- and passenger-friendly. At-hand and hidden storage in every model is abundant, with Mega Cab® and Crew Cab models distinguishing themselves with unique storage that includes in-floor bins and fold-flat cargo floor capability.

Interior space is a given. Not only do Ram Mega Cab and Crew Cab deliver cavernous interiors, Ram Mega Cab has the most interior space in the class.<sup>2</sup>

**INNOVATION.** If our strongest suit is overall capability, innovation is where Ram Heavy Duty keeps an ace of hearts up its sleeve.

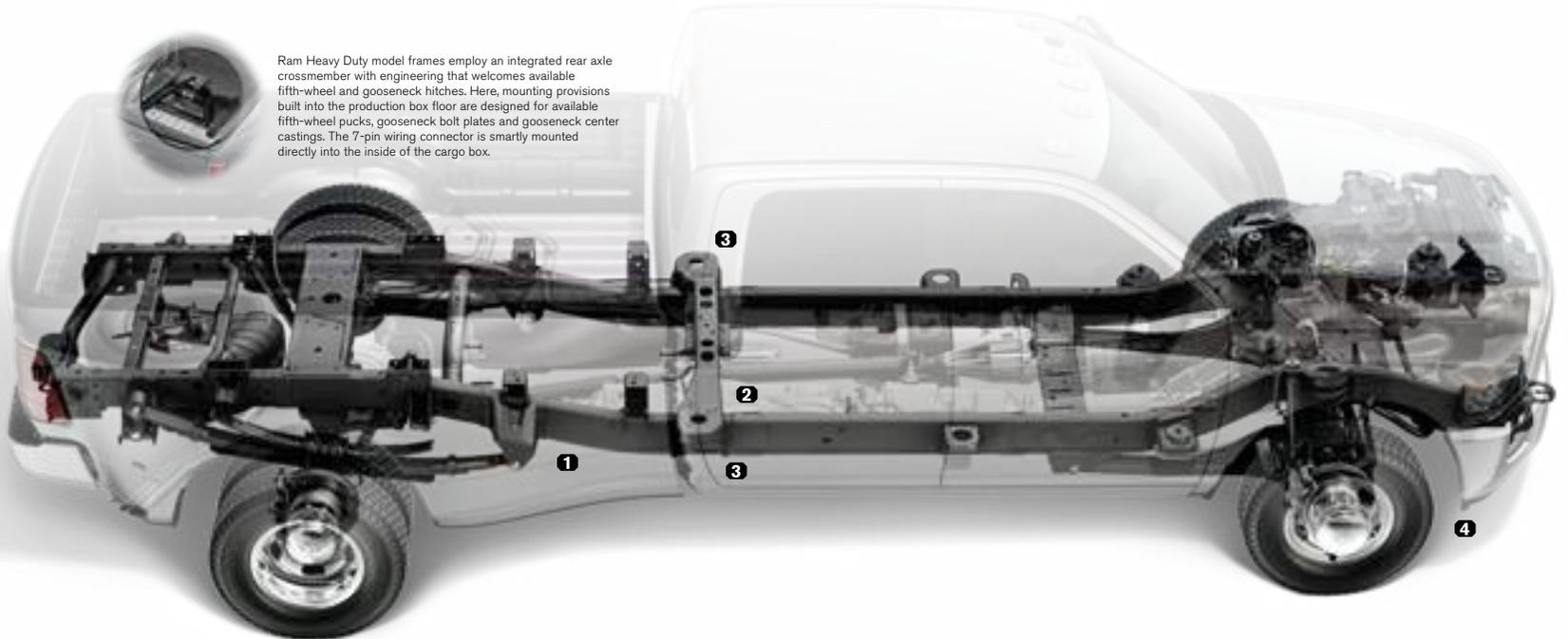
The Ram Brand has been a pioneer for innovation in many areas of today's pickup. Among them: the standard class-exclusive<sup>2</sup> five-link coil spring rear suspension on Ram 2500. The available class-exclusive<sup>2</sup> dual-mode Auto-Level Rear Air Suspension System for Ram 2500 and 3500. The available class-exclusive<sup>2</sup> RamBox® Cargo Management System. The class-exclusive<sup>2</sup> Ram Active Air® System.

The best deal out there? Experience Ram strength, comfort and innovation for yourself—in a test drive.

\*When properly equipped. Properly secure all cargo.

# LET'S BE TOTALLY CLEAR ABOUT RAM LEADERSHIP.

Ram Heavy Duty model frames employ an integrated rear axle crossmember with engineering that welcomes available fifth-wheel and gooseneck hitches. Here, mounting provisions built into the production box floor are designed for available fifth-wheel pucks, gooseneck bolt plates and gooseneck center castings. The 7-pin wiring connector is smartly mounted directly into the inside of the cargo box.



**STRONG ENOUGH TO ENCOURAGE COMPLETE TRANSPARENCY.** Build a truck this good, and you expect to come out above the rest—and the reasons Ram Heavy Duty models stand out are numerous. Among them: the class-exclusive<sup>2</sup> standard five-link coil spring rear suspension for Ram 2500. The class-exclusive<sup>2</sup> available Auto-Level Rear Air Suspension System. Frames composed of high-strength steel with tough crossmembers. A standard Class V hitch receiver that bolts directly to the frame. We suggest you review this material—and then get a bigger picture. It's all at **RAMTRUCKS.COM**



Ram Heavy Duty features every mechanical advantage for nimble maneuverability—and then we went a step further. Equip your Ram with the available ParkSense<sup>®</sup> Front and Rear Park Assist System<sup>5</sup> and parallel parking becomes easier and arguably safer than ever.



## EFFICIENCY. EVEN IN THE FRONT AXLE DISCONNECT.

Shared technology between Ram 2500/3500 also includes the indispensable front axle disconnect, which automatically disengages the front drive axle when reengaging the rear-wheel-drive mode on 4WD models. Our front axle disconnect is engineered with purpose: the design acts to reduce parasitic losses. The overall benefit? A very direct contribution that helps improve fuel efficiency.

<sup>5</sup>When properly equipped.

**1 SUPER-TOUGH FRAMES.** Whether used for business or pleasure, a Ram Heavy Duty lets you take on the toughest tasks with total confidence. Frame strength is critical; you need resilient stiffness that translates into capability while towing, with the structural integrity that delivers occupant comfort while still hauling big payloads. The 2017 Ram Heavy Duty high-strength steel frames carry the solidity of 50,000-psi steel, providing a Ram tough chassis ready to tackle nearly every towing and hauling assignment.

**2 CENTER FRAME DETAILS.** Tougher, stronger and larger than the previous generation, the entire frame features eight tough crossmembers, with hydroformed front and rear sections with a large front suspension crossmember. The tough roll-formed center rail sections feature an outwardly curved design to help improve rear spring and shock placement.

**3 ROBUST BODY MOUNTS.** Upgraded for heavy loads, these unique rubber isolation C-pillar hydromounts are filled with hydraulic fluid and feature an increased footprint to help improve ride quality. As well, the A- and B-pillar and the front-end sheet metal positions have been enlarged over the previous edition, keeping the ride smooth—even under high payloads and during towing.

**4 FRONT SUSPENSION CAPABILITY.** All Ram 2500/3500 models feature as standard equipment the unique three-link front suspension—and it gets better. Working with the three-link front suspension is an integrated large stabilizer bar to ensure the roll stiffness required by the GVWRs of Ram Heavy Duty—and they are impressive. For Ram 2500, GVWR is rated up to 10,000 lb\*<sup>6</sup>; for Ram 3500, it vaults up to 14,000 lb\*<sup>6</sup>.

**5 FRONT AXLE STRENGTH.** A formidable front axle works in tandem with a robust front suspension, making Ram Heavy Duty a top choice for front-load accessories. Considering earning a living from this capability? If you're in snowy climates, Ram gives you the highest snowplow rating<sup>2</sup>: 1,265 lb\* for Ram 3500.





## THE CLASS-EXCLUSIVE<sup>2</sup> FIVE-LINK COIL SPRING REAR SUSPENSION.

**STANDARD FOR RAM 2500.** The introduction of the five-link coil spring suspension further emphasized the Ram 2500 commitment to innovation that has real-world and real-life advantages. Revolutionary in character, it was the first modern-day application of such a suspension on a full-size heavy-duty pickup, and it has exceeded expectations. Compared to traditional leaf spring suspensions, the characteristics of the Ram 2500 suspension are transformative. The engineering

reduces overall friction in the system, sharply reducing harshness; it significantly improves the ride comfort, regardless of load. And it brings noticeably improved handling to Ram 2500 Heavy Duty, especially when carrying heavy loads.



## THE STANDARD HOTCHKISS LEAF SPRING REAR SUSPENSION.

### STANDARD FOR RAM 3500.

Achieving those impressive diesel- and gas-powered figures for Ram 3500 Heavy Duty required a truly remarkable suspension system. The Hotchkiss rear suspension meets every need of this ready-to-work pickup.

Here, tough leaf springs run fore and aft of the live axle, serving to support the truck weight and keeping the engineering simple and easy to maintain. The proven design utilized in Ram 3500 enhances capability by including separate auxiliary leaves as part of the spring package; the leaf springs also incorporate 20 percent higher second- and third-stage rates. Finally, our engineers tilted the spring forward (by lowering the front attachment and raising the rear). It's a touch that enhances rear handling and ups the payload capacity.



# HEAVY-DUTY CONFIDENCE.



**WE'LL LEVEL WITH YOU. RAM HEAVY DUTY OWNS THE RIDE.** True confidence is when you actively invite comparisons, and we're inviting you to find another suspension system as refined as this. Save your time. The class-exclusive<sup>2</sup> available Auto-Level Rear Air Suspension System for Ram 2500/3500 Heavy Duty stands apart, making the ride ultra-comfortable and increasing control when hauling. Two modes are at work here: the Normal Load-Leveling Mode and the driver-selectable Alternate Ride Height Mode; the latter is invaluable for trailer alignment, and sharply ramps up road manners. No surprise to find it on the same pickup that also gives you outstanding towing. Again, Ram ranks above the rest; technical details are below, right.

## TWO INGENUOUS SOLUTIONS, ONE INDISPENSABLE ADVANTAGE.

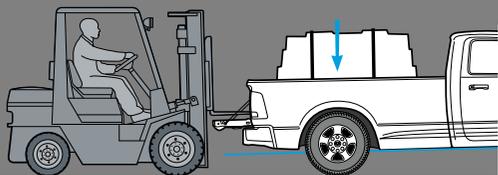
### RAM 2500: THE AVAILABLE AUTO-LEVEL REAR AIR SUSPENSION SYSTEM.

This version is unique to Ram 2500, using engineering based on the available Ram 1500 Active-Level™ Four-Corner Air Suspension System. This adaptation is specifically designed to meet exacting demands and the higher GVWRs and GCWRs of the 2500 heavy-duty class.

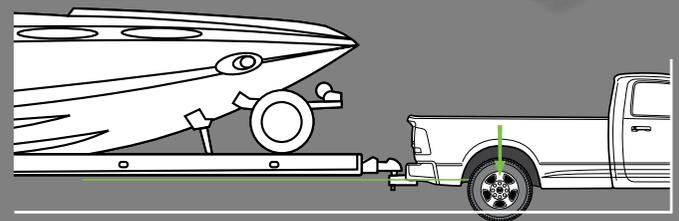
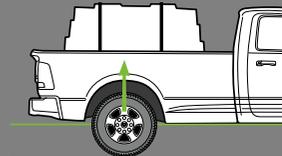


### RAM 3500: THE AVAILABLE AUTO-LEVEL REAR AIR SUSPENSION SYSTEM

is engineered to handle the more-than-heavy-duty tasks typically met by Ram 3500 single-rear-wheel and dual-rear-wheel models. In this version, leaf springs are augmented with the air springs mounted on top of the axle. The result: air springs work with the leaf springs for ideal handling and performance while hauling big payloads.



Normal Load-Leveling Mode



Alternate Ride Height Mode

## EXCEPTIONAL CAPABILITY FOR BIG PAYLOADS AND TOUGH TOWING.

Ram Heavy Duty models know what it takes to achieve leadership. Witness groundbreaking technology to help enhance hauling and towing: the available Auto-Level Rear Air Suspension System for Ram Heavy Duty. This dual-mode operator-activated system is specifically engineered for the incredible GVWRs and GCWRs expected from these relentless workers.

The class-exclusive<sup>2</sup> Auto-Level Rear Air Suspension System is available for most Ram Heavy Duty models. It greatly separates Ram from the rest by offering superb control and confidence while hauling and towing, and helping enhance interior comfort for driver and passengers.

**Normal Load-Leveling Mode.** In this mode, the system monitors the ride heights on both sides of the vehicle, adjusting for shifts in the load or changes in road surfaces; you'll welcome the constant level load profile and proper headlamp-to-road angle, especially during heavy hauling assignments.

**Alternate Ride Height Mode.** This mode lowers the rear suspension about an inch—just right to keep the hitch/trailer alignment even. It also establishes capable and comfortable towing by creating a parallel and level relationship between the vehicle and the trailer, ensuring an even “rake” from the front of the pickup through the trailer.

# RAM NEVER BACKS DOWN.

31,210-LB DIESEL TOWING\* | 900 LB-FT DIESEL TORQUE | 7,390-LB GAS PAYLOAD\*



**TRAILER-TOWING MIRRORS.** By design, these trucks are born and bred to pull and haul. Huge available 7 x 11-inch trailer-towing mirrors with a power-folding feature make your Ram Heavy Duty a command and control center for towing.

**DRIVER INFORMATION DISPLAY.** Go and tow in the know: the full-color high-resolution screens in select Ram models feature dozens of graphics, conveying real-time data on critical mechanical functions.

**FRAME-MOUNTED GOOSENECK HITCH ASSEMBLY.** Available from Mopar®, with easy ball removal for fast flatbed conversion. Optional Fifth-Wheel/Gooseneck Prep Package includes in-bed 7-pin connector. (Ball not included in Package.)



**AVAILABLE MOPAR® FIFTH-WHEEL HITCH** enables super-tough trailer towing with authority. Options include a hitch with sliding rails or one that slides directly into the optional Fifth-Wheel/Gooseneck Prep Package mounts, saving time and effort.

**THE RAM VIEW OF HAULING AND TOWING: CONFIDENCE AND CONVENIENCE.** Don't bother to look back to the old days. Today, Ram 2500/3500 stand out by offering an available Cargo-View Camera<sup>5</sup> that provides an on-screen display of the cargo bed. It's ideal for gooseneck or fifth-wheel hookups—and it gets better. Add the available ParkView® Rear Back-Up Camera<sup>5</sup> to ease conventional trailer hookups, and you're adding more capability: you can toggle between the two views on the available 8.4-inch touchscreen.



\*When properly equipped. Vehicle shown above does not represent max configurations. Properly secure all cargo.

# TONED MUSCLE ALWAYS WORKS OUT THE BEST.



## A LEGEND: 5.7L HEMI® V8



**383 HORSEPOWER | 400 LB-FT OF TORQUE**

**13,910-LB MAX TOWING\* [3500] • 13,890-LB MAX TOWING\* [2500]**

**THINK COMPETITIVE FUEL EFFICIENCY** accompanied by long-proven performance and capability measured in tens of thousands of miles. When compared to other V8 engines in its class, the 5.7-liter HEMI V8 in single-rear-wheel Ram Heavy Duty models delivers incredible standard power and torque—exactly the parameters demanded by tough work and arduous play.

**IDFSO** (interactive Deceleration Fuel Shut-Off) turns off the flow of fuel during deceleration, with no noticeable changes in operation, helping enhance fuel efficiency.

**HEAVY-DUTY COOLING.** You expect this powerhouse to stay cool on the job. A heavy-duty cooling system is standard on all HEMI V8 engines in the Ram Heavy Duty arsenal.



## A BRUTE: 6.4L HEMI V8



**410 HORSEPOWER | 429 LB-FT OF TORQUE**

**16,520-LB MAX TOWING\* [3500] • 16,320-LB MAX TOWING\* [2500]**



**BEST-IN-CLASS<sup>2</sup> GAS HORSEPOWER** from the 6.4-liter HEMI V8 means 410 working horses. For many, this is the ideal gas engine for acceleration and highway merging and cruising, even under the heaviest loads.



**BEST-IN-CLASS<sup>6</sup> GAS TOWING** on Ram 2500: with the 6.4-liter HEMI V8 you've got optimum strength at your service—up to 16,320 lb. Ram 3500 DRW models reach up to a very capable 16,520 lb. (All figures apply to properly equipped trucks.)

**OUTSTANDING GAS TORQUE.** Along with that best-in-class<sup>2</sup> gas horsepower is exceptional gas torque; the 6.4-liter HEMI V8 is rated at a remarkable 429 lb-ft @ 4,000 rpm.

**INDIVIDUAL CYLINDER FUEL CONTROL.** The 6.4-liter HEMI V8 offers the advanced technology of Individual Cylinder Fuel Control, a diagnostic monitoring system that enables air/fuel refinements and ensures ideal mixtures for each individual cylinder.

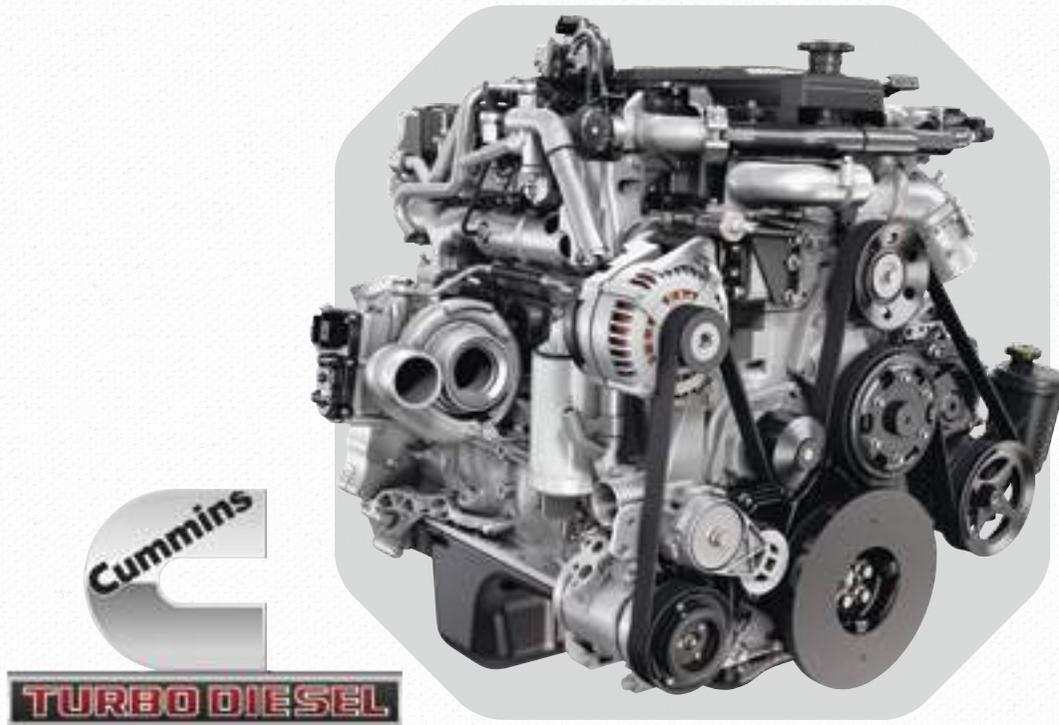
**EGR SYSTEM.** The cooled Exhaust Gas Recirculation (EGR) System is unique for a gas engine; common to diesel engines, the EGR System is designed to enhance fuel efficiency in heavy-load and uphill towing situations. Heavy-duty cooling further enhances overall performance.

**FUEL-EFFICIENT PERFORMANCE** is engineered into the electro-mechanical heart of the 6.4-liter HEMI V8. Operating with seamless precision, our MDS/Fuel Saver Technology helps save fuel with no compromise or noticeable changes in engine operation. While cruising at highway speeds, the engine shuts off four of the eight cylinders, maintaining speeds with four-cylinder-like efficiency.

**MUSCULAR PAYLOAD** rounds it out. After all, this is why you're looking at a Ram Heavy Duty. So get serious looks while you're seriously hauling. With its standard 6.4-liter HEMI V8, a Ram 3500 Dually handles payloads up to 7,390 lb when properly equipped.

**AN ENABLER.** The 5.7-liter HEMI V8 and the 6.4-liter HEMI V8 powerplants are mated to the long-proven 66RFE 6-speed automatic transmission. This component delivers heavy-duty levels of capability for towing and hauling. Among the advantages: driver-adaptive shifting, three multiple clutch packs, dual filters on a dual-stage pump and an independent lubrication cooler to ensure ample pressures—and peace of mind—under all driving and towing/hauling situations.

\*When properly equipped.



# A MONSTER: 6.7L CUMMINS® TURBO DIESEL

**385 HORSEPOWER | 900 LB-FT OF TORQUE**

**31,210-LB MAX TOWING\* [3500]**

**370 HORSEPOWER | 800 LB-FT OF TORQUE**

**17,980-LB MAX TOWING\* [2500]**

Proven in worldwide use, the 6.7L Cummins Turbo Diesel is engineered to the tolerances and durability to power semi-class big rigs. As an available diesel engine for Ram Heavy Duty models, the Cummins Turbo comes in three distinctive calibrations; each specifically addresses job-rated use and optimal transmission output.

The results give Ram Heavy Duty models uncompromising strength for towing and hauling, backed with the dependability that serves as a benchmark for today's pickup.

Irrespective of the power output, every Cummins features a next-generation Diesel Exhaust Fluid (DEF) System, a super-efficient Diesel Cooling System with 11-blade fan and a class-exclusive<sup>2</sup> "smart" diesel exhaust brake. Mammoth output is found with available torque of 900 lb-ft, the contribution of a Cummins High Output in Ram 3500 models that enables world-class capability for towing and hauling.

The Cummins Turbo Diesel and Ram Heavy Duty. Over nearly three decades, this working combination has figured into more than two million applications—and it's an ever-growing figure that sums up the enduring quality of this unbeatable partnership.

**ROBUST AND IMPRESSIVE DIESEL TOWING** for Ram 3500 is part of the Cummins legacy. With the available Cummins High Output Turbo, you can take advantage of that ready-to-work 900 lb-ft of torque and 385 horsepower. Towing at this point is rated at a jaw-dropping 31,210 lb. (All towing figures apply to properly equipped trucks.)



#### **BEST-IN-CLASS<sup>2</sup> DIESEL OIL CHANGE INTERVALS.**

The technology lets you travel up to 15,000 miles between changes, a serious reduction of downtime that helps to lessen costs of regular maintenance.

**6-SPEED AUTOMATIC TRANSMISSION.** Incredible torque for Ram 2500 comes from the available Cummins rated at 370 hp and 800 lb-ft, mated to the proven 68RFE 6-speed automatic; this beefed-up powertrain configuration is also available for Ram 3500 models.



**6-SPEED MANUAL TRANSMISSION.** The class-exclusive<sup>2</sup> G56 6-speed manual transmission is packaged with the 350 hp/660 lb-ft Cummins Turbo Diesel. The 6-speed manual offers exceptional control when towing and hauling, and its availability for Ram 2500/3500 clearly separates Ram Heavy Duty from the contenders.

#### **AISIN® HEAVY-DUTY 6-SPEED AUTOMATIC TRANSMISSION.**

For the Cummins High Output Turbo Diesel and its 900 lb-ft of available torque, the AISIN Heavy-Duty 6-speed automatic transmission ably steps up to the task. AISIN advantages include a Transmission Control Module and a ramped-up Tow/Haul Mode designed to exceed commercial-grade hauling demands.

# RAM TECHNOLOGY STARTS WITH SAFETY & SECURITY.

▶ Side-impact Door Beams  
Designed with forgiveness in mind, these door beams are engineered to absorb impact force from every angle.

▶ Dynamic Front Crumple Zones  
These crumple zones are engineered to bear the worst of any impact, helping keep cab passengers safe and secure.

▶ ParkSense® Front and Rear Park Assist<sup>2</sup>—Available

▶ Rain Brake Support

▶ Hydraulic Boost Compensation

▶ Ready Alert Braking

▶ Hill Start Assist

▶ Rain-sensitive Windshield Wipers—Available

▶ Trailer Sway Damping<sup>7</sup>

▶ All-Speed Traction Control

▶ Antispin Rear Differential—Available

▶ Electronic Brake-Force Distribution

▶ Antilock Brake System (ABS)

▶ Auto High-Beam Headlamp Control—Available

▶ Uconnect® and SiriusXM® Travel Link<sup>8</sup> keep you in the know, with detailed weather maps and info on traffic delays and road dangers—Available



In a 2017 Ram 2500/3500, road manners join comfort and capability to ride hand in hand with safety and security. Standard on every model, the Electronic Stability Control (ESC)<sup>7</sup> System is indispensable, employing a wealth of technological advantages to keep things right. Assets include:

- ▶ **All-Speed Traction Control** helps regulate wheel spin. If slippage occurs during acceleration, automatic throttle control will reduce torque; in extremes (like accelerating from pavement to ice), it will apply the brakes and reduce the engine power to maintain control.
- ▶ **Trailer Sway Damping<sup>7</sup>** detects yaw and applies selective brake pressure on the tow vehicle's opposite side to counteract and reduce the sway.

The Ram Heavy Duty braking system features optimized pedal travel to provide quick power assist. Rear wheel-speed sensors are positioned for protection against road elements. ESC<sup>7</sup> features multiple assets for braking; it even includes vehicle control when stationary. These encompass:

- ▶ **Antilock Brake System (ABS).** Monitoring each wheel's speed, the ABS design also incorporates back-up braking should one of the two braking circuits be compromised.
- ▶ **Electronic Brake-Force Distribution** regulates brake pressure from front to rear to minimize stopping distances.
- ▶ **Ready Alert Braking** senses the moment when the driver's foot is lifted from the accelerator; it applies an imperceptible brake force to ensure that pads and discs are lined up should an emergency stop be required.
- ▶ **Rain Brake Support** automatically and seamlessly activates when the driver turns on the windshield wipers; all brake calipers gently pulse against their respective rotors to remove water from the pads.
- ▶ **Hydraulic Boost Compensation.** Should a failure occur in the vacuum brake booster or any related line (e.g., a rupture from tough off-roading), the brake controller will run the ABS pump; our system is so sophisticated, it conveys the problem to the driver. Most important, the brakes perform as normal until the failure is serviced.
- ▶ **Hill Start Assist.** When the vehicle is angled on hills or inclines, Hill Start Assist keeps your Ram pickup stationary for two seconds after the brakes have been released or until the accelerator is depressed.

**Available ParkSense<sup>®</sup> Front and Rear Park Assist System<sup>5</sup>** Integrated sensors use ultrasonic waves to detect objects as far as 47 inches from the bumpers. Read-outs in the gauge cluster/display along with audible chimes help notify the driver of proximity to front and/or rear objects.

**NAV ASSIST | REAL-TIME VEHICLE INFO | VEHICLE SYSTEMS MONITORING | CUSTOMIZABLE**

## DRIVER INFORMATION DISPLAY

Your Ram Heavy Duty is a rolling powerhouse of knowledge, instant information and state-of-the-art communications technologies. And it's all in your command, with the available and customizable full-color seven-inch Driver Information Display with some 34 menu options, including detailed graphics that convey real-time vehicle information.

Select models inform you with a six-ring instrumentation cluster, and you can always move up to the largest available radio touchscreen<sup>3</sup>—8.4 inches. Add truly awesome leading-edge telematics through Uconnect, and you've got it all: tunes, info, web content<sup>9</sup>, vehicle control and instant data. This is Ram Heavy Duty.

# CARGO MANAGEMENT FOR VOCATIONS AND VACATIONS.



## THE BENCHMARK FOR CARGO VERSATILITY.

► **THE CLASS-EXCLUSIVE<sup>2</sup> RAMBOX<sup>®</sup> CARGO MANAGEMENT SYSTEM.** We invented it, and it's still a class-exclusive<sup>2</sup> Ram advantage. The bins, rails and divider are so adaptable, they let you secure and arrange cargo—and handle dozens of authentic accessories from Mopar<sup>®</sup>. Both side bins are illuminated, lockable—and drainable.



**AVAILABLE PREMIUM KEYLESS ENTER 'N GO<sup>™</sup>** Multiple conveniences are at hand: keyless (bladeless) Remote Start, control of the AllSecure<sup>®</sup> Locking System (including both RamBox System bins, if so equipped), and control of the panic button.





# STOW YOUR GEAR

**STOW IT, STORE IT, LOCK IT** Lockable, drainable and illuminated, the two side boxes carry it all: tools, sports equipment—even iced beverages. They also accommodate numerous Mopar® accessories for work and play.



# LIGHT THE BED

**TWO POINTS OF LIGHT** Augmenting the CHMSL-mounted cargo bed light, these side bed-mounted LED lights are perfect for night loading, and operate without tonneau cover adjustment (if so equipped).

# EXTEND & DIVIDE

**COLLAPSIBLE AND RIGHT AT HAND: THE BED EXTENDER/DIVIDER**

Create compartments for specific cargo, or extend space to the open tailgate. With a smart, thin profile, it's easily stored at the head of the bed when not in use.

# SECURE THE LOAD

**CARGO RAIL SYSTEM WITH ADJUSTABLE TIE-DOWN CLEATS** Make sure it's all safe and secure. Cargo rails also accommodate numerous accessories from Mopar, while the four movable cleats ensure that your cargo stays where it's supposed to.



# YES, TAKE IT ALL WITH YOU.



► **PLACES TO STORE, FROM DASH TO FLOOR.** Hauling, carrying, moving. That's life with Ram. Which is why, depending on model, you'll find it all: dual glove boxes, removable and drainable in-floor bins, multi-use center consoles, under- and behind-the-seat storage—and the fold-flat load floors of Quad Cab® and Crew Cab.



# THE INDUSTRY STANDARD FOR CONNECTED VEHICLE PLATFORMS.



Uconnect

EVERYTHING YOU NEED TO STAY CONNECTED.



DISCOVER NEW PLACES

AT HOME OR ON THE ROAD: FIND THE BEST RESTAURANTS, SHOPPING AND ENTERTAINMENT VENUES WITH A QUICK SEARCH.\*

\*Certain features not available while vehicle is in motion.



START YOUR RAM FROM AFAR

WARM UP THE ENGINE AND CABIN, UNLOCK YOUR DOORS OR FLASH YOUR HEADLAMPS—JUST BY USING YOUR PHONE!†



CUSTOMIZE WITH DRAG AND DROP

SELECT FROM A MENU OF APPS AND DRAG YOUR CHOICES INTO PLACE ALONG THE BOTTOM ROW FOR EASY CUSTOMIZATION.

CALL



ASSIST IN EMERGENCIES

IT'S INVALUABLE AND POTENTIALLY LIFE-SAVING. ACCESS 9-1-1 CALL<sup>19</sup> OR ROADSIDE ASSISTANCE<sup>16</sup> WITH THE TOUCH OF A BUTTON.



HOST A HOTSPOT

UPLOAD AND DOWNLOAD, POST AND SEARCH. UCONNECT<sup>®</sup> WITH AVAILABLE WI-FI HOTSPOT<sup>™</sup> LETS YOU CONNECT YOUR DEVICES DIRECTLY TO THE WEB.

\*Additional charges apply.



NAVIGATE YOUR ADVENTURES

ENTER DESTINATIONS WITH JUST YOUR VOICE AND GET TURN-BY-TURN AUDIO DIRECTIONS. IT'S THE SMARTEST ROUTE TO ANY DESTINATION—ON- OR OFF-ROAD.



LISTEN TO MUSIC, TALK SHOWS AND SPORTS

KEEP THINGS MOVING WITH THE BEST VARIETY OF ENTERTAINMENT ON THE ROAD. YOU CAN SCREAM ABOUT SPORTS, TALK BACK TO TALK RADIO, CHUCKLE AT YOUR FAVORITE COMIC AND SOUND OFF ABOUT THE NEWS.



WEATHER ON DEMAND

WHETHER YOU'RE TRAVELING ACROSS TOWN OR ACROSS THE COUNTRY, PULLING UP THE MOST RECENT WEATHER REPORT GIVES YOU INSTANT INFO ABOUT WHAT NATURE HAS IN STORE.



SPEAK UP AND BE HEARD

SIRI<sup>®</sup> EYES FREE<sup>®</sup> RESPONDS TO YOUR VOICE<sup>™</sup> MAKING FOR A CONVENIENT WAY TO SAFELY AND EASILY CONTROL YOUR IPHONE.<sup>®</sup>

SiriusXM<sup>®</sup> TRAVEL LINK<sup>™</sup>

SEE INTO THE FUTURE

TAKE ADVANTAGE OF WEATHER AND TRAFFIC REPORTS WITH A FIVE-YEAR TRIAL SUBSCRIPTION<sup>†</sup> TO SIRIUSXM<sup>®</sup> TRAVEL LINK<sup>™</sup> AND SIRIUSXM TRAFFIC<sup>®</sup>.

†Available on select Uconnect systems. See dealer for details.



KNOW THE ROAD

KEEP INFORMED ABOUT WHAT LIES AHEAD, FROM TRAFFIC TO ROAD CONDITIONS AND DELAYS—AND EVEN POSSIBLE DANGERS.





# ULTIMATE CAPABILITY POWER WAGON®



**6.4L HEMI® V8 | 12,000-LB WARN® WINCH | RAM ARTICULINK® FRONT SUSPENSION | 33" GOODYEAR® DURATRAC® TIRES | ELECTRONIC LOCKING DIFFS | 14.3" GROUND CLEARANCE | 26.3" FRONT SUSPENSION ARTICULATION**



**ELECTRONICALLY DISCONNECTING FRONT SWAY BAR | POWDER-COATED STEEL BUMPERS | FUNCTIONAL TOW/RECOVERY HOOKS | HEAVY-DUTY STEEL UNDERCARRIAGE PROTECTION | BILSTEIN MONOTUBE SHOCKS**

**THERE IS SIMPLY NO OTHER TRUCK YOU CAN BUY WITH THIS LEVEL OF FACTORY-WARRANTED CAPABILITY. 6.4L HEMI® V8** with 410 HP and 429 lb-ft of torque • Ram Power Wagon® spec **12,000-lb WARN® Winch** with 90 ft (85 ft usable) of 7/16-inch galvanized aircraft wire cable • **Ram Articulink® Front Suspension** adds an extra rubber bushing and link to the front control arms, allowing the axle to roll with the suspension • **33-inch Goodyear® DuraTrac® Tires** offer excellent traction on- and off-road • **Electronically Locking Front and Rear Differentials** offer superior extreme off-road capability without compromising on-road performance • **14.3-inch Ground Clearance** from taller, softer springs • **Electronically Disconnecting Front Sway Bar**, essentially a two-piece bar that disconnects, allowing far more front suspension articulation • **Powder-coated Steel Bumpers** with functional integrated front-end Tow/Recovery Hooks • **Tubular Steel Underbody Protection and Steel Skid Plates** for the transfer case and gas tank • Ram Power Wagon spec **Bilstein® Monotube Shock Absorbers** are engineered to handle rapid off-road movements throughout the length of their travel.

Get more at [RAMTRUCKS.COM](http://RAMTRUCKS.COM)



**SIGNATURE INSTRUMENTATION.** Ram Power Wagon® certainly rules the off-road, but it's abundantly clear who's running this operation. While the six-ring instrumentation cluster instantly telegraphs major vehicle functions, you're also kept in the know with an active (and interactive) driver-selectable menu of dozens of real-time mechanical data, all of it controlled by steering wheel-mounted buttons.

**MUSCLE TAKES YOU FORWARD. SUCH STYLE MIGHT TAKE YOU ABACK.**

Unrivaled capability in no way translates into unpolished surroundings. To the contrary—the design of the Ram Power Wagon® interior offers levels of refinement and comfort that separate you from the great outdoors—and separate this truck from most others. Count on generous Crew Cab seating, ample storage, and telematics and communications that keep you in touch with the world. Shown below with available Black leather-trimmed seats.

**BRANDED INTERIOR TREATMENTS.** New for the 2017 Ram Power Wagon: revised seat designs that combine total attitude with total comfort. Our designers took a cue from that notorious Ram 1500 upstart, Rebel®; now you'll find a Power Wagon signature on the seat bolsters with an all-new pattern that replicates the tread design of the oversize Goodyear® tires. To put it concisely, it rocks.



**THE NAME SAYS IT ALL: THIS IS EXCEPTIONAL CAPABILITY.**

Build a truck with this degree of strength, and the off-road becomes an on-ramp to adventure or serious work—because this Ram 2500 Crew Cab packs it all in. In addition to the features from the previous page, add standard Hill Descent Control. A 180-amp alternator. Solid Tru-Lok® front and rear axles with uncompromising 4.10 axle ratios. That front stabilizer bar allows up to 26.3 inches of articulation, with a standard 14.3-inch ground clearance. Factor in that manual-shifting part-time 4x4 transfer case, and you can take on just about anything. Get more at [RAMTRUCKS.COM](http://RAMTRUCKS.COM)



# UNLIMITED STYLE. LIMITED

▶ **NO LUXURY HAS BEEN SPARED.** Driving a Ram Heavy Duty Limited removes all doubt as to who's in charge. Look for a unique Limited tailgate, body-color wheel flares and—on single-rear-wheel models—wheel-to-wheel side steps and 20-inch painted aluminum wheels with chrome inserts. Enjoy the same head-turning attention whether towing a boat or rolling up to the golf club. Shown below: tailgates with the standard chrome and available Black Ram logo.





► **THINK HEAVYWEIGHT CHAMPION IN A TUXEDO.** Ram Heavy Duty Limited. With premium features like a leather-trimmed Black interior, buckled map pockets, center console with tambour door, and instrumentation that includes a 7-inch Driver Information Display and 8.4-inch touchscreen radio with Navigation, this luxury-driven pickup has it all.





# LARAMIE LONGHORN<sup>®</sup>

**LARAMIE LONGHORN<sup>®</sup>: THE ARCHITECTURE OF REFINEMENT.** It's the ideal build: shown with available Monotone paint, which includes chrome front and rear bumpers, body-color wheel flares, cab-length chrome tubular side steps and premium aluminum wheels. The interior—described on the following pages—is equally as refined.









► **RAM LARAMIE LONGHORN®** This proves that craftsmanship is alive and thriving. Appointments include heated/ventilated front seats, European burled wood accents, front seat-back map pockets with silver buckles, multiview full-color Driver Information Display and premium leather trim throughout. Shown here in Cattle Tan/Black.



# LIVE THE GOOD LIFE. LARAMIE®



► **LIFE IS GOOD IN LARAMIE.®** Premium standards include chrome LED taillamps and bifunctional projector headlamps, chrome grille, chrome mirrors with memory function, body-color wheel flares and the ParkView® Rear Back-Up Camera.<sup>5</sup>



# SIX-PACK

▶ **HERE, THE VIEW IS ALWAYS STUNNING.** In a Ram Heavy Duty Laramie,<sup>®</sup> sophistication includes standard seating for six in Black or Light Frost Beige (shown), heated and ventilated leather-trimmed driver and front-passenger seats, and refinements like a heated steering wheel, power pedals with memory, premium audio system and Dual-Zone Automatic Temperature Control.

# LARAMIE<sup>®</sup> SPORT APPEARANCE GROUP



► **THE LARAMIE SPORT APPEARANCE GROUP.**

The Group takes what's fine and makes it more refined, adding touches that include a Monotone paint treatment for the body, grille surround, bumpers, wheel flares and door handles, and a Black treatment for the badges, mirrors, projector headlamps and those 20-inch aluminum wheels.





► **TEXAS IS SO SPECIAL, IT MERITS ITS OWN TRIM.**

Ram honors the Lone Star state with a heavy-duty namesake. Ram 2500/3500 Lone Star\* comes to work with a chrome billet grille, fog lamps and 18-inch polished aluminum wheels. Inside, look for premium cloth seats and a leather-wrapped steering wheel with remote audio controls.



\*Lone Star model available only in Texas.



LONE STAR\* / BIG HORN®  
**SPORT**  
APPEARANCE GROUP

► **THIS IS HOW YOU MELD PERSONALITY WITH ATTITUDE.**

The Ram Lone Star\*/Big Horn Sport Appearance Group. A Monotone paint treatment (available in Brilliant Black, Bright White, Bright Silver, Delmonico Red and Granite Crystal) for the body, grille surround, door handles and bumpers teams up with a Blacked-out application for the badges, headlamp bezels—and even the head-turning 20-inch aluminum wheels.



\*Lone Star model available only in Texas.

# NEW FOR 2017: THE RAM 2500 4x4 OFF-ROAD PACKAGE.



- ▶ **IT MAKES RAM 2500 TOUGHER THAN EVER.** We get it: you want exceptional off-road capability—and the new Ram 2500 4x4 Off-Road Package is designed for those who need essential off-road upgrades combined with tough 3/4-ton pushing, pulling and hauling.
- ▶ **A FULL PACKAGE FOR A FULL-SIZE PICKUP.** The Off-Road Package includes a heavy-duty transfer case skid plate shield, performance-tuned Bilstein® monotube shocks, electronic Hill Descent Control, large front tow hooks, wheel flares and custom 4x4 graphics—all riding on tough Firestone® On-/Off-Road tires. Available for most Ram 2500 4x4 models, with this long list of functional upgrades, the Off-Road Package gives you the confidence to explore off the beaten path.

**RAM 2500/3500 TRIM LEVELS**

**TRADESMAN®**

Tough, no-nonsense capability for the workman



**POWERTRAIN**

- 5.7L HEMI® V8/6-speed automatic (26A)
- 6.4L HEMI V8 Multi-Displacement System (MDS)/6-speed automatic (22A)
- 6.7L I-6 Cummins® Turbo Diesel/6-speed manual (2EA)
- 6.7L I-6 Cummins Turbo Diesel/6-speed automatic (2FA)
- 6.7L I-6 Cummins High Output Turbo Diesel/6-speed AISIN® automatic (28A) (3500 only)

**STANDARD FEATURES:**



**INTERIOR AMENITIES**

- Air conditioning
- Heavy-duty vinyl 40/20/40 split-bench seat
- Black vinyl floor covering
- Mini floor console
- Instrument panel Black bezel
- Tinted windows
- Rear fixed window
- Rearview day/night mirror
- 12-volt auxiliary power outlet
- Speed control
- 6-speaker audio system
- Manual 6 x 9-inch Black mirrors
- Automatic headlamps
- Tilt steering column
- Instrument cluster with 3.5-inch Driver Information Display
- Radio 3.0 AM/FM
- Media Hub with audio input jack and remote USB port

**EXTERIOR FEATURES**

- Painted steel wheels
- Black front and rear bumpers
- Black grille
- Quad-lens halogen headlamps
- Incandescent taillamps
- Black door handles
- Body-color headlamp filler panel

**CAPABILITY & FUNCTIONALITY**

- Manual shifting, part-time 4x4 transfer case
- Conventional front and rear differentials
- Dual 730-amp maintenance-free batteries (with available Cummins)
- Heavy-duty engine cooling
- Heavy-duty front and rear shock absorbers
- Front stabilizer bar
- Class V hitch receiver
- Trailer tow with 4- and 7-pin wiring harness connector

**SAFETY & SECURITY**

- Six air bags<sup>15</sup> including driver and front-passenger, side-curtain and front seat side-mounted
- Four-wheel antilock disc brakes
- Locking tailgate
- Electronic Stability Control (ESC)<sup>7</sup>
- Sentry Key® Theft Deterrent System
- Variable/intermittent windshield wipers
- Tire Pressure Monitoring Display (2500)
- Tire Pressure Information System (3500)

**SLT**

Uncompromising strength with welcome touches of comfort



**POWERTRAIN**

- 5.7L HEMI V8/6-speed automatic (26G)
- 6.4L HEMI V8 MDS/6-speed automatic (22G)
- 6.7L I-6 Cummins Turbo Diesel/6-speed manual (2EG)
- 6.7L I-6 Cummins Turbo Diesel/6-speed automatic (2FG)
- 6.7L I-6 Cummins High Output Turbo Diesel/6-speed AISIN automatic (28G) (3500 only)

**INCLUDES SELECT TRADESMAN FEATURES, PLUS:**



**INTERIOR AMENITIES**

- Cloth 40/20/40 bench seat
- Premium vinyl door trim with map pocket
- Carpet floor covering
- Front and rear floor mats
- Overhead console with map lights
- Chrome accent shift knob
- Uconnect® 5.0 touchscreen radio with Bluetooth® Integrated Voice Command<sup>4</sup>
- Remote USB charge-only port
- Rearview mirror with microphone
- Rear power-sliding window
- Instrument panel color-keyed bezel
- SiriusXM® Satellite radio<sup>9</sup> with 1-year trial subscription

**EXTERIOR FEATURES**

- Chrome front and rear bumpers
- Chrome grille
- Chrome door handles
- Steel chrome-clad wheels

**CAPABILITY & FUNCTIONALITY**

- Electronic shifting, part-time 4x4 transfer case
- Remote Keyless Entry with AllSecure®
- Electronic trailer brake controller

**RAM 2500/3500 TRIM LEVELS**

**LONE STAR\*/ BIG HORN®**

It stands up and stands alone—with its own trim level for Texas



**POWERTRAIN**

- 5.7L HEMI® V8/6-speed automatic (26Y/26Z)
- 6.4L HEMI V8 Multi-Displacement System (MDS)/6-speed automatic (22Y/22Z)
- 6.7L I-6 Cummins® Turbo Diesel/6-speed manual (2EY/2EZ)
- 6.7L I-6 Cummins Turbo Diesel/6-speed automatic (2FY/2FZ)
- 6.7L I-6 Cummins High Output Turbo Diesel/6-speed AISIN® automatic (28Y/28Z) (3500 only)

**INCLUDES SELECT SLT FEATURES, PLUS:**



**INTERIOR AMENITIES**

- Premium cloth 40/20/40 bench seat with 10-way power adjustment and power lumbar control on the driver's side
- Leather-wrapped steering wheel with remote audio controls
- 115-volt power outlet
- Fold-flat load floor (Crew Cab)
- 60/40 split-folding rear seat
- SiriusXM® Satellite Radio® with 1-year trial subscription

**EXTERIOR FEATURES**

- Fog lamps
- Chrome grille surround with billets
- 18-inch polished aluminum wheels (SRW)
- 17-inch steel wheels with chrome finish (DRW)

**CAPABILITY & FUNCTIONALITY**

- Antispin differential rear axle

**SAFETY & SECURITY**

- Remote Start System (automatic transmission only)



**AVAILABLE SPORT APPEARANCE GROUP**

Includes:

- Monotone paint
- Body-color painted front and rear bumpers
- Body-color grille surround
- Black badges for fender/doors/tailgate
- Black bezel quad-lens halogen headlamps
- Body-color door handles
- 20-inch Black painted aluminum wheels
- ParkView® Rear Back-Up Camera<sup>5</sup>

**POWER WAGON®**

This is attitude and capability taken to the max—exactly where you want to go. 2500 Crew Cab only



**POWERTRAIN**

- 6.4L HEMI V8 MDS/6-speed automatic (22P)

**INCLUDES SELECT SLT FEATURES, PLUS:**



**INTERIOR AMENITIES**

- Premium 7-inch Driver Information Display with Power Wagon graphics
- Premium cloth seats with embossed tread pattern
- Premium door trim
- Premium instrument panel with stitching and Power Wagon badge
- SiriusXM Satellite Radio® with 1-year trial subscription

**EXTERIOR FEATURES**

- Premium LED taillamps—Black
- Bifunctional projector headlamps—Black
- Clearance lamps
- Fog lamps
- Black headlamp filler panel
- Unique Power Wagon Black grille
- Black powder-coated front and rear bumpers
- Black wheel flares
- Two-tone paint with Black lower
- 17-inch aluminum wheels with Matte Black pockets
- LT285/70R17D OWL All-Terrain tires
- Power Wagon graphic decals

**CAPABILITY & FUNCTIONALITY**

- Hill Descent Control
- 180-amp alternator
- Manual shifting, part-time 4x4 transfer case
- 4.10 axle ratios
- Tru-Lok® front and rear electronic locking axles
- Front electronic disconnecting stabilizer bar
- Bilstein® performance front and rear shocks
- Tow hooks
- Fuel tank skid plate shield
- Transfer case skid plate shield
- Front 12,000-lb WARN® winch

**AVAILABLE LEATHER AND LUXURY GROUP**

Includes:

- Leather-trimmed 40/20/40 bench seat
- Ventilated driver and front-passenger seats
- Heated driver and front-passenger seats
- Power 10-way memory driver, 6-way passenger seats
- Dual-Zone Automatic Temperature Control
- Overhead console with Universal Garage Door Opener
- LED interior lighting
- Security alarm
- Premium 11 10-speaker audio system with subwoofer
- ParkView Rear Back-Up Camera<sup>5</sup>
- ParkSense® Front and Rear Park Assist System<sup>5</sup>
- Uconnect® 8.4 touchscreen radio with Bluetooth® Integrated Voice Command<sup>4</sup>

**RAM 2500/3500 TRIM LEVELS**

**LARAMIE®**

Heavy-duty capability joins heavy-duty luxury



**POWERTRAIN**

- 5.7L HEMI® V8/6-speed automatic (26H)
- 6.4L HEMI V8 Multi-Displacement System (MDS)/6-speed automatic (22H)
- 6.7L I-6 Cummins® Turbo Diesel/6-speed manual (2EH)
- 6.7L I-6 Cummins Turbo Diesel/6-speed automatic (2FH)
- 6.7L I-6 Cummins High Output Turbo Diesel/6-speed AISIN® automatic (28H) (3500 only)

**INCLUDES SELECT BIG HORN® FEATURES, PLUS:**



**INTERIOR AMENITIES**

- Leather trim 40/20/40 bench seat
- Ventilated driver and front-passenger seats
- Heated driver and front-passenger seats
- Deluxe door trim panels
- Dual-Zone Automatic Temperature Control
- Instrument panel woodgrain bezel
- Power 10-way memory driver, 6-way passenger seats
- LED interior lighting
- Heated steering wheel
- Premium II 10-speaker audio system with subwoofer
- Premium cluster with 7-inch Driver Information Display
- SiriusXM® Satellite Radio<sup>8</sup> with 1-year trial subscription

**EXTERIOR FEATURES**

- Premium LED taillamps—chrome
- Chrome exterior mirrors with memory function
- Bifunctional projector headlamps—chrome
- Chrome grille
- Body-color wheel flares
- Laramie badge
- 18-inch polished aluminum wheels (SRW)
- 17-inch polished aluminum wheels (DRW)

**SAFETY & SECURITY**

- Security alarm
- ParkView® Rear Back-Up Camera<sup>5</sup>
- ParkSense® Front and Rear Park Assist System<sup>5</sup>



**AVAILABLE SPORT APPEARANCE GROUP**

Includes:

- Monotone paint
- Body-color painted front and rear bumpers
- Body-color grille with Black inserts
- Blacked-out projector headlamps and Blacked-out LED taillamps
- Body-color door handles
- 20-inch Black painted wheels with OWL tires (SRW models only)
- Black exterior mirrors
- Black badges for fender/doors/tailgate

**LARAMIE LONGHORN®**

Impressive levels of power and refinement



**POWERTRAIN**

- 5.7L HEMI V8/6-speed automatic (26K)
- 6.4L HEMI V8 MDS/6-speed automatic (22K)
- 6.7L I-6 Cummins Turbo Diesel/6-speed automatic (2FK)
- 6.7L I-6 Cummins High Output Turbo Diesel/6-speed AISIN automatic (28K) (3500 only)

**INCLUDES SELECT LARAMIE FEATURES, PLUS:**



**INTERIOR AMENITIES**

- Premium leather bucket seats
- Premium door trim panels
- Luxury front and rear floor mats
- Leather-wrapped shift knob
- Full-length premium upgraded floor console
- Laramie Longhorn instrument cluster
- Laramie Longhorn interior accents
- Heated second-row seats
- Uconnect® 8.4 NAV touchscreen radio with Bluetooth® Integrated Voice Command<sup>4</sup> and premium Navigation
- Premium wood/leather-wrapped steering wheel
- SiriusXM Satellite Radio<sup>8</sup> with 1-year trial subscription

**EXTERIOR FEATURES**

- LED Bed Lighting
- Accent-color front bumper
- Accent-color rear bumper
- Mopar® door sill guards
- Chrome grille with Ram logo
- Accent-color running boards
- Laramie Longhorn badge
- 18-inch polished aluminum wheels with accent-color inserts (SRW)
- 17-inch polished aluminum wheels with Longhorn center cap (DRW)
- Tow hooks
- Spray-in bedliner
- Chrome belt moldings

**SAFETY & SECURITY**

- Remote Start System
- Security alarm
- ParkView Rear Back-Up Camera<sup>5</sup>
- ParkSense Front and Rear Park Assist System<sup>5</sup>



**AVAILABLE MONOTONE PAINT**

- Includes chrome front and rear bumpers, body-color wheel flares, chrome side steps and 18-inch polished aluminum wheels with Silver inserts

**RAM 2500/3500 TRIM LEVELS**

**LIMITED**

A premium Black leather-trimmed interior sets this Ram apart



**POWERTRAIN**

- 5.7L HEMI® V8/6-speed automatic (26M)
- 6.4L HEMI V8 Multi-Displacement System (MDS)/6-speed automatic (22M)
- 6.7L I-6 Cummins® Turbo Diesel/6-speed automatic (2FM)
- 6.7L I-6 Cummins High Output Turbo Diesel/6-speed AISIN® automatic (28M) (3500 only)

**INCLUDES SELECT LARAMIE LONGHORN® FEATURES, PLUS:**



**INTERIOR AMENITIES**

- Premium leather bucket seats
- Premium door trim panels
- Luxury front and rear floor mats
- Leather-wrapped shift knob
- Full-length premium upgraded floor console
- Limited instrument cluster
- Heated second-row seats
- Uconnect® 8.4 NAV touchscreen radio with Bluetooth® Integrated Voice Command<sup>4</sup> and premium Navigation
- Premium wood/leather-wrapped steering wheel
- SiriusXM® Satellite Radio<sup>6</sup> with 1-year trial subscription

**EXTERIOR FEATURES**

- Monotone paint
- Body-color front and rear bumpers
- Chrome grille with Ram logo
- Limited chrome bodyside molding
- Unique Limited tailgate
- Chrome belt moldings
- Body-color wheel flares
- Wheel-to-wheel side steps (SRW only)
- 20-inch painted aluminum wheels with chrome inserts (SRW)
- 17-inch polished aluminum wheels (DRW)
- RamBox® Cargo Management System (6'4" box SRW models only)

**SAFETY & SECURITY**

- Keyless Enter 'n Go™
- Rain-sensitive windshield wipers
- Auto High-Beam Headlamp Control
- Remote Start System
- Security alarm
- ParkView® Rear Back-Up Camera<sup>5</sup>
- ParkSense® Front and Rear Park Assist System<sup>5</sup>



**AVAILABLE CHROME BUMPER PACKAGE**

- Includes chrome front and rear bumpers

**RAM 2500/3500 PACKAGES / EQUIPMENT GROUPS**

	Sales Code	Tradesman® Reg / Crew	SLT Reg / Crew / Mega	Lone Star® / Big Horn® Crew / Mega	Power Wagon® Crew	Laramie® Crew / Mega	Laramie Longhorn Crew / Mega	Limited Crew / Mega
<b>CPOS PACKAGE</b>		2TA	2TG	2TY/Z	2TP	2TH	2TK	2TM
<b>BOX DELETE</b> — Regular Cab, Crew Cab, not available with diesel engine	XBC	0	0	0	-	-	-	-
<b>CHROME APPEARANCE GROUP</b> — Includes chrome bumpers, chrome grille surround and steel chrome-clad wheels (SRW) or steel wheels with chrome finish (DRW)	AED	0	-	-	-	-	-	-
<b>CHROME BUMPER PACKAGE</b> — Includes chrome front and rear bumpers	AST	-	-	-	-	-	-	0
<b>COLD WEATHER GROUP</b> — Includes engine block heater and winter front grille cover (diesel only)	ADE	0	0	0	-	0	0	0
<b>CONVENIENCE GROUP</b> — Auto High-Beam Headlamp Control, rain-sensitive windshield wipers (not available with Cargo-View Camera <sup>5</sup> )	ADC	-	-	-	-	0	0	-
<b>DUAL REAR WHEEL GROUP</b> — 3500 only; not available with Crew Cab 6'4" box (includes clearance lamps for the cab, box and fenders)	WLA	0	0	0	-	0	0	0
<b>FIFTH-WHEEL / GOOSENECK TOWING PREP GROUP</b> — Includes in-bed 7-pin harness connector and mounting provisions for 5th-wheel or gooseneck hitches	AHU	0	0	0	-	0	0	0
<b>HEATED SEATS AND WHEEL GROUP</b> — Includes heated cloth seats, heated leather steering wheel (requires *M9, *MJ or *S9 seats)	AGF	-	-	0	0	-	-	-
<b>LEATHER AND LUXURY GROUP</b> — Includes overhead console with Universal Garage Door Opener, deluxe door trim panel, leather-trimmed 40 / 20 / 40 bench seat, security alarm, memory function for radio, driver seat and mirrors, sun visors with illuminated vanity, power foldaway mirrors, glove box and underhood lamp, rear dome lamp with on / off switch, LED interior lighting, front and rear door accent lighting, Premium II audio system, Uconnect 8.4 radio, ParkView Rear Back-Up Camera <sup>5</sup> ParkSense Front and Rear Park Assist System <sup>5</sup>	ACX	-	-	-	0	-	-	-
<b>LUXURY GROUP</b> — Includes overhead console with Universal Garage Door Opener, illuminated vanity mirror, auto-dimming mirror, exterior heated / power folding mirrors with signal and puddle lamps, heated seats and steering wheel for Y/Z CPOS, premium cluster with 7-inch Driver Information Display (DID), switchable dome lamp, ashtray lamp, LED Bed Lighting, leather-wrapped steering wheel with audio controls, glove box lamp, under-hood lamp	ADA	-	0	0	0	-	-	-
<b>OFF-ROAD PACKAGE</b> — Includes Hill Descent Control, tow hooks, transfer case skid plate, wheel flares, off-road decal, performance-tuned front and rear shocks and OWL On- / Off-Road tires	ARC	0	0	0	-	0	0	0
<b>POPULAR EQUIPMENT GROUP SLT</b> — Premium cloth 40 / 20 / 40 bench seat, fog lamps, OWL tires (Regular Cab only)	ALW	-	0	-	-	-	-	-
<b>POPULAR EQUIPMENT GROUP TRADESMAN</b> — Includes 40 / 20 / 40 cloth bench seat, carpeted flooring, floor mats, remote keyless entry and SiriusXM Satellite Radio <sup>6</sup>	AJY	0	-	-	-	-	-	-
<b>POWER AND REMOTE ENTRY GROUP</b> — Includes premium vinyl door trim, remote keyless entry, power heated mirrors, power windows and power locks (Regular Cab only)	AJH	0	-	-	-	-	-	-
<b>POWER WAGON PACKAGE</b> — Includes Hill Descent control, 180-amp alternator, front and rear locking differentials, 4.10 axle ratio, tow hooks, fuel tank and transfer case skid plates, front electric winch, Black wheel flares, fog lamps, Black headlamp filler panels, chrome front and rear bumpers, electronic disconnecting front sway bar, Ram Articulate <sup>®</sup> front suspension, 17-inch polished aluminum wheels with LT285/70RD OWL All-Terrain tires (2500 Crew Cab 6'4"-bed 4x4 models only)	ACE	0	-	-	-	-	-	-
<b>PROTECTION GROUP (4x4 only)</b> — Includes tow hooks and transfer case skid plate	ADB	0	0	0	-	0	0	0
<b>SNOW CHIEF GROUP</b> — Includes 180-amp alternator for 5.7L V8 (220-amp alternator for 6.4L V8 or 6.7L Cummins Turbo Diesel), antispin differential, transfer case skid plate, auxiliary switches, clearance lamps, 18-inch wheels and OWL On- / Off-Road tires (single-rear-wheel models only)	AD2	0	0	0	-	0	0	0
<b>SNOWPLOW PREP GROUP</b> — 180-amp alternator for 5.7L V8, 220-amp for 6.4L V8 and 6.7L diesel, transfer case skid plate (4x4 models only)	AHD	0	0	0	-	0	0	0
<b>SPORT APPEARANCE GROUP</b> — Includes Monotone paint, body-color door handles, Black exterior mirrors, Black Ram tailgate badge, Black 4x4 badge (4x4 only), Blacked-out headlamps, body-color painted front and rear bumpers, body-color grille with Black insert, 20-inch Black painted wheels with OWL tires and ParkView Rear Back-Up Camera <sup>5</sup> on Y/Z CPOS (SRW models only)	ADV	-	-	0	-	0	-	-

<sup>5</sup>Lone Star model available only in Texas. Complete features, options and available packages listing for all trim levels in Buyer's Guide.

**RAM 2500/3500 EXTERIOR COLORS**



Bright White



Pearl White



Bright Silver Metallic



Granite Crystal Metallic



Maximum Steel Metallic



Brilliant Black Crystal Pearl



Blue Streak Pearl



True Blue Pearl



Luxury Brown Pearl



Flame Red



Delmonico Red Pearl



Black Forest Green Pearl

**PAINT COLORS AND TWO-TONE OPTIONS**

	Tradesman®	SLT	Lone Star®/ Big Horn®	Power Wagon®	Laramie®	Laramie Longhorn®	Limited
Delmonico Red	•	•	•	• ■	M, ■	M, ■	•
Flame Red	•	•	•	• ■	M, ■	M	N/A
Luxury Brown	•	•	•	N/A	M, ■	M, ■	N/A
Black Forest	•	•	•	N/A	M, ■	M, ■	N/A
Blue Streak	•	•	•	• ■	M, ■	N/A	N/A
True Blue	•	•	•	N/A	M, ■	M	•
Bright Silver	•	•	•	• ■	M	M	•
Granite Crystal	•	•	•	• ■	M, ■	M	•
Maximum Steel	•	•	•	• ■	M, ■	M	•
Brilliant Black	•	•	•	•	M, ■	M, ■	•
Pearl White	N/A	N/A	N/A	N/A	M, ■	M, ■	•
Bright White	•	•	•	• ■	M, ■	M, ■	•



• = Available Color M = Monotone ■ = Black Lower ■ = Silver Lower ■ = White Gold Lower N/A = Not Available

\*Lone Star model available only in Texas.

**RAM 2500/3500 INTERIOR FABRICS**



**Vinyl  
Diesel Gray  
Tradesman®**

**Ram Work-Grade Vinyl  
Diesel Gray  
Tradesman**



**Sedoso/Alloy Cloth  
Diesel Gray  
Tradesman and SLT**



**Sedoso/Alloy Cloth  
Canyon Brown  
SLT**



**Sedoso/Carbide Premium Cloth  
Diesel Gray  
SLT and Lone Star®/Big Horn®**



**Sedoso/Carbide Premium Cloth  
Canyon Brown  
SLT and Lone Star®/Big Horn**



**Vinyl/Cloth Embossed Tread Pattern  
Black/Diesel Gray  
Power Wagon®**



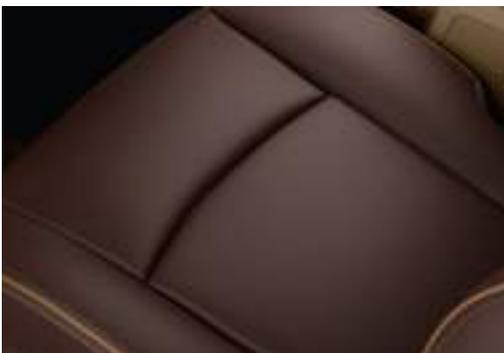
**Bristol Leather/Perforated Leather Trim  
Light Frost Beige  
Laramie®**



**Bristol Leather/Perforated Leather Trim  
Black  
Laramie and Power Wagon**



**Natura Plus Leather with Laser Etching/Perforated  
Leather with Dark Saddle Piping and Tan Accent  
Stitching  
Canyon Brown  
Laramie Longhorn®**



**Natura Plus Leather/Perforated Leather with  
Dark Saddle Piping and Tan Accent  
Stitching  
Canyon Brown  
Laramie Longhorn**



**Natura Plus Leather/Perforated Leather with Black  
Piping and Accent  
Stitching  
Cattle Tan  
Laramie Longhorn**



**Natura Plus Leather/Perforated Leather with Medium  
Graystone Piping and Accent  
Stitching  
Black  
Limited**

\*Lone Star model available only in Texas.

**RAM 2500/3500 SRW WHEELS**

**RAM 3500 DRW WHEELS**



17-inch Steel, Argent Painted Finish Standard on 2500 Tradesman® (WDA)



17-inch Polished Aluminum Included with Tradesman Power Wagon® Package (WFV)



17-inch Aluminum with Matte Black Pockets Standard on Power Wagon (WFZ)



17-inch Steel, Argent Painted Finish Standard on Tradesman (WFU)



18-inch Steel, Argent Painted Finish Standard on 3500 Tradesman Optional on 2500 Tradesman (WBN)



18-inch Steel, Chrome-Glad Standard on SLT Optional on Tradesman (WBH)



18-inch Polished Aluminum Standard on Lone Star®/Big Horn® Optional on SLT (WBE)



17-inch Steel, Chrome Finish Standard on SLT and Lone Star®/Big Horn Optional on Tradesman (WD4)



18-inch Polished Aluminum Standard on Laramie® (WBL)



18-inch Polished Aluminum with Painted Pockets  
 LEFT: Accent-Color Pockets Standard on Laramie Longhorn with Two-Tone Exterior Paint (WBM)  
 RIGHT: Silver Pockets Standard on Laramie Longhorn with available Monotone Exterior Paint (WBA)



20-inch Polished Aluminum with Accent-Color Pockets  
 LEFT: Accent-Color Pockets Optional on Laramie Longhorn with Two-Tone Exterior Paint (WRK)  
 RIGHT: Silver Pockets Optional on Laramie Longhorn with available Monotone Exterior Paint (WRA)



17-inch Polished Aluminum Standard on Laramie and Limited Optional on SLT and Lone Star®/Big Horn (WF7)



20-inch Painted Satin Carbon Aluminum with Chrome Inserts Optional on SLT, Lone Star®/Big Horn® and Laramie (WRJ)



20-inch Aluminum Black Painted Included with Sport Appearance Group (WF3)



20-inch Painted Aluminum with Chrome Pockets Standard on Limited (WH3)



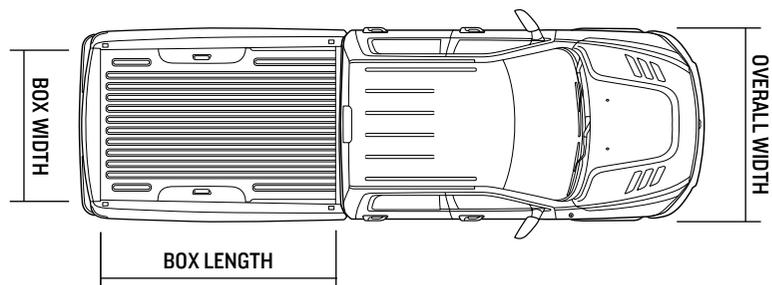
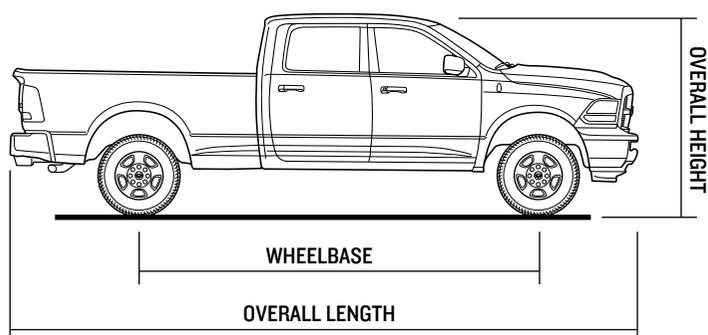
17-inch Polished Aluminum with Unique Longhorn Center Cap Standard on Laramie Longhorn (WF9)

**CONFIGURATIONS**

	Cabs			Boxes		Box, 3500 Only		Seating	
	Regular Cab	Crew Cab	Mega Cab®	SRW: 6'4" Box	SRW: 8' Box	DRW: 6'4" Box	DRW: 8' Box	40 / 20 / 40 Bench	Bucket Seats
2500 / 3500 Tradesman	•	•	N/A	Available with Crew Cab	Available with Reg Cab or Crew Cab	N/A	Available with Reg Cab or Crew Cab	•	N/A
2500 / 3500 SLT	•	•	•	Available with Crew Cab or Mega Cab	Available with Reg Cab or Crew Cab	Available with Mega Cab	Available with Reg Cab or Crew Cab	•	Optional
2500 / 3500 Lone Star®/Big Horn	N/A	•	•	Available with Crew Cab or Mega Cab	Available with Crew Cab	Available with Mega Cab	Available with Crew Cab	•	Optional
2500 Power Wagon	N/A	•	N/A	•	N/A	N/A	N/A	•	N/A
2500 / 3500 Laramie	N/A	•	•	Available with Crew Cab or Mega Cab	Available with Crew Cab	Available with Mega Cab	Available with Crew Cab	•	Optional
2500 / 3500 Laramie Longhorn	N/A	•	•	Available with Crew Cab or Mega Cab	Available with Crew Cab	Available with Mega Cab	Available with Crew Cab	N/A	•
2500 / 3500 Limited	N/A	•	•	Available with Crew Cab or Mega Cab	Available with Crew Cab	Available with Mega Cab	Available with Crew Cab	N/A	•

\*Lone Star model available only in Texas. • = Available Configuration N/A = Not Available

**RAM 2500/3500 DIMENSIONS**



**RAM HEAVY DUTY CREW CAB WITH 8' BOX SHOWN**

**RAM 2500/3500 INTERIOR DIMENSIONS**

All dimensions are in inches unless otherwise noted.

	REGULAR CAB	CREW CAB	MEGA CAB®
HEAD ROOM, FRONT / REAR	39.9	41.0 / 39.9	41.0 / 40.3
LEG ROOM, FRONT / REAR	41.0	41.0 / 40.3	41.0 / 43.3
SHOULDER ROOM, FRONT / REAR	66.0	66.0 / 65.7	66.0 / 65.7
HIP ROOM, FRONT / REAR	62.9	63.2 / 63.2	63.2 / 63.2
BEHIND SECOND ROW (CU FT)	N/A	N/A	12.1
TOTAL INTERIOR VOLUME (CU FT)	62.5	125.3	142.65

**RAM 2500 EXTERIOR DIMENSIONS**

All specs are for base models only; in inches unless otherwise noted.

	REGULAR CAB	CREW CAB		MEGA CAB
	8' BOX	6'4" BOX	8' BOX	6'4" BOX
OVERALL BODY WIDTH	79.4	79.4	79.4	79.4
OVERALL HEIGHT (4x2 / 4x4)	76.2 / 78.1	76.9 / 78.8	76.7 / 78.6	77.9 / 79.8
OVERALL LENGTH	230.4	237.3	259.4	248.4
TRACK — FRONT (4x2 / 4x4)	68.7 / 68.7	68.7 / 68.7	68.7 / 68.7	67.7 / 67.7
TRACK — REAR (4x2 / 4x4)	68.1 / 68.1	68.1 / 68.1	68.1 / 68.1	67.1 / 67.1
WHEELBASE (4x2 / 4x4)	140.2 / 140.4	149.1 / 149.3	169.1 / 169.3	160.2 / 160.4
BOX HEIGHT	20.2	20.1	20.2	20.1
BOX LENGTH	98.3	76.3	98.3	76.3
BOX WIDTH, WALL TO WALL	66.4	66.4	66.4	66.4
BOX WIDTH, BETWEEN WHEELHOUSINGS	51	51	51	51

**RAM 3500 EXTERIOR DIMENSIONS**

All specs are for base models only; in inches unless otherwise noted.

	REGULAR CAB		CREW CAB			MEGA CAB	
	8' BOX	8' BOX DRW	6'4" BOX	8' BOX	8' BOX DRW	6'4" BOX	6'4" BOX DRW
OVERALL WIDTH	79.4	96.4	79.4	79.4	96.4	79.4	96.4
OVERALL HEIGHT (4x2 / 4x4)	77.7 / 79.1	77.7 / 79.1	78.4 / 79.8	77.4 / 79.6	77.4 / 79.6	78.3 / 79.7	77.5 / 79.0
OVERALL LENGTH	230.4	230.4	237.3	259.3	259.3	248.4	248.4
TRACK — FRONT (4x2 / 4x4)	67.7 / 67.7	68.6 / 69.5	67.7 / 67.7	67.7 / 67.7	68.6 / 69.5	67.7 / 67.7	68.6 / 69.5
TRACK — REAR (4x2 / 4x4)	67.1 / 67.1	75.8 / 75.8	67.1 / 67.1	67.1 / 67.1	75.8 / 75.8	67.1 / 67.1	75.8 / 75.8
WHEELBASE (4x2 / 4x4)	140.0 / 140.4	140.0 / 140.4	148.9 / 149.3	168.9 / 169.3	168.9 / 169.3	160.0 / 160.4	160.0 / 160.4
BOX HEIGHT	20.2	20.2	20.1	20.2	20.2	20.1	20.1
BOX LENGTH	98.3	98.3	76.3	98.3	98.3	76.3	76.3
BOX WIDTH, WALL TO WALL	66.4	66.4	66.4	66.4	66.4	66.4	66.4
BOX WIDTH, BETWEEN WHEELHOUSINGS	51	51	51	51	51	51	51

RAM 2500/3500 BUYER'S GUIDE

	Sales Code	Tradesman <sup>®</sup> Reg / Crew	SLT Reg / Crew / Mega	Lone Star <sup>®</sup> / Big Horn <sup>®</sup> Crew / Mega	Power Wagon <sup>®</sup> Crew	Laramie <sup>®</sup> Crew / Mega	Laramie Longhorn <sup>®</sup> Crew / Mega	Limited Crew / Mega
<b>CPOS PACKAGE</b>								
2500	DJ	X	X	X	X	X	X	X
3500 SRW / DRW (6'4" box not available with Crew Cab DRW)	D2	X / X	X / X	X / X	-	X / X	X / X	X / X
<b>ENGINE / TRANSMISSION</b>								
5.7L HEMI <sup>®</sup> Bi-fuel CNG / gas engine / 6-speed automatic (66RFE; 2500 Regular and Crew Cab 8' box only); 383 hp / 400 lb-ft of torque	EZF / DFP	27A	27G	-	-	-	-	-
5.7L HEMI V8 gas engine / 6-speed automatic (66RFE; SRW only); 383 hp / 400 lb-ft of torque	EZC / DFP	26A	26G	26 Y / Z	-	26H	26K	26M
6.4L HEMI V8 gas engine with MDS / 6-speed automatic (66RFE); 410 hp / 429 lb-ft of torque (370 hp 3500 Mega Cab <sup>®</sup> )	ESA / DFP	22A	22G	22 Y / Z	22P	22H	22K	22M
6.7L Cummins <sup>®</sup> Turbo Diesel engine / 6-speed manual (G56); 350 hp / 660 lb-ft of torque	ETK / DEG	2EA	2EG	2E Y / Z	-	2EH	-	-
6.7L Cummins Turbo Diesel engine / 6-speed automatic (68RFE); 370 hp / 800 lb-ft of torque	ETK / DG7	2FA	2FG	2F Y / Z	-	2FH	2FK	2FM
6.7L Cummins Turbo Diesel engine / 6-speed AISIN <sup>®</sup> heavy-duty automatic (3500 only); 385 hp / 900 lb-ft of torque	ETK / DF2	28A	28G	28 Y / Z	-	28H	28K	28M
Diesel Exhaust Fluid (DEF) System (standard with diesel engine)	NA	P	P	P	-	P	P	P
<b>MECHANICAL FEATURES</b>								
ALTERNATOR – 160-amp (standard with gas engine)	BAB	S	S	S	-	S	S	S
- 180-amp (standard on diesel; included with 6.4L HEMI V8; included with Snowplow Prep Group or Snow Chief Group on 5.7L HEMI V8-equipped models)	BAD	O/P	O/P	O/P	S	O/P	O/P	O/P
- Dual-rated at 380 amps (6.4L gas V8 only; includes 160-amp and 220-amp alternators)	XF5	O	O	O	O	O	O	O
- Dual-rated at 440 amps (6.7L diesel only; includes two 220-amp alternators)	XF7	O	O	O	-	O	O	O
AXLES – Antispin rear differential (standard on 3500; included with Snow Chief Group)	DSA	O/P/S	O/P/S	O/P/S	-	O/P/S	O/P/S	O/P/S
- Electronically locking front and rear differentials (included with Power Wagon Package) Crew Cab only	DSE	P	-	-	S	-	-	-
- 3.42 ratio (standard for diesel)	DMR	O	O	O	-	O	O	O
- 3.73 ratio (standard for gas; available for 3500 DRW diesel)	DME	S/O	S/O	S/O	-	S/O	S/O	S/O
- 4.10 ratio (optional for gas; available for 3500 DRW diesel; included with Power Wagon Package)	DMF	O/P	O	O	S	O	O	O
- 11.5-inch rear axle – SRW	DRQ	S	S	S	S	S	S	S
- 11.5-inch rear axle – 3500 DRW only (included with 6.4L gas engine, diesel / G56 manual transmission, diesel / 68RFE or diesel / AISIN transmission with 3.42 axle ratio)	DRX	P	P	P	-	P	P	P
- 11.8-inch rear axle – 3500 DRW only (included with diesel / DF2 transmission with 3.73 and 4.10 axle ratios; optional with DG7 transmission)	DRS	O/P	O/P	O/P	-	O/P	O/P	O/P
BATTERY – 730-amp, maintenance-free (two required for diesel)	BCN	S	S	S	S	S	S	S
DIESEL EXHAUST BRAKE – With “smart” function (included with diesel engine)	NEN	P	P	P	-	P	P	P
DOT-CERTIFIED SAFETY KIT – Includes fire extinguisher, three reflecting triangles, two Red flags and spare fuses	ACL	O	O	O	O	O	O	O
ELECTRONIC UPFITTER MODULE – Not available with premium speakers	XXS	O	O	O	O	-	-	-
ENGINE BLOCK HEATER – Included with Cold Weather Group on diesel-equipped models	NHK	O/P	O/P	O/P	O	O/P	O/P	O/P
FUEL TANKS – 18.2-G.G.E. (gasoline gallon equivalent) dual CNG tanks (included with CNG engine)	XXV	P	P	-	-	-	-	-
- 28-gallon tank (included with Regular Cab models equipped with diesel)	NGC	P	P	-	-	-	-	-
- 31-gallon tank (included with 6'4" box)	NFT	S	S	S	S	S	S	S
- 32-gallon tank (included with 8' box; standard with CNG engine)	NFX / NG9	S	S	S	-	S	S	S
SHOCKS – Front, heavy-duty	SFB	S	S	S	-	S	S	S
- Rear, heavy-duty	SGB	S	S	S	-	S	S	S
- Front, performance-tuned (included with Off-Road Package; 2500 only)	SFC	P	P	P	-	P	P	P
- Rear, performance-tuned (included with Off-Road Package; 2500 only)	SGC	P	P	P	-	P	P	P
- Front and rear Bilstein <sup>®</sup> gas-charged monotube (included with Power Wagon Package)	NA	P	-	-	S	-	S	S
SKID PLATES (4x4) – Transfer case (included in Protection Group, Snowplow Prep Group, Snow Chief Group, Off-Road Package and Power Wagon Package)	XEF	P	P	P	S	P	P	P
- Fuel tank (included with Power Wagon Package; 2500 only)	XEE	P	-	-	S	-	-	-
STEERING – Power recirculating ball	SBE	S	S	S	S	S	S	S
SUSPENSIONS – Front, three-link coil spring suspension	SDB	S	S	S	-	S	S	S
- Front, Ram Articulink <sup>®</sup> suspension (included with Power Wagon Package; 2500 only)	SD1	P	-	-	S	-	-	-
- Front electronic disconnecting stabilizer bar (included with Power Wagon Package; 2500 only)	SHG	P	-	-	S	-	-	-
- Front stabilizer bar	SHA	S	S	S	-	S	S	S
- Rear, five-link coil spring suspension (2500 only)	NA	S	S	S	S	S	S	S
- Rear, Hotchkiss leaf spring suspension (3500 only)	NA	S	S	S	-	S	S	S
- Rear, Auto-Level dual-mode air spring suspension system	SEB	O	O	O	-	O	O	O
TOW HOOKS – 3500 models	XEA	S	S	S	-	S	S	S
- 2500 models (included with diesel engine; optional on 4x2; included with Protection Group; included with Off-Road Package; included with Power Wagon Package on 4x4 models)	XEA	O/P	O/P	O/P	S	O/P	S	S
TRAILER TOW – 4- and 7-pin trailer harness plug (combination receptacle)	XFU / XFK	S	S	S	S	S	S	S
- Class V hitch receiver	XFR	S	S	S	S	S	S	S
TRANSFER CASES (4x4 models only) – Manual shift-on-the-fly	DK1	S	-	-	S	-	-	-
- Electronic shift-on-the-fly	DK3	O	S	S	-	S	S	S
WINCH – WARN <sup>®</sup> front, electric, 12,000-lb capacity (included with Power Wagon Package)	XE5	P	-	-	S	-	-	-
- Tire carrier	TBM	S	S	S	S	S	S	S

S = Standard. O = Optional. P = Part of package. - = Not available.  
 Note: some features and / or applications may be late availability.  
 Complete Packages and Equipment Groups listing on page 37.

\*Lone Star model available only in Texas.

**RAM 2500/3500 BUYER'S GUIDE**

	Sales Code	Tradesman® Reg / Crew	SLT Reg / Crew / Mega	Lone Star® / Big Horn® Crew / Mega	Power Wagon® Crew	Laramie® Crew / Mega	Laramie Longhorn® Crew / Mega	Limited Crew / Mega
		2TA	2TG	2TY / Z	2TP	2TH	2TK	2TM
<b>CPOS PACKAGE</b>								
<b>EXTERIOR FEATURES</b>								
BEDLINER — Spray-in (not available with Ram 2500 CNG model)	XMF	0	0	0	0	0	S	S
BED LIGHTING — LED (included with RamBox® System or Luxury Group)	LPL	0/P	P	P	P	0/P	S	S
BODY MODEL AND BOX — Regular Cab 8' box	62	0	0	-	-	-	-	-
- Crew Cab 6'4" box (SRW only)	91	0	0	0	S	0	0	0
- Crew Cab 8' box	92	0	0	0	-	0	0	0
- Mega Cab 6'4" box	81	-	0	0	-	0	0	0
BUMPERS — Black	MB1 / MBN	S	-	-	-	-	-	-
- Chrome (included with Chrome Appearance Group, Chrome Bumper Package, Power Wagon Package or with Monotone paint)	MCT / MBF	P	S	S	S	S	P	P
- Painted body-color (included with Sport Appearance Group)	MBA / MBC	-	-	P	-	P	-	S
- Painted lower body-color	MBU / MBV	-	-	-	-	-	S	-
CLEARANCE LAMPS — Cab (included with DRW)	LNC	0/P	0/P	0/P	S	0/P	0/P	0/P
- Box and rear fender (included with DRW)	LND	P	P	P	-	P	P	P
DOOR HANDLES — Black (included with low-volume paint)	MNA	S	P	P	-	-	-	-
- Body-color (included with Sport Appearance Group)	MNK	-	-	P	S	P	-	-
- Chrome with body-color bezel	NME	-	S	S	-	S	S	S
FOG LAMPS (included with SLT Popular Equipment Group or Power Wagon Package)	LNJ	P	0/P	S	S	S	S	S
GRILLE — Black surround with Black inserts	MFF	S	-	-	-	-	-	-
- Chrome surround with Black hex inserts (included in Chrome Appearance Group)	MFD	P	S	-	-	-	-	-
- Chrome surround with chrome billet inserts	MFH	-	-	S	-	-	-	-
- Body-color surround with Black inserts (included with Sport Appearance Group)	MFC / MFK	-	-	P	-	P	-	-
- Black with Ram logo	MFM	-	-	-	S	-	-	-
- Chrome surround with chrome wave-perf inserts	MF1	-	-	-	-	S	-	-
- Chrome surround with chrome wave-mesh inserts	MFZ	-	-	-	-	-	S	-
- Chrome Limited	MFJ	-	-	-	-	-	-	S
HEADLAMPS / TAILLAMPS — Automatic headlamps	LMG	S	S	S	S	S	S	S
- Quad-lens halogen headlamps / incandescent taillamps	LME / LA6	S	S	S	-	-	-	-
- Black bezel quad-lens halogen headlamps / incandescent taillamps (included with Sport Appearance Group)	MFA / LA6	-	-	P	-	-	-	-
- Black Premium projector headlamps / premium Black LED taillamps (included with Sport Appearance Group)	LMM / LAE	-	-	-	S	P	-	-
- Premium chrome projector headlamps / premium LED taillamps	LMC / LAD	-	-	-	-	S	S	S
- Auto High-Beam Headlamp Control (included in Convenience Group)	LMS	-	-	-	-	P	P	S
HEADLAMP FILLER PANEL — Black (included with Power Wagon Package or low-volume paint)	MCJ	P	P	P	S	-	-	-
- Body-color	MCM	S	S	S	-	S	S	S
MIRRORS — 2500 — Standard size, 6 x 9-inch, manual (Black; Regular Cab only)	GPU	S	-	-	-	-	-	-
- Power / heated (Black; included with Power Accessory Group or Power and Remote Entry Group on Tradesman Regular Cab)	GT6	P/S	S	S	S	-	-	-
- Power folding / heated / puddle / turn / auto-dimming (Black; included with Luxury Group)	GUK	-	P	P	P	-	-	-
- Power folding / heated / puddle / turn / auto-dimming / memory (Black; included with Leather and Luxury Group or Sport Appearance Group)	GPL	-	-	-	P	P	-	-
- Power folding / heated / puddle / turn / auto-dimming / memory (chrome)	GU4	-	-	-	-	S	S	S
2500 — Available size, 7 x 11-inch (trailer-tow mirrors, two-position foldaway with convex edge) manual (in Black on Regular Cab models only)	GPD	0	-	-	-	-	-	-
- Power / heated / puddle / turn (Black; requires Power Accessory Group or Power and Remote Entry Group on Tradesman Regular Cab)	GPG	0	0	0	0	-	-	-
- Power / heated / puddle / turn / power folding (Black; requires Luxury Group)	GP1	-	0	0	0	-	-	-
- Power / heated / puddle / turn / memory / power folding (Black; optional with Sport Appearance Group)	GPH	-	-	-	-	0	-	-
- Power / heated / puddle / turn / memory / power folding (chrome)	GP2	-	-	-	-	0	0	0
3500 — Standard size, 7 x 11-inch (trailer-tow mirrors, two-position foldaway with convex edge) manual (Black; Regular Cab only)	GPD	S	-	-	-	-	-	-
- Power / heated / puddle / turn (Black; included with Power Accessory Group or Power and Remote Entry Group on Tradesman Regular Cab)	GPG	P	S	S	-	-	-	-
- Power / heated / puddle / turn / power folding (Black; included with Luxury Group)	GP1	-	P	P	-	-	-	-
- Power / heated / puddle / turn / memory / power folding (Black; included with Sport Appearance Group)	GPH	-	-	-	-	P	-	-
- Power / heated / puddle / turn / memory / power folding (chrome)	GP2	-	-	-	-	S	S	S
RAMBOX® CARGO MANAGEMENT SYSTEM — With illuminated, lockable, drainable bins on both bed sides; stowable bed divider / extender; LED Bed Lighting and Cargo Rail System with adjustable cleats (Short Box only; SRW only; Tradesman model requires remote keyless entry; not available with low-volume paint)	XB9	0	0	0	0	0	0	S
RUNNING BOARDS — Accent-color	MRM	-	-	-	-	-	S	-
SIDE STEPS — Black, cab-length; restricted by vehicle color on select models	MRU	0	0	0	-	0	-	-
- Chrome, cab-length (included with Monotone Laramie Longhorn)	MRT	0	0	0	-	0	0/P	-
- Chrome, wheel-to-wheel (not available on Regular Cab or DRW)	MRA	0	0	0	-	0	0	S
TONNEAU COVER (not available with Ram 2500 CNG model)	CS7	0	0	0	0	0	0	0
WHEEL FLARES — Black (included with Off-Road Package or Power Wagon Package)	MMZ	P	-	-	S	-	-	-
- Body-color (included with Off-Road Package or Monotone paint on 2TK CPOS)	MML	-	P	P	-	S	P	S
- Lower body-color (included with two-tone paint)	MMJ / MRD	-	-	-	-	P	S	-
WINDSHIELD WIPERS — Variable / intermittent	JHA	S	S	S	S	S	S	S
- Rain-sensitive (included with Convenience Group)	JHC	-	-	-	-	P	P	S

S = Standard. 0 = Optional. P = Part of package. - = Not available.  
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RAM 2500/3500 BUYER'S GUIDE

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		2TA	2TG	2TY / Z	2TP	2TH	2TK	2TM
<b>CPOS PACKAGE</b>								
<b>INTERIOR FEATURES</b>								
<b>AIR CONDITIONING — Manual</b>								
– Dual-Zone Automatic Temperature Control (included with 8.4-inch touchscreen radios)	HAA	S	S	S	S	–	–	–
– Dual-Zone Automatic Temperature Control (included with 8.4-inch touchscreen radios)	HAF	–	P	P	P	S	S	S
<b>AUXILIARY INSTRUMENT PANEL SWITCHES — Not available with heated seats or with 3.0 or 5.0 radios (included with Snow Chief Group)</b>								
AUXILIARY INSTRUMENT PANEL SWITCHES — Not available with heated seats or with 3.0 or 5.0 radios (included with Snow Chief Group)	LHL	O/P	O/P	O/P	–	O/P	O/P	O/P
<b>CLUSTER — 3.5-inch, Driver Information Display (DID)</b>								
– 3.5-inch, DID (included with CNG engine)	JAT	S	S	S	–	–	–	–
– 3.5-inch, DID (included with CNG engine)	JAJ	P	P	–	–	–	–	–
– 7-inch, DID (included with Luxury Group)	JA6	–	P	P	–	S	–	–
– 7-inch, DID (with Power Wagon Graphic)	JAY	–	–	–	P	–	–	–
– 7-inch DID (with Laramie Longhorn filigree)	JAX	–	–	–	–	–	S	–
– 7-inch DID (with unique Limited detail)	JAV	–	–	–	–	–	–	S
<b>CONSOLE — Mini floor console (included with 6-speed manual transmission or manual transfer case)</b>								
– Full-size floor console (included with bucket seats)	CUM	P	P	P	S	P	–	–
– Full-size floor console (included with bucket seats)	CUP / CVT	–	P	P	–	P	S	S
– Overhead console (included with 5.0 radio)	CUN	P	S	S	S	–	–	–
– Overhead console with Universal Garage Door Opener (included with Luxury Group or Leather and Luxury Group)	CV2	–	P	P	P	S	S	S
<b>DOOR LOCKS — Manual door locks (Regular Cab only)</b>								
– Manual door locks (Regular Cab only)	JE8	S	–	–	–	–	–	–
– Power door locks (included with Power and Remote Entry Group on Tradesman Regular Cab)	JPB	P/S	S	S	S	S	S	S
– Keyless Enter 'n Go™	GX4	–	–	–	–	O	O	S
<b>FLOOR COVERING — Black vinyl (not available on Mega Cab®)</b>								
– Black vinyl (not available on Mega Cab®)	CKJ	S	O	O	O	–	–	–
– Carpet (included with Tradesman Popular Equipment Group)	CKE	P	S	S	S	S	S	S
<b>FLOOR MATS — Front, carpeted (Regular Cab only; included with Tradesman Popular Equipment Group; requires carpet floor covering)</b>								
– Front and rear, carpeted (included with Tradesman Popular Equipment Group; requires carpet floor covering)	CLA	P	S	–	–	–	–	–
– Front and rear, carpeted (included with Tradesman Popular Equipment Group; requires carpet floor covering)	CLE	P	S	S	–	S	–	–
– Front, rubber (Regular Cab only; requires carpet floor covering)	CLY	O	O	–	–	–	–	–
– Front and rear, rubber	CLF	O	O	O	S	–	–	–
– Front and rear, luxury	CLZ / CLL	–	–	–	–	–	S	S
<b>MIRRORS — Rearview day / night</b>								
– Rearview auto-dimming with video display (included with Luxury Group or ParkView® Rear Back-Up Camera <sup>5</sup> ; if equipped with 3.0 radio)	GNA	S	S	–	–	–	–	–
– Rearview auto-dimming with video display (included with Luxury Group or ParkView® Rear Back-Up Camera <sup>5</sup> ; if equipped with 3.0 radio)	GN4	P	–	–	–	–	–	–
– Rearview auto-dimming with microphone (included with Luxury Group)	GNK	–	P	P	S	S	S	S
<b>PEDALS — Non-adjustable</b>								
– Non-adjustable	XA8	S	S	S	S	S	–	–
– Power-adjustable (requires automatic transmission)	XAP	–	O	O	O	–	–	–
– Power-adjustable with memory (requires automatic transmission)	XAM	–	–	–	–	O	S	S
<b>POWER SUNROOF (not available with Regular Cab)</b>								
– Power sunroof (not available with Regular Cab)	GWA	–	O	O	O	O	O	O
<b>SEATS — Manually adjustable driver and front-passenger seat (included with *TX, *SX, *V9 and *H9 seats)</b>								
– Manually adjustable driver and front-passenger seat (included with *TX, *SX, *V9 and *H9 seats)	JP8	P	P	–	P	–	–	–
– Ten-way power driver's seat and manual front-passenger seat (included with *M9, *MJ, *S9 seats)	JRT	–	P	P	P	–	–	–
– Ten-way power driver's seat with memory and 6-way power front-passenger seat (included with *ZL, *VL, *GJ, *XJ, *DJ and *UL seats)	JRF	–	–	–	P	P	P	P
– Two-way power lumbar support (included with *M9, *MJ, *S9, *ZL, *VL, *GJ, *XJ, *DJ, *UL seats)	JPW	–	P	P	P	P	P	P
– Heated front seats (included with Heated Seats and Wheel Group)	GMA	–	–	P	P	S	S	S
– Heated second-row seats (Crew Cab and Mega Cab only; included with *GJ, *XJ, *DJ, *UL seats)	JPZ	–	–	–	–	P	P	P
– Ventilated front seats (included with *ZL, *VL, *GJ, *XJ, *DJ, *UL seats)	CAJ	–	–	–	P	P	P	P
– Vinyl 40 / 20 / 40 split-bench front seat with folding front armrest / cup holder, floor-mounted storage tray on Crew Cab (Crew Cab models include folding rear bench seat trimmed in vinyl)	*TX	S	–	–	–	–	–	–
– Ram Work-Grade Vinyl 40 / 20 / 40 split-bench front seat with folding front armrest / cup holder, floor-mounted storage tray on Crew Cab (Crew Cab models include folding rear bench seat trimmed in vinyl)	*SX	O	–	–	–	–	–	–
– Cloth 40 / 20 / 40 split-bench front seat, front armrest with cup holder (Crew Cab and Mega Cab models include cloth folding rear bench seat; included with Tradesman Popular Equipment Group)	*V9	P	S	–	–	–	–	–
– Cloth / Vinyl 40 / 20 / 40 split-bench front seat, front armrest with cup holder, rear 60 / 40 split-fold seat and fold-flat load floor	*H9	–	–	–	S	–	–	–
– Premium cloth-trimmed 40 / 20 / 40 split-bench front seat, front armrest with cup holder, power 10-way driver's seat, power lumbar adjuster, front center-seat-cushion storage, 115-volt auxiliary power outlet (Crew Cab and Mega Cab models include 60 / 40 split-folding rear bench seat and fold-flat load floor; included with SLT Popular Equipment Group)	*M9	–	O/P	S	–	–	–	–
– Premium cloth / vinyl 40 / 20 / 40 split-bench front seat, power 10-way driver's seat, power lumbar adjuster, full-length floor console, 115-volt auxiliary power outlet (60 / 40 split-folding rear bench seat and fold-flat load floor)	*S9	–	–	–	O	–	–	–
– Premium cloth-trimmed low-back bucket seats, power 10-way driver's seat, power lumbar adjuster, full-length floor console, 115-volt auxiliary power outlet (Crew Cab and Mega Cab models include 60 / 40 split-folding rear bench seat trimmed in cloth and fold-flat load floor)	*MJ	–	O	O	–	–	–	–
– Leather-trimmed 40 / 20 / 40 split-bench heated and ventilated front with power 10-way / memory for driver and power 6-way passenger, power lumbar adjuster, front center-seat-cushion storage and folding center armrest with cup holder, 115-volt auxiliary power outlet, 60 / 40 split-folding rear bench seat trimmed in vinyl and fold-flat load floor (included with Leather and Luxury Group)	*ZL	–	–	–	P	–	–	–
– Leather-trimmed 40 / 20 / 40 split-bench heated and ventilated front with power 10-way / memory for driver and power 6-way passenger, power lumbar adjuster, front center-seat-cushion storage and folding center armrest with cup holder, 115-volt auxiliary power outlet (Crew Cab and Mega Cab models include 60 / 40 split-folding rear bench seat trimmed in vinyl and fold-flat load floor)	*VL	–	–	–	–	S	–	–
– Leather-trimmed high-back, ventilated and heated bucket seats, includes power 10-way driver and power 6-way passenger, power lumbar adjuster, full-length floor console, 115-volt auxiliary power outlet and heated 2nd-row seats on Crew Cab models (Crew Cab and Mega Cab models include 60 / 40 split-folding rear bench seat trimmed in vinyl and fold-flat load floor)	*GJ	–	–	–	–	O	–	–
– Premium leather with laser-etched design, high-back ventilated and heated bucket seats, includes power 10-way driver and power 6-way passenger, power lumbar adjuster, premium full-length floor console, 115-volt auxiliary power outlet, heated 2nd-row seats; includes 60 / 40 split-folding premium leather with laser-etched design rear bench seat and fold-flat load floor (available only in Canyon Brown)	*XJ	–	–	–	–	–	S	–
– Premium leather high-back, ventilated and heated bucket seats, includes power 10-way driver and power 6-way passenger, power lumbar adjuster, premium full-length floor console, 115-volt auxiliary power outlet, heated 2nd-row seats; includes 60 / 40 split-folding premium leather rear bench seat and fold-flat load floor (available in Canyon Brown or Cattle Tan)	*DJ	–	–	–	–	–	O	–

S = Standard. O = Optional. P = Part of package. – = Not available.  
 Note: some features and / or applications may be late availability.  
 Complete Packages and Equipment Groups listing on page 37.

<sup>5</sup>Lone Star model available only in Texas.

**RAM 2500/3500 BUYER'S GUIDE**

	Sales Code	Tradesman® Reg / Crew	SLT Reg / Crew / Mega	Lone Star® / Big Horn® Crew / Mega	Power Wagon® Crew	Laramie® Crew / Mega	Laramie Longhorn® Crew / Mega	Limited Crew / Mega
		2TA	2TG	2TY / Z	2TP	2TH	2TK	2TM
<b>CPOS PACKAGE</b>								
<b>INTERIOR FEATURES (CONTINUED)</b>								
- Premium Natura leather high-back, ventilated and heated bucket seats, includes power 10-way driver and power 6-way passenger, power lumbar adjuster, premium full-length floor console, 115-volt auxiliary power outlet, heated 2nd-row seats; includes 60 / 40 split-folding premium leather rear bench seat and fold-flat load floor (available only in Black)	*UL	-	-	-	-	-	-	S
<b>STEERING WHEEL— Urethane</b>	SCF	S	S	-	-	-	-	-
- Leather-wrapped with audio controls (included in Luxury Group)	SCV	-	P	P	-	-	-	-
- Perforated leather-wrapped with accent stitching and audio controls	SCB	-	-	-	S	-	-	-
- Leather-wrapped, heated with audio controls (included with Heated Seats and Wheel Group)	SCV / SCB / NHS	-	-	P	P	S	-	-
- Leather-wrapped, heated, with real wood and audio controls	SC3 / SCW	-	-	-	-	-	S	S
<b>STORAGE — Behind-the-seat (Regular Cab and Mega Cab®)</b>	CU3	S	S	S	-	S	S	S
- Front center-seat-cushion storage (included with remote CD player and with *M9,*S9,*ZL,*VL seats)	CVH	P	P	P	P	P	-	-
- Rear, under-seat compartment (Crew Cab only)	CUE	S	S	S	S	S	S	S
- Rear, in-floor storage boxes (Crew Cab only)	CB9	S	S	S	S	S	S	S
- Fold-flat load floor (Crew Cab only; included with *M9,*H9,*S9,*MJ,*ZL,*VL,*GJ,*XJ,*DJ,*UL seats)	CVN	-	P	P	P	P	P	P
<b>VISORS — Passenger-side, with vanity mirror</b>	GNM	-	S	S	S	-	-	-
- Driver and passenger-side, with illuminated vanity mirror (included with Luxury Group or Leather and Luxury Group)	GNC	-	P	P	P	S	S	S
<b>WINDOWS — Manual windows (Regular Cab only)</b>	JF8	S	-	-	-	-	-	-
- Power windows, front one-touch down (Regular Cab; included with Power and Remote Entry Group)	JPY	P	S	-	-	-	-	-
- Power windows, front one-touch up / down (Crew Cab and Mega Cab®)	JP3	S	S	S	S	S	S	S
- Rear fixed window	GJD	S	-	-	-	-	-	-
- Rear sliding window, manual (Regular Cab)	GFD	0	S	-	-	-	-	-
- Rear sliding window, power (Crew Cab and Mega Cab)	GFE	-	S	S	S	S	S	S
- Rear window defroster	GFA	-	0	0	0	0	0	0
<b>UCONNECT® / MULTIMEDIA</b>								
<b>CONNECTIVITY — 12-volt DC auxiliary</b>	JJJ	S	S	S	S	S	S	S
- 115-volt AC auxiliary (included with *M9,*S9,*MJ,*ZL,*VL,*GJ,*XJ,*DJ,*UL seats)	JKV	-	P	P	P	P	P	P
- 2.5-amp charging USB port (included with Uconnect 5.0 and 8.4-inch radios)	RS3	P	P	P	P	S	S	S
<b>MEDIA HUB (included with RA1, UA1, RA2 radios) — 1.5-amp fully functional USB port, auxiliary jack for mobile devices</b>	RS6	P	P	P	P	P	P	P
<b>RADIOS — 3.0 AM / FM</b>	RA1	S	-	-	-	-	-	-
- Uconnect 3.0 AM / FM / Bluetooth® Voice Command <sup>4</sup>	UA1	0	-	-	-	-	-	-
- Uconnect 5.0 AM / FM / SAT / Bluetooth (5-inch touchscreen display)	RA2	0	S	S	S	-	-	-
- Uconnect 8.4 / FM / SAT / Bluetooth / NAV-ready / Voice Command <sup>4</sup> (8.4-inch touchscreen display; included with Leather and Luxury Group)	RA3	-	0	0	0/P	S	-	-
- Uconnect 8.4 NAV AM / FM / SAT / Bluetooth / NAV / Voice Command <sup>4</sup> (8.4-inch touchscreen display)	RA4	-	F	0	0	0	S	S
<b>RADIO CONTROLS — Steering wheel-mounted audio controls (included with leather-wrapped steering wheel)</b>	RDZ	-	P	P	P	P	P	P
<b>SINGLE-DISC CD PLAYER</b>	RH1	0	0	0	0	0	0	0
<b>SIRIUSXM® SATELLITE RADIO<sup>8</sup> (included with Tradesman Popular Equipment Group or 5.0 and 8.4 radios)</b>	RSD	P	P	P	P	P	P	P
<b>SIRIUSXM TRAFFIC<sup>9</sup> AND SIRIUSXM TRAVEL LINK<sup>9</sup> (included with Uconnect 8.4 NAV radio)</b>	RSS / RSM	-	-	P	P	P	P	P
<b>SPEAKER SYSTEMS — Six speakers</b>	RCG	S	S	S	S	-	-	-
- Premium I audio system (Regular Cab only)	RCK	-	0	-	-	-	-	-
- Premium II audio system with subwoofer (Surround Sound requires ADA and *M9 or higher seat; included with Leather and Luxury Group)	RC3	-	0	0	0/P	S	S	S
<b>UCONNECT VOICE COMMAND<sup>4</sup> WITH BLUETOOTH (included with UA1, RA2, RA3, RA4 radios)</b>	XRB	P	P	P	P	P	P	P
<b>SAFETY AND SECURITY</b>								
<b>AIR BAGS<sup>15</sup> — Multistage front</b>	CG3	S	S	S	S	S	S	S
- Supplemental side-curtain	CGS	S	S	S	S	S	S	S
- Supplemental front-seat side-mounted	CJ1	S	S	S	S	S	S	S
<b>BRAKES — Four-wheel antilock disc brakes</b>	BRT	S	S	S	S	S	S	S
<b>CARGO-VIEW CAMERA<sup>5</sup> (requires Uconnect 8.4 radios)</b>	LPD	-	0	0	0	0	0	0
<b>ELECTRONIC STABILITY CONTROL (ESC)<sup>7</sup> — Includes Brake Assist, Electronic Roll Mitigation, Hill Start Assist, Rain Brake Support, Ready Alert Braking, All-Speed Traction Control and Trailer Sway Damping<sup>7</sup></b>	BNB	S	S	S	S	S	S	S
<b>ELECTRONIC TRAILER BRAKE CONTROLLER</b>	XHC	0	S	S	S	S	S	S
<b>PARKSENSE® REAR PARK ASSIST SYSTEM<sup>6</sup></b>	XAA	-	0	0	0	-	-	-
<b>PARKSENSE FRONT AND REAR PARK ASSIST SYSTEM<sup>6</sup> (included with Leather and Luxury Group)</b>	XAG	-	0	0	0/P	S	S	S
<b>PARKVIEW® REAR BACK-UP CAMERA<sup>5</sup> — Video displayed in rearview mirror with 3.0 radio or on-screen with Cargo View Camera<sup>5</sup> with other radios (included with Sport Appearance Group or Leather and Luxury Group)</b>	XAC	0	0	0/P	0/P	S	S	S
<b>REMOTE KEYLESS ENTRY WITH ALLSECURE® — Controls for power door locks, tailgate, RamBox® System, illuminated entry system, panic alarm (included with Tradesman Popular Equipment Group or Power and Remote Entry Group)</b>	GXM	P	S	S	S	S	S	S
<b>REMOTE START (requires automatic transmission)</b>	XBM	-	0	S	0	0	S	S
<b>SECURITY ALARM — Detects break-in (included with Leather and Luxury Group)</b>	LSA	-	0	0	0/P	S	S	S
<b>SENTRY KEY® THEFT DETERRENT SYSTEM — Engine immobilizer</b>	GXX	S	S	S	S	S	S	S
<b>TIRE PRESSURE MONITORING (TPM) with display and alert (2500 only)</b>	XGM	S	S	S	S	S	S	S
<b>TIRE PRESSURE INFORMATION SYSTEM without alert (3500 models only)</b>	XBT	S	S	S	-	S	S	S

S = Standard. 0 = Optional. P = Part of package. - = Not available.  
Note: some features and / or applications may be late availability.  
Complete Packages and Equipment Groups listing on page 37.

<sup>1</sup>Lone Star model available only in Texas.



# CUSTOM-MINDED

Ram 3500 Mega Cab® Laramie® in Granite Crystal Metallic with Silver lower shown with Mopar® Chrome Tubular Side Steps, Side Window Air Deflectors and Heavy-Duty Splash Guards. Properly secure all cargo.

## MOPAR. SUPPORTING YOU AND YOUR RAM TRUCK—FOR THE LONG HAUL.

Here's how to make your new Ram truck the ideal ride... for today, and for many years to come. It's through Mopar.

Authentic parts and accessories by Mopar are engineered by the same experts who designed your Ram truck. Fit, function and finish are perfect, and the trained technicians who service your pickup know your make and model inside out. With genuine parts and this level of knowledge, you're going to keep your Ram truck going strong and looking good.

Further Mopar advantages include Mopar Express Lane Service to minimize waiting and downtime; Mopar Vehicle Protection® plans—the only extended protection backed by the manufacturer; and our state-of-the-art Mopar Owner Connect Web site. This site gives you online access to your service records, vehicle information, and exclusive money-saving offers. Mopar. It's about keeping you happy, and your Ram truck at its best. Get it all at [MOPAR.COM](http://MOPAR.COM)



Chrome Tubular Side Steps



Heavy-Duty Commercial Toolbox



Direct-Mount Fifth-Wheel Hitch\*



Heavy-Duty Splash Guards

\*Check User Guide for hitch type, load capacity and heavy-duty equipment required. Do not exceed rated tow capacity of the vehicle as equipped. Trailer may require items not supplied by Mopar.



# TEXAS' LONGEST-LASTING PICKUPS<sup>1</sup>

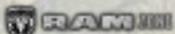
1 Based on IHS Automotive VID registration data for all brands of GVW 1 - 3 pickup trucks continuously sold in Texas since 1990, Dodge and Ram have the highest overall percentage still on the road. 2 Based on latest available competitive information. Class based on 250/2500 and 350/3500 pickups. 3 Based on latest available competitive information. Class based on all full-size pickups. 4 Requires a mobile phone equipped with the Bluetooth Hands-Free Profile. Visit UconnectPhone.com for system and device compatibility. 5 Always look before proceeding, electronic drive aid is not a substitute for conscientious driving; always be aware of your surroundings. 6 Based on latest available competitive information. Class based on 250/2500 pickups. 7 No system, no matter how sophisticated, can repeal the laws of physics or overcome careless driving actions. Performance is limited by available traction, which snow, ice and other conditions can affect. When the ESC warning lamp flashes, the driver needs to use less throttle and adapt speed and driving behavior to prevailing road conditions. Always drive carefully, consistent with conditions. Always wear your seat belt. 8 SiriusXM subscriptions for audio and data services are sold by SiriusXM to follow your trial subscription. If you decide to continue listening after your trial, the subscription plan you choose will automatically renew thereafter and you will be charged according to your chosen payment method at then-current rates. Fees and taxes apply. To cancel, you must call SiriusXM at 1-866-635-2349. See the SiriusXM Customer Agreement for complete terms and more information at siriusxm.com. All fees and programming subject to change. Your equipment and features for SiriusXM services will vary depending upon the vehicle you select and may be limited in select markets. 9 WiFi subscription required. This feature is not intended for use by the driver while the vehicle is in motion. Always drive carefully. 10 Vehicle must be within the United States, have network coverage and must be registered with Uconnect Access with an active subscription that includes the applicable feature and you must fulfill minimum subscription requirements. It must also be equipped with features that enable remote commands, such as keyless entry, and must be in active and usable cellular range. The Uconnect Access App must be installed and launched on your mobile device to use these remote commands. Remote features are available only on vehicles that are properly equipped. Check state and local laws regarding the use of remote start systems. 11 Siri® Eyes Free requires an iPhone® mobile device equipped with the Siri feature. Certain features not available while the vehicle is in motion. iPhone must be within active cellular range. Customer's existing iPhone data rates apply to Internet-supported features. 12 The 9-1-1 Call button will connect you directly with Emergency Assistance. If you accidentally press the button, you have 10 seconds to cancel the call by either pressing the 9-1-1 button on the rearview mirror or the Cancel button on the Uconnect touchscreen. 13 Provides direct-dial access to Roadside Assistance Service. Vehicle must be within the United States, have network coverage and must be registered with Uconnect Access with an active subscription that includes the applicable feature. Additional roadside assistance charges may apply. Check warranty for details. 14 WiFi subscription required. Vehicle must be registered with Uconnect Access and fulfill minimum subscription requirements. Vehicle must be properly equipped and in active and usable cellular range for WiFi usage. WiFi Hotspot does not enable direct communication between multiple in-vehicle devices. Factors affecting the performance of WiFi Hotspot include: cellular network, signal strength and quality, time of day, number of channels used by the service provider, type of connection, number of clients using WiFi Hotspot and client device. This feature is not intended for use by the driver while the vehicle is in motion. Always drive safely. 15 The Advanced Front Air Bags in this vehicle are certified to the new U.S. Federal regulations for Advanced Air Bags. Children 12 years old and younger should always ride buckled up in a rear seat. Infants in rear-facing child restraints should never ride in the front seat of a vehicle with a passenger front air bag. All occupants should always wear their lap and shoulder belts properly.

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JOIN IN

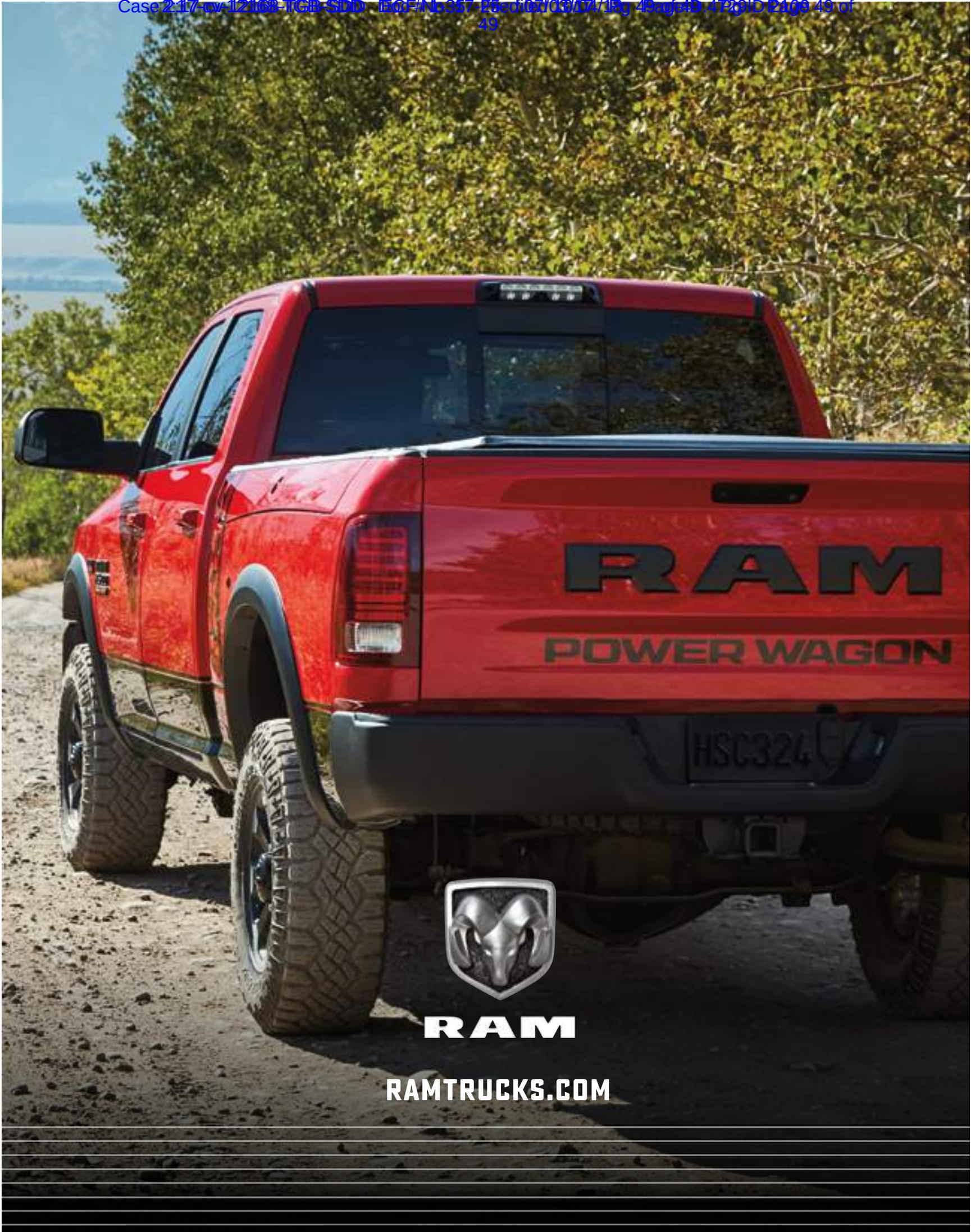


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 **RAM OUTFITTER** RAMTRUCKS.COM/OUTFITTER



# RAMTRUCKS.COM



**RAM**

**RAMTRUCKS.COM**

# Exhibit 25

INTERNET ARCHIVE WayBackMachine 48 captures 8 Aug 2013 - 9 Jun 2017 ramtrucks.com/en/groundbreakers/ Go JUN 2014 AUG 2015 OCT 2016

RAM TRUCKS & VANS RAM COMMERCIAL SHOPPING TOOLS TOWING & CAPABILITY OWNERS ESPAÑOL DEALERS & VEHICLES BUILD & PRICE FIND YOUR COUNTRY

NO. 1 FRAME NO. 2 TOWING NO. 3 SUSPENSION NO. 4 ENGINE NO. 5 TRANSMISSION NO. 6 RAM ACTIVE AIR NO. 7 SAFETY & STABILITY NO. 8 WARRANTY

**B20 BIOFUEL**

With B20 biofuel capability and reduced greenhouse gas emissions, our engineers were proud to build a lineup around an engine that's as responsible as it is powerful.



Properly secure all cargo.

PICK UP THE NEW ENGINE

TURBO DIESEL

DETAILS SEARCH NEW INVENTORY BUILD & PRICE

xxxxx THE NEW xxxxxx

**RAM 2500**

BEST-IN-CLASS GCWR\* OF 25,300 LBS  
STARTING MSRP \$30,985



xxxxxxx THE NEW xxxxxxxx

**RAM 3500**

BEST-IN-CLASS DIESEL TOWING\* OF 30,000 LBS  
STARTING MSRP \$31,740



SITE MAP f t y s

<p><b>VEHICLES</b></p> <ul style="list-style-type: none"> <li>Ram 1500</li> <li>Ram 2500</li> <li>Ram 3500</li> <li>Ram Chassis Cab</li> <li>2015 Ram ProMaster City™</li> <li>Ram ProMaster®</li> </ul> <p><b>SPECIALTY MODELS</b></p> <ul style="list-style-type: none"> <li>Ram Commercial</li> <li>Ram 1500 Lone Star (Only available in Texas)</li> <li>Right Van for the Job</li> <li>Ram 1500 Red Wings</li> <li>Ram 1500 Outdoorsman®</li> <li>Black Ram 1500 Express®</li> <li>Ram 1500 Ignition</li> <li>Orange Sport Package</li> <li>Ram 1500 Black Sport Group</li> </ul>	<p><b>RESEARCH</b></p> <ul style="list-style-type: none"> <li>Build &amp; Price</li> <li>Compare Models</li> <li>Competitive Compare</li> <li>Brochures</li> <li>Upfit</li> <li>Warranty Programs</li> <li>Sign Up for Updates</li> </ul> <p><b>LOCATE</b></p> <ul style="list-style-type: none"> <li>Search New Inventory</li> <li>Find a Dealer</li> <li>Schedule a Test Drive</li> <li>Search Pre-Owned Vehicles</li> </ul>	<p><b>COST</b></p> <ul style="list-style-type: none"> <li>View Incentives and Offers</li> <li>Military Bonus Cash</li> <li>Payment Calculator</li> <li>Trade-In Value</li> <li>Get a Quote</li> <li>Apply for Credit</li> </ul> <p><b>CAPABILITY</b></p> <ul style="list-style-type: none"> <li>Towing &amp; Payload</li> <li>Engine Performance</li> <li>Fuel Efficiency</li> <li>Uconnect®</li> <li>EcoDiesel</li> </ul>	<p><b>RAM WORLD</b></p> <ul style="list-style-type: none"> <li>Ram Nation</li> <li>Partners</li> <li>Farmer - Next Crop</li> <li>RamZone Blog</li> <li>Merchandise</li> <li>Ram Rewards Card</li> <li>Download Mobile Apps</li> <li>Groundbreakers</li> <li>Just the Facts</li> <li>Miranda Lambert</li> <li>Explore the City</li> </ul>	<p><b>OWNERS</b></p> <ul style="list-style-type: none"> <li>Owners Site Log In</li> <li>Owner &amp; Service Manuals</li> <li>Register My Vehicle</li> <li>Recall information</li> </ul> <p><b>SUPPORT</b></p> <ul style="list-style-type: none"> <li>Uconnect</li> <li>Bluetooth®</li> </ul> <p><b>SHOP PARTS &amp; ACCESSORIES</b></p> <ul style="list-style-type: none"> <li>Mopar®</li> <li>Shop Accessories</li> </ul>
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\*MSRP excludes destination, taxes, title and registration fees. Starting at price refers to the base model, optional equipment not included. A more expensive model may be shown. Pricing and offers may change at any time without notification. To get full pricing details, see your dealer.

# Exhibit 26

INTERNET ARCHIVE Wayback Machine 34 captures 29 Dec 2012 - 3 May 2017 http://cumminsengines.com/80/medium-duty-truck Go FEB MAR APR 07 2016 2017 About this capture

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Home > Engines > On-Highway > Medium-Duty Truck

## Cummins Engines for Medium-Duty Truck

		
<b>ISL9 for Medium-Duty Truck (2013)</b>	<b>ISL G Near Zero</b>	<b>ISL G for Medium-Duty Truck (2013)</b>
Power 260 - 380 hp Torque 720 - 1250 lb-ft	Power 250 - 320 hp Torque 730 - 1000 lb-ft	Power 250 - 320 hp Torque 660 - 1100 lb-ft

English Metric More Sorting Options >

- On-Highway
- Euro Truck and Bus
- Fire & Emergency
- Heavy-Duty Truck
- Light Commercial Vehicle
- Medium-Duty Truck
- Motorhome
- Pickup Truck
- School Bus
- Urban Bus & Shuttle

### 2013 ISL9 and ISB6.7 Better. Where It Counts.

From dotted white lines to double yellow lines, business seems to be filled with lines. But there's only one that really counts: your bottom line. And being better on the bottom line is what makes Cummins the most popular engines in medium-duty trucks throughout North America.

#### Better Fuel Economy.

Cummins is boosting the industry-leading fuel economy of our ISL9 and ISB6.7 engines up to 2% in 2013. How? The addition of an air intake throttle makes our Exhaust Gas Recirculation (EGR) more efficient. The VGT™ Turbocharger on the ISL9 has been modified for greater efficiency. The result is a reduction in parasitic losses that increases fuel economy and lowers operating costs.

#### Better Reliability And Durability.

Cummins designs, develops and supports every critical component from air handling to exhaust aftertreatment as a totally integrated system. This allows us to optimize every function better than any other engine manufacturer.

The ISL9 and ISB6.7 meet 2014 Environmental Protection Agency (EPA) and United States Department of Transportation (DOT) regulations for fuel economy and greenhouse gas reduction a year ahead of schedule without major hardware changes. This means you can expect the same proven reliability and durability you've come to expect from Cummins MidRange engines. On-Board Diagnostics are added in 2013, using a system already proven in thousands of on-road vehicles since 2007.

#### Better Customer Support.

Cummins engines come with a comprehensive base warranty, and multiple options for extended coverage. And they are backed by the largest and most capable parts and service network in North America, with over 3,500 locations.

Call Cummins Care at 1-800-DIESELS™ (1-800-343-7357), and you'll get 24/7/365 assistance from a Cummins Care representative. If you need service, your Cummins Care representative will locate the nearest available and authorized facility.

[Find a Cummins Dealer or Distributor](#)



#### Related Brochures

View brochures and spec sheets for Cummins engines online.

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# Exhibit 27

TRUCKS & VANS

SHOPPING TOOLS

RAM COMMERCIAL

TOWING & CAPABILITY

RAM LIFE

OWNERS

Español

FIND A DEALER

BUILD & PRICE



TRUCKS & VANS

SHOPPING TOOLS

RAM COMMERCIAL

MENU

2017 RAM 2500 LARAMIE CREW CAB 4X4 6'4" BOX

\$52,735 NET PRICE

Models | Powertrain | Packages | Exterior | Interior

Summary

ENGINE

5.7-Liter V8 HEMI® VVT Engine  
Sales code: EZC

Selected

Standard

DETAILS >



6.4-Liter Heavy Duty V8 HEMI® with MDS  
Sales code: ESA



\$0

DETAILS >



6.7-Liter I6 Cummins® Turbo Diesel Engine  
Sales code: ETK



\$8,700

DETAILS >

TRANSMISSIONS

6-Speed Automatic 66RFE Transmission  
Sales code: DFP

Selected

Standard

DETAILS >



6-Speed Manual G56 Transmission  
Sales code: DEG





\$0

[DETAILS >](#)

**6-Speed Automatic 68RFE Transmission**  
Sales code: DG7



\$0

[DETAILS >](#)

**GVWR PACKAGES**

**GVW Rating - 9,000 Pounds**  
Sales code: Z7C

Selected

Standard

[DETAILS >](#)

**GVW Rating - 10,000 Pounds**  
Sales code: Z7F



**RAM**

Requires Additional Selections

[DETAILS >](#)

**AXLES**

**Anti-Spin Differential Rear Axle**  
Sales code: DSA



**RAM**

\$445

**GEAR RATIOS**

**3.73 Axle Ratio**  
Sales code: DME

Selected

Standard

[DETAILS >](#)

**4.10 Axle Ratio**  
Sales code: DMF



**\$125**

[DETAILS >](#)

**3.42 Axle Ratio**  
Sales code: DMR



Requires Additional Selections

[DETAILS >](#)

**TOWING FEATURES**

**20,000 lb. Direct-Mount 5th-Wheel Hitch**  
Sales code: XML



**\$1,075**

[DETAILS >](#)

**SUSPENSION**

**Auto Level Rear Air Suspension**  
Sales code: SEB





\$1,595

[DETAILS >](#)

**ALTERNATORS**



**180-Amp Alternator**  
Sales code: BAD

\$95

[DETAILS >](#)



**220-Amp Alternator**  
Sales code: BAJ

\$100

[DETAILS >](#)



**Dual Alternators with 380-Amps Total**  
Sales code: XF5

\$395

[DETAILS >](#)



**Dual Alternators Rated at 440-Amps**  
Sales code: XF7

\$295

[DETAILS >](#)

**ADDITIONAL MECHANICAL FEATURES**

Engine Block Heater  
Sales code: NHK



\$95

DETAILS >

< Models Packages >

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VEHICLES

- The All-New 2019 Ram 1500
- Ram 1500
- Ram 2500
- Ram 3500
- Ram Chassis Cab
- Ram ProMaster City®
- Ram ProMaster®
- Ram Commercial

SPECIAL EDITIONS

- 2018 Ram 2500/3500 Laramie Longhorn® Ram Rodeo Edition
- 2018 Ram 2500 Power Wagon Mojave Sand Edition
- The All-New 2019 Ram 1500 Kentucky Derby® Edition
- 2018 Ram 1500 Hydro Blue
- 2018 Ram 1500, 2500 and 3500 Laramie Longhorn® Southfork Edition
- 2018 Ram 1500, 2500 and 3500 Limited Tungsten
- 2018 Ram 1500, 2500 and 3500 Harvest Edition

CONCEPT VEHICLES

- Ram 1500 Rebel® TRX Concept

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- Schedule a Test Drive
- Search Pre-Owned Vehicles

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- Military Bonus Cash
- Calculate Payment
- Find Your Trade-In Value
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- Apply for Credit
- Get Prequalified

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- Uconnect® Systems
- EcoDiesel

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- Merchandise
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TRUCKS & VANS

SHOPPING TOOLS

RAM COMMERCIAL

MENU

2017 RAM 2500 SLT REGULAR CAB 4X2 8' BOX

\$37,740 NET PRICE

Models | Powertrain | Packages | Exterior | Interior

Summary

ENGINE

5.7-Liter V8 HEMI® VVT Engine  
Sales code: EZC

Selected

Standard

DETAILS >



6.4-Liter Heavy Duty V8 HEMI® with MDS  
Sales code: ESA



\$500

DETAILS >



6.7-Liter I6 Cummins® Turbo Diesel Engine  
Sales code: ETK



\$9,200

DETAILS >



5.7-Liter V8 HEMI® CNG Engine  
Sales code: EZF



\$11,000

DETAILS >

TRANSMISSIONS

6-Speed Automatic 66RFE Transmission  
Sales code: DFP

Selected	<b>Standard</b>	<a href="#">DETAILS &gt;</a>
	<b>6-Speed Manual G56 Transmission</b> Sales code: DEG	
	<b>\$0</b>	<a href="#">DETAILS &gt;</a>
	<b>6-Speed Automatic 68RFE Transmission</b> Sales code: DG7	
	<b>\$0</b>	<a href="#">DETAILS &gt;</a>

**GVWR PACKAGES**

	<b>GVW Rating - 9,000 Pounds</b> Sales code: Z2C	
Selected	<b>Standard</b>	<a href="#">DETAILS &gt;</a>
	<b>GVW Rating - 10,000 Pounds</b> Sales code: Z2D	
	Requires Additional Selections	<a href="#">DETAILS &gt;</a>
	<b>GVW Rating - 9,200 Pounds</b> Sales code: Z2J	



Requires Additional Selections

**AXLES**



**Anti-Spin Differential Rear Axle**  
Sales code: DSA

\$445

**GEAR RATIOS**

**3.73 Axle Ratio**  
Sales code: DME

Selected

Standard

[DETAILS >](#)



**4.10 Axle Ratio**  
Sales code: DMF

\$125

[DETAILS >](#)



**3.42 Axle Ratio**  
Sales code: DMR



Requires Additional Selections

[DETAILS >](#)

**TOWING FEATURES**

**20,000 lb. Direct-Mount 5th-Wheel Hitch**  
Sales code: XML



**\$1,075**

[DETAILS >](#)

**SUSPENSION**

**Auto Level Rear Air Suspension**  
Sales code: SEB



**\$1,595**

[DETAILS >](#)

**ALTERNATORS**

**180-Amp Alternator**  
Sales code: BAD



**\$95**

[DETAILS >](#)

**220-Amp Alternator**  
Sales code: BAJ



**\$100**

[DETAILS >](#)

**Dual Alternators with 380-Amps Total**  
Sales code: XF5





\$395

[DETAILS >](#)

**Dual Alternators Rated at 440-Amps**  
Sales code: XF7



\$395

[DETAILS >](#)

**ADDITIONAL MECHANICAL FEATURES**

**Engine Block Heater**  
Sales code: NHK



\$95

[DETAILS >](#)

**Tow Hooks**  
Sales code: XEA



\$50

[DETAILS >](#)

**Upfitter Electronic Module (VSIM)**  
Sales code: XXS



\$345

[DETAILS >](#)

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VEHICLES

- The All-New 2019 Ram 1500
- Ram 1500
- Ram 2500
- Ram 3500
- Ram Chassis Cab
- Ram ProMaster City®
- Ram ProMaster®
- Ram Commercial

SPECIAL EDITIONS

- 2018 Ram 2500/3500 Laramie Longhorn® Ram Rodeo Edition
- 2018 Ram 2500 Power Wagon Mojave Sand Edition
- The All-New 2019 Ram 1500 Kentucky Derby® Edition
- 2018 Ram 1500 Hydro Blue
- 2018 Ram 1500, 2500 and 3500 Laramie Longhorn® Southfork Edition
- 2018 Ram 1500, 2500 and 3500 Limited Tungsten
- 2018 Ram 1500, 2500 and 3500 Harvest Edition

CONCEPT VEHICLES

- Ram 1500 Rebel® TRX Concept

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- Search Pre-Owned Vehicles

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- Apply for Credit
- Get Prequalified

CAPABILITY

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- Fuel Efficiency
- Uconnect® Systems
- EcoDiesel

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SHOPPING TOOLS

RAM COMMERCIAL

MENU

2017 RAM 2500 TRADESMAN REGULAR CAB 4X2 8' BOX

\$33,540 NET PRICE

Models | Powertrain | Packages | Exterior | Interior

Summary

ENGINE

5.7-Liter V8 HEMI® VVT Engine  
Sales code: EZC

Selected

Standard

DETAILS >



6.4-Liter Heavy Duty V8 HEMI® with MDS  
Sales code: ESA



\$500

DETAILS >



6.7-Liter I6 Cummins® Turbo Diesel Engine  
Sales code: ETK



\$9,200

DETAILS >



5.7-Liter V8 HEMI® CNG Engine  
Sales code: EZF



\$11,000

DETAILS >

TRANSMISSIONS

6-Speed Automatic 66RFE Transmission  
Sales code: DFP

Selected	Standard	DETAILS >
	<b>6-Speed Manual G56 Transmission</b> Sales code: DEG	
	<b>\$0</b> <b>6-Speed Automatic 68RFE Transmission</b> Sales code: DG7	DETAILS >
	<b>\$0</b>	DETAILS >

**GVWR PACKAGES**

	<b>GVW Rating - 9,000 Pounds</b> Sales code: Z2C	
Selected	Standard	DETAILS >
	<b>GVW Rating - 10,000 Pounds</b> Sales code: Z2D	
	Requires Additional Selections	DETAILS >
	<b>GVW Rating - 9,200 Pounds</b> Sales code: Z2J	



**RAM**

Requires Additional Selections

**AXLES**



**RAM**

**Anti-Spin Differential Rear Axle**  
Sales code: DSA

\$445

**GEAR RATIOS**

**3.73 Axle Ratio**  
Sales code: DME

Selected

Standard

[DETAILS >](#)



**RAM**

**4.10 Axle Ratio**  
Sales code: DMF

\$125

[DETAILS >](#)



**RAM**

**3.42 Axle Ratio**  
Sales code: DMR

Requires Additional Selections

[DETAILS >](#)

**TOWING FEATURES**

**20,000 lb. Direct-Mount 5th-Wheel Hitch**  
Sales code: XML



**\$1,075**

[DETAILS >](#)

**SUSPENSION**

**Auto Level Rear Air Suspension**  
Sales code: SEB



**\$1,595**

[DETAILS >](#)

**ALTERNATORS**

**180-Amp Alternator**  
Sales code: BAD



**\$95**

[DETAILS >](#)

**220-Amp Alternator**  
Sales code: BAJ



**\$100**

[DETAILS >](#)

**Dual Alternators with 380-Amps Total**  
Sales code: XF5





\$395

[DETAILS >](#)

**Dual Alternators Rated at 440-Amps**  
Sales code: XF7



\$395

[DETAILS >](#)

**ADDITIONAL MECHANICAL FEATURES**

**Engine Block Heater**  
Sales code: NHK



\$95

[DETAILS >](#)

**Tow Hooks**  
Sales code: XEA



\$50

[DETAILS >](#)

**Upfitter Electronic Module (VSIM)**  
Sales code: XXS



\$345

[DETAILS >](#)



Models

Packages



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VEHICLES

- The All-New 2019 Ram 1500
- Ram 1500
- Ram 2500
- Ram 3500
- Ram Chassis Cab
- Ram ProMaster City®
- Ram ProMaster®
- Ram Commercial

SPECIAL EDITIONS

- 2018 Ram 2500/3500 Laramie Longhorn® Ram Rodeo Edition
- 2018 Ram 2500 Power Wagon Mojave Sand Edition
- The All-New 2019 Ram 1500 Kentucky Derby® Edition
- 2018 Ram 1500 Hydro Blue
- 2018 Ram 1500, 2500 and 3500 Laramie Longhorn® Southfork Edition
- 2018 Ram 1500, 2500 and 3500 Limited Tungsten
- 2018 Ram 1500, 2500 and 3500 Harvest Edition

CONCEPT VEHICLES

- Ram 1500 Rebel® TRX Concept

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# Exhibit 30

2017 RAM 2500 BIG HORN CREW CAB 4X2 6'4" BOX

\$44,120 NET PRICE

Models | Powertrain | Packages | Exterior | Interior

Summary

ENGINE

5.7-Liter V8 HEMI® VVT Engine  
Sales code: EZC

Selected

Standard

DETAILS >



6.4-Liter Heavy Duty V8 HEMI® with MDS  
Sales code: ESA



\$500

DETAILS >



6.7-Liter I6 Cummins® Turbo Diesel Engine  
Sales code: ETK



\$9,200

DETAILS >

TRANSMISSIONS

6-Speed Automatic 66RFE Transmission  
Sales code: DFP

Selected

Standard

DETAILS >

6-Speed Manual G56 Transmission  
Sales code: DEG





\$0

[DETAILS >](#)

**6-Speed Automatic 68RFE Transmission**  
Sales code: DG7



\$0

[DETAILS >](#)

**GVWR PACKAGES**

**GVW Rating - 9,000 Pounds**  
Sales code: Z2C

Selected

Standard

[DETAILS >](#)

**GVW Rating - 10,000 Pounds**  
Sales code: Z2D



**RAM**

Requires Additional Selections

[DETAILS >](#)

**GEAR RATIOS**

**3.73 Axle Ratio**  
Sales code: DME

Selected

Standard

[DETAILS >](#)

**4.10 Axle Ratio**  
Sales code: DMF



**\$125**

[DETAILS >](#)

**3.42 Axle Ratio**  
Sales code: DMR



Requires Additional Selections

[DETAILS >](#)

**TOWING FEATURES**

**20,000 lb. Direct-Mount 5th-Wheel Hitch**  
Sales code: XML



**\$1,075**

[DETAILS >](#)

**SUSPENSION**

**Auto Level Rear Air Suspension**  
Sales code: SEB



**\$1,595**

[DETAILS >](#)

**ALTERNATORS**

**180-Amp Alternator**  
Sales code: BAD





\$95

[DETAILS >](#)

**220-Amp Alternator**  
Sales code: BAJ



\$100

[DETAILS >](#)

**Dual Alternators with 380-Amps Total**  
Sales code: XF5



\$395

[DETAILS >](#)

**Dual Alternators Rated at 440-Amps**  
Sales code: XF7



\$395

[DETAILS >](#)

**ADDITIONAL MECHANICAL FEATURES**



**Engine Block Heater**  
Sales code: NHK

\$95

[DETAILS >](#)

**Tow Hooks**  
Sales code: XEA





\$50

[DETAILS >](#)

**Upfitter Electronic Module (VSIM)**  
Sales code: XXS



\$345

[DETAILS >](#)

< Models Packages >

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VEHICLES▼

- The All-New 2019 Ram 1500
- Ram 1500
- Ram 2500
- Ram 3500
- Ram Chassis Cab
- Ram ProMaster City®
- Ram ProMaster®
- Ram Commercial

SPECIAL EDITIONS▼

- 2018 Ram 2500/3500 Laramie Longhorn® Ram Rodeo Edition
- 2018 Ram 2500 Power Wagon Mojave Sand Edition
- The All-New 2019 Ram 1500 Kentucky Derby® Edition
- 2018 Ram 1500 Hydro Blue
- 2018 Ram 1500, 2500 and 3500 Laramie Longhorn® Southfork Edition
- 2018 Ram 1500, 2500 and 3500 Limited Tungsten
- 2018 Ram 1500, 2500 and 3500 Harvest Edition

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TRUCKS & VANS

SHOPPING TOOLS

RAM COMMERCIAL

MENU

2017 RAM 2500 LARAMIE LONGHORN CREW CAB 4X2 6'4" BOX

\$55,770 NET PRICE

Models | Powertrain | Packages | Exterior | Interior

Summary

ENGINE

5.7-Liter V8 HEMI® VVT Engine  
Sales code: EZC

Selected

Standard

DETAILS >



6.4-Liter Heavy Duty V8 HEMI® with MDS  
Sales code: ESA



\$0

DETAILS >



6.7-Liter I6 Cummins® Turbo Diesel Engine  
Sales code: ETK



\$8,700

DETAILS >

TRANSMISSIONS

6-Speed Automatic 66RFE Transmission  
Sales code: DFP

Selected

Standard

DETAILS >



6-Speed Automatic 68RFE Transmission  
Sales code: DG7





\$0

[DETAILS >](#)

**GVWR PACKAGES**

**GVW Rating - 9,000 Pounds**  
Sales code: Z2C

Selected

Standard

[DETAILS >](#)



**GVW Rating - 10,000 Pounds**  
Sales code: Z2D



Requires Additional Selections

[DETAILS >](#)

**AXLES**



**Anti-Spin Differential Rear Axle**  
Sales code: DSA

\$445

**GEAR RATIOS**

**3.73 Axle Ratio**  
Sales code: DME

Selected	Standard	DETAILS >
	<p><b>4.10 Axle Ratio</b> Sales code: DMF</p>	DETAILS >
	<p><b>\$125</b></p> <p><b>3.42 Axle Ratio</b> Sales code: DMR</p> <p>Requires Additional Selections</p>	DETAILS >

**TOWING FEATURES**

**20,000 lb. Direct-Mount 5th-Wheel Hitch**  
Sales code: XML



**\$1,075**

DETAILS >

**SUSPENSION**

**Auto Level Rear Air Suspension**  
Sales code: SEB



**\$1,595**

DETAILS >

**ALTERNATORS**

	<p><b>180-Amp Alternator</b> Sales code: BAD</p>	<p><b>\$95</b></p>	<p><a href="#">DETAILS &gt;</a></p>
	<p><b>220-Amp Alternator</b> Sales code: BAJ</p>	<p><b>\$100</b></p>	<p><a href="#">DETAILS &gt;</a></p>
	<p><b>Dual Alternators with 380-Amps Total</b> Sales code: XF5</p>	<p><b>\$395</b></p>	<p><a href="#">DETAILS &gt;</a></p>
	<p><b>Dual Alternators Rated at 440-Amps</b> Sales code: XF7</p>	<p><b>\$395</b></p>	<p><a href="#">DETAILS &gt;</a></p>

**ADDITIONAL MECHANICAL FEATURES**

	<p><b>Engine Block Heater</b> Sales code: NHK</p>	<p><b>\$95</b></p>	<p><a href="#">DETAILS &gt;</a></p>
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VEHICLES

- The All-New 2019 Ram 1500
- Ram 1500
- Ram 2500
- Ram 3500
- Ram Chassis Cab
- Ram ProMaster City®
- Ram ProMaster®
- Ram Commercial

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- 2018 Ram 2500/3500 Laramie Longhorn® Ram Rodeo Edition
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- 2018 Ram 1500, 2500 and 3500 Laramie Longhorn® Southfork Edition
- 2018 Ram 1500, 2500 and 3500 Limited Tungsten
- 2018 Ram 1500, 2500 and 3500 Harvest Edition

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# Exhibit 32

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2017 RAM 2500 LIMITED CREW CAB 4X2 6'4" BOX

\$59,470 NET PRICE

Models | Powertrain | Packages | Exterior | Interior

Summary

ENGINE

5.7-Liter V8 HEMI® VVT Engine  
Sales code: EZC

Selected

Standard

DETAILS >



6.4-Liter Heavy Duty V8 HEMI® with MDS  
Sales code: ESA



\$0

DETAILS >



6.7-Liter I6 Cummins® Turbo Diesel Engine  
Sales code: ETK



\$8,700

DETAILS >

TRANSMISSIONS

6-Speed Automatic 66RFE Transmission  
Sales code: DFP

Selected

Standard

DETAILS >



6-Speed Automatic 68RFE Transmission  
Sales code: DG7





\$0

[DETAILS >](#)

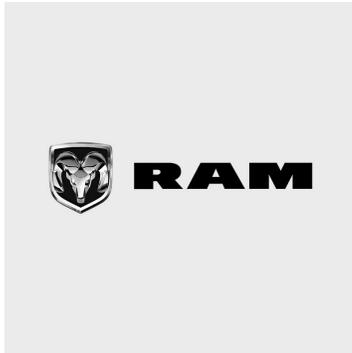
**GVWR PACKAGES**

**GVW Rating - 9,000 Pounds**  
Sales code: Z2C

Selected

Standard

[DETAILS >](#)



**GVW Rating - 10,000 Pounds**  
Sales code: Z2D



Requires Additional Selections

[DETAILS >](#)

**AXLES**



**Anti-Spin Differential Rear Axle**  
Sales code: DSA

\$445

**GEAR RATIOS**

**3.73 Axle Ratio**  
Sales code: DME





**220-Amp Alternator**  
Sales code: BAJ



**\$100**

[DETAILS >](#)



**Dual Alternators with 380-Amps Total**  
Sales code: XF5



**\$395**

[DETAILS >](#)



**Dual Alternators Rated at 440-Amps**  
Sales code: XF7



**\$395**

[DETAILS >](#)

**ADDITIONAL MECHANICAL FEATURES**



**Engine Block Heater**  
Sales code: NHK

**\$95**

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# Exhibit 33



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

OFFICE OF  
ENFORCEMENT AND  
COMPLIANCE ASSURANCE

VIA CERTIFIED MAIL  
RETURN RECEIPT REQUESTED

JAN 12 2017

Fiat Chrysler Automobiles N.V.  
FCA US LLC  
Thru:

Kyle M.H. Jones  
Senior Counsel  
Environment, Health and Safety  
Office of the General Counsel  
FCA US LLC  
1000 Chrysler Drive, CIMS 485-13-62  
Auburn Hills, MI 4832602766

Jonathan S. Martel  
Joel M. Gross  
Arnold & Porter LLP  
601 Massachusetts Ave., NW  
Washington, DC 20001-3743

Re: Notice of Violation for Model Year 2014-2016 diesel light-duty vehicles (Dodge Ram and Jeep Grand Cherokee)

Dear Messrs. Jones, Martel and Gross:

The United States Environmental Protection Agency (EPA) has investigated and continues to investigate Fiat Chrysler Automobiles N.V. and FCA US LLC (collectively, FCA) for compliance with the Clean Air Act (CAA), 42 U.S.C. §§ 7401–7671q, and its implementing regulations. As detailed in this Notice of Violation (NOV), the EPA has determined that FCA failed to disclose Auxiliary Emission Control Devices (AECs) in certain model year 2014 through 2016 (MY14-16) diesel light-duty vehicles equipped with 3.0 liter engines. These AECs were not disclosed in the initial motor vehicle applications for certificates of conformity (COCs) that permit the introduction of motor vehicles into United States commerce. The

AECDs, with certain exceptions, are present in the approximately 103,828 motor vehicles identified in the table below.

<b>Model Year</b>	<b>EPA Test Group</b>	<b>Make and Model(s)</b>	<b>50 State Volume</b>
2014	ECRXT03.05PV	FCA Dodge Ram 1500	14,083
2014	ECRXT03.05PV	FCA Jeep Grand Cherokee	14,652
2015	FCRXT03.05PV	FCA Dodge Ram 1500	31,984
2015	FCRXT03.05PV	FCA Jeep Grand Cherokee	8,421
2016	GCRXT03.05PV	FCA Dodge Ram 1500	32,219 (projected)
2016	GCRXT03.05PV	FCA Jeep Grand Cherokee	2,469 (projected)

Eight (8) specific AECDs are identified in Attachment A, which is marked as Confidential Business Information (CBI) as FCA may assert a CBI claim for some or all of these AECDs. *See* 40 C.F.R. § 2.203(b). The AECDs are described by an EPA-assigned number and name, and a short paragraph generally identifying the AECD by function.

The EPA has determined that, due to the existence of at least these eight undisclosed AECDs in these vehicles, these vehicles do not conform in all material respects to the vehicle specifications described in the applications for the COCs that purportedly cover them. Therefore, FCA violated section 203(a)(1) of the CAA, 42 U.S.C. § 7522(a)(1), for each time it sold, offered for sale, introduced into commerce, or delivered for introduction into commerce or imported these vehicles (or caused any of the foregoing acts with respect to these vehicles).

Operation of one or more of the eight undisclosed AECDs, either alone or in combination with each other, results in excess emissions of nitrogen oxides (NOx) under various operating conditions that may reasonably be expected to be encountered in normal vehicle operation and use. FCA did not disclose these AECDs to the EPA in their applications for COCs, despite being aware that the AECDs were required to be disclosed. The EPA has determined that, unless FCA can establish that the undisclosed AECDs qualify for one of the narrow exclusions provided under the applicable regulations, one or more of the AECDs identified in this NOV, whether alone or in combination with each other, would constitute defeat devices that reduce the effectiveness of the vehicles' emission control system that exist to comply with CAA emission standards. *See* 40 C.F.R. §§ 86.1803, 86.1809 (defining and prohibiting defeat devices). Therefore, after further investigation regarding the operation of the undisclosed AECDs, the EPA may assert that FCA committed additional violations of section 203(a)(1) of the CAA, 42 U.S.C. § 7522(a)(1), for each time it sold, offered for sale, introduced into commerce, delivered for introduction into commerce or imported vehicles with defeat devices (or caused any of the foregoing acts) that prevent the vehicles from conforming in all material respects to the vehicle specifications described in the applications for the COCs.

Additionally, the EPA is continuing its investigation into the operation of the undisclosed AECDs and whether FCA violated section 203(a)(3)(B) of the CAA, 42 U.S.C. § 7522(a)(1).

### Background and Law Governing Alleged Violations

Violations in this matter arise under Part A of Title II of the CAA, 42 U.S.C. §§ 7521–7554, and the regulations promulgated thereunder. In creating the CAA, Congress found, in part, that “the increasing use of motor vehicles . . . has resulted in mounting dangers to the public health and welfare.” CAA § 101(a)(2), 42 U.S.C. § 7401(a)(2). Congress’ purpose in creating the CAA, in part, was “to protect and enhance the quality of the Nation’s air resources so as to promote the public health and welfare and the productive capacity of its population,” and “to initiate and accelerate a national research and development program to achieve the prevention and control of air pollution.” CAA § 101(b)(1)–(2), 42 U.S.C. § 7401(b)(1)–(2). The CAA and the regulations promulgated thereunder aim to protect human health and the environment by reducing emissions of NO<sub>x</sub> and other pollutants from mobile sources of air pollution. Nitrogen oxides are a family of highly reactive gases that play a major role in the atmospheric reactions with volatile organic compounds (VOCs) that produce ozone (smog) on hot summer days. Breathing ozone can trigger a variety of health problems including chest pain, coughing, throat irritation, and congestion. Breathing ozone can also worsen bronchitis, emphysema, and asthma. Children are at greatest risk of experiencing negative health impacts from exposure to ozone.

The EPA’s allegations here concern light-duty motor vehicles for which 40 C.F.R. Part 86 sets emission standards and test procedures, and section 203 of the CAA, 42 U.S.C. § 7522, sets compliance provisions. Light-duty vehicles must satisfy emission standards for certain air pollutants, including NO<sub>x</sub>. 40 C.F.R. § 86.1811-04. The EPA administers a certification program to ensure that every vehicle introduced into United States commerce satisfies applicable emission standards. Under this program, the EPA issues certificates of conformity (COCs), and thereby approves the introduction of vehicles into United States commerce.

To obtain a COC, a light-duty vehicle manufacturer must submit a COC application to the EPA for each test group of vehicles that it intends to enter into United States commerce. 40 C.F.R. § 86.1843-01. The COC application must include, among other things, a list of all AECDs installed on the vehicles. 40 C.F.R. § 86.1844-01(d)(11). An AECD is “any element of design which senses temperature, vehicle speed, engine RPM, transmission gear, manifold vacuum, or any other parameter for the purpose of activating, modulating, delaying, or deactivating the operation of any part of the emission control system.” 40 C.F.R. § 86.1803-01. The COC application must also include “a justification for each AECD, the parameters they sense and control, a detailed justification of each AECD that results in a reduction in effectiveness of the emission control system, and [a] rationale for why it is not a defeat device.” 40 C.F.R. § 86.1844-01(d)(11). Electronic control systems that may receive inputs from multiple sensors and control multiple actuators that affect the emission control system’s performance are AECDs. EPA, *Advisory Circular Number 24-2: Prohibition of Emission Control Defeat Devices – Optional Objective Criteria* (Dec. 6, 1978). “Such elements of design could be control system logic (i.e., computer software), and/or calibrations, and/or hardware items.” *Id.*

“Vehicles are covered by a certificate of conformity only if they are in all material respects as described in the manufacturer’s application for certification. . .” 40 C.F.R. § 86.1848-10(c)(6). Similarly, a COC issued by the EPA, including those issued to FCA, states expressly, “[t]his certificate covers only those new motor vehicles or vehicle engines which conform, in all

material respects, to the design specifications” described in the application for that COC. *See also* 40 C.F.R. §§ 86.1844-01 (listing required content for COC applications), 86.1848-01(b) (authorizing the EPA to issue COCs on any terms that are necessary or appropriate to assure that new motor vehicles satisfy the requirements of the CAA and its regulations).

Manufacturers are prohibited from selling, offering for sale, introducing into commerce, delivering for introduction into commerce, or importing, any new motor vehicle unless that vehicle is covered by an EPA-issued COC. CAA § 203(a)(1), 42 U.S.C. § 7522(a)(1); 40 C.F.R. § 86.1854-12(a)(1). It is also a violation to cause any of the foregoing acts. CAA § 203(a), 42 U.S.C. § 7522(a); 40 C.F.R. § 86-1854-12(a). Additionally, the CAA makes it a violation “for any person to manufacture or sell, or offer to sell, or install, any part or component intended for use with, or as part of, any motor vehicle or motor vehicle engine, where a principal effect of the part or component is to bypass, defeat, or render inoperative any device or element of design installed on or in a motor vehicle or motor vehicle engine in compliance with regulations under this subchapter, and where the person knows or should know that such part or component is being offered for sale or installed for such use or put to such use.” CAA § 203(a)(3)(B), 42 U.S.C. § 7522(a)(3)(B); 40 C.F.R. § 86.1854-12(a)(3)(ii).

A defeat device is an AECD “that reduces the effectiveness of the emission control system under conditions which may reasonably be expected to be encountered in normal vehicle operation and use, unless: (1) Such conditions are substantially included in the Federal emission test procedure; (2) The need for the AECD is justified in terms of protecting the vehicle against damage or accident; (3) The AECD does not go beyond the requirements of engine starting; or (4) The AECD applies only for emergency vehicles . . . .” 40 C.F.R. § 86.1803-01.

Manufacturers of diesel-fueled motor vehicles equip the vehicles with exhaust gas recirculation (EGR) and selective catalyst reduction (SCR) systems to reduce NO<sub>x</sub> emissions. An EGR system is designed to return a variable amount of the already combusted exhaust gas back into the engine. This reduces the engine combustion temperature, which in turn reduces the formation of NO<sub>x</sub>; EGR is the primary control mechanism for reduction of NO<sub>x</sub> emissions from the engine. An SCR aftertreatment system is separate from the diesel engine and injects urea, often identified as diesel exhaust fluid (DEF), into the exhaust gas to chemically convert the NO<sub>x</sub> emissions into nitrogen (N<sub>2</sub>) and water as the exhaust flows through the SCR catalyst. The DEF must be periodically refilled by the vehicle operator to maintain continuous operation of the SCR system. When the fluid is not replaced, or when the SCR does not operate properly, NO<sub>x</sub> emissions increase significantly. Certain defeat devices can cause the EGR or SCR systems to operate less effectively, or not at all, during certain operating conditions.

Motor vehicles equipped with defeat devices cannot be certified. EPA, *Advisory Circular Number 24: Prohibition on use of Emission Control Defeat Device* (Dec. 11, 1972); *see also* 40 C.F.R. § 86.1809-12.

### Alleged Violations

This NOV is based in part on vehicle emission testing performed by the EPA at the National Vehicle and Fuel Emissions Laboratory (NVFEL). This testing was performed since the EPA’s

announcement on September 25, 2015, that it would perform additional testing “using driving cycles and conditions that may reasonably be expected to be encountered in normal operation and use, for the purposes of investigating a potential defeat device.” EPA, EPA Conducted Confirmatory Testing (Sept. 25, 2015). The EPA has identified at least eight AECDs in the 3.0 liter diesel-fueled FCA motor vehicles listed in the table above that were not described in the application for the COC that purportedly covers each motor vehicle; most AECDs have been identified as a result of the EPA’s investigation. The following is a list of the identified AECDs:

- AECD #1 (Full EGR Shut-Off at Highway Speed)
- AECD #2 (Reduced EGR with Increasing Vehicle Speed)
- AECD #3 (EGR Shut-off for Exhaust Valve Cleaning)
- AECD #4 (DEF Dosing Disablement during SCR Adaptation)
- AECD #5 (EGR Reduction due to Modeled Engine Temperature)
- AECD #6 (SCR Catalyst Warm-Up Disablement)
- AECD #7 (Alternative SCR Dosing Modes)
- AECD #8 (Use of Load Governor to Delay Ammonia Refill of SCR Catalyst)

As described in Attachment A, some of these AECDs appear to cause the vehicle to perform differently when the vehicle is being tested for compliance with the EPA emission standards using the Federal emission test procedure (e.g. FTP, US06), than in normal operation and use.

In meetings with the EPA, FCA’s representatives have discussed the use of these AECDs. FCA instituted a voluntary recall for AECD #1 in 2015, referred to as the 2014 Field Fix, and FCA has represented to the EPA that AECD #1 is not present in the MY 2015 and MY 2016 vehicles identified in the above table.

The EPA has reviewed the information provided by FCA, and the NVFEL has conducted additional testing. The test data shows that these vehicles have high NOx emissions under certain conditions.

The following list identifies discrete examples where the effectiveness of the emission control system is reduced:

- Combined operation of AECD #3 with AECD #7 or AECD #8 reduces in certain situations the effectiveness of the overall emission control system by disabling one key component of that system, the EGR system, without compensating by increasing the effectiveness of the other critical component, the SCR system. AECD #3 employs a timer to shut-off EGR; this EGR disablement does not appear justified for protecting the vehicle, nor does it meet any of the other exceptions of the defeat device regulatory definition. Under certain conditions reasonably expected to be encountered in normal vehicle operation and use, the SCR is unable to compensate for the reduced effectiveness caused by EGR shut-off and the overall effectiveness of the emission control system is reduced.
- The operation of AECD #5, together with AECD #6, at temperatures outside of those found in the Federal emission test procedure reduces the effectiveness of the NOx emission control system under conditions reasonably expected to be encountered in normal vehicle operation and use. In addition, a timer is used to discontinue warming of

the SCR aftertreatment system, thereby reducing its effectiveness, in a manner that does not appear to be justified to protect the vehicle.

- The operation of AECD #4, particularly when combined with AECD #8, increases emissions of tailpipe NO<sub>x</sub> under conditions reasonably expected to be encountered in normal vehicle operation and use. The operation of AECD #1, AECD #2 and/or AECD #5 increase the frequency of occurrence of AECD #4.
- The operation of AECDs #7 and #8, particularly in variable grade and high load conditions, increases emissions of tailpipe NO<sub>x</sub> under conditions reasonably expected to be encountered in normal vehicle operation and use.

These AECDs were neither described nor justified in the applicable COC applications, as required by EPA regulations. Therefore, each vehicle identified by the table above does not conform in a material respect to the vehicle specifications described in the COC application. As such, FCA violated section 203(a)(1) of the CAA, 42 U.S.C. § 7522(a)(1), each time it sold, offered for sale, introduced into commerce, delivered for introduction into commerce, or imported (or caused any of the foregoing with respect to) approximately 103,828 new motor vehicles within these test groups.

The EPA believes that one or more of the AECDs, whether alone or in combination with each other, reduce the effectiveness of the emission control system under conditions which may reasonably be expected to be encountered in normal vehicle operation and use. These AECDs: (1) occur in operating conditions that may not be part of the Federal emission test procedure; and (2) may not be justified in terms of protecting the vehicle against damage or accident; they do not otherwise qualify for the enumerated defeat device exceptions of 40 C.F.R. § 86.1803-01. Therefore, one or more of the AECDs, whether alone or in combination, may be defeat devices. To date, despite having the opportunity to do so, FCA has failed to establish that these are not defeat devices. After further investigation into whether these are defeat devices, the EPA may assert that FCA committed additional violations of section 203(a)(1) of the CAA, 42 U.S.C. § 7522(a)(1).

In addition to these undisclosed AECD allegations under section 203(a)(1) of the CAA, 42 U.S.C. § 7522(a)(1), the EPA intends to continue its investigation to determine whether the manufacture, sale, offering for sale, or installation of one or more of the undisclosed AECDs constitute defeat device violations of section 203(a)(3)(B) of the CAA, 42 U.S.C. § 7522(a)(3)(B). To date, despite having the opportunity to do so, FCA has failed to demonstrate that FCA did not know, or should not have known, that a principal effect of one or more of these AECDs was to bypass, defeat, or render inoperative one or more elements of design installed to comply with emissions standards under the CAA.

### Enforcement

The EPA's investigation into this matter is continuing. The above information represents specific violations that the EPA believes, at this point, are sufficiently supported by evidence to warrant the allegations in this NOV. The EPA may find additional violations as the investigation continues.

The EPA is authorized to refer this matter to the United States Department of Justice for initiation of appropriate enforcement action. Any manufacturer who, on or after January 13, 2009, sold, offered for sale, introduced into commerce, delivered for introduction into commerce, imported, or caused any of the foregoing acts with respect to any new motor vehicle that was not covered by an EPA-issued COC is subject, among other things, to a civil penalty of up to \$44,539 for each violation. CAA § 205(a), 42 U.S.C. § 7524(a); 40 C.F.R. § 19.4. The EPA may seek, and district courts may order, equitable remedies to further address these alleged violations. CAA § 204(a), 42 U.S.C. § 7523(a).

The EPA is available to discuss this matter with you. Please contact Kathryn Caballero, the EPA attorney assigned to this matter, to discuss this NOV. Ms. Caballero can be reached as follows:

Kathryn Pirrotta Caballero  
U.S. EPA, Air Enforcement Division  
1200 Pennsylvania Avenue, NW (MC 2242A)  
William Jefferson Clinton South Federal Building  
Washington, DC 20460  
(202) 564-1849  
caballero.kathryn@epa.gov

Sincerely,



Phillip A. Brooks  
Director  
Air Enforcement Division  
Office of Civil Enforcement

Copy:  
Todd Sax, California Air Resources Board  
Thomas A. Mariani Jr., United States Department of Justice

# Exhibit 34



## News Releases from Headquarters

### EPA Notifies Fiat Chrysler of Clean Air Act Violations

#### FCA allegedly installed and failed to disclose software that increases air pollution from vehicles

01/12/2017

Contact Information:

Julia P. Valentine (News media only) ([valentine.julia@epa.gov](mailto:valentine.julia@epa.gov))  
(202) 564-2663

**WASHINGTON** – The U.S. Environmental Protection Agency (EPA) today issued a notice of violation to Fiat Chrysler Automobiles N.V. and FCA US LLC (collectively FCA) for alleged violations of the Clean Air Act for installing and failing to disclose engine management software in light-duty model year 2014, 2015 and 2016 Jeep Grand Cherokees and Dodge Ram 1500 trucks with 3.0 liter diesel engines sold in the United States. The undisclosed software results in increased emissions of nitrogen oxides (NOx) from the vehicles. The allegations cover roughly 104,000 vehicles. EPA is working in coordination with the California Air Resources Board (CARB), which has also issued a notice of violation to FCA. EPA and CARB have both initiated investigations based on FCA’s alleged actions.

“Failing to disclose software that affects emissions in a vehicle’s engine is a serious violation of the law, which can result in harmful pollution in the air we breathe,” said Cynthia Giles, Assistant Administrator for EPA’s Office of Enforcement and Compliance Assurance. “We continue to investigate the nature and impact of these devices. All automakers must play by the same rules, and we will continue to hold companies accountable that gain an unfair and illegal competitive advantage.”

“Once again, a major automaker made the business decision to skirt the rules and got caught,” said CARB Chair Mary D. Nichols. “CARB and U.S. EPA made a commitment to enhanced testing as the Volkswagen case developed, and this is a result of that collaboration.”

The Clean Air Act requires vehicle manufacturers to demonstrate to EPA through a certification process that their products meet applicable federal emission standards to control air pollution. As part of the certification process, automakers are required to disclose and explain any software, known as auxiliary emission control devices, that can alter how a vehicle emits air pollution. FCA did not

disclose the existence of certain auxiliary emission control devices to EPA in its applications for certificates of conformity for model year 2014, 2015 and 2016 Jeep Grand Cherokees and Dodge Ram 1500 trucks, despite being aware that such a disclosure was mandatory. By failing to disclose this software and then selling vehicles that contained it, FCA violated important provisions of the Clean Air Act.

FCA may be liable for civil penalties and injunctive relief for the violations alleged in the NOV. EPA is also investigating whether the auxiliary emission control devices constitute “defeat devices,” which are illegal.

In September 2015, EPA instituted an expanded testing program to screen for defeat devices on light duty vehicles. This testing revealed that the FCA vehicle models in question produce increased NOx emissions under conditions that would be encountered in normal operation and use. As part of the investigation, EPA has found at least eight undisclosed pieces of software that can alter how a vehicle emits air pollution.

FCA US LLC is a wholly owned subsidiary of Fiat Chrysler Automobiles N.V., a multinational corporation.

To read the notice of violation, visit:

<https://www.epa.gov/sites/production/files/2017-01/documents/fca-caa-nov-2017-01-12.pdf>

For more information on today's action, visit at: <https://www.epa.gov/fca>

R009

LAST UPDATED ON JANUARY 12, 2017

# Exhibit 35



# Federal Register

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**Thursday,  
October 13, 2005**

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**Part III**

## **Environmental Protection Agency**

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**40 CFR Parts 3, 9, 51 et al.  
Cross-Media Electronic Reporting; Final  
Rule**

**ENVIRONMENTAL PROTECTION AGENCY**

**40 CFR Parts 3, 9, 51, 60, 63, 69, 70, 71, 123, 142, 145, 162, 233, 257, 258, 271, 281, 403, 501, 745 and 763**

[FRL-7977-1]

RIN 2025-AA07

**Cross-Media Electronic Reporting**

**AGENCY:** Environmental Protection Agency (EPA).

**ACTION:** Final rule.

**SUMMARY:** EPA is establishing the framework by which it will accept electronic reports from regulated entities in satisfaction of certain document submission requirements in EPA's regulations. EPA will provide public notice when the Agency is ready to receive direct submissions of certain documents from regulated entities in electronic form consistent with this rulemaking via an EPA electronic document receiving system. This rule does not mandate that regulated entities utilize electronic methods to submit documents in lieu of paper-based submissions. In addition, EPA is not taking final action on the electronic recordkeeping requirements at this time.

States, tribes, and local governments will be able to seek EPA approval to accept electronic documents to satisfy reporting requirements under

environmental programs that EPA has delegated, authorized, or approved them to administer. This rule includes performance standards against which a state's, tribe's, or local government's electronic document receiving system will be evaluated before EPA will approve changes to the delegated, authorized, or approved program to provide electronic reporting, and establishes a streamlined process that states, tribes, and local governments can use to seek and obtain such approvals.

**DATES:** This rule shall become effective January 11, 2006.

**ADDRESSES:** The public record for this rulemaking has been established under docket number OEI-2003-0001 and is located in the EPA Docket Center, (EPA/DC) EPA West, Room B102, 1301 Constitution Ave., NW., Washington, DC. The EPA Docket Center Public Reading Room is open from 8:30 a.m. to 4:30 p.m., Monday through Friday, excluding legal holidays. (See **SUPPLEMENTARY INFORMATION** below.)

**FOR FURTHER INFORMATION CONTACT:** For general information on this final rule, contact the docket above. For more detailed information on specific aspects of this rulemaking, contact David Schwarz (2823T), Office of Environmental Information, U.S. Environmental Protection Agency, 1200 Pennsylvania Avenue, NW., Washington, DC 20460, (202) 566-1704,

*schwarz.david@epa.gov*, or Evi Huffer (2823T), Office of Environmental Information, U.S. Environmental Protection Agency, 1200 Pennsylvania Avenue, NW., Washington, DC 20460, (202) 566-1697, *huffer.evi@epa.gov*.

**SUPPLEMENTARY INFORMATION:**

**General Information**

*A. Affected Entities*

This rule will potentially affect states, tribes, and local governments that have been delegated, authorized, or approved, or which seek delegation, authorization, or approval to administer a federal environmental program under Title 40 of the Code of Federal Regulations (CFR). For purposes of this rulemaking, the term "state" includes the District of Columbia and the United States territories, as specified in the applicable statutes. That is, the term "state" includes the District of Columbia, the Commonwealth of Puerto Rico, the Virgin Islands, Guam, American Samoa, the Commonwealth of Northern Marina Islands, and the Trust Territory of the Pacific Islands, depending on the statute.

The rule will also potentially affect private parties subject to any requirements in Title 40 of the CFR that require a document to be submitted to EPA. Affected Entities include, but are not necessarily limited to:

Category	Examples of affected entities
Local government .....	Publicly owned treatment works, owners and operators of treatment works treating domestic sewage, local and regional air boards, local and regional waste management authorities, and municipal and other drinking water authorities.
Private .....	Industry owners and operators, waste transporters, privately owned treatment works or other treatment works treating domestic sewage, privately owned water works, small businesses of various kinds, sponsors such as laboratories that submit or initiate/support studies, and testing facilities that both initiate and conducts studies.
Tribe and State governments.	States, tribes or territories that administer any federal environmental programs delegated, authorized, or approved by EPA under Title 40 of the CFR.
Federal government .....	Federally owned treatment works and industrial dischargers, and federal facilities subject to hazardous waste regulation.

This table is not intended to be exhaustive, but rather provides a guide for readers regarding entities likely to be affected by this action. This table lists the types of entities that EPA is now aware can potentially be affected by this action. Other types of entities not listed in the table can also be affected. If you have questions regarding the applicability of this action to a particular entity, consult the person listed in the preceding **FOR FURTHER INFORMATION CONTACT** section.

*B. How Can I Get Copies of This Document and Other Related Information?*

1. *Docket.* EPA has established an official public docket for this action under Docket ID No. OEI-2003-0001. The official public docket consists of the documents specifically referenced in this action, any public comments received, and other information related to this action. Although a part of the official docket, the public docket does not include Confidential Business Information (CBI) or other information whose disclosure is restricted by statute. The official public docket is the collection of materials that is available

for public viewing at the Cross-Media Electronic Reporting Rule (CROMERR) Docket in the EPA Docket Center (EPA/DC), EPA West, Room B102, 1301 Constitution Ave., NW., Washington, DC. The EPA Docket Center Public Reading Room is open from 8:30 a.m. to 4:30 p.m., Monday through Friday, excluding legal holidays. The telephone number for the Public Reading Room is (202) 566-1744, and the telephone number for the Office of Environmental Information Docket is (202) 566-1752. You may have to pay a reasonable fee for copying.

An electronic version of the public docket is available through EPA's

electronic public docket and comment system, EDOCKET. You may use EDOCKET at <http://www.epa.gov/edocket/> to view public comments, access the index listing of the contents of the official public docket, and to access those documents in the public docket that are available electronically. Although not all docket materials may be available electronically, you may still access any of the publicly available docket materials. After selecting the "Using EDOCKET" icon, select "quick search," then key in the appropriate docket identification number. Double click on the document identification number to bring up the docket contents.

2. *Electronic Access.* You may access this **Federal Register** document electronically through the EPA Internet under the "**Federal Register**" listings at <http://www.epa.gov/fedrgrstr/>.

### Organization of This Document

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### I. Overview

*A. Why does the Agency seek to provide electronic alternatives to paper-based reporting and recordkeeping?*

In the **Federal Register** of August 31, 2001 (66 FR 46162), EPA published a notice of proposed rulemaking, announcing the goal of making electronic reporting and electronic recordkeeping available under EPA regulatory programs. The Agency believes that the submission and storage of electronic documents in lieu of paper documents can:

- Reduce the cost and burden of data transfer and maintenance for all parties to the data exchanges;
- Improve the data and the various business processes associated with its use in ways that may not be reflected directly in cost-reduction, e.g., through improvements in data quality, and the speed and convenience with which data may be transferred and used; and
- Maintain the level of corporate and individual responsibility and accountability for electronic reports and records that currently exists in the paper environment.

Recent federal policy and law are also strong drivers of electronic alternatives to traditional reporting and recordkeeping. The Government Paperwork Elimination Act (GPEA) of 1998, Title XVII of Public Law 105-277, requires the Director of the Office of Management and Budget (OMB) to ensure that executive agencies provide for the option of the electronic maintenance, submission, or disclosure of information as a substitute for paper when practicable, and for the use and acceptance of electronic signatures, when practicable. See GPEA section 1704. Given the enormous strides in data transfer and management technologies, particularly in connection with the Internet, replacing paper with electronic data transfer now promises increased productivity across almost all facets of business and government.

In seeking to make electronic alternatives available that were not contemplated when most existing EPA regulations were written, EPA was mindful of the need to maintain our ability to carry out our statutory environmental and health protection mission, in part through ensuring the integrity of environmental compliance documents. Accordingly, the intended

effect of the proposed regulation was to permit and encourage the use of electronic technologies in a manner that is consistent with EPA's overall mission and that preserves the integrity of the Agency's compliance and enforcement activities.

The Agency believes that it is essential to ensure that electronic reports can play the same role as their paper counterparts in providing evidence of what was reported and to what identified individuals certified with respect to the report. Otherwise, electronic reporting places at risk the continuing viability of self-monitoring and self-reporting that provides the framework for compliance under most of our environmental programs. The purpose of today's final rule is therefore twofold. Today's rule is intended to provide regulated industry, EPA, and state, tribe, and local governments with electronic reporting alternatives that improve the efficiency, the speed, and the quality of regulatory reporting. At the same time, the rule is intended to ensure the legal dependability of electronic documents submitted under environmental programs. This includes, among other things, ensuring that individuals will be held as responsible and accountable for the electronic signatures, which they execute, and for the documents to which such signatures attest as they currently are in cases of documents where they execute handwritten signatures.

#### *B. What does the electronic reporting rule do?*

EPA is announcing today the final regulatory provisions in a new part 3 of Title 40 of the CFR for electronic reporting to EPA and under authorized state, tribe, and local government programs. "Authorized program" is shorthand for a federal program that EPA has delegated, authorized, or approved a state, tribe or local government to administer under other provisions of title 40 of the CFR, where the delegation, authorization, or approval has not been withdrawn or expired. Section 3.3 of the rule codifies this usage in the regulatory text. This use of "authorized" does not mean that EPA is precluded from an enforcement action by a prior enforcement action being taken by a state, tribe, or local government under its authorized program. The final rule incorporates changes made after publication of the proposed rule that are discussed in detail in section IV of this Preamble. This rule establishes electronic reporting as an acceptable regulatory alternative across a broad spectrum of EPA programs, and establishes

requirements to assure that electronic documents are as legally dependable as their paper counterparts.

The requirements in Subpart B of the rule apply to entities that choose to submit electronic documents for direct reporting to EPA, including state, tribe, and local government facilities that choose to submit electronic documents to EPA to satisfy requirements that apply to them under other provisions of title 40 of the CFR. However, the scope of this final rule excludes any data transfers between EPA and states, tribes, or local governments as a part of their authorized programs or as a part of administrative arrangements between states, tribes, or local governments and EPA to share data. The requirements in Subpart D of the rule provide for electronic reporting under authorized state, tribe, and local government programs and apply to the governmental entities administering the authorized programs. Under the final rule, states, tribes, and local governments have the choice of using electronic submission rather than paper for reporting under their authorized programs. Comments on the proposed rule indicated that some states and local governments are now requiring electronic reporting under those programs. Existing electronic document receiving systems must receive EPA approval in accordance with Subpart D in order to meet the requirements of part 3.

This rule does not require that any document be submitted electronically, and it does not require any state, tribe, or local authorized program to receive electronic documents. Public access to environmental compliance information is not affected by today's action.

Additionally, the scope of the final rule specifically excludes the submission of any electronic document via magnetic or optical media—for example via diskette, compact disk (CD), digital video disc (DVD), or tape—as well as the transmission of documents via hard copy facsimile or "fax." The exclusion of magnetic or optical media submissions from the scope of this rule in no way indicates EPA's rejection of these technologies as a valid approach to paperless reporting. Magnetic and optical media submissions fulfill the goal of providing alternatives to submission on paper. EPA has already successfully implemented a paperless reporting alternative that utilizes magnetic and optical media submissions to fulfill many regulatory reporting requirements. Such instances include reporting related to the hazardous waste, Toxic Release Inventory, and pesticide registration programs. EPA expects these magnetic

and optical media approaches to paperless reporting to continue, and nothing in today's rule should be interpreted to proscribe or discourage them.

For entities that report to EPA directly and do so by submitting electronic documents, today's action requires that these documents be submitted either to the Agency's centralized electronic document receiving system, called the "Central Data Exchange" (CDX), or to alternative systems designated by the Administrator as described herein and in a separate **Federal Register** notice. Entities that submit electronic documents directly to EPA will satisfy the requirements in today's rule by successfully submitting their reports to one of these systems. While we do not intend to codify any of the details of how CDX operates or how it is constructed, the characteristics of the CDX and the submission scenarios are described later in this Preamble. In addition, the CDX design specifications are included as a part of this rulemaking docket.

Many facilities submit documents directly to states, tribes, or local governments under authorized programs. For currently authorized programs that receive or wish to begin receiving electronic documents in lieu of paper, this rule requires EPA approval of program revisions or modifications that address their electronic reporting implementations. For programs initially seeking authorization, this rule requires EPA approval of any electronic reporting components of the programs. In both cases, EPA approval will be based largely on an assessment of the program's "electronic document receiving system" that is or will be used to implement electronic reporting. For this purpose, this rule includes performance-based standards that EPA will use to determine that an electronic document receiving system is acceptable. To implement electronic reporting under currently authorized programs, EPA is creating a streamlined procedure that states, tribes, and local governments may use to revise or modify their authorized programs to incorporate electronic reporting. Today's rulemaking also includes special provisions for authorized programs' electronic document receiving systems that exist at the time of publication of this final rule.

It is worth noting that EPA can approve changes to authorized state, tribe, or local programs that involve the use of CDX to receive data submissions from their reporting communities, and EPA is exploring opportunities to

leverage CDX resources for use by states, tribes, and local governments. As currently implemented, CDX provides the major systems infrastructure components necessary to achieve electronic reporting consistent with the standards in this rule for assessing state, tribe, or local government electronic document receiving systems. Additionally, EPA has set the goal of making CDX operations fully consistent with the requirements in today's rule within two years.

While today's rule establishes electronic reporting as a regulatory alternative, EPA will make the electronic submission alternative available for specific reports or other documents only as EPA announces its readiness to receive them through CDX or another designated system. EPA will publish announcements in the **Federal Register** as CDX and other systems become available for particular environmental reports. These elements are discussed in more detail in section V of this Preamble.

In a notice published concurrently with today's rule, EPA clarifies the status of electronic reporting directly to EPA systems that exist as of the rule's publication date. In accordance with 40 CFR 3.10, EPA is designating for the receipt of electronic submissions, all EPA electronic document receiving systems currently existing and receiving electronic reports as of the date of the notice. This designation is valid for a period of up to two years from the date of publication of the notice. During this two-year period, entities that report directly to EPA may continue to satisfy EPA reporting requirements by reporting to the same systems as they did prior to CROMERR's publication unless EPA publishes a notice that announces changes to, or migration from, that system. Any existing system continuing to receive electronic reports at the expiration of this two-year period must receive redesignation by the Administrator under § 3.10. Notice of such redesignation will be published in the **Federal Register**.

#### *C. What is the status of the proposed electronic recordkeeping provisions?*

At this time, EPA is only finalizing the provisions for electronic reporting to EPA and under authorized programs. The August 31, 2001, proposal, however, also addressed records that EPA or authorized programs require entities to maintain under any of the environmental programs governed by Title 40 of the CFR or related state, tribe, and local laws and regulations. For such records, EPA proposed specific provisions for administering the

maintenance of electronic records under these environmental regulations. EPA proposed criteria under which the Agency would consider electronic records to be trustworthy, reliable, and generally equivalent to paper records in satisfying regulatory requirements. For entities that choose to keep records electronically, the proposal would have required the adoption of best practices for electronic records management. For facilities maintaining records to satisfy the requirements of authorized programs, the proposal would have allowed for EPA approval of changes to the authorized programs to provide for electronic recordkeeping. Under the proposal, approval would have been based on a determination that the authorized program would require best practices for electronic records management, corresponding to EPA's provisions for electronic records maintained to satisfy EPA recordkeeping requirements.

Further, EPA proposed that once the rule took effect, any records subject to the rule that were maintained to satisfy the requirements of EPA programs could only be maintained electronically after EPA announced in the **Federal Register** that EPA was ready to allow electronic records maintenance to satisfy the specified recordkeeping requirements. Also under the proposal, records maintained under an authorized state, tribe, or local government program could only be maintained electronically once EPA had approved the necessary changes to the authorized program.

Based on the comments received on the proposed electronic recordkeeping provisions, EPA reconsidered its approach to electronic recordkeeping and is not issuing final recordkeeping rules at this time. The Agency is conducting additional analysis and intends to publish a supplemental notice or re-proposal to solicit additional comments before a final rule on electronic recordkeeping is issued. We will be reviewing provisions related to the methods used to ensure accuracy, accessibility and the ability to detect alterations of records stored electronically, as well as other possible controls for electronic recordkeeping. The Agency intends to utilize this review to engage states, tribes, local governments, and industry in meaningful consultation to ensure that the EPA has the best available information on which to base its decisions. In conjunction with these consultations—and before issuing any notice or re-proposal—EPA will conduct additional analysis on the costs and benefits of alternative approaches, and the technical feasibility of various

options, with a focus on impacts to small businesses. Today's rule does not authorize the conversion of existing paper documents retained to comply with existing recordkeeping requirements under other provisions of Title 40 of the CFR to an electronic format for record-retention purposes.

#### *D. How were stakeholders consulted during the development of today's final rule?*

This final rule reflects more than ten years of interaction with stakeholders that included states, tribes, and local governments, industry groups, environmental non-government organizations, national standard setting committees, and other federal agencies. As detailed in the proposal, many of our most significant interactions involved electronic reporting pilot projects conducted with state agency partners, including the States of Pennsylvania, New York, Arizona, and several others. In May, 1997, work began with approximately 35 states on the State Electronic Commerce/Electronic Data Interchange Steering Committee (SEES) convened by the National Governors' Association (NGA) Center for Best Practices (CBP). Also, EPA sponsored a series of conferences and meetings, beginning in June, 1999, with the explicit purpose of seeking stakeholder advice before drafting the proposal. Reports of these conferences and meetings are available in the docket for this rulemaking, along with the product of the SEES effort, a document entitled, "A State Guide for Electronic Reporting of Environmental Data," and reports on some of the more recent state/EPA electronic reporting pilots.

For the proposal, EPA provided a 6-month public comment period, which closed on February 27, 2002. During that time, we received 184 sets of written comments on the proposed rule. The commenters represented a broad spectrum of interested parties: States, local governments, specific businesses, trade associations, and other federal agencies. Substantive changes to the electronic reporting provisions based on public comments are discussed in detail in section IV of this Preamble. In addition, EPA received comments at four public meetings held around the country and at two meetings with states held in Washington, DC. The comments and meeting summaries can be found in the docket to this rulemaking. Today's final rule reflects many of the comments and concerns raised by commenters on the proposal. (A complete discussion of the options considered by EPA and other background information on the Agency's policy on electronic reporting

can be found in the proposed rule.) The majority of comments focused on the costs and burden of the proposed Subpart D electronic recordkeeping provisions. EPA's response to public comments to the proposal can be found in the rulemaking docket, in the Response to Comments document.

*E. What alternatives to today's final rule did EPA consider?*

EPA considered both a more stringent and a less stringent alternative to the regulatory approach taken in this rule. The more stringent alternative is reflected in the electronic provisions published, August 31, 2001, in the Notice of Proposed Rulemaking for CROMERR. The proposed version of CROMERR was more stringent by virtue of setting much more prescriptive, detailed requirements that electronic document receiving systems would have to satisfy. For example:

- Proposed § 3.2000(d) contained very specific requirements for submitter identity management that a system would have to satisfy, including detailed requirements for renewal of registration and revocation of registration under specified circumstances;
- Proposed § 3.2000(e) contained very detailed requirements for the signature/certification scenario that a system would have to provide for, specifying the exact sequence of steps to be followed in electronically signing a submission, and requiring such features as on-screen, scroll-through presentation of the data to be submitted for review of the signatory prior to signing.

EPA received significant public comment on this approach, both from states and from regulated companies, and there were at least three closely related themes. The first was that such prescriptive requirements would greatly limit the flexibility of states to implement electronic reporting in a cost-effective way. The second theme was that many of the requirements—especially those specifying the signature/certification scenario—were not appropriate to many cases where electronic reporting would occur. Third and finally, many of these commenters expressed skepticism that these very detailed requirements represented the only possible approach to ensuring the legal dependability of electronic submissions and signatures. These themes are discussed in detail in section IV.B of this Preamble.

EPA also considered a less stringent alternative that would have refrained from specifying requirements to establish the identity of an individual to

whom a signature device or credential (e.g. a PIN, password, or PKI certificate) is issued. This less stringent alternative would have omitted the provision for identity-proofing in the final § 3.2000(b)(5)(vii). In terms of regulatory impact, this would be a significant reduction in stringency. Most of the burden on regulated entities imposed by today's rule is associated with the registration process involved in obtaining a signature device or credential, and any requirement to establish the registrant's identity raises the aggregate burden substantially.

EPA rejected this less stringent alternative, because we believe that it would seriously undermine the rule's ability to assure the legal dependability of electronic submissions. It is a basic principle of electronic authentication (E-authentication) that individuals being authenticated are who they say they are. E-authentication depends critically on the degree of trust we can place in the credential the individual presents, and such trust depends heavily on the process of establishing the individual's identity (or "identity-proofing") when he or she first registers for the credential. If the identity-proofing process is not sufficiently stringent and credible, then it may be uncertain who is using the credential in a specific instance where it is presented. Where the credential is used to create an electronic signature, inadequate identity-proofing may create uncertainty as to who the signatory is, as a result, the signature may be rendered undependable for any legal purpose. Accordingly, EPA believes that, notwithstanding the cost, it is necessary to specify that identity-proofing be conducted. The § 3.2000(b)(5)(vii) identity-proofing requirement is explained in detail in section VI.E.12 of this Preamble.

## II. Background

### *A. What has been EPA's electronic reporting policy?*

On September 4, 1996, EPA published a document entitled "Notice of Agency's General Policy for Accepting Filing of Environmental Reports via Electronic Data Interchange (EDI)" (61 FR 46684) (hereinafter referred to as "the 1996 Policy"), where "EDI" generally refers to the transmission, in a standard syntax, of unambiguous information between computers of organizations that may be completely external to each other. This notice announced EPA's basic policy for accepting electronically submitted environmental reports, and its scope was intended to include any regulatory,

compliance, or informational (voluntary) reporting to EPA via EDI.

For purposes of the 1996 policy, the standard transmission formats used by EPA were to be based on the EDI standards developed and maintained by the American National Standards Institute (ANSI) Accredited Standards Committee (ASC) X12. By linking our approach to the ANSI X12 standards, we hoped to take advantage of the robust ANSI-based EDI infrastructure already in place for commercial transactions, including a wide array of commercial off-the-shelf (COTS) software packages and communications network services, and a growing industry community of EDI experts available both to EPA and to the regulated community. At the time EPA was writing this policy, ANSI-based EDI was arguably the dominant mode of electronic commerce across almost all business sectors, from aerospace to wood products, at least in the United States. (A complete discussion of EPA's 1996 policy can be found in the preamble to the proposed rule.)

With this final rule, EPA is making changes to the 1996 policy for three primary reasons. First, and most important, the technology environment has changed substantially since the 1996 policy was written. Web-based electronic commerce and public key infrastructure (PKI) are two examples. While both were available and in use for some purposes in 1996, they had not yet achieved the level of acceptance and use that they enjoy today. We could not have anticipated in 1996 that this evolution would occur as rapidly as it has. Clearly, these developments require that we extend our approach to electronic reporting beyond EDI and Personal Identification Numbers (PINs). In addition, they teach us that it is generally unwise to base regulatory requirements on the existing information technology environment or on assumptions about the speed and direction of technological evolution.

Second, we believe that technology-specific provisions would be very complex and unwieldy. The resulting regulation would likely place unacceptable burdens on regulated entities trying to understand and comply.

Third, and finally, an electronic reporting architecture that makes a centralized EPA or state system the platform for such functions as electronic signature/certification is now quite viable—and quite consistent with the standard practices of Web-based electronic commerce. Given the state of technology six years ago, we could not

have considered this approach in the 1996 policy.

*B. How does today's final rule change EPA's electronic reporting policy?*

For practical purposes, the most important change that today's rule makes is in our technical approach to electronic reporting. In contrast to the 1996 policy, today's rule does not generally specify or limit the range of allowable electronic submission technologies and formats. Under today's rule, complaint electronic reporting approaches can include user-friendly 'smart' electronic forms to be completed on-line or downloaded for completion off-line at the user's personal computer, as well as data transfers via the Internet or secure email in a variety of standard and common off-the-shelf, application-based formats. Similarly, in terms of electronic signature technology, the rule allows for a range of approaches, including various implementations of PINs and passwords, the use of private or personal information, digital signatures based on PKI certificates, and other signature technologies as they become viable for our applications. As EPA or authorized programs implement electronic submission for specific reports, the rule allows them to select one or more of the available submission and signature approaches according to their circumstances and the program-specific requirements.

EPA's goals are to make this electronic reporting alternative as simple, attractive and cost-effective as possible for reporting entities, while ensuring that electronically submitted documents are as legally dependable as their paper counterparts. We believe that today's rule achieves these goals, but—unlike the 1996 policy—without requiring specific technologies or setting detailed procedural steps for the submission of electronic documents. Our strategy—as initially set out in the August 31, 2001, notice of proposed rulemaking, and as finalized today—is to impose as few specific requirements as possible on reporting entities, and to generally keep requirements neutral with respect to technology. As a consequence, today's rule enables EPA, the states, tribes, and local governments to offer regulated companies diverse approaches to electronic reporting that can be tailored to their technical capabilities and to the level of automation they wish to achieve. In addition, the strategy gives EPA, the states, tribes, and local governments the flexibility to adapt electronic reporting systems to evolving technologies without requiring that regulations be

amended with each technological innovation.

However, this regulatory strategy does not mean abandoning any control over how electronic documents are submitted. In place of specific technologies or detailed procedural steps, today's rule requires that electronic submissions be made to CDX or other designated EPA systems, or to state, tribe, or local government systems that are determined to satisfy a certain specified set of technology-neutral performance standards. As a practical matter, the use of these systems (e.g., CDX or others that meet the specified performance standards) will involve submission procedures that we believe are sufficient to ensure the legal dependability of electronic reports so that they meet the needs of our compliance and enforcement programs. In addition, while the specified performance standards may be technology-neutral, agency electronic reporting systems that implement the standards will incorporate suites of very specific technologies that will further determine the process for actual electronic submission. Sections V.B and V.C of this Preamble describe these requirements and the associated technologies in some detail for the case of reporting directly to EPA via CDX.

**III. Scope of the Electronic Reporting Rule**

EPA is today promulgating a new Part 3 in Title 40 of the CFR. The new Part applies to all persons who submit reports or other documents to EPA under Title 40, and to state, tribe, and local programs that administer or seek to administer authorized programs under Title 40. The new part 3 does not address contracts, grants or financial management regulations contained in Title 48 of the CFR.

*A. Who may submit electronic documents?*

Any entity that submits documents addressed in this rule (see section III.B., below) directly to EPA can submit them electronically as soon as EPA announces that CDX or a designated alternative system is ready to receive these reports. (See section V of this Preamble for a discussion on requirements for electronic reporting to EPA, and section V.B for a discussion of the status of electronic reporting directly to EPA systems that exist as of the rule's publication date.) Under this rule, the affected entities may elect to utilize the electronic reporting alternative. These entities are not required by this final rule to report electronically; however, they may be required to report

electronically under other Title 40 regulations, and nothing in today's rule limits EPA's ability to require electronic reporting under other parts of Title 40.

In general, entities may submit documents electronically as provided for under authorized state, tribe, or local government programs. Nothing in this rule prohibits state, tribe, or local governments from requiring electronic reporting under applicable state, tribe, or local law.

*B. Which documents can be filed electronically?*

This rule addresses document submissions required by or permitted under any EPA or authorized state, tribe, or local program governed by EPA's regulations in Title 40 of the CFR. Nonetheless, EPA will need time to develop the hardware and software components required for each individual type of document. Similarly, states, tribes, and local governments will need time to evaluate their electronic document receiving systems to ensure that they meet the standards promulgated in today's final rule. Accordingly, once this rule takes effect, specific documents submitted directly to EPA that are not already being submitted electronically to existing EPA systems can only be submitted electronically after EPA announces in the **Federal Register** that CDX or an alternative system is ready to receive those specific documents. (See section V.B of this Preamble for a discussion of the status of electronic reporting directly to EPA systems that exist as of the rule's publication date.) Documents may be submitted electronically under the provisions of an authorized state, tribe, or local program.

*C. How does this final rule implement electronic reporting?*

The new 40 CFR part 3 consists of four (4) Subparts. Subpart A provides that any requirement in Title 40 to submit a report directly to EPA can be satisfied with an electronic submission that meets certain conditions (specified in Subpart B) once the Agency publishes a notice that electronic document submission is available for that requirement. Subpart A also provides that electronic reporting can be made available under EPA-authorized state, tribe, or local environmental programs. In addition, Subpart A makes clear: (1) that electronic document submission, while permissible under the terms of this rule, is not required by any provision of this rule; and (2) that this rule confers no right or privilege to submit data electronically and does not obligate EPA or states, tribes, or local

agencies to accept electronic data. Subpart A also contains key definitions and discusses compliance and enforcement.

Subpart B sets forth the general requirements for acceptable electronic documents submitted to EPA. It provides that electronic documents must be submitted either to CDX or to other EPA designated systems. It also includes general requirements for electronic signatures. The requirements in Subpart B apply to entities that submit electronic documents for direct reporting to EPA, including states, tribes, and local governments that submit electronic documents to EPA to satisfy requirements that apply to them under Title 40 of the CFR. Subpart B does not apply to any data transfers between EPA and states, tribes, or local governments as a part of their authorized programs or as a part of administrative arrangements between states, tribes, or local governments and EPA to share data. Additionally, Subpart B does not apply to the submission of any electronic document via magnetic or optical media—for example via diskette, compact disk, or tape—or to the transmission of documents via hard copy facsimile or “fax.”

Subpart C is reserved for future EPA electronic recordkeeping requirements.

Finally, Subpart D sets forth the process and standards for EPA approval of changes to authorized state, tribe, and local environmental programs to allow electronic reporting to satisfy requirements under these programs. Again, for purposes of Subpart D, “electronic reporting” entails submission via telecommunications, and Subpart D requirements do not apply in cases of submission via magnetic or optical media or hard copy “fax.” With respect to electronic reporting, Subpart D includes simplified performance-based standards for acceptable state, tribe, or local agency electronic document receiving systems against which EPA will assess authorized program electronic reporting elements. It also provides a streamlined process for approving applications for revisions to authorized programs for electronic reporting.

Given the provisions of Subpart A, a regulated entity wishing to determine whether electronic reporting directly to EPA was available under some specific regulation will have to verify that EPA has published a **Federal Register** notice announcing their availability and will have to locate any additional provisions or instructions governing the electronic alternative for the particular reporting requirement. To facilitate this

determination, EPA intends to maintain an easily accessed list of EPA reports for which electronic reporting has been implemented—cross-referencing the applicable **Federal Register** notices—on the Exchange Network and Grants webpage at [www.epa.gov/exchangenetwork](http://www.epa.gov/exchangenetwork).

#### IV. Major Changes From Proposed Electronic Reporting Provisions

*A. How does the rule streamline the approval of electronic reporting under authorized state, tribe, and local government programs?*

1. *Review of the proposal.* EPA proposed that states, tribes, and local governmental entities would use the procedures for program revision or modification provided in existing program-specific regulations governing state, tribe, or local authorized programs.

In the Preamble to the proposed rule, we noted that our approach raised certain administrative concerns, especially in cases where a governmental entity wished to use a single system to accept electronic submissions across a number of authorized programs, corresponding to EPA’s use of CDX to receive reports across EPA programs. To receive EPA approval for such implementations, the governmental entity would have to apply for revision or modification under each authorized program affected, using procedures that might vary substantially from program to program. While these procedures might vary, each substantive review would still refer to the same proposed part 3 criteria, and—in the case of a single system implementation—would apply these criteria to the same system. EPA intended this approach to facilitate an administrative streamlining of the approval process, by allowing a single EPA review of all cross-program applications associated with a particular electronic document receiving system, which would enable EPA to make a single decision to approve or disapprove all the associated applications. While this approach would not eliminate multiple applications, it would at least simplify the interactions between the applicant and EPA during substantive review, and would speed EPA action on the applications themselves.

EPA also considered more radical streamlining alternatives, including a centralized approval process provided for by regulation, and the proposal requested comment on whether any of these alternatives would be preferable to the administrative approach to streamlining.

2. *Comments on the proposal.* In comments on the provisions for electronic reporting under authorized programs, a recurring theme was the complexity of the proposed requirements for EPA approval of program revisions or modifications to allow electronic reporting. The comments in many cases seemed directed equally to the approval process and to the proposed criteria for approval. Comments on the criteria are discussed in more detail in section IV.B.2 of this Preamble.

As for the comments that clearly addressed the process, there were two major concerns. The first was that the process, due to the various current program authorization regulations, is inherently complicated, time-consuming and resource-intensive. In a few cases, commenters noted the particular worry that having to seek EPA approval for each program implementing electronic reporting would be especially burdensome, and that EPA’s proposed approach of streamlining the internal review component of the program revision process would be of little help.

The second concern was the impact of the rule on electronic reporting that was already underway. Commenters noted that many authorized programs are already accepting electronic submissions, or would be by the time the final rule is published, and they worried about the timing of the requirement that the electronic document receiving systems they use for this purpose be approved by EPA under associated program revision or modification procedures. Under the proposed provisions, such systems would have to be EPA-approved as soon as the rule became effective, which was not practicable. Given the need to address the criteria for approval, such applications could only be initiated once the rule was finalized, and they might take months to complete and get approved, or substantially longer in cases where the revision or modification required state legislative or regulatory changes. During the months or years that the revision or modification was in process, the authorized program would either have to shut down their electronic document receiving systems or, of necessity, operate them out of compliance with the rule. Commenters were particularly concerned with the disruptive impacts of having to shut these systems down. They pointed out that reversion to paper-based submissions in such cases may be difficult and expensive, both for the agencies and for the submitting entities that are affected, and that resuming

system operation after a long hiatus may require resources more typically associated with system start-up. Additional comments on program revision or modification and EPA's responses can be found in the rulemaking docket, in the Response to Comments document.

3. *Revisions in the final rule.* To address the concern that the proposed program revision or modification to accommodate electronic reporting was too complicated and burdensome, the final rule provides streamlined procedures for adding electronic reporting to existing authorized programs. These are optional procedures that a state, tribe, or local government may use if it chooses, in place of the applicable program-specific procedures, to seek EPA approval for revisions or modifications that provide for electronic reporting. EPA believes that in most cases these optional procedures will be substantially simpler and quicker than their program-specific alternatives. These new procedures are discussed in detail in section VI.C of this Preamble.

To address the concern that the required program revisions or modifications may disrupt authorized programs that already have electronic reporting underway, the final rule provides for a two-year delayed compliance date—in effect, a two-year “grace period”—before such programs have to submit their applications for revision or modification. Programs will be allowed this grace period where they have systems that fit the definition of “existing electronic document receiving system,” explained in section VI.B.2 of this Preamble. In addition, these provisions allow the grace period to be extended, on a case-by-case basis, where an authorized program may need to wait for legislative or regulatory changes before a complete application can be submitted.

*B. How has EPA revised the requirements that state, tribe, and local government electronic reporting programs must satisfy?*

1. *Review of the proposal.* EPA proposed a detailed set of criteria that would have to be met by any system that is used to receive electronic documents submitted to satisfy document submission requirements under any EPA-authorized state, tribe, or local environmental program. The proposed criteria addressed the capabilities that EPA believed a state, tribe, or local government's electronic document receiving system must have regarding six function-specific categories: (1) System security, (2)

electronic signature method, (3) submitter registration, (4) signature/certification scenario, (5) transaction record, and (6) system archives.

These criteria were based upon EPA's consideration of the roles that many electronically submitted documents will likely play in environmental program management, including compliance monitoring and enforcement, and the need to ensure that such roles were not compromised by the transition from paper to electronic submission. In many respects electronic submission enhances a document's utility for environmental programs: it significantly reduces the resources and time involved in making the content available to its users, and can greatly facilitate data quality assurance and analysis. Nonetheless, electronic submissions may also be open to challenge, primarily with respect to their authenticity, and particularly where they are used to establish the actions and intentions of the submitters. We normally consider such uses in the case of environmental reporting, especially where electronic submissions are made to report on an entity's compliance status and where the submission includes a responsible individual's certification to the truth of what is reported. For such cases, EPA identified a programmatic need to be able to authenticate the submission content and the certification—for example, to be able to address issues of fraud or false reporting where they arise—and it is primarily this need that was addressed by the six proposed criteria.

The point of the proposal's six function-specific categories was to ensure the authenticity of electronic documents submitted in lieu of paper reports, so that they will be able to play the same role as their paper counterparts in providing evidence of what was reported and to what an identified individual certified with respect to the report. For example, in the case of paper submissions, the evidence surrounding a handwritten signature is normally sufficient to demonstrate that the signature is authentic and rebut any attempt by the signatory to repudiate it and EPA intends the standards in today's rule to provide evidence for electronic signatures that has a corresponding level of non-repudiation. Since these evidentiary issues typically arise in the context of judicial or other legal proceedings, electronic documents need the same “legal dependability” as their paper counterparts. The over-arching standard in the concept of “legal dependability” is that any electronic document that may be used as evidence

to prosecute an environmental crime or to enforce against a civil violation should have no less evidentiary value than its paper equivalent. For example, where there is a question of deliberate falsification of compliance data—it must be possible to establish the signatory's identity beyond a reasonable doubt no matter whether the submission was electronic or paper.

A seventh, more general proposed criterion, entitled “Validity of Data,” addressed the standard of legal dependability directly. The idea, in general, was that a system used to receive electronic documents must be capable of reliably generating evidence for use in private litigation, in civil enforcement proceedings, and in criminal proceedings in which the standard for conviction is proof beyond a reasonable doubt that the electronic document was actually signed by the individual identified as the signatory and that the data it contains was not submitted in error. The six more detailed, function-specific criteria represented the requirements for satisfying this more general “Validity of Data” criterion. Taken together, the seven proposed criteria were intended to ensure the legal dependability of electronically submitted documents by providing:

- Standards for valid electronic signatures and authentic electronic documents to be admitted as evidence in a judicial proceeding;
- Assurance that electronic documents can be authenticated to provide evidence of what an individual submitted and/or attested to; and
- Assurance that electronic signatures resist repudiation by the signatory.

By providing for these and other facets of an electronic document's legal dependability, proposed CROMERR was intended to preserve the ability of EPA and its authorized programs to hold individuals accountable when they certify, attest or agree to the content of compliance reports under environmental laws and statutes. By the same token, proposed CROMERR was also intended to ensure that EPA and its authorized programs will have the documentary evidence they need to bring actionable cases of false or fraudulent reporting into court.

2. *Comments on the proposed criteria for electronic document receiving systems.* EPA received a substantial number of comments on the proposed criteria for state, tribe, and local electronic document receiving systems, both in written submissions and at meetings with the public and with state and local government officials. While a

few of these comments questioned the “Validity of Data” criterion, the great majority dealt with the detailed function-specific criteria. There were at least three recurring and closely related themes. First, the criteria were too prescriptive and inflexible, and would prevent state, tribe, and local agencies from adapting their electronic reporting approaches to their needs and changing circumstances, and foreclose new and creative ways to achieve legal dependability. Second, the criteria would make electronic reporting unnecessarily complex, costly, and burdensome. Third, while the criteria might be appropriate for some cases, the “one size fits all” approach was not workable for all reports in all programs.

Commenters tended to associate these three themes with certain misperceptions about the proposed requirements for signature method and the signature/certification scenario. Concerning signature method, a common concern was that the criteria would require states to implement PKI-based digital signatures. Commenters generally appear to have inferred this from proposed § 3.2000(c) Electronic Signature Method, together with EPA’s own choice of PKI for some submissions to CDX, as discussed in the Preamble. Whatever EPA’s plans for CDX, state, tribe, and local government systems do not have to conform to the CDX model. Implementing a particular system of necessity requires the choice of specific technologies. To make those choices does not imply that these are the only possible choices that would satisfy whatever requirements the rule places on electronic reporting systems. Concerning § 3.2000(c), commenters tended to focus on paragraph (5) of this section, which stated that the signature method had to ensure “that it is impossible to modify an electronic document without detection once the electronic signature has been affixed.” EPA did not intend for this provision to establish PKI-digital signature as the required signature method. Given current technology, approaches to satisfying the § 3.2000(c)(5) requirement frequently involve the computation of a number—called a “hash”—that has a unique relation to the content of the electronic document such that any change to the document content would change the computed hash. Given the hash, the associated document can be confirmed as unmodified at any time by calculating a new hash and showing that the new and original hashes are identical. Using such a hash-based approach, it is important to ensure that the hash has been secured from

tampering, and encryption is probably the most straightforward way to do this. Encryption can be accomplished in a number of ways. Approaches include PKI-based digital signature, digital signature where the asymmetric key-pair is not associated with a PKI certificate, and various forms of symmetric-key cryptography. Additionally, it may be possible to avoid cryptography altogether by storing the hash value in a system with appropriately controlled access. Thus, a solution using PKI-based digital signatures represents only one among a number of possible approaches to satisfying the proposed § 3.2000(c)(5) requirement.

A number of commenters also misinterpreted the criteria under proposed § 3.2000(e) Electronic signature/certification scenario (especially the provisions for signatory’s review of data under § 3.2000(e)(1)(i)) as requiring signatories to scroll through their submissions on-screen before they affix their electronic signatures, and requiring state systems to enforce this required “scroll-through”. However, the proposal provided not that the signatory must review the data on-screen, but rather that he or she be given the opportunity to do so. The example of the enforced on-screen “scroll-through” then envisioned for CDX, and provided in the CDX section of the proposal’s preamble, was in error. EPA did not intend to require this “scroll-through” of submitted data prior to signature. EPA certainly does expect and encourage reporting entities to review data intended for electronic submission prior to signature, but does not mandate this or any other particular mode or method of signatory review in today’s rule.

Returning to the three comment themes—of prescriptiveness, cost and burden, and a “one size fits all” approach—commenters who raised the prescriptiveness issue generally argued that, even supposing that there were no specific objections to the detailed § 3.2000 provisions, EPA had failed to make the case that every single requirement under these provisions is necessary to ensure the legal dependability of electronic submissions. Commenters who argued that the proposed rule would be too costly and burdensome generally focused on § 3.2000(c)(5) and § 3.2000(e)(1)(i), discussed above, or on the proposed § 3.2000(d) registration and signature agreement provisions. There were many comments to the effect that the complex § 3.2000(d) registration and re-registration requirements would pose substantial barriers to regulated

company participation in electronic reporting and involve unacceptable expenses for implementing agencies. Commenters also noted that the required § 3.2000(e)(1)(i) would be difficult to integrate with company workflow practices in many cases. Finally, there is the “one size fits all” issue. Some of the comments raised this as another version of the “prescriptiveness” issue, but adding that the proposal developed just one model of electronic reporting and attempted to make it fit the differing circumstances of the various state, tribe, and local agencies that would have to comply. Other comments emphasize the point that the proposal takes requirements apparently tailored to assuring an electronic document’s authenticity and applies them to all cases of electronic reporting, whether or not the question of authenticity is likely to arise.

EPA has considered these and related comments in writing today’s rule. We do not wish to set overly prescriptive requirements and so foreclose acceptable electronic reporting alternatives that could offer equivalent or better assurance of legal dependability while, perhaps, being easier for a state, tribe, or local agency to implement. We do not wish to set requirements that impose unnecessary costs or burdens. And, while we do not see a “bright line” around the universe of cases where document authenticity might be of concern, we also do not wish to address authenticity with requirements that leave states, tribes, and local governments with too little flexibility in how they may adapt their electronic reporting implementations to their particular circumstances. Accordingly, EPA has decided to finalize criteria for electronic document receiving systems that directly articulate the underlying goal of assuring the legal dependability of electronic documents authenticity, and to add more specific requirements only to the extent that they are needed to achieve this underlying goal. Accordingly, the provisions of today’s rule have been clarified as general performance standards necessary to ensure the legal dependability of the electronic documents they receive. Additional comments on the proposed criteria and EPA’s responses can be found in the rulemaking docket, in the Response to Comments document.

3. *Revisions to the criteria in the final rule.* In today’s final rule, we intend to fulfill the underlying goal of the proposed § 3.2000 criteria for electronic document receiving systems. This is to assure the authenticity and non-

repudiation of electronic documents submitted in lieu of paper reports, so that they are as legally dependable—that is, as admissible in evidence and accorded the same evidentiary weight—as their paper counterparts. As noted earlier, this goal was expressed most directly in the proposed § 3.2000(b)	“Validity of Data” criterion. Accordingly, for the final rule, we started with the proposed § 3.2000(b) and then clarified the remaining proposed § 3.2000 criteria as general performance standards for electronic document receiving systems, which were incorporated as needed to assure	the legal dependability of the electronic documents such systems receive. The resulting § 3.2000(b) in the final electronic reporting rule reflects the requirements discussed in the table below. The citation for the corresponding language in the proposed rulemaking is also provided.
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Citation/subject area in proposed rule	Citation/requirement in final section 3.2000(b)
Proposed § 3.2000(g), addressing system archives .....	Section 3.2000(b)'s leading clause requires that the system be able to generate the required data as needed and in a timely manner.
Proposed §§ 3.2000(e)(3) and 3.2000(f), addressing signature/certification scenarios and transaction record.	Section 3.2000(b)'s leading clause and § 3.2000(b)(4) require that the system be able to generate a “copy of record” that is made available to the submitters and/or signatories for review and repudiation.
Proposed §§ 3.2000(c) and 3.2000(d), addressing the electronic signature method and submitter registration process.	Section 3.2000(b)(5)(i) requires that the system be able to show that any electronic signature on an electronic document was created by an authorized signatory with a device that the identified signatory was uniquely entitled and able to use.
Proposed § 3.2000(c)(5), addressing requirement that it be impossible to modify an electronic document without detection once it has been electronically signed.	Section 3.2000(b)(5)(ii) requires that the system be able to show that the electronic document cannot be altered without detection once it has been electronically signed.
Proposed § 3.2000(e), addressing the signature/certification scenario ...	Sections 3.2000(b)(5)(iii)—(iv) require that the system be able to show that, before signing, any signatory had the opportunity to review what he or she was certifying to in a human-readable format, and to review the certification statement including any provisions relating to criminal penalties for false certification.
Proposed § 3.2000(d), addressing the submitter registration process ....	Section 3.2000(b)(5)(v) requires that the system be able to show that the signatory signed an “electronic signature agreement” or a “subscriber agreement” acknowledging his or her obligations connected with preventing the compromise of the signature device.
Proposed § 3.2000(e)(2), addressing acknowledgment .....	Section 3.2000(b)(5)(vi) requires that the system be able to show that it automatically sent an acknowledgment of any electronic submission it received that bears an electronic signature; the acknowledgment must identify the electronic document, the signatory and the date and time of receipt, and be sent to an address that does not share the access controls of the account used to make the submission.
Proposed § 3.2000(d)(1)–(3), addressing submitter registration. ....	Section 3.2000(b)(5)(vii) requires, for each electronic signature device used create an electronic signature on documents that the system receives, that the system be able to establish the identity of the individual uniquely entitled to use that device and his or her relation to the entity on whose behalf he or she signs the documents.

The requirements in § 3.2000(b)(5)(iii)–(iv) of today’s rule, concerning “opportunity to review,” do not place the responsibility for providing an opportunity, or for showing whether or not an opportunity was actually taken, on the state, tribe, or local government electronic document receiving system. What is required is that the system provide evidence sufficient to show that an opportunity was provided; this point is explained in greater detail in sections VI.E.8 and VI.E.9 of this Preamble.

EPA believes that the standards in § 3.2000(b) of today’s rule, as developed from the proposed “Validity of Data” criterion, together with other proposed criteria clarified as general performance standards, represent the minimum set of requirements for electronic document receiving systems necessary to ensure the legal dependability of the electronic documents such systems receive. For example, the requirement for a copy of record is necessary to ensure that there

is an authoritative answer to the question of what information content a signatory was certifying to or attesting to. The related requirement that the system be able to provide timely access to copies of record and related data reflects a practical concern that the data be accessible in time and in a format to serve the purposes for which it is needed.

Concerning the requirement that signature devices be uniquely assigned to, and held by individuals, EPA believes that an acceptable electronic document receiving system must be able to attribute a signature to a specific individual, to help assure that the signatory cannot repudiate responsibility for the signature. Non-repudiation is also strengthened by the signed electronic signature agreement, which establishes that the signatory was informed of his or her obligation to keep the signature device from compromise by ensuring that it is not made available to anyone else. Requiring the signature

agreement, as well as the opportunity to review what they are signing, helps establish that where signatures appear on electronic documents, the signatories had the requisite intent to certify. That is, these requirements help ensure that the signatories knew what they were signing, knew what signing meant, and understood the legal implications of false certification. As for the requirement that document content cannot be altered without detection after signature, an acceptable electronic document receiving system must provide evidence sufficient to allow a court to attribute the intention to certify to the document’s current content to the signatory, so that he or she cannot repudiate this content.

Finally, today’s § 3.2000(b)(5)(vii) requirement that the system be able to establish the identity of the individual who is assigned a signature is based on proposed § 3.2000(d). Proposed § 3.2000(d) logically entails today’s § 3.2000(b)(5)(vii), because satisfying the

provisions of the former guarantees compliance with the latter. However, today's § 3.2000(b)(5)(vii) limits the scope of the proposed § 3.2000(d)(3) requirement that, in registering for their signature devices, registrants must execute their electronic signature agreements on paper with handwritten signatures. In today's § 3.2000(b)(5)(vii), this requirement is limited to a special class of "priority report" submittals. (See section VI.E.12 of this Preamble.) In addition, today's § 3.2000(b)(5)(vii) offers alternatives to this handwritten signature requirement, to allow electronic reporting solutions that are completely free of paper transactions. The alternative provisions, found in today's § 3.2000(b)(5)(vii)(A)–(B), are elaborations of the proposed § 3.2000(d)(1) requirement for "evidence [of identity] that can be verified by information sources that are independent of the registrant and the entity or entities" for which the registrant will submit electronic documents. The elaborations are necessary to assure that individuals' identities can be established without being able to rely on their handwritten signatures—and, in the final rule, the requirements apply only to "priority report" submittals, and only where the choice is made to not use paper in the execution of electronic signature agreements. Section VI.E.12 of this Preamble outlines all of today's § 3.2000(b)(5)(vii) provisions in much more detail. In any event, we have made these changes to the proposed § 3.2000(d) approach to help address commenters' concerns with "one size fits all" provisions, as well as to allow states, tribes, and local government as much flexibility as possible as they implement their electronic reporting systems.

In sum, the overall approach to the standards for electronic document receiving systems in today's rule reflects a balancing of the concerns raised by the public comments, especially those relating to the proposal's burden on states, tribes, local governments and regulated entities, against the need to ensure the legal dependability of electronic documents submitted under authorized programs. Finally, EPA notes that to date the Agency has had limited experience with the practical application of electronic signatures and electronic reporting generally. With the benefit of practical experience accepting electronic reports under this rule, EPA may determine that this rule needs to be revisited, to either add or eliminate certain safeguards. In addition, while EPA has sought to write this rule so that

its provisions are technology-neutral, it remains possible that revisions will be required to reflect technological changes or changes in prevailing industry norms and practices. If these or other circumstances require it, EPA thus reserves the right to revisit the issues addressed in this rule.

#### *C. How has EPA accommodated electronic submissions with follow-on paper certifications?*

Currently there are EPA and state programs that take electronic submissions where the requirements for a signed certification statement are met with a follow-on paper submission with handwritten signatures. A number of commenters suggested that such an approach be recognized and allowed to continue under the electronic reporting rule. EPA has no wish to proscribe such an approach, and does not judge whether or not follow-on paper signature/certification is to be preferred to the approach where the signature/certification is electronic. To make this clear in the final rule, we have added a clause to § 3.10(b) that allows follow-on handwritten signatures to substitute for electronic signatures on submissions to EPA where "EPA announces special provisions" for this purpose. A corresponding clause in § 3.2000(a)(2) of today's rule makes a similar allowance for electronic reporting under authorized state, tribe, or local programs, again, where "the program makes special provisions to accept a handwritten signature on a separate paper submission."

Among other things, these "special provisions" would allow follow-on paper signature submission only if it were reliably linked or cross-referenced with the associated electronic document. The linking or cross-referencing is necessary in part to ensure that we can always determine which signature submissions belong with which electronic documents. Paper signature submissions must also provide sufficient evidence that the signatory intended to certify to or attest to the content of the electronic document as this content is recorded in the copy of record for the submission. There are various approaches to cross-referencing or linking that would meet these needs, most of which involve the inclusion of extra data elements in the signature submission that reference the associated electronic document. Such data elements might include summary data from the electronic document, the date and time of the electronic submission, or even the calculated hash value of the electronic document. EPA may use these and other alternatives if a decision

is made to provide for direct electronic reporting to EPA with follow-on paper signatures. For such submissions to authorized programs, we have added to § 3.2000(a)(2) of today's rule the requirement that authorized program provisions for follow-on paper signature submissions "ensure that the paper submission contains references to the electronic document sufficient for legal certainty that the signature was executed with the intention to certify to, attest to, or agree to the content of that electronic document."

#### *D. How has EPA changed proposed definitions of terms?*

The "Definitions" section of the final rule, § 3.3, provides new definitions for "copy of record," "electronic signature agreement," and "valid electronic signature," as well as the revisions to the definition for "electronic signature device," to help articulate the final § 3.2000(b) standards for electronic document receiving systems. These terms are explained in more detail in section VI, below. (See especially, sections VI.E.2., VI.E.10. and VI.E.6.) Similarly, in section VI.B.2 of this Preamble we note the role of the new definition for "existing electronic document receiving system;" and, in section VI.E.12 we discuss the new definitions for "agreement collection certification," "disinterested individual," "information or objects of independent origin," "local registration authority," "priority reports," and "subscriber agreement." Section 3.3 also reflects a number of clarifying and/or simplifying changes for definitions of terms, as follows.

1. *Definition of "acknowledgment."* This definition has been added in conjunction with § 3.2000(b)(5)(vi) of today's rule, to make clear that in the context of this rule, acknowledgment means a confirmation of electronic document receipt.

2. *Definition of "electronic document."* This definition has been revised from the proposed version in several ways. First, the use of "communicate" has been eliminated, thereby eliminating the need for a separate definition of that term. Second, the exclusion of magnetic and optical media and facsimile submissions has been eliminated. We believe it is clearer to exclude such submissions from the scope of CROMERR under § 3.1, entitled "Who does this part apply to?" Today's rule now provides this exclusion in §§ 3.1(b) and 3.1(c). Third, the definition has also been revised so that it explains what a "document" is in an electronic medium. Instead of saying that an "electronic document means a

document. \* \* \*,” the final version says that “*electronic document* means any information in digital form. \* \* \*,” where *information* is explained as potentially including “data, text, sounds, codes, computer programs, software or databases.” Fourth, this definition clarifies that in this context, “data,” is used in its normal sense as denoting a delimited set of data elements, each of which is a unit of meaning in a document and consists of a content or value together with an understanding of what the meaning and/or context of the content or value is. Finally, the definition stipulates that where an electronic document includes data, the understanding of what the data content or value means must either be explicitly included in the electronic document or be readily available through such sources as an applicable data element dictionary, or a form or template that specifies what each data element means when it is presented in the specific file format used for the electronic document’s submission.

A consequence of this approach is that the identity of an electronic document consisting wholly of data is independent of the format in which it is presented or submitted. That is to say, rearranging or reformatting the data elements in an electronic document does not change it into a different one, at least so long as the signatory’s intention and understanding of what the data elements each mean is preserved in the process. This does not conflict with the ordinary understanding of the term “document,” since we speak quite often of “reformatting a document,” with the clear understanding that what results will be the same document in a new format. Correspondingly, under the definition of “copy of record,” a “true and correct” copy of an electronic document does not necessarily have to reflect the format in which the document was submitted, provided that the document consists wholly of data. This independence of document identity from format may not always hold where other kinds of information are included in the electronic document, e.g. text or images; in such cases a copy of record may have to include format or formatting information.

3. *Definition of “electronic signature.”* This definition has been revised by substituting “information in digital form” for “electronic record,” to avoid problems with defining “electronic record.” The definition has also been revised to make clear that the electronic signature for an electronic document need not always be “included” within that document; in some cases it may just

be “logically associated” with it. This point is explained further in section VI.E.2 of this Preamble, in discussing the copy of record requirement.

4. *Definition of “electronic signature device.”* The definition of “electronic signature device” has been revised to clarify that where a device is used to create an individual’s electronic signature, then the device must be unique to that individual, and he or she must be uniquely entitled to use it at the time that the signature is created. Correspondingly, the device is compromised if it is available for use by any other individual, that is, if some other individual is able to use the device to create signatures if he or she wishes. To the extent that §§ 3.10(b) and 3.2000(b)(5)(i) of the final rule prohibit the acceptance of signatures created with compromised devices, via the definition of “valid electronic signature,” the element of compromise rules out the sharing of electronic signature devices or delegating their use to create individuals’ electronic signatures. Additionally, the definition includes the element that an individual needs to be entitled to use the electronic signature device; that is, the individual needs to be the “owner” of the device. The nature of the device itself will determine the way in which an individual comes to own it. In the case of personal identification numbers or certificate-based private/public key pairs, there is normally some process of formally assigning the device to the individual, often through a trusted third party. In other cases, for example password or personal information-based signature devices, the process may have the individuals invent and assign the devices to themselves “the basis for their ownership of the devices being determined by the circumstances or context within which they do this.”

5. *Definition of “transmit.”* In the proposed rulemaking the term “submit” was defined as the “means to successfully and accurately convey an electronic document so that it is received by the intended recipient in a format that can be processed by the electronic document receiving system.” However, the term “submit” is used more widely in the rule in ways that are not consistent with this definition. Accordingly, in the final rule the function of successful and accurate conveyance of an electronic document is now termed “transmit.”

6. *Definition of “valid electronic signature.”* Beyond its role in § 3.2000(b), this definition has also been added to help clarify and simplify the signature requirements associated with electronic reporting, both directly to

EPA, in § 3.10, and under authorized programs, in § 3.2000(a)(2). The definition specifies three main conditions for validity. The first refers to features of the signature that are intrinsic to the items of information of which it consists: The signature must consist of the kind of information that has been established as appropriate for the signing of the document in question, and the specific information content must pass the validation tests which the system uses to determine that the signature belongs uniquely to the identified signatory. The second condition refers to the status of the electronic signature device used to create the signature, and ensuring that the device was not compromised at the time it was used to create the signature. This ties validity to the element of “*compromise* within the definition of “electronic signature device.” That is, at the time of signature, the device must not have been made available to someone other than the individual who is entitled to use it. The third condition refers to the signatory’s status at the time of signature as someone who is authorized to sign the document in question by virtue of his or her legal status and/or relationship to the entity on whose behalf the signature is executed. In the context of environmental reporting, this condition would make invalid electronic signatures on company compliance reports created by individuals who do not work for or in any way represent the company. Generally, in the context of environmental reporting, individuals who sign submissions to environmental agencies are explicitly authorized to do so, by their management and/or by the agency to which they report. However, in some cases the authorization may be implicit in the signatory’s legal status and relationship to the regulated entity. For example, an owner or operator of a company is generally authorized to sign notifications or letters to an environmental agency whether or not this is explicitly provided for by law or regulation.

As “valid electronic signature” is used in §§ 3.10 and 3.2000(a)(2), the validity of an electronic signature is necessary for the signatory’s electronic submission to satisfy a federal or authorized program reporting requirement. Additionally, as the term is used in § 3.2000(b), it also refers to a performance requirement for an electronic document receiving system, namely that the system must not accept and must be able to detect submissions with signatures that are not valid. These requirements in terms of “validity” are

meant to provide a form of insurance for electronic signatures to protect against the risks of repudiation. Nonetheless, a signatory may be legally bound by a signature even where not all the requirements for its validity have been met, *e.g.*, where the signature has been executed with a compromised electronic signature device. The signatory of an electronic submission cannot avoid responsibility for its contents by pointing to a technical flaw or other defect in the signature process.

#### V. Requirements for Direct Electronic Reporting to EPA

##### A. What are the requirements for electronic reporting to EPA?

Under the final rule, the requirements for electronic reporting to EPA remain essentially unchanged from those in the proposal. Section 3.10 provides, first, that electronic documents must be submitted to an appropriate EPA electronic document receiving system. Generally this will be EPA's Central Data Exchange (CDX), although EPA can also designate additional systems for the receipt of electronic documents and is doing so in a separate **Federal Register** notice. Second, where a paper document must bear a signature under existing regulations, an electronic document that substitutes for the paper document must be signed (by the person authorized to sign under the current applicable provision) with a valid electronic signature.

Only electronic submissions that meet these two requirements will be recognized as satisfying a federal environmental reporting requirement, although failure to satisfy these requirements will not preclude EPA from bringing an enforcement action based on the submission or otherwise relying on the submission. A new compliance and enforcement section has been added to the final rule to clarify certain compliance and enforcement issues related to electronic reporting. Section 3.4 makes clear that EPA can seek and obtain any appropriate federal civil or criminal penalties or other remedies for failure to comply with an EPA reporting requirement if a person submits an electronic document to EPA under this rule that fails to comply with the provisions of § 3.10. Similarly, § 3.4 makes clear that EPA can seek and obtain any appropriate federal civil or criminal penalties or other remedies for failure to comply with a state, tribe, or local government reporting requirement if a person submits an electronic document to a state, tribe, or local government under an authorized

program and fails to comply with the applicable provisions for electronic reporting. Section 3.4 also contains provisions originally published under § 3.10(d) and (e) of the proposal, stipulating that the electronic signature will make the person who signs the document responsible, bound, or obligated to the same extent as he or she would be signing the corresponding paper document by hand.

The § 3.10 requirement that there be an electronic signature applies only where a paper document would have to bear a signature were it to be submitted, either because this is required by a statute or regulation, or because a signature is required to complete the paper form. The rule does not impose any new or additional signature requirements for documents that are submitted in electronic form. In addition, as noted in section IV.C of this Preamble, § 3.10(b) of today's rule also allows EPA to make special provisions, in specific cases, for accepting handwritten signatures in follow-on paper submissions in lieu of the required electronic signatures. In such cases, it is critical that the special provisions ensure that the electronic document cannot be altered without detection and is reliably linked to the handwritten signature.

As in the proposal, this final rule does not specify any required hardware or software. Accordingly, the rule text does not include any detail about CDX per se or about what will be required of regulated entities who wish to use it. Nonetheless, as stated in the proposal, our goals include the sharing of detail on how CDX implements direct electronic reporting to EPA. Section V.C.4 of this Preamble explains how CDX has changed since we described it in the proposal, especially in relation to the many comments we received on CDX-related issues.

##### B. What is the status of existing electronic reporting to EPA?

In a notice published concurrently with today's rule, EPA clarifies the status of electronic reporting directly to EPA systems that exist as of the rule's publication date. In accordance with 40 CFR 3.10, EPA is designating for the receipt of electronic submissions, all EPA electronic document receiving systems currently existing and receiving electronic reports as of the date of this notice. This designation is valid for a period of up to two years from the date of publication of this notice. During this two-year period, entities that report directly to EPA may continue to satisfy EPA reporting requirements by reporting to the same systems as they

did prior to CROMERR's publication unless EPA publishes a notice that announces changes to, or migration from, that system. Any existing systems continuing to receive electronic reports at the expiration of this two-year period must receive redesignation by the Administrator under § 3.10. Notice of such redesignation will be published in the **Federal Register**.

EPA's goal is that all its systems for receiving electronic reports be consistent with the CROMERR standards for electronic document receiving systems, set forth in § 3.2000(b) of today's rule. EPA generally hopes to achieve this consistency within a two-year transition period for existing EPA systems; however, EPA is not bound by the § 3.2000(b) standards of today's rule or the two-year period. This two-year period is similar to the two-year transition period provided under § 3.1000(a)(3) for systems operated under EPA-authorized programs. In a number of cases, EPA may work toward this goal by migrating existing electronic reporting to CDX or to other, new CROMERR-consistent systems. As we change or migrate existing electronic reporting programs to achieve consistency with the CROMERR standards, we intend to provide sufficient advance notice to reporting entities so that any new requirements can be accommodated without causing significant disruption to their electronic reporting activities.

##### C. What is EPA's Central Data Exchange?

1. *Overview of general goals.* The proposal described EPA's "Central Data Exchange" as a system to be developed and maintained by EPA's Office of Environmental Information (OEI) that would serve as EPA's gateway or "portal" for receiving documents electronically from our reporting community. The goal of CDX was to augment, and, where appropriate, streamline and consolidate EPA's environmental reporting functions by offering our reporting community faster, easier, and more secure submission options through a single venue for electronic submission of environmental data. As a cornerstone of EPA's efforts to advance electronic government, CDX would support the electronic submission needs of thousands of regulated entities submitting data to EPA for certain air, water, waste, and toxic substances programs. Ultimately, EPA planned to offer, wherever practicable, all regulated entities that report directly to EPA, an option to file their specific environmental documents

electronically through CDX. Regulated entities that submit reports under an authorized program would also be able to file their documents through CDX in cases where the state, tribe or local government that administered the program chose to use CDX as a gateway for electronic data submissions from its reporting community.

The reporting community using CDX would be able to access web "reporting" forms with built-in data quality checks, and/or submit standard file formats through common, user-friendly interfaces that allowed them to electronically submit data across vastly different environmental programs. Both the reporting community and EPA would benefit by gaining access to environmental reports more quickly and with fewer errors, and by avoiding the inefficiencies of having to keystroke data from paper reports. CDX was also being developed to support a newly emerging Environmental Information Exchange Network (EIEN) that would facilitate the electronic exchange of environmental data between EPA and state, tribe, and local environmental agencies. However, in keeping with the scope of the proposed rule the description of CDX features and functions in this section apply only to electronic submissions to CDX from regulated entities; the description doesn't apply to EIEN exchanges with CDX in which states, tribes, or local governments participate as a part of their authorized programs or as a part of administrative arrangements with EPA to share data.

*The Concept of Uniformity.* The proposal also characterized CDX as providing an environment that would promote a uniformity of technologies and processes. By adopting CDX to support the electronic reporting needs across various EPA programs, EPA hoped to avoid the proliferation of program-specific electronic reporting approaches that could lead to duplicative investments in electronic document receiving systems and possibly conflicting requirements for submitters.

*The CDX Functions and Building Blocks.* As described in the proposed rule, CDX was being designed with the goal of fully satisfying the criteria that the proposal specified for state, tribe, and local electronic document receiving systems; similarly, EPA would ensure that other systems the Administrator designated to receive electronic submissions satisfied the criteria as well. The proposal discussed how CDX would implement CROMERR-compliant electronic reporting by describing the primary CDX functions and the system

building blocks that would support these functions. The functions described in the proposal included: (1) Access management, (2) data interchange, (3) signature/certification management, (4) submitter and data authentication, (5) transaction logging, (6) copy of record provisions and acknowledgment, (7) archiving, (8) error checking, (9) translation and forwarding, and (10) outreach. The proposal then described five building blocks that would support CDX functions, which were: (1) Digital signatures based on PKI, where CDX would rely predominately on a third party vendor under the General Services Administration (GSA) Access Certificates for Electronic Services (ACES), (2) a process for registering users and managing their access to the CDX, (3) a client server-architecture, (4) EDI standards, as the primary format for exchanging environmental data, and (5) a consistent user interface for making electronic submissions.

2. *Comments on the proposal.* EPA received more than 100 comments on the CDX concept as described in the proposal. A number of these comments were related to one of four main subject areas, as follows.

*Comments on Uniformity of Approach.* Several comments expressed concern about the proposed characterization of CDX as promoting "uniformity of process and technology". The phrase was used to highlight the benefits of CDX, which included EPA's plans to avoid the costly proliferation of redundant systems. However, comments pointed out that this "uniformity" implied an inflexible and overly prescriptive set of CDX technical and security requirements, which would discourage CDX use. Such comments were similar to those discussed in section IV.B.2 of this Preamble, raising concerns about the prescriptiveness and "one size fits all" approach of the proposed criteria for electronic document receiving systems.

EPA understands that "uniformity of process and technology" could imply inflexibility, and this is not generally how we intended to develop CDX. In fact, CDX is currently using a wide range of technologies and processes to address CDX's functions that are tailored to individual EPA program submission requirements, including the technical capabilities of the reporting community for the particular program. EPA recognizes that, for example, permitting, compliance monitoring, and the conduct of studies involve fundamentally different business processes, and that the associated submission of electronic documents may have to be handled differently in

each case. In some instances CDX may support a more interactive "workflow" environment for submitting data; in others, CDX may accept batch transmissions of user-formatted files. It is also true that the technical capabilities of a particular reporting community vary considerably, so CDX will offer more than one electronic submission option in many cases. CDX currently provides support for web-forms, file, and record-level submissions in various formats including flat file and XML and EPA plans to continue this flexible approach.

*Comments on registration process.* Comments from regulated entities raised concerns about the costs and time required to register individuals in each company, and EPA's failure to address the increasingly common cases where the preparer of an environmental report and the certifying official are different individuals.

Because electronic submission is being offered as an option to the reporting community, EPA recognizes the need to design CDX registration to be as user-friendly as practicable, in part by taking account of the flow of work, or "workflow" involved in meeting a particular environmental reporting requirement. For example, since proposal, EPA has developed approaches to register both preparers and certifying officials for at least two reporting programs. Changes to the CDX registration process are discussed in more detail in section V.C.4.

*Comments on digital signatures based on PKI.* Comments pointed out that reliance on PKI for all cases of electronic signature may violate the GPEA directive to vary electronic signature approaches with the circumstances of their use. Several comments underlined this concern by pointing to PKI's costs and burdens. The comments objected that registering through CDX and acquiring digital signature certificates would be overly complicated, and would require that registrants provide private or personal information. Some comment also expressed concern about the incompatibility of a PKI-based approach with workflow, given that environmental reports were frequently prepared by staff and then signed by the facility owner, with staff turnover being frequent. Another concern was the implications of CDX PKI software for company system security, for example, given the need to download CDX software through the company firewall.

EPA agrees that it should generally minimize the complexity and cost of electronic signatures or this will deter potential users of CDX from submitting

electronic documents. In implementing CDX, EPA has revised the initial plan for electronic signatures to include non-PKI electronic signatures. Section V.C.4 discusses how we are changing the “digital signature based on PKI building block.”

*Comments on EDI Standards.*

Comments expressed both encouragement and concern over CDX’s prospective implementation of standards-based exchange formats for data submissions. An exchange format is a predefined file structure, including data elements and higher level syntax that describes how the data extracted from a system must be arranged in a file for transmission to another system. A standards-based format adheres to certain widely-accepted industry, national, or international file structure definitions. Several comments expressed concern about the costs of configuring their systems to generate a CDX-specified standard format; others expressed concerns about the costs of potential changes to the format once it is implemented on their systems. By contrast, other comments strongly supported requiring standards-based formats—even recommending that we require such formats by rule for EPA and EPA-authorized state, tribe, and local electronic document receiving systems.

CDX’s approach to standards-based formats has changed considerably since the proposal, in large part because of the emergence of Internet-based approaches, most notably Extensible Markup Language (XML). These changes are discussed in more detail in section V.C.4. EPA believes that the use of standard formats can be encouraged without requiring this by rule. Additional comments on CDX and EPA’s responses can be found in the rulemaking docket, in the Response to Comments document.

3. *The aspects of CDX that have not changed since proposal.*

*General Goals.* EPA’s continues its efforts to establish CDX as the gateway or “portal” for receiving documents electronically from the Agency’s reporting community. In so doing, EPA’s goal—to augment, and where appropriate, to streamline and consolidate EPA’s environmental reporting functions through CDX—remains unchanged. The functions that comprise CDX operations continue to remain the same though the range of technologies and processes used to support these functions has considerably broadened. CDX continues to implement electronic reporting capabilities for EPA’s many environmental programs, while

advancing the efforts of EIEN in coordination with state, territorial, tribes, and other partners.

*General Approach to Electronic Reporting Implementation.* In general, current instructions for client-side access of CDX suggest Internet access and a system that uses both Microsoft Windows and Microsoft Internet Explorer (IE). EPA acknowledges that the Government Paperwork Elimination Act (GPEA) directs OMB to develop procedures for agencies to follow in using and accepting electronic documents and signatures and these procedures “may not inappropriately favor one industry or technology.” Consistent with this GPEA directive, EPA is committed to considering ways to allow other vendors’ technologies to access CDX. Accordingly, over the six months following the publication of today’s rule, EPA intends to assess the full range of issues that affect CDX’s ability to support multiple platforms and browsers. These issues include the technical requirements for the electronic signature options, form entry options, data upload options, network interface options, current capabilities of the CDX hardware/software platform, and potential impacts of new client-side platforms on the CDX life cycle management, technical support requirements, and help desk training and support. Based on this assessment, EPA intends to determine the target universe of client-side platforms and browsers that CDX can feasibly accommodate, and will identify the actions and timeline necessary to build out CDX support for this target universe.

As described in the proposal, CDX users will need to:

- Register with CDX, during which time they may need to supply information used to identify themselves, their company, and the EPA documents they wish to submit electronically;
  - Verify and/or correct registration information; and
  - Access their CDX web account through a secure website, and agree to the terms and conditions of using the site, which include safeguarding their self-generated password, before using web forms or uploading files to submit electronic documents or data to EPA.
- These are the minimum steps for gaining access to CDX at this time. Additional steps are involved in acquiring an electronic signature device, although these steps have changed somewhat since the proposal and are discussed in section V.C.4. CDX also offers at least two general methods for reporting electronically for many programs it supports, either through file

submission or through a “smart web form”. However, the types of formats and approaches for submitting data through CDX have broadened, and these too are discussed in section V.C.4.

4. *The major changes that EPA has made to CDX since proposal.* Over the last two years, CDX has evolved from a prototype system to a fully operational electronic document receiving system. CDX supports tens of thousands of registered users providing data to dozens of environmental reporting programs across the major EPA media offices. CDX registered users include representatives from state, tribe, and local agencies, industries, laboratories, and other federal agencies. While CDX continues to provide a secure, single point of registration, access, and exchange between reporting entities and EPA programs, the building blocks supporting the CDX functions have changed substantially. These changes reflect EPA’s experience operating CDX over the past two years, evolving trends in Internet technologies, and comments received on the proposed rule from potential CDX users.

*Digital signatures based on PKI.* The proposal described the CDX approach to electronic signatures in terms of digital signatures and PKI. Since proposal, EPA has come to appreciate the complexity and costs of implementing PKI, and to recognize that non-PKI electronic signatures, as described in section IV.B.2 of the preamble today’s rule, may be acceptable in many cases. Thus, for electronic reports currently submitted to CDX, only in one case is PKI used for electronic signature. The other cases involve PIN-based electronic signatures or other non-PKI electronic signature approaches. As an example of the latter, this year we anticipate implementing electronic signatures for an EPA reporting requirement by having signatories use a password that is self-generated during CDX registration in combination with certain items of information that are unlikely to be available to anyone except the signatory. This is a “knowledge-based” approach, which is being used extensively by commercial software vendors supporting the United States Internal Revenue Service (IRS) for electronic tax filings or “e-filings”, and is being adopted by other agencies. EPA expects that these non-PKI-based approaches to signature will continue to dominate CDX implementations of electronic reporting. We currently intend to use PKI where such needs as security or assuring very robust non-repudiation of signature make this the most appropriate approach.

In addition, EPA's approach to PKI itself—described in the proposal as relying on ACES—is also undergoing change. Changes with respect to the role and method of identity proofing for those persons who apply for PKI certificates is being further evaluated. As proposed, the identity proofing was to be conducted by the third party ACES vendor; currently, CDX identity proofing is conducted for the most part by EPA's own contractor staff, who are able to issue digital certificates to members of the reporting community with less cost and in less time than the ACES vendor. EPA has also begun to explore alternatives to ACES for PKI certificates, partly because ACES-provided certificates do not support message encryption, which EPA may need for certain environmental reporting applications. In addition, EPA is considering its use of ACES in the light of recent federal advances in establishing interoperability across federal PKI domains, which may allow EPA to eventually leverage PKI's of other federal agencies or institute an in-house PKI.

**CDX Registration.** Since the proposed rule, CDX has broadened its approach to registration to better accommodate the workflow involved in specific environmental reporting programs. While CDX still requires registration, there are three distinct areas where the registration process has changed since proposal. First, the proposal described CDX registration as the first step toward the issuance of a PKI-based digital signature, and it was implied that all persons opting to use CDX would need a digital signature. As noted above, this is no longer the case. Second, in the proposal, CDX registration began when a person received an EPA invitation letter that contained a temporary code and instructions on how to access the CDX registration website. CDX has adopted additional approaches to initiating registration for certain EPA programs, for example, embedding a link to CDX registration in reporting software that is distributed to the program's reporting community, or providing a public website where prospective CDX users can submit initial registration data EPA. While CDX continues to register persons by invitation letter for reporting under certain environmental programs, registration options will continue to broaden as the number of environmental programs supported by CDX expands.

Finally, in the proposal, CDX registration was completed when the registrant printed out a "signature holder" agreement from the CDX registration website, signed this

agreement and mailed it to EPA's CDX. CDX will continue this approach for reports where electronic signatures are required, although EPA is exploring the use of an entirely paperless signature agreement process for at least some of these cases. CDX registration to submit reports that do not include electronic signatures will not involve a "signature holder" agreement.

**EDI Standards.** The proposal described EPA's plans to use EDI as the basis of standards-based formats for exchanging data between reporting entities and CDX. Since proposal, CDX development has reflected a significant evolution in formatting standards to accommodate the Internet—away from EDI and toward the use of XML. XML consists of a set of predefined tags and message structures that, like EDI, allows machine-to-machine exchange of data in a mutually agreed upon format, enabling exchange of data across different systems. However, unlike EDI, XML is tailored to Internet-based communications and security protocols. Additionally, an XML formatted file in combination with a style sheet can be displayed in a Web browser. Such features would allow CDX to use the same standard format both for exchanging data files and for designing web forms. The structure of XML also addresses some of the challenges in archiving data received, because the XML tags that accompany the data in an XML file can be used to interpret the data's context without the aid of additional software. This could facilitate the recovery of data from archived files, and reduces the need to maintain the versions of the software originally used to generate the files.

CDX and specific EPA programs may address the question of which (if any) standards-based format to use for a particular report on a case-by-case basis, and EPA intends to develop appropriate technical instructions for CDX submitters as program-specific reporting formats are adopted. These instructions normally will be distributed to the affected reporting communities via links on the CDX website and/or through program and CDX outreach efforts. EPA is working with authorized state, tribe, and local programs to develop standards-based reporting formats to meet their shared needs. In many instances, CDX contemplates a long transition period between file formats currently used to exchange data with regulated entities and any new, standards-based formats. During this transition, CDX may offer submitters several electronic submission options; these may include an existing data format familiar to submitters, one or

more new standards-based formats, and some other approach such as a smart-form hosted on a secure website.

**Client-side architecture and transaction environment.** The proposal described a downloaded "client" that would generally supplement the browser to support the signature and security for CDX; such "client side" software is no longer needed for all cases of electronic reporting to CDX. However, in some cases CDX now uses various technologies to transparently insert routines into browsers during a user session to support special functions—for example to support the creation of a PKI-based electronic signature with an ACES business class certificate.

#### *D. How will EPA provide notice of changes to CDX?*

As noted in the proposal, the fully-implemented CDX will be subject to change over time, to take advantage of opportunities offered by evolving technologies, as well as to improve the system. EPA's decision to avoid codifying technology-specific or detailed procedural provisions for electronic reporting is meant, in part, to accommodate changes to CDX without requiring that we amend our regulations. Nonetheless, EPA recognizes that such changes can affect regulated entities that participate in electronic reporting; therefore, the final rule provides for advance notice when EPA intends to make changes to CDX. As discussed in the proposal, we distinguish four categories of changes:

- "Significant" changes that are likely to affect the kinds of hardware, software or services involved in transmitting electronic reports (§ 3.20(a)(1));
- "Other" changes that will affect the process or the timing of transmitting electronic reports to CDX, but without affecting the kinds of hardware, software or services involved in making the transmissions (§ 3.20(a)(2));
- "Emergency" changes necessary to protect the security or operational integrity of CDX (§ 3.20(b)).
- "*De minimis* or transparent" changes that will have minimal or no impact on the process or the timing of transmitting electronic reports to CDX. "Significant" changes include changes to the types of file formats CDX will accept—for example a change from extended markup language (XML) formats to some non-XML format—as well as changes to the technologies that may be used for file transfer to CDX or for creating electronic signatures on transmitted reports. "Significant" changes will not generally include optional upgrades to software, the

provision of additional formatting (or other technical) options, or changes to CDX that simply reflect changes to the underlying regulatory reporting requirements. "Other" changes include an increase in—or re-ordering of—the steps involved in transmitting electronic reports, changes to the registration or credential (*e.g.*, PIN, password, PKI certificate) provisioning process that could affect users ability to access CDX, and changes to reporting formats that involve the reconfiguration of software. "Emergency" changes include such things as an upgrade to the system firewall protection. Finally, "*de minimis* or transparent" changes include the myriad small or "back end" fixes and improvements that EPA makes to CDX each week that have minimal or no impact on the transmission process. Such changes may range from fixing a typo on a data entry screen to re-engineering the system's archiving routines.

To address "significant" changes, § 3.20(a)(1) of the final rule provides that EPA will give public notice in the **Federal Register** of such changes and will seek comment. EPA proposed to provide this notice at least a year in advance of contemplated implementation, but based on experience developing and operating a CDX prototype, EPA no longer believes that a single time-frame is appropriate in all situations. For example, "significant" changes that could affect the transmission of an annual report may respond to needs or events that arise less than a year in advance of the report's due date. On the other hand, some "significant" changes may require more than a year for reporting entities to accommodate. Accordingly, the final rule provides that these **Federal Register** notices will propose and seek public comment on an implementation schedule for a "significant" change, along with describing and inviting comment on the change itself. To address "other" changes to CDX, § 3.20(a)(2) of the final rule provides that EPA will give notice at least 60 days in advance of implementation. The notice in this case will typically be to CDX users, and the method of notice may be electronic, perhaps using the facilities of CDX itself. For "emergency" and "*de minimis* or transparent" changes, EPA will make decisions on whether, when, and how to provide public notice on a case-by-case basis.

## VI. Requirements for Electronic Reporting Under EPA-Authorized Programs

### A. What is the general regulatory approach?

As explained in Part V of this preamble, the requirements in § 3.10 of today's rule apply to reporting entities that submit electronic reports directly to EPA. By contrast, today's rule contains no requirements that apply directly to entities who submit electronic reports to state, tribe, or local government agencies. However, Subpart D of today's rule does contain requirements that apply to state, tribe, or local government agencies that operate EPA-authorized programs. Subpart D of today's rule requires that such agencies that receive, or wish to begin receiving, electronic reports under an authorized program must apply to EPA for a revision or modification of that program and get EPA approval. Subpart D provides standards for such approvals based on consideration of the electronic document receiving system that the state, tribe, or local government will use to implement the electronic reporting. Additionally, Subpart D provides for special procedures for program revisions and modifications that provide for electronic reporting, to be used at the option of the state, tribe, or local government in place of procedures available under existing program-specific authorization regulations.

Generally speaking, EPA believes that even absent today's rule, an authorized program's electronic reporting implementation would still need EPA's approval under a program revision or modification. At least where electronic reports may play a role in enforcement proceedings, the authorized program's electronic reporting implementation has the potential to affect program enforceability, and as such, revises or modifies the program. Today's rule makes this explicit in § 3.1000. In addition, the final rule includes program-specific amendments to various provisions in 40 CFR to cross reference those rules to the new Part 3. With this approach, EPA hopes to support and promote state, tribe, and local government efforts to make electronic reporting available under their authorized programs, both by clarifying the requirement that EPA approve these electronic reporting initiatives, and by providing a single, uniform set of standards and a specially-designed process to facilitate electronic reporting approval for otherwise authorized programs.

*B. When must authorized state, tribe, or local government programs revise or modify their programs to allow electronic reporting?*

1. *The general requirement.* As discussed earlier, this rule does not require states, tribes, or local governments to allow or require electronic reporting. Where they choose to do so, § 3.1000 generally provides that they must revise or modify such programs to ensure that their electronic reporting implementation will meet the requirements of section 3.2000.

Additionally, once these authorized programs begin operating the electronic reporting systems under EPA-approved revisions or modifications, they must keep EPA informed of changes to laws, policies or the electronic reporting systems that could affect the program's compliance with § 3.2000. Where the Administrator determines that such changes require EPA review and approval, EPA may ask the authorized program to submit an application for revision or modification to address the changes. Alternatively, the authorized program can apply for a revision or modification on its own initiative.

For any of these program revisions or modifications, states, tribes, or local governments may use either the application procedures provided under § 3.1000(b)–(e) or the program-specific procedures provided in other parts of Title 40 or the applicable statute. Whichever procedure is used, the state, tribe, or local government must submit an application that complies with the requirements of § 3.1000(b)(1), discussed in section VI.C.1. Section 3.1000(b)(1) identifies the elements of an electronic reporting program that EPA would need to consider in order to approve a state's, tribe's, or local government's approach to receiving electronic documents, in lieu of paper, to satisfy requirements under their EPA-authorized programs.

2. *Deferred compliance for existing systems.* For authorized programs that have "existing" electronic document receiving systems as of the date this final rule is published, EPA is deferring the deadline for these programs to submit their applications for program revisions or modifications with respect to such systems. The deferral is generally two years from the date of this rule's publication. This approach is consistent with similar provisions under other regulations governing program authorization where new requirements are imposed. Additionally, EPA conducted extensive discussions with entities operating authorized programs about how much time they generally

would need to bring their systems into compliance with today's rule, given their funding cycles, program review schedules under "performance partnership" agreements, the timeframes for making any necessary system upgrades and completing an application for program revision or modification, and any necessary legislative or regulatory changes. Based upon these discussions, we believe that this two-year period is generally sufficient to allow these programs to make the transition to CROMERR-compliant systems without having to discontinue their electronic reporting operations. Today's rule also allows authorized programs to request extensions to the two-year deadline where the timeframe for regulatory or legislative changes may be somewhat longer.

EPA's purpose in deferring the application deadline for program revisions or modifications with respect to existing electronic reporting is to avoid disrupting authorized programs' electronic reporting initiatives that are already underway. With this goal in mind, EPA has defined "existing electronic document receiving system" broadly, to include not only those that are actually operational at the time the final rule is published, but also those that are substantially developed. We recognize that it would be disruptive to require that authorized programs shut down their operational systems during the time it would take to prepare, submit and have their applications for revision or modification approved. However, there is often a very fine line between an operational system and a system under development; for example, where the developmental work is to scale a working prototype up to production. In addition, at least the later stages of development are likely to be restrained substantially or even halted if a system must await EPA approval to operate, and this may affect system costs, availability of contractor staff and their ability to complete the system in a timely manner. Avoiding such disruptions to substantially developed systems is part of the goal of the deferred compliance provisions. To define what counts as a "substantially developed" system for this purpose, the definition of "existing electronic document receiving system" uses evidence that system services or specifications are already established by existing contracts or other binding agreements. Where an agency has already made legally binding agreements to procure a significant proportion of the services and/or

components that will constitute the system then such a system would be considered "existing" under this rule.

While many or most authorized programs with existing systems may need this two-year compliance deferral, some may have no difficulty submitting a completed application well before the end of two years. We strongly encourage such early submissions when feasible. This will make better use of EPA's review resources and will provide earlier certainty of compliance with this rule for existing state, tribe, and local government electronic reporting programs that are subject to this rule. In addition, EPA believes that, whether through informal consultation or formal application, identifying and addressing any existing system issues as early as possible is the best way to avoid disruption to electronic reporting initiatives currently underway.

*C. What alternative procedures does EPA provide for revising or modifying authorized state, tribe, or local government programs for electronic reporting?*

Under § 3.1000, this rule provides procedures which a state, tribe, or local government, at its option, can use to seek approval for revisions or modifications with respect to electronic reporting under its existing authorized programs. These optional procedures are available both for revisions or modifications that seek initial EPA approval for electronic reporting programs, and also for revisions or modifications to accommodate substantial changes to electronic reporting programs that already have EPA approval.

Although there is always the alternative of using the program-specific procedures provided in other parts of 40 CFR, EPA believes that, normally, a state, tribe, or local government would find the procedures provided in this rule to be shorter, simpler, and easier. The § 3.1000 procedures allow submission of a single, relatively simple application to request revisions or modifications that address electronic reporting across any number of authorized programs. Additionally, the procedures provide for a single, straightforward EPA review process, with deadlines for EPA action written into the rule. EPA believes that these procedures will be especially useful where the state, tribe, or local government is planning to implement all of its program-specific electronic reporting with a single system. Rather than requiring approval program-by-program, § 3.1000 allows the system to be addressed in a single application

package that can be reviewed in its entirety and responded to within a relatively short and predictable timeframe.

1. *The application.* To request modifications or revisions under this rule, § 3.1000(b)(1) requires a state, tribe, or local government to submit an application that generally contains three elements. The first is a certification that state, tribe, or local government laws and/or regulations provide sufficient legal authority to implement electronic reporting in conformance with § 3.2000 and to enforce the affected authorized programs using electronic documents collected under those programs; the application must also include copies of the relevant laws and/or regulations. This certification of legal authority is not meant to address actual conformance with § 3.2000(b); that is, the certification is not meant to reflect a judgment about the capabilities of an agency's electronic document receiving system. However, the certification would address § 3.2000(c), and must be signed by the governmental official who is legally competent to certify with respect to legal authority on behalf of his or her government. In the case of a state, this official must be the Attorney General or his or her designee. In the case of tribes or local governments, this official must be the chief executive or administrative official or officer or his or her designee. EPA realizes that obtaining an Attorney General's certification for state applications may involve considerable administrative burden; however, as a legal matter, EPA believes that Attorneys General or their designees are the only officials capable of certifying with respect to their states' legal authority. Where there are substantial administrative obstacles to involving the Attorney General in such certifications, EPA urges the state Attorney General to provide for a legally-competent designee who is available to participate in the submission of the state's application.

The second element of the application, and the most substantive, is a listing and description of the electronic document receiving systems that do or will receive the electronic submissions addressed by the requested program revisions or modifications. The application should specify the electronic submissions each system will be used to receive, and which (if any) of these submissions involve electronic signatures. In describing each system, the application should explain how the system will satisfy the applicable requirements of § 3.2000. Many of these requirements apply only to systems that receive submissions with electronic

signatures; accordingly, the descriptions for systems that receive no electronically signed submissions will be relatively short and simple. For each of the § 3.2000 requirements that do apply, the description should explain the functions the system will perform to satisfy the requirement, and the technologies that will be used to achieve this functionality. EPA does not expect such explanations to include detailed technical specifications of the systems, but rather to provide conceptual descriptions of the technical approach and functionality. In implementing this rule, EPA will provide applicants with more detailed recommendations for preparing these system descriptions, including examples and an application checklist.

The third element of the application is simply a schedule of upgrades to each system addressed by the application—to the extent that such upgrades can be anticipated—together with a brief discussion of how the upgrades will assure continued compliance with § 3.2000. This third element should be thought of as an appendix to the second, recognizing that the functionality with which each electronic document receiving system addresses the § 3.2000 requirements normally exists within the dynamic environment of the system life cycle.

2. *Review for completeness.* Once EPA receives an application submitted under the procedures in this rule, EPA will, within 75 calendar days, send a letter that either notifies the applicant that its application is complete or identifies deficiencies that render the application incomplete. An applicant that receives a notice of deficiencies may amend the application and resubmit it. From the date EPA receives the amended application, EPA will, within 30 calendar days, respond with a letter that either notifies the applicant that the amended application is complete or else identifies remaining deficiencies. If an amended application is not submitted within a reasonable time period to remedy identified deficiencies, EPA has the authority to review and act on the incomplete application, as explained in section VI.C.3.

3. *EPA actions on applications.* EPA will act on an application by either approving or denying the requested program revisions or modifications. In the case of a consolidated application for revision or modification of more than one program, EPA need not take the same action on each revision or modification; some may be approved while others are denied. EPA will have 180 calendar days from the time it sends a notice of completeness to act on an

application in its entirety. Except in certain cases of requested revisions or modifications associated with existing systems (see section VI.C.4) or with an authorized public water system program under 40 CFR part 142 (see section VI.C.5), if EPA does not act on a program revision or modification by the end of the 180-day review period, then that revision and/or modification is considered automatically approved by EPA. The rule allows this review period to be extended, at the request of the state, tribe, or local government submitting the application. This may accommodate situations where EPA and the applicant are working through issues that may take more than the 180-day review period to resolve, and they mutually find it in their best interest to continue discussion before EPA makes its decision.

Where EPA approves a program revision or modification (by either affirmative or automatic approval), the approval becomes effective when EPA publishes a notice of the approval in the **Federal Register**. Where EPA denies a requested revision or modification, EPA will explain the reasons for the action and advise the applicant of the steps that can be taken to remedy the application's defects and will generally try to work with the applicant to address the issues that have posed an obstacle to approval. Additionally, in some cases, denial of approval under the § 3.1000 process may result from EPA's determination that the application raises certain issues that are highly program-specific and that these cannot be adequately addressed through the procedures provided in this rule. For example, there may be issues that require a discussion of program features that the § 3.1000(b)(1) application would not cover. In such cases, EPA will identify the issues that exceed the scope of the § 3.1000 process and will advise the applicant to request the revision or modification under the applicable program-specific procedures provided in other parts of Title 40.

4. *Revisions or modifications associated with existing systems.* Some applications will request modification or revision to an authorized program with an "existing electronic document receiving system". As noted in section VI.B.2, the deadline for submitting such applications is two years after the publication of today's rule. Where such applications are submitted and are determined to be complete before the two-year deadline, EPA will have a 180-day review-period for any program modification or revision being requested, as explained in section VI.B.3. However, where EPA sends

notification that an application is complete after the two-year deadline has passed, for example, because the application was submitted relatively late in the two-year period, EPA will have 360 days to act on any requested modification or revision addressed by the application. As with the cases where EPA has 180 days to act, this 360-day review period can be extended at the request of the state, tribe, or local government submitting the application.

The rule provides for this extended review period to deal with the possibility that EPA will receive a large number of applications associated with existing systems just before the two-year deadline expires. If the number of such applications is sufficiently large, EPA may not be able to act on all of them within a 180-day review period. States, tribes, or local governments that wish to avoid the extended review may do so by submitting their applications addressing existing systems early enough in the two-year period to ensure that EPA can determine completeness before the deadline. As noted in section VI.B.2, EPA strongly encourages such early submissions wherever they are feasible.

5. *Public hearings for Part 142 revisions or modifications.* Where a complete application requests a revision or modification of an authorized public water system program under 40 CFR part 142, EPA will make a preliminary determination on the request—either an approval or a denial—by the end of the 180-day review period (or the 360-day extended review period discussed in section VI.C.4). EPA will then publish a notice of the preliminary determination in the **Federal Register**. The notice will state the reasons for the preliminary determination, and will inform interested members of the public that they may request a public hearing on the preliminary determination. Such hearing requests must be submitted within 30 days of the notice's **Federal Register** publication. If no requests are submitted, and the Administrator does not hold a hearing on his or her own motion, then the preliminary determination will be effective 30 days after the initial **Federal Register** publication.

If a request for hearing is granted, or the Administrator determines that a hearing is warranted, EPA will publish an additional **Federal Register** notice announcing—at least 15 days in advance of any such hearing—the date and time of any hearing, contact information, and the purpose of the hearing. At the hearing, a hearing officer will receive oral and written testimony, and will forward a record of the hearing to the EPA Administrator. After

reviewing the record of the hearing, EPA will by order either affirm or rescind the preliminary determination, and will publish notice of this decision in the **Federal Register**. If the order is to approve the revision or modification, the approval will be effective upon publication of the order in the **Federal Register**.

6. *Re-submissions and amendments.* States, tribes, or local governments whose § 3.1000 applications for revisions or modifications have been denied in whole or in part may reapply for reconsideration, using either the § 3.1000 procedures again, or, at their option, the applicable program-specific procedures. A state, tribe, or local government may also, on occasion, choose to amend a § 3.1000 application after the Administrator has determined the application to be complete. In such cases, the application will be considered to have been withdrawn and resubmitted as a new package, and a new 75-day completeness determination process will begin. An applicant may choose to withdraw and resubmit the package in this manner, for example, if it becomes clear relatively early into the 180-day review period that the application cannot be approved in its current form. For such re-submissions, EPA will work diligently to expedite the completeness determination.

*D. What general requirements must state, tribe, and local government electronic reporting programs satisfy?*

States, tribes, and local governments that accept electronic reports in lieu of paper under their authorized programs must satisfy the requirements of § 3.2000(b) and (c). Section 3.2000(b) sets forth the standards that acceptable electronic document receiving systems must satisfy, and these are explained in detail in section VI.E. In parallel with § 3.4 on federal compliance and enforcement, § 3.2000(c) requires that the state, tribe, or local government be able to seek and obtain any appropriate civil, criminal or other remedies under state, tribe, or local law for failure to comply with a reporting requirement if a person submits an electronic document that fails to comply with the applicable provisions for electronic reporting. Similarly, § 3.2000(c) contains provisions to ensure that an electronic signature provided to a state, tribe, or local government will make the person who signs the document responsible, bound, and/or obligated to the same extent as he or she would be signing the corresponding paper document.

Additionally, under § 3.2000(a)(2), the authorized program must require that

any electronic document it accepts bear a valid electronic signature wherever the corresponding paper document would have to be signed under existing regulations or guidance, with the signatory being the same person who is authorized and/or required to sign under the current applicable provision. As in the case of direct reporting to EPA (see section V.A), the requirement for an electronic signature will apply only where the document would have to bear a signature were it to be submitted on paper, either because this is required by statute or regulation, or because a signature is required to complete the paper form. This rule does not require that authorized programs impose any new or additional signature requirements for electronic documents that are submitted in lieu of paper and were not previously required to be signed when submitted in paper form.

As with direct reporting to EPA, § 3.2000(a)(2) also allows an authorized program to make special provisions for the required signatures to be executed on follow-on paper submissions. As noted in section IV.C, such provisions must ensure that the paper submission containing the signatures is adequately cross-referenced with the electronic document being signed, and must be described as a part of the § 3.1000(b)(1) application. Systems that receive electronic documents with such follow-on paper signature submissions are subject to all applicable § 3.2000(b) requirements, including the requirement that the electronic document cannot be altered without detection after the signature has been executed.

*E. What standards must state, tribe, and local government electronic document receiving systems satisfy?*

Section 3.2000(b) specifies the standards that electronic document receiving systems must satisfy if they are to be approved for use by states, tribes, or local governments to receive electronic documents in lieu of paper under an EPA-authorized program. EPA's purpose in specifying such standards remains the same as it was when EPA specified the proposed § 3.2000 criteria in proposed CROMERR. As discussed in section IV.B.1, that purpose was to ensure that electronically submitted documents have the same "legal dependability" as their paper counterparts, so that any electronic document that may be used as evidence to prosecute an environmental crime or to enforce against a civil violation has no less evidentiary value than its paper equivalent. EPA has been motivated to provide for the legal dependability of

electronic documents submitted under authorized programs by considering, among other things:

- The roles that many electronically submitted documents would likely play in environmental program management, including compliance monitoring and enforcement;
- EPA's statutory obligation to ensure that authorized or delegated programs maintain the enforceability of environmental law and regulations; and
- The consequent need to ensure that enforceability is not compromised as authorized programs make the transition from paper to electronic submission of compliance or enforcement-related documents.

The § 3.2000(b) standards for electronic document receiving systems in today's rule provide an expanded version of what had been the proposed § 3.2000(b) "Validity of Data" criterion. Like proposed § 3.2000(b), final § 3.2000(b) requires that electronic document receiving systems reliably enable EPA, states, tribes, and local governments to prove, in civil and criminal enforcement proceedings, that the electronic documents they receive and maintain are what they purport to be, that any changes to their content are documented, and that any associated signatures were actually executed by the designated signatories intending to certify that content. Systems must be able to satisfy the § 3.2000(b) requirements for any electronic documents they receive that are submitted in lieu of paper to satisfy an authorized program requirement.

The following discussion highlights some of the § 3.2000(b) requirements for electronic document receiving systems. The first five of these requirements (timeliness of data generation, copy of record, integrity of the electronic document, submission knowingly, and opportunity to review and repudiate copy of record) apply to all electronic document receiving systems. The other highlighted requirements (validity of the electronic signature, binding the signature to the document, opportunity to review, understanding the act of signing, the electronic signature or subscriber agreement, acknowledgment of receipt, and determining the identity of an individual) apply only to systems that receive electronically signed documents.

1. *Timeliness of data generation.* Section 3.2000(b) reflects the role that electronic document receiving systems play in supporting a wide range of compliance and enforcement-related activities, including compliance research and analysis, civil actions, and

litigation, and the fact that the success of such activities may be affected by the relative ease or difficulty of accessing the data related to electronic submissions. Accordingly, electronic document receiving systems must provide timely access to such data, especially to data relevant to the questions of what was submitted, by whom, and, where signatures are involved, who the signatories were and to what they certified. Much of this data may be assembled in the copy of record, together with any data needed to establish that the copy is a "true and correct copy of an electronic document received," as specified by the § 3.3 copy of record definition. To help the litigator develop evidence and present it in the courtroom, it is advisable that the copy of record be maintained and made accessible in a form and format that requires the minimum possible "assembly" of its elements, so that its connection with what was received and what was certified to by any signatories is easy to understand and to demonstrate to others.

2. *Copy of record.* Under § 3.2000(b), an acceptable electronic document receiving system must retain and be able to make available a copy of record for each electronic document it receives that is submitted in lieu of paper to satisfy requirements under an authorized program. For such submissions, the copy of record is intended to serve as the electronic surrogate for what we refer to as the "original" of the document received where we are doing business on paper. The copy of record is meant to provide an authoritative answer to the question of what was actually submitted and, as applicable, what was signed and certified to in the particular case.

As defined in § 3.3, a copy of record must satisfy at least four requirements. First, it must be a true and correct copy of the electronic document that was received. In the case of documents consisting of data, this means that the copy of record must contain exactly the set of data elements that constituted the electronic document that was submitted. In the case of a document consisting of other forms of information, e.g., text or images, being a "true and correct copy," may mean including file and or visual format information along with the items of information themselves, to the extent the meaning of these items is dependent on format. (See the discussion of the definition of "electronic document," in section IV.D.1.) For the copy of record to fulfill its intended role, it is not enough that it be a true and correct copy; it must also be capable of being shown to be a

true and correct copy; otherwise, it cannot meet other related system requirements, such as establishing document integrity. (See section VI.E.3, below.) The copy of record is shown to be true and correct in part by virtue of its not being repudiated by the submitters and/or signatories where it is made available for their review and repudiation. (See section VI.E.5., below.) In addition, the system must provide sufficient evidence to show how the copy of record was derived from and accurately reflects the electronic document as it was received by the system; such evidence is also necessary to establish document integrity. To provide for such evidence, the system may need to establish a chain of custody for the copy of record, particularly if there are a number of processing steps that separate the copy of record from the file as it enters the system. On the other hand, where the copy of record captures and preserves the file containing the electronic document exactly in the form and format in which it is received, then a chain of custody may not be necessary. Considerations of "timeliness" favor maintaining copies of record in a way that would not require a chain of custody. (See section VI.E.1., above.)

Second, the copy of record must include all the electronic signatures that have been executed to sign the document or components of the document. The method of inclusion may vary, depending on the nature of the signature. With a digital signature, created by encrypting a hash of the document being signed with the private key in a private/public key-pair, the signature is simply a number that can and should be contained as a copy of record element. There is no risk of signature theft in this case. Each digital signature is bound to the specific document it signs, and the private key, which is actually used for signing, is inaccessible to a would-be intruder.

With other forms of signature such as personal identification numbers (PINs) or passwords, items of personal information, or biometric images or values, including the signature as a copy of record element may raise signature theft issues. At least in theory, such signatures could be detached or copied from a copy of record and re-used spuriously without detection. To address this risk, the signature, especially in the case of a PIN or password, may be encrypted for storage, perhaps together with a hash of the document signed, to bind the signature to the document content. Another approach may be to validate the signatory's identity, e.g. by comparing a

signatory-generated password with an encrypted version maintained securely at the electronic document receiving system. In such cases, the signatory-generated password—which might be regarded as the signature—never actually appears on the electronic document, so the signature that is "included" in the copy of record may be an encrypted form of the signature, or possibly nothing exactly corresponding to a signature at all, but rather pointers or references to the processes or encrypted data that provide the actual link to the signatory. There are analogous strategies for biometric signatures. For example, the validity of a biometric (e.g., a finger print, a retinal scan, etc.) may be established by using certain statistical algorithms to evaluate data provided by the biometric. In such cases, the copy of record might document the process of validating the signature, but without including the biometric data that was used to show that the signature was valid. On any of these approaches, the copy of record may satisfy the requirement that the copy "include" the signatures, provided that what the copy does contain serves to establish whether the electronic document in question was signed and by whom.

Third, the copy of record must include the date and time of receipt to help establish its relation to submission deadlines, to the circumstances of its submission, and to other possibly associated documents that may have been submitted or alleged to have been submitted. This is not generally problematic, except in cases of continuous streams of data conveyed to the system. For such continuous data, reasonable alternatives may be substituted that serve the same purposes, for example, associating stages of the data flow with dates and times, say, at hourly intervals. Similarly, the copy of record may include other additional information to the extent that this is needed to establish the meaning of the content and the circumstances of receipt. Such additional information might include data field labels, signatory information such as references to PKI certificates, and transmission source information.

Fourth, the copy of record must be viewable in a human-readable format that clearly indicates what the submitter and, where applicable, the signatory intended that each of the data elements or other information items in the document means. This supports the copy of record's role as a surrogate "original" of the paper document, and serves to establish the content of the document as it was signed and/or

submitted. The copy of record may satisfy this requirement in many different ways. It might actually include explicit labels or descriptions for each data element or information item, or preserve a visual format in which the data were submitted. Alternatively, it may incorporate a conventional ordering of the items or elements, where the information that associates such ordered data with labels, descriptions, or other means of visual display is maintained externally and can be invoked as needed—for example, to make the data elements appear within fields in the image of a filled-out form. Where the electronic document is created off-line by the submitter and conveyed as a whole to the receiving system, it is preferable for the copy of record to reflect the mechanism or format for indicating meaning supplied in the submission. For example, if the submission is in some standard electronic data interchange format, then the copy of record might usefully preserve that format. Taking this approach will help to resolve potential chain of custody issues if questions arise about whether the copy of record is true and correct. However, in cases where the electronic document is created on-line, for example, through the use of a web-form, the format for the copy of record will of necessity be an artifact of the electronic document receiving system itself. This is not problematic, as long as the system provides a way to ensure that the meaning of each data element as supplied by the submitter remains unambiguous.

Some commenters objected to copy of record requirements because of the potential expense of redesigning systems that are not currently capable of creating and storing electronic copies of records. EPA notes, however, that systems satisfying copy of record requirements need not preserve the electronic documents received in separate or special storage apart from the files that maintain the data or information content of the documents. For example, data loaded from submitted electronic documents to a database may satisfy copy of record requirements where the stored content includes the signatures, the date/time of receipt, and an adequate chain of custody. This may be the most practical copy of record approach for receiving continuous data streams. Such an approach does not preclude satisfying the requirement that the copy of record be viewable in a human-readable format. The requirement does not mean that the data must be stored in a human-

readable format, so long as there is a well-documented way to display the stored data in such a format. In addition, nothing in the “copy of record” definition requires such copies to be electronic. Particularly where the signature involves some easily represented numerical value, the copy of record may be created and maintained in an imaging medium or on paper, provided that such copies can be shown to have been created by the electronic document receiving system to be true and correct copies of the electronic documents received. Whether such alternatives are appropriate as interim or even long-term solutions will depend on individual circumstances. It may be difficult to provide a copy of record for review and possible repudiation if the copy is not available as an electronic document that can be viewed on-line or downloaded through the network.

3. *Integrity of the electronic document.* Under § 3.2000(b)(1)—(2), an acceptable electronic document receiving system must be able to establish that a given electronic document was not altered without detection in transmission or at any time after receipt, and any such alterations must be fully documented. For purposes of § 3.2000(b)(1)—(2), EPA excludes alterations that have no effect on the document’s information content. Examples of excluded alterations include the separation of a transmitted file into packets and their error-free recombination, the error-free processes of file compression and extraction, as well as certain disk maintenance functions that may, for example, involve physically repositioning file components on the storage medium. To satisfy § 3.2000(b)(1)—(2) requirements with respect to alterations that do affect information content, a system may rely on a number of different but complementary capabilities, including general provisions for system security, access control, and secure transmission. Additionally, the system’s copy of record provisions help make the case that the electronic document is unaltered, or has been altered only as documented (for example, through a chain of custody), a case which is strengthened where submitters and/or signatories have had the opportunity to review the copy and have not contacted the system to repudiate the copy. Finally there are specific technical approaches to ensuring integrity, based, for example, on calculating hash values associated with the document content.

4. *Submission knowingly.* Under § 3.2000(b)(3), an acceptable electronic document receiving system must

provide evidence that the submitter had some reliable way of knowing and/or confirming that the submission took place. This requirement is necessary to help establish submitter responsibility for the electronic document and to rule out spurious submissions, whether by accident or through the actions of an unauthorized submitter or “hacker.” EPA believes that to satisfy this requirement, the system must have some follow-on communication with the submitter related to the submission. This could be a communication initiated by the submitter in cases where it is realistic to rely on submitters to regularly check the system for evidence of documents submitted; where such submitter interactions are relied upon, they must be documented. Alternatively, the system must send some form of acknowledgment of submission as a response to the submitter named, and must document such acknowledgments, recording at least their date, time, content and the addresses to which they were sent. For cases where the electronic document bears an electronic signature, this acknowledgment is explicitly provided for under § 3.2000(b)(5)(vi). (See section VI.E.11.)

5. *Opportunity to review and repudiate copy of record.* Under § 3.2000(b)(4), the copy of record must be available for review and timely repudiation by the individuals to whom the document is attributed, as its submitters and/or signatories. The fact that the copy was available for this review and was not repudiated provides strong support for its being a “true and correct copy of an electronic document received,” as specified by the § 3.3 copy of record definition. Program managers normally would set reasonable end dates for this process, especially where there is concern that the copy is not “officially” a copy of record until the process is complete.

Satisfying this “opportunity to review” provision involves at least two requirements. The first is that the identified submitters and/or signatories must have some way of knowing that their submission was received, and that a copy of record is available for review. This requires some follow-on communication with the submitters and signatories related to the submission—initiated either by the submitters/signatories or by the system, as discussed in section VI.E.4. Approaches should be avoided that allow the initial submission and provision of copy of record to occur as a part of the same on-line session, because in cases of spurious submission the identified submitters/signatories may never learn

that a copy of record exists. Second, to ensure that the opportunity to review and repudiate is meaningful, the copy of record must be viewable in a human-readable format that clearly and accurately associates all the information elements of the electronic document with descriptions or labeling of those elements. This second requirement is consistent with the definition of "copy of record," as discussed in section VI.E.2.

6. *Validity of the electronic signature.* Under § 3.2000(b)(5)(i), for each electronic document that is required to bear an electronic signature, the receiving system must be able to establish that each electronic signature was a valid electronic signature at the time of signing. Under § 3.3, as discussed in section IV.D.5, a valid electronic signature must satisfy three conditions. The first is that the signature must be created with a signature device that is "owned" by the individual designated as signatory—"owned" in the sense that this individual is uniquely entitled to use it for creating signatures. To establish this, an electronic document receiving system must be able to identify signature device "owners" and must be able to determine that an identified signatory is the owner of the device used to create the signature in question. Section 3.2000(b)(5)(vii) explicitly requires the ability to identify signature device owners, and section VI.E.12 of this Preamble discusses the § 3.2000(b)(5)(vii) requirements in detail.

Concerning the determination that an identified signatory is the owner of the device used to create the signature, the system needs to have unique signature validation criteria for each identified signature device owner who submits electronically signed documents; the system must be able to apply these criteria to each signature on documents received. For example, in the case of a digital signature, the validation criteria include the existence of a valid PKI certificate for the identified signatory and the ability of the associated public key to decrypt the encrypted message digest that constitutes the signature. In the case of a PIN, the validation criterion may be simply that the PIN added to the document as a signature matches the PIN on file for the identified signatory.

The second condition for an electronic signature to be considered valid is that the signature must be created with a device that has not been compromised. That is, at the time of signing, the electronic signature device must in fact be available only to the

individual identified as its owner, and to no one else. Otherwise, the use of the device to create the electronic signature may not provide evidence that a specific, identifiable individual has certified to the truth or accuracy of an electronic document. Accordingly, an acceptable electronic document receiving system must provide evidence that the electronic documents it receives and maintains do not contain signatures executed with compromised devices. Such evidence will document the system's approach to three related functions: prevention of signature device compromise, detection of compromises where they occur, and rejection of known compromised submissions.

The approach to prevention will include the way the system notifies submitters of their obligations to avoid signature compromise, including the obligation not to share or delegate the use of the device as a part of the electronic signature agreement. (See sections IV.D.4 and VI.D.8. of this Preamble, respectively.) Prevention also involves choosing the kinds of signature devices to support and determining how they are to be used. Some devices are inherently vulnerable to compromise, for example, because protection from spurious use relies on "secret" (such as a PIN or password) that has to be shared when the device is used. However, vulnerable devices can sometimes be strengthened with appropriate implementation. In the case of a PIN or password, adding an element that does not rely on secrecy—e.g. a physical "token," such as a smart card or employee badge—that had to be used along with the PIN or password may greatly reduce the device's vulnerability. Alternatively, a system accepting secret-based signatures might be programmed to query the would-be signatory about a randomly selected piece of private information that has been (or could be) verified. This approach would also reduce vulnerability to compromise, since the discovery of a secret number or password does not convey other private information about the secret's owner.

For detection of compromises, there are two complementary approaches. The first is to ensure that the system recognizes the signs of spurious submission, for example, duplicate reports, off-schedule submissions, and deviations from normal content or procedure. The second is to ensure that the system empowers submitters to detect and report spurious submissions by providing the regular "out of band" acknowledgments discussed in section VI.E.11. Once spurious submissions are

detected, the system must ensure their rejection, and the rejection of any subsequent submissions that use the same device. An acceptable receiving system must provide for timely revocation or suspension of access by those individuals with compromised signature devices.

Finally, a signature must be created by an individual who is authorized to do so, primarily by virtue of his or her relationship with the regulated entity on whose behalf the signature is executed. An electronic document receiving systems must be able to determine whether the identified signatories have the necessary relationship with the regulated entity that enables them to sign the documents being submitted. Generally, the system would obtain the information necessary for these determinations along with establishing the identity of the signature device owners. Section VI.E.12 of this Preamble discusses this point in more detail.

The system must also have some way to keep this information up-to-date, for example, some way to reject signatures where it is known that the signature device owner is no longer authorized to sign the electronic document in question. As with the initial registration process, the provisions for updating this information may vary. For some cases, it may be sufficient to rely on voluntary notifications from registrants when, e.g., their job status changes. For other cases, it may be appropriate to identify a responsible company official who is charged with managing the authorizations of employees signing documents on behalf of the company, to include keeping records of changes in authorization status and/or sending notifications. For certain cases, the system might limit a signature device owner's authorization to a defined period, which could be extended only through a re-registration process.

7. *Binding the signature to the document.* Under § 3.2000(b)(5)(ii), an acceptable electronic document receiving system must establish that electronic documents cannot be altered without detection once such documents are signed. Well-implemented provisions for copy of record help satisfy this requirement. The fact that a signatory has not repudiated a document's copy of record that he or she has had the opportunity to review provides evidence that the copy accurately reflects the document as it was signed. However, even where the signatory affirms the authenticity of the copy of record at the time of review, he or she may still repudiate the document at a later date. Therefore, an acceptable electronic document receiving system

must provide a method of ensuring that any breach of a signed document's integrity can be detected. As discussed in section IV.B.2., such methods are available in the form of signatures that incorporate a hash value of the content being signed, or in the form of signature processes that involve the creation of this hash and its maintenance in association with the signed document. Encrypting the hash value, for example, by executing a digital signature, provide the strongest approach to rebutting claims that the hash has been manipulated. Encryption may not be necessary to the extent that the system provides other means to prevent tampering and establish that the hash has not been altered since it was calculated.

8. *Opportunity to review.* Where a signatory is certifying to the truth or accuracy of document content, the certification represents the signatory as knowing and understanding the content, as well as certifying to its truth. Under § 3.2000(b)(5)(iii), an acceptable electronic document receiving system must be able to provide evidence that the signatory had the opportunity to review what he or she was signing in a human-readable format. Providing this evidence may be relatively simple, depending on the signature/certification scenarios that the system provides for or allows. In a case where the system only allows signature/certification during an on-line client-server session, and where the server always explicitly gives the signatory the option of scrolling through an appropriately-formatted display of the submission content before signing, documenting these server functions should suffice to provide the required evidence. Cases that may be similarly straightforward include those where signature/certification takes place off-line, at the signatory's computer, but using software provided by or certified by the governmental entity whose system will receive the signed electronic document. In this case, the evidence is provided by documenting how the software works. Less straightforward are cases where the signature/certification software is completely beyond the control of the governmental entity. In such cases, evidence of the opportunity to review may need to rely on the use of a submission format that demonstrably allows a human-readable display of the content. For example, the fact that the file format is a Word or Excel file and that the file provides a human readable display when opened with the right program may constitute sufficient evidence that the opportunity to review has been provided.

9. *Understanding the act of signing.* Where a signatory is certifying to the truth or accuracy of document content, the certification affirmatively represents that the signatory understands both what the act of signing means and that he or she is subject to criminal liability for false certification. Reporting formats in the paper medium provide evidence that certifications are made with the requisite understandings by placing the certification statement in a clearly visible position near the place where signatures are to be affixed and by prominently displaying the statement that there are criminal penalties for false certification. Under § 3.2000(b)(5)(iv), an acceptable electronic document receiving system must ensure that such statements are presented in conjunction with electronic signature/certification. Satisfying this requirement is straightforward where the system itself provides for the signature process or where the governmental entity receiving the submission provides or otherwise has control over the signature/certification software being used. In other cases, satisfaction will depend on requiring that the signatories and/or submitters incorporate such statements into their documents before they are signed or into screens that are displayed prior to signature. Confidence that the requirement is satisfied will depend in part on the extent to which the submission process involves the use of common, easy-to-display file structures together with the software to display the files being signed.

10. *The electronic signature or subscriber agreement.* Under § 3.2000(b)(5)(v), an acceptable electronic document receiving system must be able to provide evidence that any signatory of documents received by the system has signed an electronic signature agreement or subscriber agreement with respect to the electronic signature device he or she uses to sign the documents. "Electronic signature agreement" and "subscriber agreement" are defined under § 3.3, the latter referring to electronic signature agreements that are executed with ink on paper. (The distinct role of subscriber agreements is explained in section VI.E.12.) By signing such agreements, an individual agrees to protect his or her signature device from compromise, that is, to keep a secret code secret, a hardware token secured, etc., and not to deliberately compromise the device by making it available to others. He or she also agrees to promptly report any evidence that the device has been compromised, for example, to promptly notify the system manager if

he or she receives system acknowledgments of submissions he or she did not make, or if the device has become available to others. Finally, by signing the electronic signature or subscribed agreement, an individual agrees that use of his or her electronic signature device to sign documents creates obligations and/or legally binds him or her to the same extent as he or she would be bound or obligated by executing handwritten signatures. EPA believes that such agreements are necessary to assure—and provide evidence—that the signatory recognizes his or her obligations with respect to the electronic signature device. Insofar as the institutions surrounding the use of electronic signatures are relatively new, EPA believes that express recognition of signatory obligations through explicit agreements avoids potential ambiguity or misunderstandings.

11. *Acknowledgment of receipt.* Where an electronic signature is used to certify to the truth or accuracy of document content—with criminal liability for false certification—then it is especially important to ensure that any individual identified as signatory has the opportunity to detect and repudiate any spurious submissions made in his or her name through unauthorized access to signature device and/or the electronic document receiving system. To provide for this, § 3.2000(b)(5)(vi) requires the system to automatically send acknowledgments of document receipt to the individuals in whose names the submissions are made, the acknowledgments in each case identifying the document in question, the signatories, and the date and time of receipt.

Additionally, § 3.2000(b)(5)(vi) requires that each acknowledgment be sent to an address with access controls different and separate from those that enable the submission itself, so that in cases of compromised access, the individual in whose name a submission is made would still receive the acknowledgment without interference. This is sometimes referred to as "out of band" acknowledgment. In web-based commerce, this is fairly standard practice—a purchase is normally acknowledged directly to the internet protocol (IP) address from which the purchase is made, as a part of the on-line session, but also is confirmed through a follow-up communication to an email address. Note that while the "out of band" acknowledgment is normally sent electronically, electronic transmission is not required. A paper acknowledgment sent by U.S. Mail, or a voice acknowledgment via telephone would serve the same purpose so long

as these are documented by the system so they may be produced, possibly as evidence, at a later date.

12. *Determining the identity of the individual uniquely entitled to use a signature device.* As discussed in section VI.E.6, a system cannot accept an electronic signature as valid unless it establishes an identity between the individual designated as signatory and the owner of the device used to create the signature. Any circumstance casting doubt on the device's ownership undermines the certainty that signatures created with the device are valid; if it's not certain whose device created the signature then it's not certain whether the actual signatory is the individual who is designated as signatory in the submitted document. Additionally, it must be clear what the signature device owner's relation is to the entity on whose behalf a document is signed, in order to be certain that this device owner is an authorized signatory. This is also a condition of signature validity. (See section VI.E.6.) Accordingly, to assure that electronically signed documents are legally reliable, a system accepting such documents must have a process for determining who owns the signature devices used to create the signatures, and their relations to the entities on whose behalf they sign submitted documents. Section 3.2000(b)(5)(vii) explicitly reflects this performance standard by requiring that a system provide for such determinations "with legal certainty." That is, the system must be able to provide evidence sufficient to prove the signature device owner's identity and relation to entities on whose behalf he or she signs in a context where designated signatories may have an interest in repudiating their signature device ownership or in distancing themselves from the entities on whose behalf they are supposed to have signed.

Section 3.2000(b)(5)(vii) does not specify how this performance standard is to be met, however, at a minimum, an "identity-proofing" capability must involve access to a set of descriptions that apply uniquely to the individual in question and refer to attributes that are durable, documented, and objective. Such descriptions must be capable of being shown at any time to uniquely identify the individual without having to depend on anyone who might have an interest in repudiating the identification. Section 3.2000(b)(5)(vii) requires that more specific conditions be met for the special class of electronically signed documents that are included in the list that defines "priority report" under § 3.3 and Appendix 1 to Part 3. The priority

reports are those that EPA has identified as likely to be material to potential enforcement litigation. Given this likelihood, it is important to provide not only for the provability of signature device ownership in principle, but for the practical need to make this proof with the resources typically available to enforcement staff and within the constraints of the judicial process in criminal and civil proceedings. To address this practical dimension of identity-proofing in the case of priority reports, § 3.2000(b)(5)(vii) adds three conditions to the general performance standard. The first is that the identity of a signature device owner must be verified before the system accepts any electronic signature created with the device. The second, in § 3.2000(b)(5)(vii)(A), is that this verification must be "by attestation of disinterested individuals." The third condition, also contained in § 3.2000(b)(5)(vii)(A), specifies that the verification be "based on information or objects of independent origin, at least one item of which is not subject to change without government action or authorization."

Regarding the first condition, requiring identity-proofing before the signature device is used helps prevent systems from accepting electronic signatures that cannot be proved to be valid in the context of an enforcement proceeding. This is at least a potential concern in any case of electronic signature, but it is also a very real concern in cases where what is signed is a priority report. The second condition anticipates the need to prove signature device ownership in court, by ensuring the availability of someone credible to offer testimony about the device owner's identity who does not have an interest in repudiating device ownership. This is the idea of verification by a "disinterested individual," the term defined under § 3.3 as "a person who is not the employer; the employer's corporate parent, subsidiary, or affiliate; contracting agent; or relative (including spouse or domestic partner) of the individual in whose name the electronic signature device is issued." The condition suggests an identity-proofing process carried out by a trusted third party, and, in the current electronic commerce environment, this would typically be a PKI certificate authority (CA), whose business is to issue certificate-based electronic signature devices that reflect identity-proofing at a specified level of assurance. However, it is important to be clear that verification by a "disinterested

individual" does not have to involve a PKI-based approach to electronic signatures. Indeed, it does not have to involve a third party at all; the disinterested individual could simply be an employee of the agency operating the electronic document receiving system, if that agency itself has the resources to provide for identity-proofing as it registers signature device owners to use the system. Additionally, if a trusted third party is wanted, there are alternatives to the CA. For example, with an appropriately defined procedure, a notary public or some local government official could play this role; so could some other governmental agency, such as department of motor vehicles, which is in the business of issuing credentials based (usually) on in-person verification of identity.

The third condition sets a standard for the evidence on which verification of identity would be based—evidence that would be attested to by the disinterested individual provided for by the second condition. The standard refers to "information or objects" and for each requires that they be "of independent origin" and include at least one item that requires "governmental action or authorization" to change. Information "of independent origin" must be knowable empirically, and not simply as a matter of someone's say so; objects of independent origin could provide such information. Such information, where it concerns an individual's identity, would generally come from three sources: first, documented, direct, in-person contact; second, documentation of the individual's history—e.g., as an employee, a consumer, a student, etc.—with objects such as credit cards, passports, etc., sometimes together with corroborating testimony; and third, forensic evidence of unique, immutable traits, from such objects as fingerprints, photos, and handwritten signatures.

Evidence of identity from any of these three sources will meet the § 3.2000(b)(5)(vii)(A) standard, provided that the information used also includes at least one item that cannot be changed without governmental action or authorization—for example, a social security number, a passport number, or a driver's license number. This last requirement helps assure that the identifying information used is sufficiently well-documented and durable to support re-verification of identity at some later date. The requirement also facilitates identity-proofing that relies on database searches, insofar as data on individuals tends to be keyed to government-issued identifiers. Finally, while such

identifiers are items of information, they typically are presented on objects—e.g., a driver's license or a passport—that provide independent evidence of their authenticity.

EPA recognizes that the identity-proofing requirements specified in § 3.2000(b)(5)(vii)(A) may be difficult to implement in some cases. The rule therefore allows a system to meet the § 3.2000(b)(5)(vii)(A) requirements for cases of priority reports in other ways. Under § 3.2000(b)(5)(vii)(C), a system may collect a subscriber agreement (see section VI.E.10) from each signatory of the priority reports received by the system, in lieu of satisfying § 3.2000(b)(5)(vii)(A). Alternatively, the system may collect a certification from a "local registration authority" (LRA) that such a subscriber agreement has been executed and is being securely stored. As defined under § 3.3, an LRA is an individual who plays the role of a custodian of subscriber agreements, maintaining these paper agreements as records and sending the system a certification of receipt and secure storage for each such agreement he or she receives. The presumption is that such certifications would be sent electronically to the system as signed electronic documents. To become an LRA, an individual must have his or her identity established by notarized affidavit, and must be authorized in writing by the regulated entity to issue these "agreement collection certifications" (defined under § 3.3) on its behalf.

A state, tribe, or local government adopting the subscriber agreement alternative might choose to implement through LRAs as a way of reducing the pieces of paper it had to manage in operating its electronic document receiving system. While setting up the LRA relationships requires the collection of affidavits and authorizations on paper, this involves far fewer paper transactions than collecting the individual subscriber agreements from each person who signs priority reports. However, only larger companies or facilities with many employees signing priority reports are likely to be motivated and able to designate a company official as an LRA. Although nothing in the rule prohibits third parties from serving as LRAs for the smaller companies, a subscriber agreement implementation will probably always involve accepting some of these agreements directly from priority report signatories. What is essential under § 3.2000(b)(5)(vii)(C) is that a subscriber agreement be available, as needed, to establish the identity of the associated signature device owner.

Identity in this case is established based on the forensic properties of the handwritten signature on the agreement.

Finally, § 3.2000(b)(5)(vii)(B) gives states, tribes, or local governments the flexibility to propose identity-proofing methods that may not meet the specific requirements of § 3.2000(b)(5)(vii)(A), but which are no less stringent than the methods that satisfy § 3.2000(b)(5)(vii)(A). For example, if a method of electronic identity-proofing were proposed that relies on the attestations of an LRA who is not a disinterested party, EPA would look for other features in the identity-proofing method that guarantee the identity of the LRA and the trustworthiness of the identity-proofing that the LRA would conduct. Similarly, if an identity-proofing method were proposed that relies on objects or information that are not of independent origin (e.g., a company identification card), EPA would look for other features in the authentication method that guarantee that the registrant's identity could not have been manufactured by the registrant or another interested party. EPA's expectation is that the advance of technology may also make new methods of identity-proofing available that meet the needs of the enforcement community, and we expect that § 3.2000(b)(5)(vii)(B) could be used to accommodate such new methods when implemented as part of electronic document receiving systems.

## VII. What are the costs of today's rule?

### A. Summary of Proposal Analysis

The Agency has conducted a number of analyses to ensure that this rule complies with the various statutory and administrative requirements that apply to EPA regulations. The results of the analyses are summarized in this section.

In the proposal, EPA estimated that the proposed rule could result in an average annual reduction in burden of \$52.3 million per year for those facilities reporting, \$1.2 million per year for EPA, and \$1.24 million for each of the 30 states that were assumed to implement programs over the eight years of the analysis. EPA received many comments on the costs associated with the proposed electronic reporting provisions. Comments included concerns about the proposal's assumptions related to the number of affected entities, the number of registered users per facility, the costs to state programs, and the costs of implementing standard formats. Several commenters expressed support for the analysis findings, concurring that electronic reporting will reduce their

environmental reporting costs. EPA's response to these comments is explained in the following section. Additional comments on the cost analysis and EPA's responses can be found in the rulemaking docket, in the Response to Comments document.

### B. Final Rule Costs

In response to comments received on the proposed rule, EPA conducted additional cost analyses to determine the impacts of this rule on regulated entities, states, tribes, and local governments, and EPA programs. In developing the analysis for this final rule, EPA relied heavily on existing sources of data that included:

- EPA's 2002 Government Paperwork Elimination Act (GPEA) Report to OMB;
- Interviews with EPA programs, states, and nine industry representatives currently using CDX to report electronically;
- EPA's Information Collection Requests (ICRs);
- EPA's Envirofacts Warehouse and Facility Registry System;
- Follow-up to comments received from twenty state and local government agencies and several major industry associations; and
- Market research to assess trends of large and small companies using the Internet, costs of technology for electronic signature and data exchange formats, and other technical issues.

Based on the additional analyses, EPA estimates that under this rule there will be a total cumulative cost savings to the Agency, over the period 2003 to 2012, ranging from \$64.4 million to \$75.4 million, depending on the discount rate used. For those that adopt electronic reporting, EPA estimates a total cumulative cost burden to state and local governments under this rule, over the period 2003 to 2012, ranging from \$57.2 million to \$65.2 million annually, depending on the discount rate used. These costs result from the incremental burden to states to upgrade their receiving systems to meet the rule's standards and apply for EPA approval of program modifications and revisions. The model does not consider the potential cost savings to state and local governments resulting from processing electronic submittals but believes the savings would likely offset these incremental costs. For facilities, EPA estimates a total cumulative cost during this period ranging from \$41.6 million to \$51.9 million, depending on the discount rate used. The net total cumulative cost of this rule, over the period 2003 to 2012, ranges from \$34.4 million to \$41.7 million, depending on the discount rate used.

### C. General changes to methodology and assumptions

The research effort for the final rule differed from that conducted for the proposal in that it was much broader and involved far greater engagement with external stakeholders. EPA used this research to reevaluate assumptions made in the proposal and to refine the overall approach to the cost-benefit analysis. The process of reevaluating costs to regulated entities included:

- Analyzing the GPEA report to determine the specific information collections identified as being suitable for electronic reporting and their implementation schedule;
- Evaluating each information collection request for an understanding of the types of activities that would be eliminated (such as mailing paper forms) or reduced (manual data quality checks) through electronic reporting;
- Interviewing trade associations, reviewing comments received, evaluating market trend research, and querying Envirofacts warehouse and Facility Registry System to establish an understanding of the numbers of potential facility representatives that would register for a particular program, the rate of electronic reporting growth in a program, the number of facilities using web forms or file exchanges, and the relative distribution of small to large businesses; and
- Establishing an understanding of the time required by facilities to register with CDX and maintain a CDX account, through interviews with CDX registered users and the CDX hotline.

The process of reevaluating costs and benefits to EPA, state, tribes, and local governments, included:

- Meeting with EPA programs and state program counterparts to identify the broad range of EPA authorized programs and the types and number of agencies under each program;
- Interviewing state and local agencies and their associations as follow-up to public comment to obtain an understanding of their current electronic reporting systems, long-term plans, and perceived impacts to their systems from this rule;
- Evaluating current information technology expenditures of CDX and other program system development efforts, and general costs of EPA rulemakings with respect to federal costs and benefits.

In preparing the CBA, EPA used a computer model to estimate the annual costs to EPA, state and local governments and regulated entities. To evaluate the costs and benefits of this rule, two scenarios were modeled: a

“Baseline” scenario in which EPA would enable electronic reporting through an approach other than CROMERR and a “To Be” scenario in which EPA enables electronic reporting under CROMERR. In comparing the cumulative costs of this rule, EPA notes that the “To Be” scenario would be a more efficient approach than the “Baseline” scenario. Under the “Baseline” scenario, EPA programs would be left to implement their own program-specific electronic reporting requirements and electronic document receiving systems. Also, under the “Baseline” scenario, electronic reporting would be delayed, because EPA would have to generate separate rules and guidance to support program-specific electronic document receiving systems. Once these systems were established, reporting entities could conceivably be required to register under different rules and through different systems across EPA programs.

Based on the new research, EPA revised assumptions about the costs associated with authorized programs and corresponding benefits to the reporting entities. In contrast to the proposal, EPA does not claim the costs associated in building electronic document receiving systems for authorized programs (state, tribe, and local) or the benefits for their reporting entities in using these systems. Since it is clear that authorized programs intend to proceed with electronic reporting on their own regardless of this rule, the analyses for the final rule looks at the incremental costs to electronic document receiving systems that would be developed absent this rule, in meeting the final rule’s requirements.

Based on research and comments received on the proposal, EPA also revised the following key cost assumptions:

- *Increased costs for XML.* EPA substantially increased the cost estimate of integrating an XML format into a facility’s environmental management system (from \$4,000 to \$10,000).
- *Increased number of registered users.* EPA substantially increased the number of registrants (from 3 registrant/facility to 6 registrants per facility) in large companies that would use CDX.
- *Broadened impacts of authorized programs.* EPA substantially broadened the number of state, tribe, and local environmental agencies potentially impacted by the rule, to include health departments, county air boards, oil and gas agencies, and publicly-owned treatment works.

### VIII. Statutory and Executive Order Reviews

#### A. Executive Order 12866

Pursuant to the terms of Executive Order 12866 (58 FR 51735, October 4, 1993), it has been determined that this rule is a “significant regulatory action” because it raises novel legal or policy issues. As such, this action was submitted to OMB for review. Changes made in response to OMB suggestions or recommendations are documented in the public record.

For EPA, the average annual cost to implement and operate electronic reporting under this rule is estimated to be \$60.94 million. The average annual cost to implement and operate electronic reporting in the absence of this rule (i.e., where EPA implements electronic reporting on a program-specific basis) is estimated to be \$70.36 million for EPA. The average annual cost savings to EPA under this rule is \$8.42 million. The average annual cost to states, tribes, and local governments in initially upgrading their electronic receiving systems and obtaining EPA approval for appropriate program modification under the rule ranges from roughly \$5,000 to \$460,000, depending on the number of systems and extent of the upgrades needed. In addition, states, tribes, and local governments that upgrade their systems are expected to incur system maintenance costs averaging about \$10,000 annually. These costs reflect solely the incremental costs resulting from the rule; they do not reflect the cost savings that states, tribes, and local governments will experience in implementing their receiving systems. EPA has not quantified these savings as part of its analysis. It should be noted that EPA expects today’s rule to produce a net cost savings for states, tribes, and local governments. However, it is not possible to provide an adequate year-by-year comparison of the costs of the two scenarios, because the Baseline Scenario anticipates a more gradual process of EPA approval for state, tribe, and local government electronic reporting systems, starting at a later point in time.

The average annual cost to facilities to submit electronic reports to EPA in compliance with today’s rule ranges from \$9 for those entities that choose simply to use a web browser to access CDX and fill out web forms, to \$10,000 per facility for those companies that wish to configure their environmental management systems to exchange data with CDX, using agreed-upon data exchange formats.

In addition to the monetary benefits identified by the analysis, EPA also

believes that there are many qualitative benefits that justify the initial costs associated with the rule. These benefits include:

- Responding to federal requirements, such as GPEA, which, among other things, requires federal agencies to allow individuals or entities that deal with the agencies the option to submit information or transact with the agency electronically. This rule sets the legal framework for most major EPA initiatives implementing electronic environmental data exchanges with the various stakeholders.

- Maintaining consistency with emerging industry commercial practices. The implementation of electronic government initiatives is a reflection of the rapid evolution of electronic commerce, which has occurred in industry since the expansion of the Internet and the World Wide Web (WWW), in the early 1990s. In many ways, EPA and state, tribe, and local environmental agencies' implementations of electronic reporting under today's rule will be more consistent with emerging practices and less burdensome to industry than paper reporting.

- Providing sound environmental practice. Part of EPA's mission is conserving environmental resources. The traditional paper-based reporting practices and processes consumes trees and other resources for printing, exchanging, reproducing, storing, and retrieving grants, permits, compliance reports, and supporting documents.

- Fostering more rapid environmental compliance reporting. Organizations have become increasingly environmentally conscientious. This change stems both from a desire to be good corporate citizens and from fear of negative media reporting. Hence, organizations, especially large companies, are becoming increasingly interested in being able to demonstrate their environmental compliance. More rapid and accurate public posting of compliance data by environmental agencies is one way to help achieve this goal.

- Simplifying facility reporting. Electronic reporting and EPA's planned implementation support a single point of entry into agency systems, which will enhance facilities' ability to locate appropriate regulations, obtain information, ask questions, obtain forms, and submit data.

- Providing more accurate data. Replacing paper forms with electronic forms will result in more accurate data. Systems incorporating electronic forms can perform real time edit checks that will reduce the number of input errors.

These checks can range from simple verification of valid date formats, to complex validations of proper nomenclature and limits of chemicals emitted into the environment. Improved data quality will also help reduce the time required for data correction and the effects of inaccurate reporting.

- Making data more readily available. The process of creating, mailing, receiving, entering, verifying, and correcting paper reports consumes both resources and time. This delays the analysis of the data by EPA and authorized programs and its availability to decision makers and the public.

- Provides the foundation for further process re-engineering. Moving data from a paper to an electronic system as early in the process as possible creates the foundation on which many workflow re-engineering initiatives can be constructed.

#### *B. Executive Order 13132*

Executive Order 13132, entitled "Federalism" (64 FR 43255, August 10, 1999), requires EPA to develop an accountable process to ensure "meaningful and timely input by state and local officials in the development of regulatory policies that have federalism implications." "Policies that have federalism implications" are defined in the Executive Order to include regulations that have "substantial direct effects on the states, on the relationship between the national government and the states, or on the distribution of power and responsibilities among the various levels of government."

This final rule does not have federalism implications. EPA has determined that the final rule will not have substantial direct effects on the states, on the relationship between the national government and the states, or on the distribution of power and responsibilities among the various levels of government, as specified in Executive Order 13132. The final rule will not require states to accept electronic reports. The effect of this rule will be to provide an electronic alternative to currently accepted methods of receiving regulatory reports on paper and to give the states the option of choosing to receive electronic submissions in satisfaction of reporting requirements under their authorized programs or continuing to require submissions on paper.

Authorized states and local agencies that choose to receive electronic reports under this rule may incur expenses initially in developing systems or modifying existing systems to meet the standards in this rule. The average annual cost to state agencies in

upgrading their electronic receiving systems and obtaining EPA program modification approval depends on the amount of effort required to adhere to the requirements of this rule. However, EPA estimates that for those states deploying systems that meet rule standards, each state will incur a cost of about \$12,000 in obtaining EPA approval of its system. For a state where upgrades to its systems are needed to meet rule requirements, the costs can range up to \$460,000, depending on the size and complexity of its systems and the extent of the upgrades needed. Maintenance costs for maintaining compliance with this rule will cost each state about \$10,000 annually. These costs include both capital costs required for hardware and software upgrades, and labor costs incurred by state employees. EPA analyzed the most likely alternative scenario where, absent this rule, EPA programs would implement rules that would require states to seek program modifications on a program by program basis. It should be noted that these analyses do not quantify the cost savings that states will incur through offering electronic reporting options to their reporting entities. EPA believes these savings will greatly outweigh the costs of complying with the rule. Based on these analyses, EPA believes that although the final rule imposes some compliance costs on state and local governments, the costs for most states are marginal and will result in net benefits over the most likely alternative scenario.

Over the last several years, EPA has provided substantial financial support to states to assist in upgrades to information technology systems. For example, in fiscal years 2002–2004, EPA provided approximately \$65 million dollars to states, tribes, and territories through grants to support their efforts to establish EIEN. EPA intends to award additional grants for fiscal year 2005. EPA's fiscal year 2006 budget includes \$20 million for the EIEN Grant Program. States, tribes, and territories may apply for these grant funds to generally upgrade their EIEN capabilities, including improvements related to this rule, e.g., to improve data validity and user authentication procedures, as required by today's final rule.

Although Section 6 of Executive Order 13132 does not apply to this rule, EPA has welcomed the active participation of the states; on several separate occasions EPA has held substantial consultations with state and local officials in developing this rule. State participation has resulted in changes to the final rule, including the section 3.1000 approval process and

special provisions such as deferred compliance for existing systems.

#### C. Paperwork Reduction Act

OMB has approved the information collection requirements contained in this rule under the provisions of the *Paperwork Reduction Act* (PRA), 44 U.S.C. 3501 *et seq.* and has assigned OMB control number 2025-0003.

The ICR for this rule covers the registration information, which will be collected from individuals wishing to submit electronic reports to EPA on behalf of regulated facilities. The information will be used to establish the identity of that individual and the regulated entity he or she represents. This information will be used by EPA to register and provide individuals with the ability to access the EPA's electronic document receiving system, CDX. In appropriate circumstances this information will also be used to issue an electronic signature to the registered individual. The ICR also covers activities incidental to electronic reporting (*e.g.*, submittal of an electronic signature agreement to EPA as applicable). It should be noted that the submission of environmental reports in an electronic format to EPA and states, tribes, and local governments is voluntary for most examples of electronic reporting, and viewed as a service that EPA and its regulatory partners are providing to the regulated community. The rule allows reporting entities to submit reports and other information electronically, thereby streamlining and expediting the process for reporting. However, it should also be understood that this rule does set forth requirements for regulated entities that submit electronic reports directly to EPA and for states, tribes, and local governments that choose to implement electronic reporting under their authorized programs. EPA is issuing this rule on cross-media electronic reporting, in part, under the authority of GPEA, Public Law 105-277, which amends the PRA.

In addition, the ICR covers state, tribe, and local government activities involved in upgrading their electronic receiving systems to satisfy the standards in the rule and in applying to EPA for approval of program modification. States, tribes, and local governments will undertake these activities only if they intend to collect information electronically under an EPA authorized program.

The total annual reporting and recordkeeping burden this ICR estimates is 151,963 hours, which includes the tasks described above. It is expected that a respondent reporting directly to EPA

will take on average ten minutes to register with CDX; however, if the respondent contacts the CDX help desk for assistance with CDX registration, on average the respondent will incur an additional six minutes. The average annual number of respondents registering with CDX is 19,434. It is further expected that 201,331 respondents will report electronically to a state, tribe, or local government receiving system. Respondents reporting to EPA or state, tribe, or local governments may also incur an additional burden of 20 minutes to prepare, sign, and submit an electronic signature agreement. The average annual number of these respondents is 177,009. In addition, the ICR estimates that 7,293 medium-sized and large companies will register local registration authorities (LRA) and incur an additional burden of 1 hour. This includes the time to prepare and submit LRA designation applications, collect and store subscriber agreements, and prepare and submit certification of receipt and secure storage.

Finally, it is expected that a state, tribe, or local government would take between 210 and 330 hours to prepare and submit its program modification application to EPA. The average annual number of states applying to EPA is expected to be 15; the average annual number of tribes and local governments applying to EPA is expected to be 46. In addition, the ICR estimates \$4,450,658 in annual capital/start-up costs for states, tribes and local governments to upgrade their receiving systems. The ICR estimates \$663,975 in annual operation and maintenance costs. This includes costs to registrants and state, tribes and local governments in submitting information to EPA.

#### Public Burden Statement

The public reporting burden is estimated to be 10 minutes for an individual that reports electronically to the CDX. This includes time for preparing the on-line application and calling the CDX help desk.

The public reporting burden in this ICR is estimated to be 15 minutes for an individual that prepares and submits a subscriber agreement.

The public reporting burden is estimated to be 30 minutes for a local registration authority. This includes time for preparing and submitting the certification of receipt and secure storage to EPA or state/local agency.

The public reporting burden is estimated to range from 210 hours for a local government to 330 hours for a state seeking to implement an electronic receiving system. This includes time for

preparing and submitting the program modification application to EPA.

Burden means the total time, effort, or financial resources expended by persons to generate, maintain, retain, or disclose or provide information to or for a Federal agency. This includes the time needed to review instructions; develop, acquire, install, and utilize technology and systems for the purposes of collecting, validating, and verifying information, processing and maintaining information, and disclosing and providing information; adjust the existing ways to comply with any previously applicable instructions and requirements; train personnel to be able to respond to a collection of information; search data sources; complete and review the collection of information; and transmit or otherwise disclose the information.

An agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a currently valid OMB control number. The OMB control numbers for EPA's regulations are listed in 40 CFR part 9 and 48 CFR chapter 15. In addition, EPA is amending the table in 40 CFR part 9 of currently approved OMB control numbers for various regulations to list the regulatory citations for the information requirements contained in this final rule.

#### D. Regulatory Flexibility Act

The Regulatory Flexibility Act (RFA), 5 U.S.C. 601 *et seq.*, generally requires an agency to prepare a regulatory flexibility analysis of any rule subject to notice and comment rulemaking requirements under the Administrative Procedure Act or any other statute unless the agency certifies that the rule will not have a significant economic impact on a substantial number of small entities. Small entities include small businesses, small organizations, and small governmental jurisdictions.

For the purpose of assessing the impacts of today's rule on small entities, small entity is defined as: (1) Small business as defined by the RFA and based on Small Business Administration (SBA) size standards; (2) a small governmental jurisdiction that is a government of a city, county, town, school district, or special district with a population of less than 50,000; and (3) a small organization that is a not-for-profit enterprise which is independently owned and operated and is not dominant in its field.

After considering the economic impacts of today's final rule on small entities, the Agency certifies, pursuant to section 605(b) of the RFA, that this

action will not have a significant economic impact on a substantial number of small entities. Courts have interpreted the RFA to require a regulatory flexibility analysis only when small entities will be subject to the requirements of the rule. See *Motor and Equip. Mfrs. Ass'n v. Nichols*, 142 F.3d 449 (D.C. Cir. 1998); *United Distribution Cos. v. FERC*, 88 F.3d 1105, 1170 (D.C. Cir. 1996); *Mid-Tex Elec. Co-op, Inc. v. FERC*, 773 F.2d 327, 342 (D.C. Cir. 1985) (agency's certification need only consider the rule's impact on entities subject to the rule). This final rule would not establish any new direct requirements applicable to small entities. States that are directly regulated in this rulemaking are not small entities.

This rule provides for EPA review and approval of authorized state, tribe, and local government programs that decide to provide for electronic reporting. This rule includes performance standards against which a state's, tribe's, or local government's electronic document receiving system will be evaluated before EPA will approve changes to the delegated, authorized, or approved program to provide electronic reporting, and establishes a streamlined process that states, tribes, and local governments can use to seek and obtain such approvals. The rule also includes special provisions for existing state electronic reporting systems in place at the time of publication of this rule.

Currently, entities that choose to submit electronic documents directly to EPA submit documents to a centralized Agency-wide electronic document-receiving system, called the CDX, or to alternative systems designated by the Administrator. This rule does not change those systems. In addition, today's rule, does not require the submission of electronic documents in lieu of paper documents.

Because there is no requirement to adopt electronic reporting, EPA has determined that small local governments will not be directly impacted by this rule. Nonetheless, EPA also considered the possible impacts of this rule to determine whether small local governments could potentially be subject to the provisions of § 3.1000, which would require these programs to seek EPA approval for their electronic document receiving systems if they choose to provide electronic reporting. EPA reviewed its programs and conducted follow-up to comments received from industry, state, and local government associations to determine possible impacts to small local jurisdictions. Based on its review, EPA concluded that the only small

government jurisdictions possibly subject to the rule are those with Publicly-Owned Treatment Works (POTWs). Only POTWs choosing to deploy electronic document receiving systems would be subject to today's rule. Through analysis and direct discussions with municipal POTWs and trade associations, EPA did not identify any such small government jurisdictions planning to deploy electronic reporting systems.

Although not required by the RFA, (See *Michigan v. EPA*, 213 F.3d 663, 668–69 (D.C. Cir., 2000), *cert. den.* 121 S.Ct. 225, 149 L.Ed.2d 135 (2001)), as a part of the analysis prepared under Executive Order 12866, EPA also considered the costs to small entities that are indirect reporters to authorized state, tribal, and local government programs. For this final rule, EPA prepared a cost/benefit analysis to assess the economic impact of CROMERR, which can be found in the docket for this rule.

Although this rule will not have a significant economic impact on a substantial number of small entities, the Agency nonetheless consulted with small entities as well as organizations such as the Small Business Administration (SBA). We made several changes to the rule based upon these discussions.

#### *E. Unfunded Mandates Reform Act*

Title II of the Unfunded Mandates Reform Act of 1995 (UMRA), Public Law 104–4, establishes requirements for federal agencies to assess the effects of their regulatory actions on states, tribes, and local governments and the private sector. Under section 202 of UMRA, EPA must prepare a written statement, including a cost-benefit analysis, for proposed and final rules with “Federal mandates” that may result in expenditures to states, tribes, and local governments, in the aggregate, or to the private sector, of \$100 million or more in any one year. Before promulgating a rule for which a written statement is needed, section 205 of the UMRA generally requires EPA to identify and consider a reasonable number of regulatory alternatives and adopt the least costly, most cost-effective or least burdensome alternative that achieves the objectives of the rule. The provisions of section 205 do not apply when they are inconsistent with applicable law. Moreover, section 205 allows EPA to adopt an alternative other than the least costly, most cost-effective or least burdensome alternative if the Administrator publishes with the final rule an explanation why that alternative was not adopted.

Before EPA establishes any regulatory requirements that may significantly or uniquely affect small governments, including tribes, it must have developed under section 203 of UMRA a small-government agency plan. The plan must provide for notifying potentially affected small governments, enabling officials of affected small governments to have meaningful and timely input into the development of EPA regulatory proposals with significant Federal intergovernmental mandates. The plan must also provide for informing, educating, and advising small governments on compliance with the regulatory requirements.

As described in section VIII.D. of this Preamble, above, EPA also evaluated the possible impacts of this rule to small governments. In particular, EPA was concerned that small governments could potentially be subject to the provisions of § 3.1000, which would require these programs to seek EPA approval for the electronic document receiving systems. EPA reviewed its programs, and also conducted follow-up to comments from industry, state, and local government associations to determine possible impacts to small local governments. As a result of this review, EPA concluded that small local governments would not be adversely impacted by the provisions of § 3.1000 this rule.

The Agency has determined that this rule does not contain a Federal mandate that may result in expenditures of \$100 million or more for states, tribes, and local governments, in the aggregate, or the private sector in any one year. Thus, today's rule is not subject to the requirements in sections 202 and 205 of UMRA. The Agency has determined that this rule contains no regulatory requirements that might significantly or uniquely affect small governments and thus this rule is not subject to the requirements in section 202 of UMRA.

#### *F. National Technology Transfer and Advancement Act*

Section 12(d) of the National Technology Transfer and Advancement Act of 1995 (NTTAA), Public Law 104–113, section 12(d) (15 U.S.C. 272 note) directs EPA to use voluntary consensus standards in its regulatory activities unless to do so would be inconsistent with applicable law or otherwise impractical. Voluntary consensus standards are technical standards (e.g., materials specifications, test methods, sampling procedures, and business practices) that are developed or adopted by voluntary consensus standards bodies. The NTTAA directs EPA to provide Congress, through OMB, with explanations when the Agency decides

not to use available and applicable voluntary consensus standards.

The consensus standards relevant to an electronic reporting rule are primarily technical standards that specify file formats for the electronic exchange of data, telecommunications network protocols, and electronic signature technologies and formats. EPA is not setting requirements for electronic reporting at the level of specificity addressed by such formats, protocols and technologies, so consensus standards are not directly applicable to today's rule. For example, the final rule does not stipulate data exchange formats, does not specify electronic signature technologies, and does not address telecommunications issues. At the same time, there is nothing in today's rule that is incompatible with these standards, and in implementing electronic reporting under this rule EPA is adopting standards-based approaches to electronic data exchange.

In the preamble to the proposed rule, EPA described its initial plans to implement a number of standards-based approaches to electronic reporting, including electronic data exchange formats based upon the ANSI Accredited Standards Committee's (ASC) X12 for Electronic Data Interchange or EDI. That preamble also discussed EPA's interest in exploring the use of Internet data exchange formats based on XML, then under development by the World Wide Web Consortium (W3C). As a part of the preamble discussion, EPA solicited comment on these planned standards-based electronic reporting implementations. In response, EPA received considerable feedback both from states and from industry indicating a trend in the direction of XML, and away from the deployment of ANSI ASC X12 standards. In any event, CDX now looks to XML to provide the formats for its Internet data exchanges. EPA currently supports multi-agency Integrated Project Teams to develop XML formats and intends to use standardized formats for this purpose to the extent that they are available. In addition, EPA currently registers XML formats in its System of Registries to facilitate easy access to these formats for partners wishing to exchange data. EPA is attempting to make use of applicable standards-setting work being done by several organizations, including the Electronic Business XML (ebXML), the Organization for the Advancement of Structured Information Standards (OASIS), and, internationally, the United Nation's Center for Administration, Commerce, and Transport (UN/CEFACT) Forum. In any

event, today's rule is compatible with any of these current standards-based approaches to electronic reporting, but the rule itself does not set requirements at the level of detail that such standards address.

#### G. Executive Order 13045

Executive Order 13045, Protection of Children from Environmental Health Risks and Safety Risks (62 FR 19885, April 23, 1997) applies to any rule that EPA determines (1) "economically significant" as defined under Executive Order 12866 and (2) concerns an environmental health or safety risk that EPA has reason to believe may have a disproportionate effect on children. EPA interprets Executive Order 13045 as encompassing only those regulatory actions that are risk-based or health-based, such that the analysis required under Section 5-501 of the Executive Order has the potential to influence the regulation.

This rule is not subject to Executive Order 13045 because it is not an economically significant action as defined by Executive Order 12866 and it does not involve decisions regarding environmental health or safety risks. This rule contains general performance standards for the submission of environmental data electronically.

#### H. Executive Order 13175

Executive Order 13175, entitled, "Consultation and Coordination with Indian Tribal Governments" (65 FR 67249, November 6, 2000), requires EPA to develop an accountable process to ensure "meaningful and timely input by tribal officials in the development of regulatory policies that have tribal implications." "Policies that have tribal implications" are defined in the Executive Order to include regulations that have "substantial direct effects on one or more Indian tribes, on the relationship between the Federal Government and the Indian tribes, or on the distribution of power and responsibilities between the Federal Government and Indian tribes."

This rule does not have tribal implications, as specified in Executive Order 13175, and therefore consultation under the Order is not required. It will not have substantial direct effects on tribes, on the relationship between the federal government and Indian tribes, or on the distribution of power and responsibilities between the federal government and Indian tribes, as specified in Executive Order 13175. This action does not require Indian tribes to accept electronic reports. The effect of this rule is to provide additional regulatory flexibility to

Indian tribes by giving them the opportunity to submit electronic reports to EPA in satisfaction of EPA reporting requirements and by allowing them to implement electronic reporting under their authorized programs.

#### I. Executive Order 13211 (Energy Effects)

This rule is not a "significant energy action" as defined in Executive Order 13211, "Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution, or Use" (66 FR 28355, May 22, 2001) because it is not likely to have a significant adverse effect on the supply, distribution, or use of energy. EPA has concluded that this rule is not likely to have any adverse energy effects.

#### J. Congressional Review Act

The Congressional Review Act, 5 U.S.C. 801 *et seq.*, as added by the Small Business Regulatory Enforcement Fairness Act of 1996, generally provides that before a rule may take effect, the agency promulgating the rule must submit a rule report, which includes a copy of the rule, to each House of the Congress and to the Comptroller General of the United States. EPA will submit a report containing this rule and other required information to the U.S. Senate, the U.S. House of Representatives, and the Comptroller General of the United States prior to publication of the rule in the **Federal Register**. A major rule cannot take effect until 60 days after it is published in the **Federal Register**. This action is not a "major rule" as defined by 5 U.S.C. 804(2). This rule will become effective on January 11, 2006.

#### List of Subjects

##### 40 CFR Part 3

Environmental protection, Conflict of interests, Electronic records, Electronic reporting requirements, Electronic reports, Intergovernmental relations.

##### 40 CFR Part 9

Environmental protection, Electronic records, Electronic reporting requirements, Electronic reports, Intergovernmental relations, Reporting and recordkeeping requirements.

##### 40 CFR Part 51

Environmental protection, Administrative practice and procedure, Air pollution control, Carbon monoxide, Electronic records, Electronic reporting requirements, Electronic reports, Intergovernmental relations, Lead, Nitrogen dioxide, Ozone, Particulate matter, Reporting and recordkeeping

requirements, Sulfur oxides, Volatile organic compounds.

*40 CFR Part 60*

Environmental protection, Administrative practice and procedure, Air pollution control, Aluminum, Ammonium sulfate plants, Batteries, Beverages, Carbon monoxide, Cement industry, Coal, Copper, Dry cleaners, Electric power plants, Electronic records, Electronic reporting requirements, Electronic reports, Fertilizers, Fluoride, Gasoline, Glass and glass products, Grains, Graphic arts industry, Heaters, Household appliances, Insulation, Intergovernmental relations, Iron, Labeling, Lead, Lime, Metallic and nonmetallic mineral processing plants, Metals, Motor vehicles, Natural gas, Nitric acid plants, Nitrogen dioxide, Paper and paper products industry, Particulate matter, Paving and roofing materials, Petroleum, Phosphate, Plastics materials and synthetics, Polymers, Reporting and recordkeeping requirements, Sewage disposal, Steel, Sulfur oxides, Sulfuric acid plants, Tires, Urethane, Vinyl, Volatile organic compounds, Waste treatment and disposal, Zinc.

*40 CFR Part 63*

Environmental protection, Air pollution control, Electronic records, Electronic reporting requirements, Electronic reports, Hazardous substances, Intergovernmental relations, Reporting and recordkeeping requirements.

*40 CFR Part 69*

Environmental protection, Air pollution control, Electronic records, Electronic reporting requirements, Electronic reports, Guam, Intergovernmental relations.

*40 CFR Part 70*

Environmental protection, Administrative practice and procedure, Electronic records, Electronic reporting requirements, Electronic reports, Intergovernmental relations.

*40 CFR Part 71*

Environmental protection, Administrative practice and procedure, Electronic records, Electronic reporting requirements, Electronic reports, Intergovernmental relations.

*40 CFR Part 123*

Environmental protection, Administrative practice and procedure, Confidential business information, Electronic records, Electronic reporting requirements, Electronic reports,

Hazardous substances, Indians-lands, Intergovernmental relations, Penalties, Reporting and recordkeeping requirements, Water pollution control.

*40 CFR Part 142*

Environmental protection, Administrative practice and procedure, Chemicals, Electronic records, Electronic reporting requirements, Electronic reports, Indians-lands, Intergovernmental relations, Radiation protection, Reporting and recordkeeping requirements, Water supply.

*40 CFR Part 145*

Environmental protection, Confidential business information, Electronic records, Electronic reporting requirements, Electronic reports, Indians-lands, Intergovernmental relations, Penalties, Reporting and recordkeeping requirements, Water supply.

*40 CFR Part 162*

Environmental protection, Administrative practice and procedure, Electronic records, Electronic reporting requirements, Electronic reports, Intergovernmental relations, Pesticides and pests, Reporting and recordkeeping requirements, State registration of pesticide products.

*40 CFR Part 233*

Environmental protection, Administrative practice and procedure, Electronic records, Electronic reporting requirements, Electronic reports, Intergovernmental relations, Penalties, Reporting and recordkeeping requirements, Water pollution control.

*40 CFR Part 257*

Environmental protection, Electronic records, Electronic reporting requirements, Electronic reports, Intergovernmental relations, Waste treatment and disposal.

*40 CFR Part 258*

Environmental protection, Electronic records, Electronic reporting requirements, Electronic reports, Intergovernmental relations, Reporting and recordkeeping requirements, Waste treatment and disposal, Water pollution control.

*40 CFR Part 271*

Environmental protection, Administrative practice and procedure, Confidential business information, Electronic records, Electronic reporting requirements, Electronic reports, Hazardous materials transportation, Hazardous waste, Indians-lands, Intergovernmental relations, Penalties,

Reporting and recordkeeping requirements, Water pollution control, Water supply.

*40 CFR Part 281*

Environmental protection, Administrative practice and procedure, Electronic records, Electronic reporting requirements, Electronic reports, Hazardous substances, Insurance, Intergovernmental relations, Oil pollution, Reporting and recordkeeping requirements, Surety bonds, Water pollution control, Water supply.

*40 CFR Part 403*

Environmental protection, Confidential business information, Electronic records, Electronic reporting requirements, Electronic reports, Intergovernmental relations, Reporting and recordkeeping requirements, Waste treatment and disposal, Water pollution control.

*40 CFR Part 501*

Environmental protection, Administrative practice and procedure, Electronic records, Electronic reporting requirements, Electronic reports, Intergovernmental relations, Penalties, Reporting and recordkeeping requirements, Sewage disposal.

*40 CFR Part 745*

Environmental protection, Electronic records, Electronic reporting requirements, Electronic reports, Intergovernmental relations, Hazardous substances, Lead poisoning, Reporting and recordkeeping requirements.

*40 CFR Part 763*

Environmental protection, Administrative practice and procedure, Asbestos, Electronic records, Electronic reporting requirements, Electronic reports, Hazardous substances, Imports, Intergovernmental relations, Reporting and recordkeeping requirements.

Dated: September 22, 2005.

**Stephen L. Johnson,**  
*Administrator.*

■ Therefore, Title 40 Chapter I of the Code of Federal Regulations is amended by adding a new Part 3, and amending parts 9, 51, 60, 63, 69, 70, 71, 123, 142, 145, 162, 233, 257, 258, 271, 281, 403, 501, 745, and 763 to read as follows:

**PART 3—CROSS-MEDIA ELECTRONIC REPORTING**

**Subpart A—General Provisions**

Sec.

- 3.1 Who does this part apply to?
- 3.2 How does this part provide for electronic reporting?
- 3.3 What definitions are applicable to this part?

3.4 How does this part affect enforcement and compliance provisions of Title 40?

**Subpart B—Electronic Reporting to EPA**

- 3.10 What are the requirements for electronic reporting to EPA?
- 3.20 How will EPA provide notice of changes to the Central Data Exchange?

**Subpart C—[Reserved]**

**Subpart D—Electronic Reporting under EPA-Authorized State, Tribe, and Local Programs**

- 3.1000 How does a state, tribe, or local government revise or modify its authorized program to allow electronic reporting?
- 3.2000 What are the requirements authorized state, tribe, and local programs' reporting systems must meet?

**Authority:** 7 U.S.C. 136 to 136y; 15 U.S.C. 2601 to 2692; 33 U.S.C. 1251 to 1387; 33 U.S.C. 1401 to 1445; 33 U.S.C. 2701 to 2761; 42 U.S.C. 300f to 300j–26; 42 U.S.C. 4852d; 42 U.S.C. 6901–6992k; 42 U.S.C. 7401 to 7671q; 42 U.S.C. 9601 to 9675; 42 U.S.C. 11001 to 11050; 15 U.S.C. 7001; 44 U.S.C. 3504 to 3506.

**Subpart A—General Provisions**

**§ 3.1 Who does this part apply to?**

(a) This part applies to:

- (1) Persons who submit reports or other documents to EPA to satisfy requirements under Title 40 of the Code of Federal Regulations (CFR); and
- (2) States, tribes, and local governments administering or seeking to administer authorized programs under Title 40 of the CFR.

(b) This part does not apply to:

- (1) Documents submitted via facsimile in satisfaction of reporting requirements as permitted under other parts of Title 40 or under authorized programs; or
- (2) Electronic documents submitted via magnetic or optical media such as diskette, compact disc, digital video disc, or tape in satisfaction of reporting requirements, as permitted under other parts of Title 40 or under authorized programs.

(c) This part does not apply to any data transfers between EPA and states, tribes, or local governments as a part of their authorized programs or as a part of administrative arrangements between states, tribes, or local governments and EPA to share data.

**§ 3.2 How does this part provide for electronic reporting?**

(a) *Electronic reporting to EPA.* Except as provided in § 3.1(b), any person who is required under Title 40 to create and submit or otherwise provide a document to EPA may satisfy this requirement with an electronic document, in lieu of a paper document, provided that:

(1) He or she satisfies the requirements of § 3.10; and

(2) EPA has first published a notice in the **Federal Register** announcing that EPA is prepared to receive, in electronic form, documents required or permitted by the identified part or subpart of Title 40.

(b) *Electronic reporting under an EPA-authorized state, tribe, or local program.*

(1) An authorized program may allow any document submission requirement under that program to be satisfied with an electronic document provided that the state, tribe, or local government seeks and obtains revision or modification of that program in accordance with § 3.1000 and also meets the requirements of § 3.2000 for such electronic reporting.

(2) A state, tribe, or local government that is applying for initial delegation, authorization, or approval to administer a federal program or a program in lieu of the federal program, and that will allow document submission requirements under the program to be satisfied with an electronic document, must use the procedures for obtaining delegation, authorization, or approval under the relevant part of Title 40 and may not use the procedures set forth in § 3.1000; but the application must contain the information required by § 3.1000(b)(1) and the state, tribe, or local government must meet the requirements of § 3.2000.

(c) *Limitations.* This part does not require submission of electronic documents in lieu of paper. This part confers no right or privilege to submit data electronically and does not obligate EPA, states, tribes, or local governments to accept electronic documents.

**§ 3.3 What definitions are applicable to this part?**

The definitions set forth in this section apply when used in this part.

*Acknowledgment* means a confirmation of electronic document receipt.

*Administrator* means the Administrator of the EPA.

*Agency* means the EPA or a state, tribe, or local government that administers or seeks to administer an authorized program.

*Agreement collection certification* means a signed statement by which a local registration authority certifies that a subscriber agreement has been received from a registrant; the agreement has been stored in a manner that prevents unauthorized access to these agreements by anyone other than the local registration authority; and the local registration authority has no basis to believe that any of the collected agreements have been tampered with or prematurely destroyed.

*Authorized program* means a Federal program that EPA has delegated, authorized, or approved a state, tribe, or local government to administer, or a program that EPA has delegated, authorized, or approved a state, tribe or local government to administer in lieu of a Federal program, under other provisions of Title 40 and such delegation, authorization, or approval has not been withdrawn or expired.

*Central Data Exchange* means EPA's centralized electronic document receiving system, or its successors, including associated instructions for submitting electronic documents.

*Chief Information Officer* means the EPA official assigned the functions described in section 5125 of the Clinger Cohen Act (Pub. L. 104–106).

*Copy of record* means a true and correct copy of an electronic document received by an electronic document receiving system, which copy can be viewed in a human-readable format that clearly and accurately associates all the information provided in the electronic document with descriptions or labeling of the information. A *copy of record* includes:

- (1) All electronic signatures contained in or logically associated with that document;
- (2) The date and time of receipt; and
- (3) Any other information used to record the meaning of the document or the circumstances of its receipt.

*Disinterested individual* means an individual who is not connected with the person in whose name the electronic signature device is issued. A *disinterested individual* is not any of the following: The person's employer or employer's corporate parent, subsidiary, or affiliate; the person's contracting agent; member of the person's household; or relative with whom the person has a personal relationship.

*Electronic document* means any information in digital form that is conveyed to an agency or third-party, where "information" may include data, text, sounds, codes, computer programs, software, or databases. "Data," in this context, refers to a delimited set of data elements, each of which consists of a content or value together with an understanding of what the content or value means; where the electronic document includes data, this understanding of what the data element content or value means must be explicitly included in the electronic document itself or else be readily available to the electronic document recipient.

*Electronic document receiving system* means any set of apparatus, procedures,

software, records, or documentation used to receive electronic documents.

*Electronic signature* means any information in digital form that is included in or logically associated with an electronic document for the purpose of expressing the same meaning and intention as would a handwritten signature if affixed to an equivalent paper document with the same reference to the same content. The electronic document bears or has on it an electronic signature where it includes or has logically associated with it such information.

*Electronic signature agreement* means an agreement signed by an individual with respect to an electronic signature device that the individual will use to create his or her electronic signatures requiring such individual to protect the electronic signature device from compromise; to promptly report to the agency or agencies relying on the electronic signatures created any evidence discovered that the device has been compromised; and to be held as legally bound, obligated, or responsible by the electronic signatures created as by a handwritten signature.

*Electronic signature device* means a code or other mechanism that is used to create electronic signatures. Where the *device* is used to create an individual's electronic signature, then the code or mechanism must be unique to that individual at the time the signature is created and he or she must be uniquely entitled to use it. The *device* is compromised if the code or mechanism is available for use by any other person.

*EPA* means the United States Environmental Protection Agency.

*Existing electronic document receiving system* means an electronic document receiving system that is being used to receive electronic documents in lieu of paper to satisfy requirements under an authorized program on October 13, 2005 or the system, if not in use, has been substantially developed on or before that date as evidenced by the establishment of system services or specifications by contract or other binding agreement.

*Federal program* means any program administered by EPA under any other provision of Title 40.

*Federal reporting requirement* means a requirement to report information directly to EPA under any other provision of Title 40.

*Handwritten signature* means the scripted name or legal mark of an individual, handwritten by that individual with a marking- or writing-instrument such as a pen or stylus and executed or adopted with the present intention to authenticate a writing in a

permanent form, where "a writing" means any intentional recording of words in a visual form, whether in the form of handwriting, printing, typewriting, or any other tangible form. The physical instance of the scripted name or mark so created constitutes the handwritten signature. The scripted name or legal mark, while conventionally applied to paper, may also be applied to other media.

*Information or objects of independent origin* means data or items that originate from a disinterested individual or are forensic evidence of a unique, immutable trait which is (and may at any time be) attributed to the individual in whose name the device is issued.

*Local registration authority* means an individual who is authorized by a state, tribe, or local government to issue an agreement collection certification, whose identity has been established by notarized affidavit, and who is authorized in writing by a regulated entity to issue agreement collection certifications on its behalf.

*Priority reports* means the reports listed in Appendix 1 to part 3.

*Subscriber agreement* means an electronic signature agreement signed by an individual with a handwritten signature. This agreement must be stored until five years after the associated electronic signature device has been deactivated.

*Transmit* means to successfully and accurately convey an electronic document so that it is received by the intended recipient in a format that can be processed by the electronic document receiving system.

*Valid electronic signature* means an electronic signature on an electronic document that has been created with an electronic signature device that the identified signatory is uniquely entitled to use for signing that document, where this device has not been compromised, and where the signatory is an individual who is authorized to sign the document by virtue of his or her legal status and/or his or her relationship to the entity on whose behalf the signature is executed.

### **§ 3.4 How does this part affect enforcement and compliance provisions of Title 40?**

(a) A person is subject to any applicable federal civil, criminal, or other penalties and remedies for failure to comply with a federal reporting requirement if the person submits an electronic document to EPA under this part that fails to comply with the provisions of § 3.10.

(b) A person is subject to any applicable federal civil, criminal, or

other penalties or remedies for failure to comply with a State, tribe, or local reporting requirement if the person submits an electronic document to a State, tribe, or local government under an authorized program and fails to comply with the applicable provisions for electronic reporting.

(c) Where an electronic document submitted to satisfy a federal or authorized program reporting requirement bears an electronic signature, the electronic signature legally binds, obligates, and makes the signatory responsible, to the same extent as the signatory's handwritten signature would on a paper document submitted to satisfy the same federal or authorized program reporting requirement.

(d) Proof that a particular signature device was used to create an electronic signature will suffice to establish that the individual uniquely entitled to use the device did so with the intent to sign the electronic document and give it effect.

(e) Nothing in this part limits the use of electronic documents or information derived from electronic documents as evidence in enforcement or other proceedings.

## **Subpart B—Electronic Reporting to EPA**

### **§ 3.10 What are the requirements for electronic reporting to EPA?**

(a) A person may use an electronic document to satisfy a federal reporting requirement or otherwise substitute for a paper document or submission permitted or required under other provisions of Title 40 only if:

(1) The person transmits the electronic document to EPA's Central Data Exchange, or to another EPA electronic document receiving system that the Administrator may designate for the receipt of specified submissions, complying with the system's requirements for submission; and

(2) The electronic document bears all valid electronic signatures that are required under paragraph (b) of this section.

(b) An electronic document must bear the valid electronic signature of a signatory if that signatory would be required under Title 40 to sign the paper document for which the electronic document substitutes, unless EPA announces special provisions to accept a handwritten signature on a separate paper submission and the signatory provides that handwritten signature.

### **§ 3.20 How will EPA provide notice of changes to the Central Data Exchange?**

(a) Except as provided under paragraph (b) of this section, whenever

EPA plans to change Central Data Exchange hardware or software in ways that would affect the transmission process, EPA will provide notice as follows:

(1) *Significant changes to CDX*: Where the equipment, software, or services needed to transmit electronic documents to the Central Data Exchange would be changed significantly, EPA will provide public notice and seek comment on the change and the proposed implementation schedule through the **Federal Register**;

(2) *Other changes to CDX*: EPA will provide notice of other changes to Central Data Exchange users at least sixty (60) days in advance of implementation.

(3) *De minimis or transparent changes to CDX*: For *de minimis* or transparent changes that have minimal or no impact on the transmission process, EPA may provide notice if appropriate on a case-by-case basis.

(b) *Emergency changes to CDX*: Any change which EPA's Chief Information Officer or his or her designee determines is needed to ensure the security and integrity of the Central Data Exchange is exempt from the provisions of paragraph (a) of this section.

However, to the extent consistent with ensuring the security and integrity of the system, EPA will provide notice for any change other than *de minimis* or transparent changes to the Central Data Exchange.

#### Subpart C—[Reserved]

#### Subpart D—Electronic Reporting Under EPA-Authorized State, Tribe, and Local Programs

##### § 3.1000 How does a state, tribe, or local government revise or modify its authorized program to allow electronic reporting?

(a) A state, tribe, or local government that receives or plans to begin receiving electronic documents in lieu of paper documents to satisfy requirements under an authorized program must revise or modify such authorized program to ensure that it meets the requirements of this part.

(1) *General procedures for program modification or revision*: To revise or modify an authorized program to meet the requirements of this part, a state, tribe, or local government must submit an application that complies with paragraph (b)(1) of this section and must follow either the applicable procedures for program revision or modification in other parts of Title 40, or, at the applicant's option, the procedures provided in paragraphs (b) through (e) of this section.

(2) *Programs planning to receive electronic documents under an authorized program*: A state, tribe, or local government that does not have an existing electronic document receiving system for an authorized program must receive EPA approval of revisions or modifications to such program in compliance with paragraph (a)(1) of this section before the program may receive electronic documents in lieu of paper documents to satisfy program requirements.

(3) *Programs already receiving electronic documents under an authorized program*: A state, tribe, or local government with an existing electronic document receiving system for an authorized program must submit an application to revise or modify such authorized program in compliance with paragraph (a)(1) of this section no later than October 13, 2007. On a case-by-case basis, this deadline may be extended by the Administrator, upon request of the state, tribe, or local government, where the Administrator determines that the state, tribe, or local government needs additional time to make legislative or regulatory changes to meet the requirements of this part.

(4) *Programs with approved electronic document receiving systems*: An authorized program that has EPA's approval to accept electronic documents in lieu of paper documents must keep EPA apprised of those changes to laws, policies, or the electronic document receiving systems that have the potential to affect program compliance with § 3.2000. Where the Administrator determines that such changes require EPA review and approval, EPA may request that the state, tribe, or local government submit an application for program revision or modification; additionally, a state, tribe, or local government on its own initiative may submit an application for program revision or modification respecting their receipt of electronic documents. Such applications must comply with paragraph (a)(1) of this section.

(5) *Restrictions on the use of procedures in this section*: The procedures provided in paragraphs (b) through (e) of this section may only be used for revising or modifying an authorized program to provide for electronic reporting and for subsequent revisions or modifications to the electronic reporting elements of an authorized program as provided under paragraph (a)(4) of this section.

(b)(1) To obtain EPA approval of program revisions or modifications using procedures provided under this section, a state, tribe, or local government must submit an application

to the Administrator that includes the following elements:

(i) A certification that the state, tribe, or local government has sufficient legal authority provided by lawfully enacted or promulgated statutes or regulations that are in full force and effect on the date of the certification to implement the electronic reporting component of its authorized programs covered by the application in conformance with § 3.2000 and to enforce the affected programs using electronic documents collected under these programs, together with copies of the relevant statutes and regulations, signed by the State Attorney General or his or her designee, or, in the case of an authorized tribe or local government program, by the chief executive or administrative official or officer of the governmental entity, or his or her designee;

(ii) A listing of all the state, tribe, or local government electronic document receiving systems to accept the electronic documents being addressed by the program revisions or modifications that are covered by the application, together with a description for each such system that specifies how the system meets the applicable requirements in § 3.2000 with respect to those electronic documents;

(iii) A schedule of upgrades for the electronic document receiving systems listed under paragraph (b)(1)(ii) of this section that have the potential to affect the program's continued conformance with § 3.2000; and

(iv) Other information that the Administrator may request to fully evaluate the application.

(2) A state, tribe, or local government that revises or modifies more than one authorized program for receipt of electronic documents in lieu of paper documents may submit a consolidated application under this section covering more than one authorized program, provided the consolidated application complies with paragraph (b)(1) of this section for each authorized program.

(3)(i) Within 75 calendar days of receiving an application for program revision or modification submitted under paragraph (b)(1) of this section, the Administrator will respond with a letter that either notifies the state, tribe, or local government that the application is complete or identifies deficiencies in the application that render the application incomplete. The state, tribe, or local government receiving a notice of deficiencies may amend the application and resubmit it. Within 30 calendar days of receiving the amended application, the Administrator will respond with a letter that either notifies the applicant that the amended

application is complete or identifies remaining deficiencies that render the application incomplete.

(ii) If a state, tribe, or local government receiving notice of deficiencies under paragraph (b)(3)(i) of this section does not remedy the deficiencies and resubmit the subject application within a reasonable period of time, the Administrator may act on the incomplete application under paragraph (c) of this section.

(c)(1) The Administrator will act on an application by approving or denying the state's, tribe's or local government's request for program revision or modification.

(2) Where a consolidated application submitted under paragraph (b)(2) of this section addresses revisions or modifications to more than one authorized program, the Administrator may approve or deny the request for revision or modification of each authorized program in the application separately; the Administrator need not take the same action with respect to the requested revisions or modifications for each such program.

(3) When an application under paragraph (b) of this section requests revision or modification of an authorized public water system program under part 142 of this title, the Administrator will, in accordance with the procedures in paragraph (f) of this section, provide an opportunity for a public hearing before a final determination pursuant to paragraph (c)(1) of this section with respect to that component of the application.

(4) Except as provided under paragraph (c)(4)(i) and (ii) of this section, if the Administrator does not take any action under paragraph (c)(1) of this section on a specific request for revision or modification of a specific authorized program addressed by an application submitted under paragraph (b) of this section within 180 calendar days of notifying the state, tribe, or local government under paragraph (b)(3) of this section that the application is complete, the specific request for program revision or modification for the specific authorized program is considered automatically approved by EPA at the end of the 180 calendar days unless the review period is extended at the request of the state, tribe, or local government submitting the application.

(i) Where an opportunity for public hearing is required under paragraph (c)(3) of this section, the Administrator's action on the requested revision or modification will be in accordance with paragraph (f) of this section.

(ii) Where a requested revision or modification addressed by an

application submitted under paragraph (b) of this section is to an authorized program with an existing electronic document receiving system, and where notification under paragraph (b)(3) of this section that the application is complete is executed after October 13, 2007, if the Administrator does not take any action under paragraph (c)(1) of this section on the specific request for revision or modification within 360 calendar days of such notification, the specific request is considered automatically approved by EPA at the end of the 360 calendar days unless the review period is extended at the request of the state, tribe, or local government submitting the application.

(d) Except where an opportunity for public hearing is required under paragraph (c)(3) of this section, EPA's approval of a program revision or modification under this section will be effective upon publication of a notice of EPA's approval of the program revision or modification in the **Federal Register**. EPA will publish such a notice promptly after approving a program revision or modification under paragraph (c)(1) of this section or after an EPA approval occurs automatically under paragraph (c)(4) of this section.

(e) If a state, tribe, or local government submits material to amend its application under paragraph (b)(1) of this section after the date that the Administrator sends notification under paragraph (b)(3)(i) of this section that the application is complete, this new submission will constitute withdrawal of the pending application and submission of a new, amended application for program revision or modification under paragraph (b)(1) of this section, and the 180-day time period in paragraph (c)(4) of this section or the 360-day time period in paragraph (c)(4)(ii) of this section will begin again only when the Administrator makes a new determination and notifies the state, tribe, or local government under paragraph (b)(3)(i) of this section that the amended application is complete.

(f) For an application under this section that requests revision or modification of an authorized public water system program under part 142 of this chapter:

(1) The Administrator will publish notice of the Administrator's preliminary determination under paragraph (c)(1) of this section in the **Federal Register**, stating the reasons for the determination and informing interested persons that they may request a public hearing on the Administrator's determination. Frivolous or insubstantial requests for a hearing may be denied by the Administrator;

(2) Requests for a hearing submitted under this section must be submitted to the Administrator within 30 days after publication of the notice of opportunity for hearing in the **Federal Register**. The Administrator will give notice in the **Federal Register** of any hearing to be held pursuant to a request submitted by an interested person or on the Administrator's own motion. Notice of hearing will be given not less than 15 days prior to the time scheduled for the hearing;

(3) The hearing will be conducted by a designated hearing officer in an informal, orderly, and expeditious manner. The hearing officer will have authority to take such action as may be necessary to assure the fair and efficient conduct of the hearing; and

(4) After reviewing the record of the hearing, the Administrator will issue an order either affirming the determination the Administrator made under paragraph (c)(1) of this section or rescinding such determination and will promptly publish a notice of the order in the **Federal Register**. If the order is to approve the program revision or modification, EPA's approval will be effective upon publication of the notice in the **Federal Register**. If no timely request for a hearing is received and the Administrator does not determine to hold a hearing on the Administrator's own motion, the Administrator's determination made under paragraph (c)(1) of this section will be effective 30 days after notice is published pursuant to paragraph (f)(1) of this section.

### **§ 3.2000 What are the requirements authorized state, tribe, and local programs' reporting systems must meet?**

(a) Authorized programs that receive electronic documents in lieu of paper to satisfy requirements under such programs must:

(1) Use an acceptable electronic document receiving system as specified under paragraphs (b) and (c) of this section; and

(2) Require that any electronic document must bear the valid electronic signature of a signatory if that signatory would be required under the authorized program to sign the paper document for which the electronic document substitutes, unless the program has been approved by EPA to accept a handwritten signature on a separate paper submission. The paper submission must contain references to the electronic document sufficient for legal certainty that the signature was executed with the intention to certify to, attest to, or agree to the content of that electronic document.

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(b) An electronic document receiving system that receives electronic documents submitted in lieu of paper documents to satisfy requirements under an authorized program must be able to generate data with respect to any such electronic document, as needed and in a timely manner, including a copy of record for the electronic document, sufficient to prove, in private litigation, civil enforcement proceedings, and criminal proceedings, that:

(1) The electronic document was not altered without detection during transmission or at any time after receipt;

(2) Any alterations to the electronic document during transmission or after receipt are fully documented;

(3) The electronic document was submitted knowingly and not by accident;

(4) Any individual identified in the electronic document submission as a submitter or signatory had the opportunity to review the copy of record in a human-readable format that clearly and accurately associates all the information provided in the electronic document with descriptions or labeling of the information and had the opportunity to repudiate the electronic document based on this review; and

(5) In the case of an electronic document that must bear electronic signatures of individuals as provided under paragraph (a)(2) of this section, that:

(i) Each electronic signature was a valid electronic signature at the time of signing;

(ii) The electronic document cannot be altered without detection at any time after being signed;

(iii) Each signatory had the opportunity to review in a human-readable format the content of the electronic document that he or she was

certifying to, attesting to or agreeing to by signing;

(iv) Each signatory had the opportunity, at the time of signing, to review the content or meaning of the required certification statement, including any applicable provisions that false certification carries criminal penalties;

(v) Each signatory has signed either an electronic signature agreement or a subscriber agreement with respect to the electronic signature device used to create his or her electronic signature on the electronic document;

(vi) The electronic document receiving system has automatically responded to the receipt of the electronic document with an acknowledgment that identifies the electronic document received, including the signatory and the date and time of receipt, and is sent to at least one address that does not share the same access controls as the account used to make the electronic submission; and

(vii) For each electronic signature device used to create an electronic signature on the document, the identity of the individual uniquely entitled to use the device and his or her relation to any entity for which he or she will sign electronic documents has been determined with legal certainty by the issuing state, tribe, or local government. In the case of priority reports identified in the table in Appendix 1 of Part 3, this determination has been made before the electronic document is received, by means of:

(A) Identifiers or attributes that are verified (and that may be re-verified at any time) by attestation of disinterested individuals to be uniquely true of (or attributable to) the individual in whose name the application is submitted, based on information or objects of independent origin, at least one item of

which is not subject to change without governmental action or authorization; or

(B) A method of determining identity no less stringent than would be permitted under paragraph (b)(5)(vii)(A) of this section; or

(C) Collection of either a subscriber agreement or a certification from a local registration authority that such an agreement has been received and securely stored.

(c) An authorized program that receives electronic documents in lieu of paper documents must ensure that:

(1) A person is subject to any appropriate civil, criminal penalties or other remedies under state, tribe, or local law for failure to comply with a reporting requirement if the person fails to comply with the applicable provisions for electronic reporting.

(2) Where an electronic document submitted to satisfy a state, tribe, or local reporting requirement bears an electronic signature, the electronic signature legally binds or obligates the signatory, or makes the signatory responsible, to the same extent as the signatory's handwritten signature on a paper document submitted to satisfy the same reporting requirement.

(3) Proof that a particular electronic signature device was used to create an electronic signature that is included in or logically associated with an electronic document submitted to satisfy a state, tribe, or local reporting requirement will suffice to establish that the individual uniquely entitled to use the device at the time of signature did so with the intent to sign the electronic document and give it effect.

(4) Nothing in the authorized program limits the use of electronic documents or information derived from electronic documents as evidence in enforcement proceedings.

**Appendix 1 to Part 3—Priority Reports**

Category	Description	40 CFR Citation
<b>Required Reports</b>		
State Implementation Plan .....	Emissions data reports for mobile sources .....	51.60(c).
Excess Emissions and Monitoring Performance Report Compliance Notification Report.	Excess emissions and monitoring performance report detailing the magnitude of excess emissions, and provides the date, time, and system status at the time of the excess emission.	60.7(c), 60.7(d).
New Source Performance Standards Reporting Requirements.	Semi-annual reports (quarterly, if report is approved for electronic submission by the permitting authority) on sulfur dioxide, nitrous oxides and particulate matter emission (includes reporting requirements in Subparts A through DDDD).	60.49a(e) & (j) & (v), 60.49b(v).
Semi-annual Operations and Corrective Action Reports.	Semi-annual report provides information on a company's exceedance of its sulfur dioxide emission rate, sulfur content of the fresh feed, and the average percent reduction and average concentration of sulfur dioxide. When emissions data is unavailable, a signed statement is required which documents the changes, if any, made to the emissions control system that would impact the company's compliance with emission limits.	60.107(c), 60.107(d).

Category	Description	40 CFR Citation
National Emission Standards for Hazardous Air Pollutants Reporting Requirements.	Include such reports as: Annual compliance, calculation, initial start-up, compliance status, certifications of compliance, waivers from compliance certifications, quarterly inspection certifications, operations, and operations and process change.	61.11, 61.24(a)(3) & (a)(8), 61.70(c)(1) & (c)(2)(v) & (c)(3) & (c)(4)(iv), 61.94(a) & (b)(9), 61.104(a) & (a)(1)(x) & (a)(1)(xi) & (a)(1)(xvi), 61.138(e) & (f), 61.165(d)(2) & (d)(3) & (d)(4) & (f)(1) & (f)(2) & (f)(3), 61.177(a)(2) & (c)(1) & (c)(2) & (c)(3) & (e)(1) & (e)(3), 61.186(b)(1) & (b)(2) & (b)(3) & (c)(1) & (f)(1), 61.247(a)(1) & (a)(4) & (a)(5)(v) & (b)(5) & (d), 61.254(a)(4), 61.275(a) & (b) & (c), 61.305(f) & (i), 61.357(a) & (b) & (c) & (d), 63.9(h).
Hazardous Air Pollutants Compliance Report.	Reports containing results from performance test, opacity tests, and visible emissions tests. Progress reports; periodic and immediate startup, shutdown, and malfunction reports; results from continuous monitoring system performance evaluations; excess emissions and continuous monitoring system performance report; or summary report.	63.10(d), 63.10(e)(1), 63.10(e)(3).
Notifications and Reports .....	Reports that document a facility's initial compliance status, notification of initial start-up, and periodic reports which includes the start-up, shutdown, and malfunction reports discussed in 40 CFR 65.6(c).	65.5(d), 65.5(e).
Continuous Emissions Monitoring ...	Quarterly emissions monitoring reports and opacity reports which document a facility's excess emission.	75.64, 75.65.
Notice of Fuel or Fuel Additive Registration and Health Effects Testing.	Registration of new fuels and additives, and the submission and certification of health effect data.	79.10, 79.11, 79.20, 79.21, 79.51.
Manufacture In-Use and Product Line Emissions Testing.	Reports that document the emissions testing results generated from the in-use testing program for new and in-use highway vehicle ignition engines; non-road spark-ignition engines; marine spark-ignition engines; and locomotives and locomotive engines.	86.1845, 86.1846, 86.1847, 90.113, 90.1205, 90.704, 91.805, 91.504, 92.607, 92.508, 92.509.
Industrial and Publicly Owned Treatment Works Reports.	Discharge monitoring reports for all individual permittees—including baseline reports, pretreatment standards report, periodic compliance reports, and reports made by significant industrial users.	122.41(l)(4)(i), 403.12(b) & (d) & (e) & (h).

**Event Driven Notices**

State Implementation Plan .....	Owners report emissions data from stationary sources .....	51.211.
Report For Initial Performance Test	Report that provides the initial performance test results, site-specific operating limits, and, if installed, information on the bag leak detection device used by the facility.	60.2200 (initial performance tests).
Emissions Control Report .....	Report submitted by new sources within 90 days of set-up which describes emission control equipment used, processes which generate asbestos-containing waste material, and disposal information.	61.153(a)(1), 61.153(a)(4)(i), 61.153(a)(5)(ii).
State Operating Permits—Permit Content.	Monitoring and deviation reports under the State Operating Permit ....	70.6(a)(3)(iii)(A), 70.6(a)(3)(iii)(B).
Title V Permits—Permit Content .....	Monitoring and deviation reports under the Federal Operating Permit	71.6(a)(3)(iii).
Annual Export Report .....	Annual report summarizing the amount and type of hazardous waste exported.	262.56(a).
Exceptions Reports .....	Reports submitted by a generator when the generator has not received confirmation from the Treatment, Storage, and Disposal Facility (TSDF) that it received the generator's waste and when hazardous waste shipment was received by the TSDF. For exports, reports submitted when the generator has not received a copy of the manifest from the transporter with departure date and place of export indicated; and confirmation from the consignee that the hazardous waste was received or when the hazardous waste is returned to the U.S.	262.42, 262.55.
Contingency Plan Implementation Reports.	Follow-up reports made to the Agency for all incidents noted in the operating record which required the implementation of a facility's contingency plan.	264.56(j), 265.56(j).
Significant Manifest Discrepancy Report.	Report filed by Treatment, Storage, and Disposal Facilities (TSDF) within 15 days of receiving wastes, when the TSDF is unable to resolve manifest discrepancies with the generator.	264.72(b), 265.72(b).
Unmanifested Waste Report .....	Report that documents hazardous waste received by a Treatment, Storage, and Disposal Facility without an accompanying manifest.	264.76, 265.76.
Noncompliance Report .....	An owner/operator submitted report which documents hazardous waste that was placed in hazardous waste management units in noncompliance with 40 CFR sections 264.1082(c)(1) and (c)(2); 264.1084(b); 264.1035(c)(4); or 264.1033(d).	264.1090.

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Category	Description	40 CFR Citation
Notification—Low Level Mixed Waste.	One-time notification concerning transportation and disposal of conditionally exempted waste.	266.345.
Notification—Land Disposal Restrictions.	One-time notification and certification that characteristic waste is no longer hazardous.	268.9(d).
Underground Storage Tank Notification.	Underground Storage Tank system notifications concerning design, construction, and installation. As well as when systems are being placed in operation. (EPA Form 7530–1 or state version.)	280.22.
Free Product Removal Report and Subsequent Investigation Report.	Report written and submitted within 45 days after confirming a free product release, including information on the release and recovery methods used for the free product, and when test indicate presence of free product, response measures.	280.64, 280.65.
Manufacture or Import Premanufacture Notification.	Premanufacture notification of intent to begin manufacturing, importing, or processing chemicals identified in Subpart E for significant new use (forms 7710–56 and 7710–25).	720.102, 721.25.

**Permit Applications<sup>1</sup>**

State Implementation Plan .....	Information describing the source, its construction schedule, and the planned continuous emissions reductions system.	52.21(n).
State Operating Permits .....	Reports, notices, or other written submissions required by a State Operating Permit.	70.6(c)(1).
Title V Permits—Permit Content .....	Reports, notices, or other written submissions required by a Title V Operating Permit.	71.6(c)(1), 71.25(c)(1).
Title V Permits .....	Specific criteria for permit modifications and or revisions, including a certification statement by a responsible official.	71.7(e)(2)(ii)(c).
Reclaimer Certification .....	Certification made by a reclaimer that the refrigerant was reprocessed according to specifications and that no more than 1.5% of the refrigerant was released during the reclamation.	82.164.
Application for Certification and Statement of Compliance.	Control of Emissions for New and In-Use Highway Vehicles and Engines statement of compliance made by manufacturer, attesting that the engine family complies with standards for new and in-use highway vehicles and engines.	86.007–21 (heavy duty), 1844–01 (light duty).
Application for Certification .....	Application made by engine manufacturer to obtain certificate of conformity.	89.115, 90.107, 91.107, 92.203, 94.203.
National Pollutant Discharge Elimination System.	National Pollutant Discharge Elimination System (NPDES) Permits and Renewals (includes individual permit applications, NPDES General Form 1, and NPDES Forms 2A–F, and 2S).	122.21.
Resource Conservation and Recovery Act Permit Applications and Modifications.	Signatures for permit applications and reports; submission of permit modifications. (This category excludes Class I permit modifications (40 CFR 270.42, Appendix I) that do not require prior approval).	270.11, 270.42.

**Certifications of Compliance/Non-Applicability**

State Implementation Plan Requirements.	State implementation plan certifications for testing, inspection, enforcement, and continuous emissions monitoring.	51.212(c), 51.214(e).
Certification Statement .....	Chemical Accident Prevention Provisions—Risk Management Plan certification statements.	68.185.
Title V Permits .....	Federal compliance certifications and permit applications .....	70.5(c)(9), 70.5(d), 70.6(c)(5).
State Operating Permits .....	State compliance certifications and permit applications .....	71.5(c)(9), 71.5(d), 71.24(f).
Annual and Other Compliance Certification Reports.	Annual compliance certification report and is submitted by units subject to acid rain emissions limitations.	72.90.
Annual Compliance Certification Report, Opt-In Report, and Confirmation Report.	Annual compliance certification report which is submitted in lieu of annual compliance certification report listed in Subpart I of Part 72.	74.43.
Quarterly Reports and Compliance Certifications.	Continuous Emission Monitoring certifications, monitoring plans, and quarterly reports for NO <sub>x</sub> emissions.	75.73.
Certification Letters Recovery and Recycling Equipment, Motor Vehicle Air Conditioners Recycling Program, Detergent Package.	Protection of Stratospheric Ozone: Recycling & Emissions Reduction. Acquisition of equipment for recovery or recycling made by auto repair service technician and Fuels and Fuel Additives Detergent additive certification.	79.4, 80.161, 82.162, 82.42.
Response Plan Cover Sheet .....	Oil Pollution Prevention certification to the truth and accuracy of information.	112 (Appendix f).
Closure Report .....	Report which documents that closure was in accordance with closure plan and/or details difference between actual closure and the procedures outlined in the closure plan.	146.71.
Certification of Closure and Post Closure Care, Post-Closure Notices.	Certification that Treatment, Storage, and Disposal Facilities (TSDF) are closed in accordance with approved closure plan or post-closure plan.	264.115, 264.119, 264.119(b)(2), 264.120, 265.115, 265.119(b)(2), 265.120, 265.19.
Certification of Testing Lab Analysis	Certification that the testing and/or lab analyses required for the treatment demonstration phase of a two-phase permit was conducted.	270.63.

Category	Description	40 CFR Citation
Periodic Certification .....	Certification that facility is operating its system to provide equivalent treatment as in initial certification.	437.41(b).

<sup>1</sup> Included within each permit application category, though sometimes not listed, are the permits submitted to run/operate/maintain facilities and/or equipment/products under EPA or authorized programs.

**PART 9—OMB APPROVALS UNDER THE PAPERWORK REDUCTION ACT**

■ 1. The authority citation for part 9 continues to read as follows:

**Authority:** 7 U.S.C. 135 *et seq.*, 136–136y; 15 U.S.C. 2001, 2003, 2005, 2006, 2601–2671; 21 U.S.C. 331j, 346a, 31 U.S.C. 9701; 33 U.S.C. 1251 *et seq.*, 1311, 1313d, 1314, 1318, 1321, 1326, 1330, 1342, 1344, 1345 (d) and (e), 1361; E.O. 11735, 38 FR 21243, 3 CFR, 1971–1975 Comp. p. 973; 42 U.S.C. 241, 242b, 243, 246, 300f, 300g, 300g-1, 300g-2, 300g-3, 300g-4, 300g-5, 300g-6, 300j-1, 300j-2, 300j-3, 300j-4, 300j-9, 1857 *et seq.*, 6901–6992k, 7401–7671q, 7542, 9601–9657, 11023, 11048.

■ 2. Section 9.1 is amended by adding a new entry in numerical order for part 3 to read as follows:

**§ 9.1 OMB approvals under the Paperwork Reduction Act.**

\* \* \* \* \*

40 CFR citation	OMB Control No.
* * * * *	* * * * *

**Cross-Media Electronic Reporting**

Part 3 .....	2025–0003
* * * * *	

**PART 51—REQUIREMENTS FOR PREPARATION, ADOPTION, AND SUBMITTAL OF IMPLEMENTATION PLANS**

■ 1. The authority citation for part 51 continues to read as follows:

**Authority:** 23 U.S.C. 101; 42 U.S.C. 7401–7671q.

■ 2. Section 51.286 is added to Subpart O to read as follows:

**§ 51.286 Electronic reporting.**

States that wish to receive electronic documents must revise the State Implementation Plan to satisfy the requirements of 40 CFR Part 3—(Electronic reporting).

**PART 60—STANDARDS OF PERFORMANCE FOR NEW STATIONARY SOURCES**

■ 1. The authority citation for part 60 continues to read as follows:

**Authority:** 42 U.S.C. 7401–7601.

■ 2. Section 60.25(b)(1) is amended by adding a sentence to the end of the paragraph to read as follows:

**§ 60.25 Emission inventories, source surveillance, reports.**

\* \* \* \* \*

(b)(1) \* \* \* Submission of electronic documents shall comply with the requirements of 40 CFR part 3—(Electronic reporting).

\* \* \* \* \*

**PART 63—NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS FOR SOURCE CATEGORIES**

■ 1. The authority citation for part 63 continues to read as follows:

**Authority:** 42 U.S.C. 7401 *et seq.*

■ 2. Section 63.91 is amended by adding a new paragraph (d)(5) to read as follows:

**§ 63.91 Criteria for straight delegation and criteria common to all approved options.**

\* \* \* \* \*

(d) \* \* \*  
(5) Electronic documents. Submission of electronic documents shall comply with the requirements of 40 CFR part 3—(Electronic reporting).

\* \* \* \* \*

**PART 69—SPECIAL EXEMPTIONS FROM REQUIREMENTS OF THE CLEAN AIR ACT**

■ 1. The authority citation for part 69 continues to read as follows:

**Authority:** 42 U.S.C. 7545(c), (g) and (i), and 7625–1.

■ 2. Section 69.13 is amended by adding a new paragraph (b)(1)(v) to read as follows:

**§ 69.13 Title V conditional exemption.**

\* \* \* \* \*

(b) \* \* \*  
(1) \* \* \*  
(v) If the program chooses to accept electronic documents it must satisfy the requirements of 40 CFR Part 3—(Electronic reporting).

\* \* \* \* \*

■ 3. Section 69.22 is amended by adding a new paragraph (b)(1)(v) to read as follows:

**§ 69.22 Title V conditional exemption.**

\* \* \* \* \*

(b) \* \* \*

(1) \* \* \*

(v) If the program chooses to accept electronic documents it must satisfy the requirements of 40 CFR Part 3—(Electronic reporting).

\* \* \* \* \*

■ 4. Section 69.32 is amended by adding a new paragraph (b)(1)(v) to read as follows:

**§ 69.32 Title V conditional exemption.**

\* \* \* \* \*

(b) \* \* \*

(1) \* \* \*

(v) If the program chooses to accept electronic documents it must satisfy the requirements of 40 CFR Part 3—(Electronic reporting).

\* \* \* \* \*

**PART 70—STATE OPERATING PERMIT PROGRAMS**

■ 1. The authority citation for part 70 continues to read as follows:

**Authority:** 42 U.S.C. 7401, *et seq.*

■ 2. Section 70.1 is amended by adding a new paragraph (f) to read as follows:

**§ 70.1 Program overview.**

\* \* \* \* \*

(f) States that choose to receive electronic documents must satisfy the requirements of 40 CFR Part 3—(Electronic reporting) in their program.

**PART 71—FEDERAL OPERATING PERMIT PROGRAMS**

■ 1. The authority citation for part 71 continues to read as follows:

**Authority:** 42 U.S.C. 7401, *et seq.*

■ 2. Section 71.10 is amended by adding a new sentence to the end of paragraph (a) to read as follows:

**§ 71.10 Delegation of part 71 program.**

(a) \* \* \* Delegate agencies that choose to receive electronic documents as part of their delegated program must satisfy the requirements of 40 CFR Part 3—(Electronic reporting).

\* \* \* \* \*

**PART 123—STATE PROGRAM REQUIREMENTS**

■ 1. The authority citation for part 123 continues to read as follows:

**Authority:** Clean Water Act, 33 U.S.C. 1251 *et seq.*

■ 2. Section 123.25 is amended by revising paragraphs (a)(44) and (a)(45), adding the phrase "Except for paragraph (a)(46) of this section," at the beginning of the Note to paragraph (a), and adding a new paragraph (a)(46) to read as follows:

§ 123.25 Requirements for permitting.

(a) \* \* \*

(44) § 122.35 (As an operator of a regulated small MS4, may I share the responsibility to implement the minimum control measures with other entities?);

(45) § 122.36 (As an operator of a regulated small MS4, what happens if I don't comply with the application or permit requirements in §§ 122.33 through 122.35?); and

(46) For states that wish to receive electronic documents, 40 CFR Part 3—(Electronic reporting).

\* \* \* \* \*

PART 142—NATIONAL PRIMARY DRINKING WATER REGULATIONS IMPLEMENTATION

■ 1. The authority citation for part 142 continues to read as follows:

Authority: 42 U.S.C. 300f, 300g-1, 300g-2, 300g-3, 300g-4, 300g-5, 300g-6, 300j-4, 300j-9, and 300j-11.

■ 2. Section 142.10 is amended by redesignating paragraph (g) as paragraph (h) and by adding a new paragraph (g) to read as follows:

§ 142.10 Requirements for a determination of primary enforcement responsibility.

\* \* \* \* \*

(g) Has adopted regulations consistent with 40 CFR Part 3—(Electronic reporting) if the state receives electronic documents.

\* \* \* \* \*

PART 145—REQUIREMENTS FOR STATE PROGRAMS

■ 1. The authority citation for part 145 continues to read as follows:

Authority: 42 U.S.C. 300f et seq.

■ 2. Section 145.11 is amended by revising paragraphs (a)(30), (a)(31), (a)(32), and adding paragraph (a)(33) to read as follows:

§ 145.11 Requirements for permitting.

(a) \* \* \*

(30) Section 124.12(a)—(Public hearings);

(31) Section 124.17 (a) and (c)—(Response to comments);

(32) Section 144.88—(What are the additional requirements?); and

(33) For states that wish to receive electronic documents, 40 CFR Part 3—(Electronic reporting).

\* \* \* \* \*

PART 162—STATE REGISTRATION OF PESTICIDE PRODUCTS

■ 1. The authority citation for part 162 continues to read as follows:

Authority: 7 U.S.C. 136v, 136w.

■ 2. Section 162.153 is amended by adding a paragraph (a)(6) to read as follows:

§ 162.153 State registration procedures.

(a) \* \* \*

(6) Electronic Reporting under State Registration of Pesticide Products for Special Local Needs. States that choose to receive electronic documents under the regulations pertaining to state registration of pesticides to meet special local needs, must ensure that the requirements of 40 CFR Part 3—(Electronic reporting) are satisfied by their state procedures for such registrations.

\* \* \* \* \*

PART 233—404 STATE PROGRAM REGULATIONS

■ 1. The authority citation for part 233 continues to read as follows:

Authority: 33 U.S.C. 1251 et seq.

■ 2. A new § 233.39 is added to Subpart D to read as follows:

§ 233.39 Electronic reporting.

States that choose to receive electronic documents must satisfy the requirements of 40 CFR Part 3—(Electronic reporting) in their state program.

PART 257—CRITERIA FOR CLASSIFICATION OF SOLID WASTE DISPOSAL FACILITIES AND PRACTICES

■ 1. The authority citation for part 257 continues to read as follows:

Authority: 42 U.S.C. 6907(a)(3), 6912(a)(1), 6944(a) and 6949(c), 33 U.S.C. 1345(d) and (e).

■ 2. Section 257.30 is amended by adding a new paragraph (d) to read as follows:

§ 257.30 Recordkeeping requirements.

\* \* \* \* \*

(d) The Director of an approved state program may receive electronic documents only if the state program includes the requirements of 40 CFR Part 3—(Electronic reporting).

PART 258—CRITERIA FOR MUNICIPAL SOLID WASTE LANDFILLS

■ 1. The authority citation for part 258 continues to read as follows:

Authority: 33 U.S.C. 1345(d) and (e); 42 U.S.C. 6902(a), 6907, 6912(a), 6944, 6945(c) and 6949a(c).

■ 2. Section 258.29 is amended by adding a new paragraph (d) to read as follows:

§ 258.29 Recordkeeping requirements.

\* \* \* \* \*

(d) The Director of an approved state program may receive electronic documents only if the state program includes the requirements of 40 CFR Part 3—(Electronic reporting).

PART 271—REQUIREMENTS FOR AUTHORIZATION OF STATE HAZARDOUS WASTE PROGRAMS

■ 1. The authority citation for part 271 continues to read as follows:

Authority: 42 U.S.C. 6905, 6912 and 6926.

■ 2. Section 271.10 is amended by revising paragraph (b) to read as follows:

§ 271.10 Requirements for generators of hazardous waste.

\* \* \* \* \*

(b) The State shall have authority to require and shall require all generators to comply with reporting and recordkeeping requirements equivalent to those under 40 CFR 262.40 and 262.41. States must require that generators keep these records at least 3 years. States that choose to receive electronic documents must include the requirements of 40 CFR Part 3—(Electronic reporting) in their Program (except that states that choose to receive electronic manifests and/or permit the use of electronic manifests must comply with any applicable requirements for e-manifest in this section of this section).

\* \* \* \* \*

■ 3. Section 271.11 is amended by revising paragraph (b) to read as follows:

§ 271.11 Requirements for transporters of hazardous waste.

\* \* \* \* \*

(b) The State shall have authority to require and shall require all transporters to comply with reporting and recordkeeping requirements equivalent to those under 40 CFR 263.22. States must require that transporters keep these records at least 3 years. States that choose to receive electronic documents must include the requirements of 40 CFR Part 3—(Electronic reporting) in their Program (except that states that choose to receive electronic manifests

and/or permit the use of electronic manifests must comply with any applicable requirements for e-manifest in this section of this section.

\* \* \* \* \*

■ 4. Section 271.12 is amended by revising paragraph (h) to read as follows:

**§ 271.12 Requirements for hazardous waste management facilities.**

\* \* \* \* \*

(h) Inspections, monitoring, recordkeeping, and reporting. States that choose to receive electronic documents must include the requirements of 40 CFR part 3—(Electronic reporting) in their Program (except that states that choose to receive electronic manifests and/or permit the use of electronic manifests must comply with paragraph (i) of this section);

\* \* \* \* \*

**PART 281—APPROVAL OF STATE UNDERGROUND STORAGE TANK PROGRAMS**

■ 1. The authority citation for part 281 continues to read as follows:

**Authority:** 42 U.S.C. 6912, 6991 (c), (d), (e), (g).

■ 2. Section 281.40 is amended by revising paragraph (d) to read as follows:

**§ 281.40 Requirements for compliance monitoring program and authority.**

\* \* \* \* \*

(d) State programs must have procedures for receipt, evaluation, retention and investigation of records and reports required of owners or operators and must provide for enforcement of failure to submit these records and reports. States that choose to receive electronic documents must include the requirements of 40 CFR part 3—(Electronic reporting) in their state program.

\* \* \* \* \*

**PART 403—GENERAL PRETREATMENT REGULATIONS FOR EXISTING AND NEW SOURCES OF POLLUTION**

■ 1. The authority citation for part 403 continues to read as follows:

**Authority:** 33 U.S.C. 1251 *et seq.*

■ 2. Section 403.8 is amended by adding a new paragraph (g) to read as follows:

**§ 403.8 Pretreatment Program Requirements: Development and Implementation by POTW.**

\* \* \* \* \*

(g) A POTW that chooses to receive electronic documents must satisfy the

requirements of 40 CFR part 3—(Electronic reporting).

■ 3. Section 403.12 is amended by adding a new paragraph (r) to read as follows:

**§ 403.12 Reporting requirements for POTW's and industrial users.**

\* \* \* \* \*

(r) The Control Authority that chooses to receive electronic documents must satisfy the requirements of 40 CFR part 3—(Electronic reporting).

**PART 501—STATE SLUDGE MANAGEMENT PROGRAM REGULATIONS**

■ 1. The authority citation for part 501 continues to read as follows:

**Authority:** 33 U.S.C. 1251 *et seq.*

■ 2. Section 501.15 is amended by adding a new paragraph (a)(4) to read as follows:

**§ 501.15 Requirements for permitting.**

(a) \* \* \*

(4) Information requirements: All treatment works treating domestic sewage shall submit to the Director within the time frames established in paragraph (d)(1)(ii) of this section the information listed in paragraphs (a)(4)(i) through (xii) of this section. The Director of an approved state program that chooses to receive electronic documents must satisfy the requirements of 40 CFR part 3—(Electronic reporting).

\* \* \* \* \*

**PART 745—LEAD-BASED PAINT POISONING PREVENTION IN CERTAIN RESIDENTIAL STRUCTURES**

■ 1. The authority citation for part 745 continues to read as follows:

**Authority:** 15 U.S.C. 2605, 2607, 2681–2692 and 42 U.S.C. 4852d.

■ 2. Section 745.327 is amended by adding a new paragraph (f) to read as follows:

**§ 745.327 State or Indian Tribal lead-based paint compliance and enforcement programs.**

\* \* \* \* \*

(f) *Electronic reporting under State or Indian Tribe programs.* States and tribes that choose to receive electronic documents under the authorized state or Indian tribe lead-based paint program, must ensure that the requirements of 40 CFR part 3—(Electronic reporting) are satisfied in their lead-based paint program.

**PART 763—ASBESTOS**

■ 1. The authority citation for part 763 continues to read as follows:

**Authority:** 15 U.S.C. 2605, 2607(c), 2643, and 2646.

■ 2. Section 763.98 is amended by revising paragraphs (a)(1), (b)(3), and (d)(3) to read as follows:

**§ 763.98 Waiver; delegation to state.**

(a) *General.* (1) Upon request from a state Governor and after notice and comment and an opportunity for a public hearing in accordance with paragraphs (b) and (c) of this section, EPA may waive some or all of the requirements of this subpart E if the state has established and is implementing or intends to implement a program of asbestos inspection and management that contains requirements that are at least as stringent as the requirements of this subpart. In addition, if the state chooses to receive electronic documents, the state program must include, at a minimum, the requirements of 40 CFR part 3—(Electronic reporting).

\* \* \* \* \*

(b) \* \* \*

(3) Detailed reasons, supporting papers, and the rationale for concluding that the state's asbestos inspection and management program provisions for which the request is made are at least as stringent as the requirements of Subpart E of this part, and that, if the state chooses to receive electronic documents, the state program includes, at a minimum, the requirements of 40 CFR part 3—(Electronic reporting).

\* \* \* \* \*

(d) \* \* \*

(3) The state has an enforcement mechanism to allow it to implement the program described in the waiver request and any electronic reporting requirements are at least as stringent as 40 CFR part 3—(Electronic reporting).

\* \* \* \* \*

■ 3. Appendix C to subpart E of part 763 is amended by adding paragraph (I) to section I to read as follows:

**Appendix C to Subpart E of Part 763—Asbestos Model Accreditation Plan**

*I. Asbestos Model Accreditation Plan for States*

\* \* \* \* \*

(I) Electronic Reporting.

States that choose to receive electronic documents must include, at a minimum, the requirements of 40 CFR part 3—(Electronic reporting) in their programs.

\* \* \* \* \*

[FR Doc. 05–19601 Filed 10–12–05; 8:45 am]

**BILLING CODE 6560–50–P**

# Exhibit 36



# Certification and Fuel Economy for Light-Duty Passenger Cars and Trucks

## Related Topic

For all onroad, see:

- [Onroad Vehicles and Engines](#)

Follow these steps for certification.

## STEP 1: Confirm that you have access to Verify.

You must register with EPA to gain access to the Verify system *for the specific manufacturer code* for which you are seeking certification.

- [How to register for the Verify system](#)

You must also set up an account with EPA to establish the necessary Verify roles.

- [Account setup for the Verify system](#)
- [Information about "MyCDX" roles in the Verify system](#)

## STEP 2: Update manufacturer information in Verify.

To update information, users must have the "Maintain Manufacturer Information" role in the Verify system. Otherwise, users will only be able to *view* the information.

## Information to Update

Updates include (but are not limited to):

- Industry sector(s);
- Addresses;
- Contacts and Industry/Compliance Programs;
- Test labs; and
- Notification email addresses (used for Verify's broadcast notifications).

## STEP 3: Review all applicable regulations.

Regulations provide requirements for certification and compliance.

### Regulations

Review the following:

- [40 CFR Part 85](#)  
Control of air pollution from mobile sources.
- [40 CFR Part 86](#)  
Control of emissions from new and in-use highway vehicles and engines.
- [40 CFR Part 600](#)  
Fuel economy and greenhouse gas exhaust emissions of motor vehicles.

You will need Adobe Reader to view some of the files on this page. See [EPA's About PDF page](#) to learn more.

### Selected Guidance Letters

Review selected guidance letters:

- [Information about Family Naming Conventions](#)
- [Fuel Economy Label Information for 2017 Model Year \(PDF\)](#) (10 pp, 125 K, July 18, 2016)
- [Preparing Light-Duty Vehicles and Trucks for Chassis Testing at EPA's National Vehicle and Fuel Emissions Laboratory \(NVFEL\) \(PDF\)](#) (9 pp, 172 K, February 15, 2016)

To search all guidance letters, go to:

- [EPA's Transportation and Air Quality Document Index System \(DIS\)](#)

## STEP 4: Pay appropriate certification fees, as applicable.

A fee payment may be required for each certificate issued by EPA.

For more details, go to: [Fees Information](#)

## **STEP 5: Prepare certification and/or fuel economy application materials.**

For each model year for an Engine Family, you must provide the applicable certification dataset and supporting materials.

### **Support Documentation for Submissions**

#### **Materials Specific to Passenger Cars & Trucks**

- [Verify system documentation for certification and fuel economy modules](#)

#### **Materials for All Verify Users**

- [Software release notes for Verify](#)
- [Verify system documentation for request for certificate \(RFC\) module](#)  
Includes data requirements and business rules.
- [Verify system documentation for cross-industry services](#)  
Includes data requirements and business rules.

## **STEP 6: Submit the completed certification and/or fuel economy application materials in Verify.**

Login to the Verify System through the CDX portal: [Central Data Exchange \(CDX\)](#)

Click the applicable industry role on the MyCDX homepage.

- For more about roles, see: [Information about "MyCDX" roles in the Verify system](#)

Submit the completed certification and/or fuel economy dataset(s) and upload any required supporting materials.

## **STEP 7: Confirm that your submission(s) from Step 6 were accepted by Verify.**

Within a few minutes of all submissions, the submitter will receive a notification in their CDX inbox indicating whether the submission was accepted or rejected.

To access your CDX inbox, click the "Inbox" link on the left navigation bar of the MyCDX homepage.

## **STEP 8: Submit a request for certificate (RFC).**

A CROMERR signer must submit an RFC for each Test Group.

To do so, click the "CROMERR Signer" role on your MyCDX homepage.

Additional resources:

- For more about roles, see: [Information about "MyCDX" roles in the Verify system](#)
- For more about submitting an RFC, see: [Materials for RFC Module](#)

## **STEP 9: Receive Certificate of Conformity.**

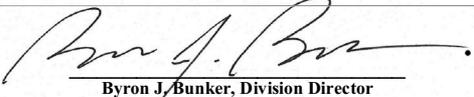
The CROMERR signer will receive the certificate in his or her CDX inbox.

To access your CDX inbox, click the "Inbox" link on the left navigation bar.

LAST UPDATED ON DECEMBER 23, 2016

# Exhibit 37

	<b>UNITED STATES ENVIRONMENTAL PROTECTION AGENCY</b> <b>2013 MODEL YEAR</b> <b>CERTIFICATE OF CONFORMITY</b> <b>WITH THE CLEAN AIR ACT OF 1990</b>	<b>OFFICE OF TRANSPORTATION AND AIR QUALITY</b> <b>ANN ARBOR, MICHIGAN 48105</b>
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<b>Certificate Issued To:</b> Cummins Inc. (U.S. Manufacturer or Importer)  <b>Certificate Number:</b> DCEXD06.78VV-002	<b>Effective Date:</b> 11/30/2012  <b>Expiration Date:</b> 12/31/2013	 _____ <b>Byron J. Bunker, Division Director</b> Compliance Division	<b>Issue Date:</b> 11/30/2012  <b>Revision Date:</b> N/A
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<b>Test Group Name:</b> DCEXD06.78VV <b>Evaporative/Refueling Family Name:</b> <b>Applicable Exhaust Emission Standards:</b> HDV1 (Federal HD chassis Class 2b GVW 8501-10000) <b>Applicable Evaporative/Refueling Standards:</b>	<b>Engine Displacement:</b> 6.7 Liters <b>Exhaust Emission Test Fuel Type:</b> Cert Diesel 7-15 ppm Sulfur <b>Full Useful Life Miles: Exhaust Emissions:</b> 120,000 miles <b>Full Useful Life Miles: Evaporative/Refueling Emissions:</b> N/A
<b>Models Covered:</b> Ram: 2500 Pickup 2WD, 2500 Pickup 4WD, 3500 Pickup 2WD, 3500 Pickup 4WD	

Pursuant to section 206 of the Clean Air Act (42 U.S.C.7525) and 40 CFR Parts 85, 86, 88, 1037, and 600 as applicable, this certificate of conformity is hereby issued with respect to test vehicles which have been found to conform to the requirements of the regulations on Control of Air Pollution from New Motor Vehicles and New Motor Vehicle Engines (40 CFR Parts 85, 86, 88, 1037, and 600 as applicable) and which represent the new motor vehicle models listed above by test group and evaporative/refueling emission family, more fully described in the application of the above named manufacturer. Vehicles covered by this certificate have demonstrated compliance with the applicable emission standards as more fully described in the manufacturer's application. This certificate covers the above models, which are designed to meet the applicable emission standards specified in 40 CFR Parts 85, 86, 88, 1037, and 600 as applicable at both high and low altitude as applicable.

EPA is issuing this certificate subject to the conditions and provisions of 40 CFR 86.1848(c), and 40 CFR 1037 as applicable.

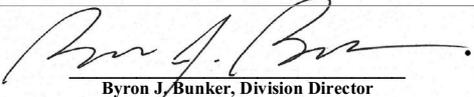
This certificate covers only those new motor vehicles or vehicle engines which conform, in all material respects, to the design specifications that apply to those vehicles or engines described in the documentation required by 40 CFR Parts 85, 86, 88, 1037, and 600 as applicable and which are produced during the 2013 model year production period stated on this certificate of the said manufacturer, as defined in 40 CFR Parts 85, 86, 88, 1037, and 600 as applicable. The manufacturer shall obtain the approval of the California Air Resources Board (in the form of an executive order issued by the California Air Resources Board) prior to introducing any vehicle covered by this certificate into commerce 1) in the State of California, or 2) in a State that, under the authority of Section 177 of the Clean Air Act, has adopted and placed into effect the California standards to which this test group has been certified.

Catalyst-equipped vehicles designed to be operated on gasoline or flexible fuel are equipped with an emission control device which the Administrator has determined will be significantly impaired by the use of leaded fuel. This certificate is issued subject to the conditions specified in 40 CFR 80.24. Catalyst-equipped vehicles designed to be operated on gasoline or flexible fuel, otherwise covered by this certificate, which are driven outside the United States, Canada, Mexico, Japan, Australia, Taiwan and the Bahama Islands will be presumed to have been operated on leaded fuel resulting in deactivation of the catalysts. If these vehicles are imported or offered for importation without retrofit of the catalyst, they will be considered not to be within the coverage of this certificate unless included in a catalyst control program operated by manufacturer or a United States Government Agency and approved by the Administrator.

In the case of completely assembled vehicles, this certificate of conformity covers only vehicles which are completely manufactured prior to January 1, 2014. Normally incompletely assembled vehicles (such as cab chassis) may be completed after this date, provided that the basic manufacturing (including installation of the emission control system) was completed prior to January 1, 2014. This certificate does not cover vehicles sold, offered for sale, or introduced, or delivered for introduction, into commerce in the U.S. prior to the effective date of the certificate.

# Exhibit 38

	<b>UNITED STATES ENVIRONMENTAL PROTECTION AGENCY</b> <b>2013 MODEL YEAR</b> <b>CERTIFICATE OF CONFORMITY</b> <b>WITH THE CLEAN AIR ACT OF 1990</b>	<b>OFFICE OF TRANSPORTATION AND AIR QUALITY</b> <b>ANN ARBOR, MICHIGAN 48105</b>
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<b>Certificate Issued To:</b> Cummins Inc. (U.S. Manufacturer or Importer)  <b>Certificate Number:</b> DCEXD06.78WV-001	<b>Effective Date:</b> 11/28/2012  <b>Expiration Date:</b> 12/31/2013	 _____ <b>Byron J. Bunker, Division Director</b> Compliance Division	<b>Issue Date:</b> 11/28/2012  <b>Revision Date:</b> N/A
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<b>Test Group Name:</b> DCEXD06.78WV <b>Evaporative/Refueling Family Name:</b> <b>Applicable Exhaust Emission Standards:</b> HDV2 (Federal HD chassis Class 3 GVW 10001-14000) <b>Applicable Evaporative/Refueling Standards:</b>	<b>Engine Displacement:</b> 6.7 Liters <b>Exhaust Emission Test Fuel Type:</b> Cert Diesel 7-15 ppm Sulfur <b>Full Useful Life Miles: Exhaust Emissions:</b> 120,000 miles <b>Full Useful Life Miles: Evaporative/Refueling Emissions:</b> N/A
<b>Models Covered:</b> Ram: 3500 Pickup 2WD, 3500 Pickup 4WD	

Pursuant to section 206 of the Clean Air Act (42 U.S.C.7525) and 40 CFR Parts 85, 86, 88, 1037, and 600 as applicable, this certificate of conformity is hereby issued with respect to test vehicles which have been found to conform to the requirements of the regulations on Control of Air Pollution from New Motor Vehicles and New Motor Vehicle Engines (40 CFR Parts 85, 86, 88, 1037, and 600 as applicable) and which represent the new motor vehicle models listed above by test group and evaporative/refueling emission family, more fully described in the application of the above named manufacturer. Vehicles covered by this certificate have demonstrated compliance with the applicable emission standards as more fully described in the manufacturer's application. This certificate covers the above models, which are designed to meet the applicable emission standards specified in 40 CFR Parts 85, 86, 88, 1037, and 600 as applicable at both high and low altitude as applicable.

EPA is issuing this certificate subject to the conditions and provisions of 40 CFR 86.1848(c), and 40 CFR 1037 as applicable.

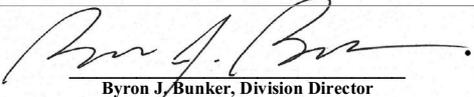
This certificate covers only those new motor vehicles or vehicle engines which conform, in all material respects, to the design specifications that apply to those vehicles or engines described in the documentation required by 40 CFR Parts 85, 86, 88, 1037, and 600 as applicable and which are produced during the 2013 model year production period stated on this certificate of the said manufacturer, as defined in 40 CFR Parts 85, 86, 88, 1037, and 600 as applicable. The manufacturer shall obtain the approval of the California Air Resources Board (in the form of an executive order issued by the California Air Resources Board) prior to introducing any vehicle covered by this certificate into commerce 1) in the State of California, or 2) in a State that, under the authority of Section 177 of the Clean Air Act, has adopted and placed into effect the California standards to which this test group has been certified.

Catalyst-equipped vehicles designed to be operated on gasoline or flexible fuel are equipped with an emission control device which the Administrator has determined will be significantly impaired by the use of leaded fuel. This certificate is issued subject to the conditions specified in 40 CFR 80.24. Catalyst-equipped vehicles designed to be operated on gasoline or flexible fuel, otherwise covered by this certificate, which are driven outside the United States, Canada, Mexico, Japan, Australia, Taiwan and the Bahama Islands will be presumed to have been operated on leaded fuel resulting in deactivation of the catalysts. If these vehicles are imported or offered for importation without retrofit of the catalyst, they will be considered not to be within the coverage of this certificate unless included in a catalyst control program operated by manufacturer or a United States Government Agency and approved by the Administrator.

In the case of completely assembled vehicles, this certificate of conformity covers only vehicles which are completely manufactured prior to January 1, 2014. Normally incompletely assembled vehicles (such as cab chassis) may be completed after this date, provided that the basic manufacturing (including installation of the emission control system) was completed prior to January 1, 2014. This certificate does not cover vehicles sold, offered for sale, or introduced, or delivered for introduction, into commerce in the U.S. prior to the effective date of the certificate.

# Exhibit 39

	<b>UNITED STATES ENVIRONMENTAL PROTECTION AGENCY</b> <b>2014 MODEL YEAR</b> <b>CERTIFICATE OF CONFORMITY</b> <b>WITH THE CLEAN AIR ACT OF 1990</b>	<b>OFFICE OF TRANSPORTATION AND AIR QUALITY</b> <b>ANN ARBOR, MICHIGAN 48105</b>
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<b>Certificate Issued To:</b> Cummins Inc. (U.S. Manufacturer or Importer)  <b>Certificate Number:</b> ECEXD06.78VV-001	<b>Effective Date:</b> 07/30/2013  <b>Expiration Date:</b> 12/31/2014	 Byron J. Bunker, Division Director Compliance Division	<b>Issue Date:</b> 07/30/2013  <b>Revision Date:</b> N/A
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<b>Test Group Name:</b> ECEXD06.78VV <b>Evaporative/Refueling Family Name:</b> <b>Applicable Exhaust Emission Standards:</b> HDV1 (Federal HD chassis Class 2b GVW 8501-10000) <b>Applicable Evaporative/Refueling Standards:</b>	<b>Engine Displacement:</b> 6.7 Liters <b>Exhaust Emission Test Fuel Type:</b> Federal Cert Diesel 7-15 PPM Sulfur <b>Full Useful Life Miles: Exhaust Emissions:</b> 120,000 miles <b>Full Useful Life Miles: Evaporative/Refueling Emissions:</b> N/A
<b>Models Covered:</b> Ram: 2500 4X2, 2500 4X4, 3500 4X2, 3500 4X4	

Pursuant to section 206 of the Clean Air Act (42 U.S.C.7525) and 40 CFR Parts 85, 86, 88, 1037, and 600 as applicable, this certificate of conformity is hereby issued with respect to test vehicles which have been found to conform to the requirements of the regulations on Control of Air Pollution from New Motor Vehicles and New Motor Vehicle Engines (40 CFR Parts 85, 86, 88, 1037, and 600 as applicable) and which represent the new motor vehicle models listed above by test group and evaporative/refueling emission family, more fully described in the application of the above named manufacturer. Vehicles covered by this certificate have demonstrated compliance with the applicable emission standards as more fully described in the manufacturer's application. This certificate covers the above models, which are designed to meet the applicable emission standards specified in 40 CFR Parts 85, 86, 88, 1037, and 600 as applicable at both high and low altitude as applicable.

EPA is issuing this certificate subject to the conditions and provisions of 40 CFR 86.1848(c), and 40 CFR 1037 as applicable.

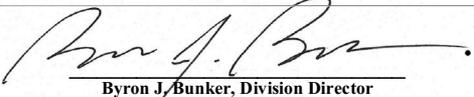
This certificate covers only those new motor vehicles or vehicle engines which conform, in all material respects, to the design specifications that apply to those vehicles or engines described in the documentation required by 40 CFR Parts 85, 86, 88, 1037, and 600 as applicable and which are produced during the 2014 model year production period stated on this certificate of the said manufacturer, as defined in 40 CFR Parts 85, 86, 88, 1037, and 600 as applicable. The manufacturer shall obtain the approval of the California Air Resources Board (in the form of an executive order issued by the California Air Resources Board) prior to introducing any vehicle covered by this certificate into commerce 1) in the State of California, or 2) in a State that, under the authority of Section 177 of the Clean Air Act, has adopted and placed into effect the California standards to which this test group has been certified.

Catalyst-equipped vehicles designed to be operated on gasoline or flexible fuel are equipped with an emission control device which the Administrator has determined will be significantly impaired by the use of leaded fuel. This certificate is issued subject to the conditions specified in 40 CFR 80.24. Catalyst-equipped vehicles designed to be operated on gasoline or flexible fuel, otherwise covered by this certificate, which are driven outside the United States, Canada, Mexico, Japan, Australia, Taiwan and the Bahama Islands will be presumed to have been operated on leaded fuel resulting in deactivation of the catalysts. If these vehicles are imported or offered for importation without retrofit of the catalyst, they will be considered not to be within the coverage of this certificate unless included in a catalyst control program operated by manufacturer or a United States Government Agency and approved by the Administrator.

In the case of completely assembled vehicles, this certificate of conformity covers only vehicles which are completely manufactured prior to January 1, 2015. Normally incompletely assembled vehicles (such as cab chassis) may be completed after this date, provided that the basic manufacturing (including installation of the emission control system) was completed prior to January 1, 2015. This certificate does not cover vehicles sold, offered for sale, or introduced, or delivered for introduction, into commerce in the U.S. prior to the effective date of the certificate.

# Exhibit 40

	<b>UNITED STATES ENVIRONMENTAL PROTECTION AGENCY</b> <b>2014 MODEL YEAR</b> <b>CERTIFICATE OF CONFORMITY</b> <b>WITH THE CLEAN AIR ACT OF 1990</b>	<b>OFFICE OF TRANSPORTATION AND AIR QUALITY</b> <b>ANN ARBOR, MICHIGAN 48105</b>
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<b>Certificate Issued To:</b> Cummins Inc. (U.S. Manufacturer or Importer)  <b>Certificate Number:</b> ECEXD06.78WV-002	<b>Effective Date:</b> 07/30/2013  <b>Expiration Date:</b> 12/31/2014	 Byron J. Bunker, Division Director Compliance Division	<b>Issue Date:</b> 07/30/2013  <b>Revision Date:</b> N/A
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<b>Test Group Name:</b> ECEXD06.78WV <b>Evaporative/Refueling Family Name:</b> <b>Applicable Exhaust Emission Standards:</b> HDV2 (Federal HD chassis Class 3 GVW 10001-14000) <b>Applicable Evaporative/Refueling Standards:</b>	<b>Engine Displacement:</b> 6.7 Liters <b>Exhaust Emission Test Fuel Type:</b> Federal Cert Diesel 7-15 PPM Sulfur <b>Full Useful Life Miles: Exhaust Emissions:</b> 120,000 miles <b>Full Useful Life Miles: Evaporative/Refueling Emissions:</b> N/A
<b>Models Covered:</b> Ram: 3500 4X2, 3500 4X4	

Pursuant to section 206 of the Clean Air Act (42 U.S.C.7525) and 40 CFR Parts 85, 86, 88, 1037, and 600 as applicable, this certificate of conformity is hereby issued with respect to test vehicles which have been found to conform to the requirements of the regulations on Control of Air Pollution from New Motor Vehicles and New Motor Vehicle Engines (40 CFR Parts 85, 86, 88, 1037, and 600 as applicable) and which represent the new motor vehicle models listed above by test group and evaporative/refueling emission family, more fully described in the application of the above named manufacturer. Vehicles covered by this certificate have demonstrated compliance with the applicable emission standards as more fully described in the manufacturer's application. This certificate covers the above models, which are designed to meet the applicable emission standards specified in 40 CFR Parts 85, 86, 88, 1037, and 600 as applicable at both high and low altitude as applicable.

EPA is issuing this certificate subject to the conditions and provisions of 40 CFR 86.1848(c), and 40 CFR 1037 as applicable.

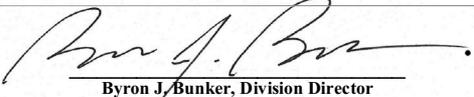
This certificate covers only those new motor vehicles or vehicle engines which conform, in all material respects, to the design specifications that apply to those vehicles or engines described in the documentation required by 40 CFR Parts 85, 86, 88, 1037, and 600 as applicable and which are produced during the 2014 model year production period stated on this certificate of the said manufacturer, as defined in 40 CFR Parts 85, 86, 88, 1037, and 600 as applicable. The manufacturer shall obtain the approval of the California Air Resources Board (in the form of an executive order issued by the California Air Resources Board) prior to introducing any vehicle covered by this certificate into commerce 1) in the State of California, or 2) in a State that, under the authority of Section 177 of the Clean Air Act, has adopted and placed into effect the California standards to which this test group has been certified.

Catalyst-equipped vehicles designed to be operated on gasoline or flexible fuel are equipped with an emission control device which the Administrator has determined will be significantly impaired by the use of leaded fuel. This certificate is issued subject to the conditions specified in 40 CFR 80.24. Catalyst-equipped vehicles designed to be operated on gasoline or flexible fuel, otherwise covered by this certificate, which are driven outside the United States, Canada, Mexico, Japan, Australia, Taiwan and the Bahama Islands will be presumed to have been operated on leaded fuel resulting in deactivation of the catalysts. If these vehicles are imported or offered for importation without retrofit of the catalyst, they will be considered not to be within the coverage of this certificate unless included in a catalyst control program operated by manufacturer or a United States Government Agency and approved by the Administrator.

In the case of completely assembled vehicles, this certificate of conformity covers only vehicles which are completely manufactured prior to January 1, 2015. Normally incompletely assembled vehicles (such as cab chassis) may be completed after this date, provided that the basic manufacturing (including installation of the emission control system) was completed prior to January 1, 2015. This certificate does not cover vehicles sold, offered for sale, or introduced, or delivered for introduction, into commerce in the U.S. prior to the effective date of the certificate.

# Exhibit 41

	<b>UNITED STATES ENVIRONMENTAL PROTECTION AGENCY</b> <b>2015 MODEL YEAR</b> <b>CERTIFICATE OF CONFORMITY</b> <b>WITH THE CLEAN AIR ACT OF 1990</b>	<b>OFFICE OF TRANSPORTATION AND AIR QUALITY</b> <b>ANN ARBOR, MICHIGAN 48105</b>
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<b>Certificate Issued To:</b> Cummins Inc. (U.S. Manufacturer or Importer)  <b>Certificate Number:</b> FCEXD06.78VV-001	<b>Effective Date:</b> 07/07/2014  <b>Expiration Date:</b> 12/31/2015	 Byron J. Bunker, Division Director Compliance Division	<b>Issue Date:</b> 07/07/2014  <b>Revision Date:</b> N/A
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<b>Test Group Name:</b> FCEXD06.78VV <b>Evaporative/Refueling Family Name:</b> <b>Applicable Exhaust Emission Standards:</b> HDV1 (Federal HD chassis Class 2b GVW 8501-10000) <b>Applicable Evaporative/Refueling Standards:</b>	<b>Engine Displacement:</b> 6.7 Liters <b>Exhaust Emission Test Fuel Type:</b> Federal Cert Diesel 7-15 PPM Sulfur <b>Full Useful Life Miles: Exhaust Emissions:</b> 120,000 miles <b>Full Useful Life Miles: Evaporative/Refueling Emissions:</b> N/A
<b>Models Covered:</b> Ram: 2500 4X2, 2500 4X4, 3500 4X2, 3500 4X4	

Pursuant to section 206 of the Clean Air Act (42 U.S.C.7525) and 40 CFR Parts 85, 86, 88, 1037, and 600 as applicable, this certificate of conformity is hereby issued with respect to test vehicles which have been found to conform to the requirements of the regulations on Control of Air Pollution from New Motor Vehicles and New Motor Vehicle Engines (40 CFR Parts 85, 86, 88, 1037, and 600 as applicable) and which represent the new motor vehicle models listed above by test group and evaporative/refueling emission family, more fully described in the application of the above named manufacturer. Vehicles covered by this certificate have demonstrated compliance with the applicable emission standards as more fully described in the manufacturer's application. This certificate covers the above models, which are designed to meet the applicable emission standards specified in 40 CFR Parts 85, 86, 88, 1037, and 600 as applicable at both high and low altitude as applicable.

EPA is issuing this certificate subject to the conditions and provisions of 40 CFR 86.1848(c), and 40 CFR 1037 as applicable.

This certificate covers only those new motor vehicles or vehicle engines which conform, in all material respects, to the design specifications that apply to those vehicles or engines described in the documentation required by 40 CFR Parts 85, 86, 88, 1037, and 600 as applicable and which are produced during the 2015 model year production period stated on this certificate of the said manufacturer, as defined in 40 CFR Parts 85, 86, 88, 1037, and 600 as applicable. The manufacturer shall obtain the approval of the California Air Resources Board (in the form of an executive order issued by the California Air Resources Board) prior to introducing any vehicle covered by this certificate into commerce 1) in the State of California, or 2) in a State that, under the authority of Section 177 of the Clean Air Act, has adopted and placed into effect the California standards to which this test group has been certified.

Catalyst-equipped vehicles designed to be operated on gasoline or flexible fuel are equipped with an emission control device which the Administrator has determined will be significantly impaired by the use of leaded fuel. This certificate is issued subject to the conditions specified in 40 CFR 80.24. Catalyst-equipped vehicles designed to be operated on gasoline or flexible fuel, otherwise covered by this certificate, which are driven outside the United States, Canada, Mexico, Japan, Australia, Taiwan and the Bahama Islands will be presumed to have been operated on leaded fuel resulting in deactivation of the catalysts. If these vehicles are imported or offered for importation without retrofit of the catalyst, they will be considered not to be within the coverage of this certificate unless included in a catalyst control program operated by manufacturer or a United States Government Agency and approved by the Administrator.

In the case of completely assembled vehicles, this certificate of conformity covers only vehicles which are completely manufactured prior to January 1, 2016. Normally incompletely assembled vehicles (such as cab chassis) may be completed after this date, provided that the basic manufacturing (including installation of the emission control system) was completed prior to January 1, 2016. This certificate does not cover vehicles sold, offered for sale, or introduced, or delivered for introduction, into commerce in the U.S. prior to the effective date of the certificate.

# Exhibit 42

**Certification Summary Information Report**

Date: 07/07/2014 04:13:42 PM

<b>Manufacturer</b>	Cummins Inc.	<b>Manufacturer Code</b>	CEX
<b>Test Group</b>	FCEXD06.78VV	<b>Evaporative/Refueling Family</b>	N/A
<b>Certificate Number</b>	N/A	<b>CARB Executive Order #</b>	N/A
<b>Certificate Issue Date</b>	N/A	<b>Certificate Revision Date</b>	N/A
<b>Certificate Effective Date</b>	N/A	<b>Conditional Certificate</b>	--
<b>CSI Revision #</b>	0	<b>CSI Submission/Revision Date</b>	07/03/2014
<b>Model Year</b>	2015		

**Test Group Information**

<b>CSI Type</b>	Update for Correction	<b>Running Change Reference Number</b>	N/A
<b>GHG Exempt Status</b>	Not Exempt		

**Drive Sources and Fuel(s)**

**Drive Source #1:**

Fuel	Basic Fuel Metering System	Lean Burn Strategy Indicator
Diesel	Common Rail Direct Diesel Injection	--

**Hybrid Indicator**

No

**Multiple Fuel Storage**

--

**Multiple Fuel Combustion**

--

**Fuel Cell Indicator**

--

**Federal Clean Fuel Vehicle**

No

**Federal Clean Fuel Vehicle ILEV**

No

**Durability Group Name**

FCXDPDNNC01

**Reduced Fee Test Group**

No

**Complies with HD GHG 2b/3 regulations?**

Yes

**Introduction into Commerce Date**

07/14/2014

**Independent Commercial Importer?**

--

**SFTP Compliance Indicator**

No

**OBD Compliance Type**

CARB

**Mfr Test Group Comments**

Weighted CH4 result = 0.009 g/mi vs. 0.05 g/mi std. Weighted N2O result = 0.136 g/mi vs. 0.18 FEL. Weighted CO2 result is 546 g/mi

**Mfr Exhaust / Evap Standards Comments**

--

<b>Rechargeable Energy Storage System Indicator</b>	--
<b>Off-board Charge Capable Indicator</b>	--
<b>EPA Vehicle Class</b>	HDV1, M6
<b>Federal Clean Fuel Vehicle Standard</b>	--
<b>California Partial Zero Emissions Vehicle Indicator</b>	--
<b>Durability Group Equivalency Factor</b>	1.0
<b>Certification Region Code(s)</b>	FA, CA
<b>CAP2000 Conditional Certificate?</b>	N/A
<b>Alternative Fuel Converter Certificate?</b>	--
<b>SFTP Composite CO Option</b>	No
<b>OBD Demonstration Vehicle Test Group</b>	FCEXD06.78VV

Test Group		FCEXD06.78VV		Evaporative/Refueling Family		N/A	
Models Covered by this Certificate							
Carline Manufacturer	Division	Carline	Certification Region Code(s)	Drive System	Trans - Type	- # of Gears	Trans - Lockup
Cummins Inc.	2 - Ram	930 - 2500 4X2	Federal	2-Wheel Drive, Rear	Manual	6	No
Cummins Inc.	2 - Ram	935 - 2500 4X4	California + CAA Section 177 states	4-Wheel Drive	Automatic	6	Yes
Cummins Inc.	2 - Ram	935 - 2500 4X4	Federal	4-Wheel Drive	Manual	6	No
Cummins Inc.	2 - Ram	955 - 3500 4X4	California + CAA Section 177 states	4-Wheel Drive	Automatic	6	Yes
Cummins Inc.	2 - Ram	955 - 3500 4X4	Federal	4-Wheel Drive	Automatic	6	Yes
Cummins Inc.	2 - Ram	930 - 2500 4X2	California + CAA Section 177 states	2-Wheel Drive, Rear	Automatic	6	Yes
Cummins Inc.	2 - Ram	950 - 3500 4X2	Federal	2-Wheel Drive, Rear	Automatic	6	Yes
Cummins Inc.	2 - Ram	935 - 2500 4X4	California + CAA Section 177 states	4-Wheel Drive	Manual	6	No
Cummins Inc.	2 - Ram	950 - 3500 4X2	California + CAA Section 177 states	2-Wheel Drive, Rear	Automatic	6	Yes
Cummins Inc.	2 - Ram	930 - 2500 4X2	Federal	2-Wheel Drive, Rear	Automatic	6	Yes
Cummins Inc.	2 - Ram	930 - 2500 4X2	California + CAA Section 177 states	2-Wheel Drive, Rear	Manual	6	No
Cummins Inc.	2 - Ram	935 - 2500 4X4	Federal	4-Wheel Drive	Automatic	6	Yes
Engine Description							
Hybrid Type	--						
Engine Type	4-Stroke Compression Ignition						
Engine Block Arrangement	Inline						
Camless Valvetrain Indicator	No						
Number of Cylinders/Rotors	6						
After Treatment Device(s) (ATD)							
ATD Number	ATD Type	ATD Precious Metal	Substrate Material	Substrate Construction			
1	Oxidation catalyst	Platinum + Palladium	Ceramic	Other			
2	Diesel Particulate Filter	Platinum	Ceramic	Other			
3	Selective Catalytic Reduction	Copper-Zeolite	Ceramic	Other			
4	Other	Platinum	Ceramic	Other			
Mfr After Treatment Device (ATD) Comments	--						
Direct Ozone Reduction (DOR) Device	Not Equipped						
Mfr Emission Control Device Comments	--						

**Certification Summary Information Report**

Test Group	FCEXD06.78VV	Evaporative/Refueling Family	N/A							
<b>Engine Configuration Number 1</b>										
Engine Displacement (liters)	6.7	Engine Rated Horsepower	370							
Number of Inlet Valves Per Cylinder	2	Number of Exhaust Valves Per Cylinder	2							
Air Aspiration Method	Turbocharged	Number of Air Aspiration Devices	1							
Air Aspiration Device Configuration	Single	Charge Air Cooler Type	Air							
Cylinder Deactivation Description	N/A	Variable Valve Lift System	N/A							
Variable Valve Timing System Description	N/A	Air/Fuel Sensor # 1 Description	N/A							
Number of Knock Sensors	0	Air/Fuel Sensor # 2 Description	N/A							
Air/Fuel Sensor # 1 Type	Nitrogen oxide	EGR Type	Electronic/Electric							
Air/Fuel Sensor # 2 Type	Nitrogen oxide	Air Injection Type	--							
Mfr Air/Fuel Sensor Comments	--									
Exhaust Gas Recirculation	Yes									
Cooled Exhaust Gas Recirculation	Yes									
Closed Loop Air Injection System	No									
Mfr Engine Configuration Comments	370 HP@2800 RPM/800 ft-lb@1600 RPM for Auto transmission									
<b>Engine Configuration Number 2</b>										
Engine Displacement (liters)	6.7	Engine Rated Horsepower	350							
Number of Inlet Valves Per Cylinder	2	Number of Exhaust Valves Per Cylinder	2							
Air Aspiration Method	Turbocharged	Number of Air Aspiration Devices	1							
Air Aspiration Device Configuration	Single	Charge Air Cooler Type	Air							
Cylinder Deactivation Description	N/A	Variable Valve Lift System	N/A							
Variable Valve Timing System Description	N/A	Air/Fuel Sensor # 1 Description	N/A							
Number of Knock Sensors	0	Air/Fuel Sensor # 2 Description	N/A							
Air/Fuel Sensor # 1 Type	Nitrogen oxide	EGR Type	Electronic/Electric							
Air/Fuel Sensor # 2 Type	Nitrogen oxide	Air Injection Type	--							
Mfr Air/Fuel Sensor Comments	--									
Exhaust Gas Recirculation	Yes									
Cooled Exhaust Gas Recirculation	Yes									
Closed Loop Air Injection System	--									
Mfr Engine Configuration Comments	350 HP@2800 RPM/660 ft-lb@1400 RPM for Manual transmission									
<b>Official Test Numbers</b>										
Test Group	FTP	US06	SC03	Cold CO	Highway	EPA City Litmus Value	EPA City Litmus Threshold	EPA Highway Litmus Value	EPA Highway Litmus Threshold	CREE Weighting Factor
Diesel	FCEX10030909	--	--	--	FCEX10030910	N/A	12.2	N/A	16.7	N/A

<b>Test Group</b>	FCEXD06.78VV	<b>Evaporative/Refueling Family</b>	N/A
<b>Emission Data Vehicle Information</b>			
<b>Vehicle ID / Configuration</b>	V4DI75651 / 0		
<b>Vehicle Model</b>	RAM 2500	<b>Represented Test Vehicle Model</b>	RAM 2500
<b>Represented Test Vehicle Make</b>	RAM		
<b>Drive Sources and Fuel System Details</b>			
<b>Drive Source and Fuel#</b>	<b>Drive Source</b>	<b>Fuel</b>	
1	Combustion Engine	Diesel	
<b>Hybrid Indicator</b>	N		
<b>Multiple Fuel Storage</b>	--		--
<b>Fuel Cell Indicator</b>	--		--
<b>Rechargeable Energy Storage System</b>	--		--
<b>Off-board charge Capable Indicator</b>	--		--
<b>Transmission Type</b>	Automatic		6
<b>Engine Code</b>	AA-200		3.42
<b>Displacement (liters)</b>	6.7		370
<b>Equivalent Test Weight (pounds)</b>	9000		Turbocharged
<b>Drive Mode While Testing</b>	2-Wheel Drive, Rear		Not equipped
<b>Aged Emission Components</b>	4,000 (mi)		
<b>Dynamometer Coefficients:</b>			
	<b>Target Coefficients</b>		
<b>Coefficient Category</b>	<b>A (lbf)</b>	<b>B (lbf/mph)</b>	<b>C (lbf/mph**2)</b>
<b>City/Highway/Evap</b>	58.74	2.7067	0.01654
		<b>Set Coefficients</b>	<b>EPA Calculated Total Road Load Horse Power for City/Highway/Evap Coefficients</b>
		<b>A (lbf)</b>	<b>B (lbf/mph)</b>
	46.68	0.6634	0.03739
			31.4
<b>Manufacturer Test Vehicle Comments</b>			
	--		

**Certification Summary Information Report**

<b>Test Group</b>	FCEXD06.78VV	Evaporative/Refueling Family	N/A
<b>Test #</b>	FCEX10030909	<b>Test Procedure</b>	<b>2 - CVS 75 and later (w/o can. load)</b>
<b>Exhaust Test # for this Evap Test</b>	N/A	<b>Test Fuel Type</b>	19 - Federal Cert Diesel 7-15 PPM Sulfur
<b>Test Date</b>	03/26/2014	<b>Fuel</b>	Diesel
<b>Vehicle Class</b>	HDV1 (Federal HD chassis Class 2b GVW 8501-10000), MDV6 (Cal. LEV 2/3 MDV GVW 8501-10000)	<b>DF Type</b>	Mfr. Determined
<b>Verify Test Lab ID</b>	CTC		
<b>Test Results</b>			
<b>Test Result Name</b>	<b>Unrounded Test Result</b>	<b>Verify Calculated FE MPG Equivalent Value</b>	
CH4 - Methane	0.014789	--	
Carbon Monoxide	0.095014	--	
Drive Trace Absolute Speed Change Rating	-1.002	--	
Drive Trace Energy Economy Rating	-1.042	--	
Drive Trace Inertia Work Ratio Rating	0	--	
Manufacturer Fuel Economy	15.67	15.67	
Nitrogen Oxide	0.104951	--	
Nitrous Oxide	0.01992	--	
Non-methane Hydrocarbon	0.013576	--	
Non-methane organic gas (California)	0.013576	--	
Particulate Matter	0.0005	--	
Total Hydrocarbon	0.026661	--	
<b>Test Result Name</b>	<b>Unrounded Test Result</b>	<b>Verify Calculated CREE/OPT-CREE</b>	
Carbon-Related Exhaust Emissions	649	649	
<b>Test Result Name</b>	<b>Unrounded Test Result</b>	<b>Verify Calculated CO2</b>	
Carbon dioxide	648.73614	--	
<b>Manufacturer Test Comments</b>	DT-IWRR is currently not calculated by the test lab		

Certification Summary Information Report

Test Group		Evaporative/Refueling Family										N/A	
Certification Region	Useful Life	Standard Level	Emission Name	Rounded Result	RAF	NMOG/NM HC Ratio	Diesel Adjustment Factor	Add DF	Mult DF	Certification Level	Standard	Pass/Fail	
													FCExD06.78VV
Fed	120,000 miles	HDV1 (Federal HD chassis Class 2b GVW 8501-10000)	CO	0.1	--	--	0.0013 UP	0.0536	--	0.2	7.3	Pass	
Fed	120,000 miles	HDV1 (Federal HD chassis Class 2b GVW 8501-10000)	CO2	649	--	--	0 UP	0	--	649	--	--	
Fed	120,000 miles	HDV1 (Federal HD chassis Class 2b GVW 8501-10000)	HC-NM	0.0136	--	--	0.0003 UP	0.0012	--	0.015	0.195	Pass	
Fed	120,000 miles	HDV1 (Federal HD chassis Class 2b GVW 8501-10000)	NOX	0.1	--	--	0.0159 UP	0	--	0.1	0.2	Pass	
Fed	120,000 miles	HDV1 (Federal HD chassis Class 2b GVW 8501-10000)	PM	0	--	--	0 UP	0	--	0	0.02	Pass	
CA	150,000 miles	California LEV-III ULEV340	CO	0.1	--	--	0.0013 UP	0.0675	--	0.2	6.4	Pass	
CA	150,000 miles	California LEV-III ULEV340	NMOG	0.0136	--	--	0 UP	0	--	0.014	999,999	Pass	
CA	150,000 miles	California LEV-III ULEV340	NMOG+NOX	0.1186	--	--	0.0162 UP	--	--	0.119	0.340	Pass	
CA	150,000 miles	California LEV-III ULEV340	NOX	0.105	--	--	0 UP	0	--	0.105	999,999	Pass	
CA	150,000 miles	California LEV-III ULEV340	PM	0	--	--	0 UP	0	--	0	0.06	Pass	

NOTE: For Non-charge depleting tests, the Rounded Result for CO2 Emission name is a Verify-calculated value.



Test Group		Evaporative/Refueling Family		N/A					
Consolidated List of Standards									
Exhaust Standards									
Cert Region	California + CAA Section 177 states		Cert/In-Use Code		Cert				
Vehicle Class	MDV6 (Cal. LEV 2/3 MDV GVV 8501-10000)		Standard Level		California LEV-III ULEV340				
Fuel	Diesel		Test Procedure		CVS 75 and later (w/o can. load)				
Useful Life	Emission Name	Rounded Result	RAF	NMOG / NMHC	Upward Diesel Adjustment Factor	Downward Diesel Adjustment Factor	Mult DF	Add DF	Std
150,000 miles	CO	--	--	--	0.0013	0	--	0.0675	6.4
150,000 miles	HCHO	--	--	--	0	0	--	0	0.006
150,000 miles	NMOG	--	--	--	0	0	--	0	999.999
150,000 miles	NMOG+NOX	--	--	--	0.0162	0	--	0	0.340
150,000 miles	NOX	--	--	--	0	0	--	0	999.999
150,000 miles	PM	--	--	--	0	0	--	0	0.06
Cert Region	Federal		Cert/In-Use Code		Cert				
Vehicle Class	HDV1 (Federal HD chassis Class 2b GVV 8501-10000)		Standard Level		HDV1 (Federal HD chassis Class 2b GVV 8501-10000)				
Fuel	Diesel		Test Procedure		CVS 75 and later (w/o can. load)				
Useful Life	Emission Name	Rounded Result	RAF	NMOG / NMHC	Upward Diesel Adjustment Factor	Downward Diesel Adjustment Factor	Mult DF	Add DF	Std
120,000 miles	CO	--	--	--	0.0013	0	--	0.0536	7.3
120,000 miles	CO2	--	--	--	0	0	--	0	999.999
120,000 miles	HC-NM	--	--	--	0.0003	0	--	0.0012	0.195
120,000 miles	NOX	--	--	--	0.0159	0	--	0	0.2
120,000 miles	PM	--	--	--	0	0	--	0	0.02
Cert Region	California + CAA Section 177 states		Cert/In-Use Code		Cert				
Vehicle Class	MDV6 (Cal. LEV 2/3 MDV GVV 8501-10000)		Standard Level		California LEV-III ULEV340				
Fuel	Diesel		Test Procedure		HWFE				
Useful Life	Emission Name	Rounded Result	RAF	NMOG / NMHC	Upward Diesel Adjustment Factor	Downward Diesel Adjustment Factor	Mult DF	Add DF	Std
150,000 miles	CO2	--	--	--	0	0	--	0	999.999
150,000 miles	NMOG	--	--	--	0	0	--	0	999.999
150,000 miles	NMOG+NOX	--	--	--	0.0162	0	--	0	0.340
150,000 miles	NOX	--	--	--	0	0	--	0	999.999

**Certification Summary Information Report**

Date: 07/07/2014 04:13:42 PM

<b>Test Group</b>	FCEXD06.78VV	Evaporative/Refueling Family	N/A
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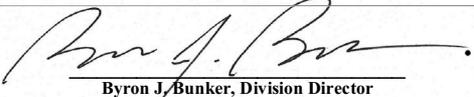
Test Group	FCEXD06.78VV	Evaporative/Refueling Family	N/A
<b>Glossary</b>			
<b>Useful Life</b>			
4	4,000 miles	120	120,000 miles
50	50,000 miles	150	150,000 miles
100	100,000 miles		
<b>Emission Name</b>			
HC-TOTAL	Total Hydrocarbon	MFR FE	Manufacturer Fuel Economy
CO	Carbon Monoxide	HC	Hydrocarbon for Running Loss and ORVR
CO2	Carbon dioxide	METHANE	CH4 - Methane
CREE	Carbon-Related Exhaust Emissions	METHANOL	CH3OH - Methanol
OPT-CREE	Optional Carbon-Related Exhaust Emissions	N2O	Nitrous Oxide
NOX	Nitrogen Oxide	SPITBACK	Spitback Hydrocarbon in grams
PM	Particulate Matter	AMP-HRS	Integrated Amp-hours
PM-COMP	SFTP Composite Particulate Matter	START-SOC	System Start State of Charge Watt-hours
HC-NM	Non-methane Hydrocarbon	END-SOC	System End State of Charge Watt-hours
OMHCE	Organic material Hydrocarbon Equivalent	ACT-DISTANCE	Actual Distance Driven (miles)
OMNMHCE	Organic material non-methane HC equivalent	AS-VOLT	Average System Voltage
NMOG	Non-methane organic gas (California)	CO2 BAG 1	Bag 1 Carbon Dioxide
HCHO	Formaldehyde	CO2 BAG 2	Bag 2 Carbon Dioxide
H3C2HO	Acetaldehyde	CO2 BAG 3	Bag 3 Carbon Dioxide
HC-NM+NOX	SFTP Non-methane Hydrocarbon + Nitrogen Oxides for US06 or SC03	CO2 BAG 4	Bag 4 Carbon Dioxide
HC-NM+NOX-COMP	SFTP Composite Non-methane Hydrocarbon + Nitrogen Oxides	NMOG+NOX	Non-methane organic gases plus Nitrogen Oxides
CO-COMP	SFTP Composite Carbon Monoxide	NMOG+NOX-COMP	SFTP Composite Non-methane Organic Gases + Nitrogen Oxides
ETHANOL	C2H5OH - Ethanol	DT-IWRR	Drive Trace Inertia Work Ratio Rating
FE BAG 1	Bag 1 Fuel Economy	DT-ASCR	Drive Trace Absolute Speed Change Rating
FE BAG 2	Bag 2 Fuel Economy	DT-EER	Drive Trace Energy Economy Rating
FE BAG 3	Bag 3 Fuel Economy	COMB-CREE	Combined Carbon-Related Exhaust Emissions
FE BAG 4	Bag 4 Fuel Economy	COMB-OPT-CREE	Combined Optional Carbon-Related Exhaust Emissions
<b>Certification Region</b>			
CA	California + CAA Section 177 states	FA	Federal
<b>Exhaust Emission Standard Level</b>			
B1	Federal Tier 2 Bin 1	L2SULEV30	California LEV-II SULEV30
B2	Federal Tier 2 Bin 2	L2LEV395	California LEV-II LEV395
B3	Federal Tier 2 Bin 3	L2ULEV340	California LEV-II ULEV340
B4	Federal Tier 2 Bin 4	L2LEV630	California LEV-II LEV630
B5	Federal Tier 2 Bin 5	L2ULEV570	California LEV-II ULEV570
B6	Federal Tier 2 Bin 6	L3LEV160	California LEV-III LEV160
B7	Federal Tier 2 Bin 7	L3ULEV125	California LEV-III ULEV125
B8	Federal Tier 2 Bin 8	L3ULEV70	California LEV-III ULEV70

**Certification Summary Information Report**

Test Group	FCEXD06.78VV	Evaporative/Refueling Family	N/A
B9	Federal Tier 2 Bin 9	L3ULEV50	California LEV-III ULEV50
B10	Federal Tier 2 Bin 10	L3SULEV30	California LEV-III SULEV30
B11	Federal Tier 2 Bin 11	L3SULEV20	California LEV-III SULEV20
HDV1	HDV1 (Federal HD chassis Class 2b GVW 8501-10000)	L3LEV395	California LEV-III LEV395
HDV2	HDV2 (Federal HD chassis Class 3 GVW 10001-14000)	L3ULEV340	California LEV-III ULEV340
L2	California LEV-II LEV	L3ULEV250	California LEV-III ULEV250
L2OP	California LEV-II LEV Optional	L3ULEV200	California LEV-III ULEV200
U2	California LEV-II ULEV	L3SULEV170	California LEV-III SULEV170
S2	California LEV-II SULEV	L3SULEV150	California LEV-III SULEV150
ZEV	California ZEV	L3LEV630	California LEV-III LEV630
OT	Other	L3ULEV570	California LEV-III ULEV570
T1	Federal Tier 1	L3ULEV400	California LEV-III ULEV400
PZEV	California PZEV	L3ULEV270	California LEV-III ULEV270
L2LEV160	California LEV-II LEV160	L3SULEV230	California LEV-III SULEV230
L2ULEV125	California LEV-II ULEV125	L3SULEV200	California LEV-III SULEV200
<b>Transmission Type Code</b>			
AMS	Automated Manual-Selectable (e.g. Automated Manual with paddles)	M	Manual
A	Automatic	OT	Other
AM	Automated Manual	SA	Semi-Automatic
CVT	Continuously Variable	SCV	Selectable Continuously Variable (e.g. CVT with paddles)
<b>Drive System Code</b>			
4	4-Wheel Drive	P	Part-time 4-Wheel Drive
F	2-Wheel Drive, Front	A	All Wheel Drive
R	2-Wheel Drive, Rear		
<b>Additional Terms and Acronyms</b>			
AFC	Alternative Fuel Converter	ICI	Independent Commercial Importer
CSI	Certificate Summary Information	ORVR	Onboard Refueling Vapor Recovery
DF	Deterioration Factor	SIL	Shift Indicator Light
Evap	Evaporation, Evaporative	Trans	Transmission

# Exhibit 43

	<b>UNITED STATES ENVIRONMENTAL PROTECTION AGENCY</b> <b>2015 MODEL YEAR</b> <b>CERTIFICATE OF CONFORMITY</b> <b>WITH THE CLEAN AIR ACT OF 1990</b>	<b>OFFICE OF TRANSPORTATION AND AIR QUALITY</b> <b>ANN ARBOR, MICHIGAN 48105</b>
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<b>Certificate Issued To:</b> Cummins Inc. (U.S. Manufacturer or Importer)  <b>Certificate Number:</b> FCEXD06.78WV-002	<b>Effective Date:</b> 07/07/2014  <b>Expiration Date:</b> 12/31/2015	 Byron J. Bunker, Division Director Compliance Division	<b>Issue Date:</b> 07/07/2014  <b>Revision Date:</b> N/A
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<b>Test Group Name:</b> FCEXD06.78WV <b>Evaporative/Refueling Family Name:</b> <b>Applicable Exhaust Emission Standards:</b> HDV2 (Federal HD chassis Class 3 GVW 10001-14000) <b>Applicable Evaporative/Refueling Standards:</b>	<b>Engine Displacement:</b> 6.7 Liters <b>Exhaust Emission Test Fuel Type:</b> Federal Cert Diesel 7-15 PPM Sulfur <b>Full Useful Life Miles: Exhaust Emissions:</b> 120,000 miles <b>Full Useful Life Miles: Evaporative/Refueling Emissions:</b> N/A
<b>Models Covered:</b> Ram: 3500 4X2, 3500 4X4	

Pursuant to section 206 of the Clean Air Act (42 U.S.C.7525) and 40 CFR Parts 85, 86, 88, 1037, and 600 as applicable, this certificate of conformity is hereby issued with respect to test vehicles which have been found to conform to the requirements of the regulations on Control of Air Pollution from New Motor Vehicles and New Motor Vehicle Engines (40 CFR Parts 85, 86, 88, 1037, and 600 as applicable) and which represent the new motor vehicle models listed above by test group and evaporative/refueling emission family, more fully described in the application of the above named manufacturer. Vehicles covered by this certificate have demonstrated compliance with the applicable emission standards as more fully described in the manufacturer's application. This certificate covers the above models, which are designed to meet the applicable emission standards specified in 40 CFR Parts 85, 86, 88, 1037, and 600 as applicable at both high and low altitude as applicable.

EPA is issuing this certificate subject to the conditions and provisions of 40 CFR 86.1848(c), and 40 CFR 1037 as applicable.

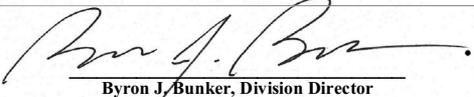
This certificate covers only those new motor vehicles or vehicle engines which conform, in all material respects, to the design specifications that apply to those vehicles or engines described in the documentation required by 40 CFR Parts 85, 86, 88, 1037, and 600 as applicable and which are produced during the 2015 model year production period stated on this certificate of the said manufacturer, as defined in 40 CFR Parts 85, 86, 88, 1037, and 600 as applicable. The manufacturer shall obtain the approval of the California Air Resources Board (in the form of an executive order issued by the California Air Resources Board) prior to introducing any vehicle covered by this certificate into commerce 1) in the State of California, or 2) in a State that, under the authority of Section 177 of the Clean Air Act, has adopted and placed into effect the California standards to which this test group has been certified.

Catalyst-equipped vehicles designed to be operated on gasoline or flexible fuel are equipped with an emission control device which the Administrator has determined will be significantly impaired by the use of leaded fuel. This certificate is issued subject to the conditions specified in 40 CFR 80.24. Catalyst-equipped vehicles designed to be operated on gasoline or flexible fuel, otherwise covered by this certificate, which are driven outside the United States, Canada, Mexico, Japan, Australia, Taiwan and the Bahama Islands will be presumed to have been operated on leaded fuel resulting in deactivation of the catalysts. If these vehicles are imported or offered for importation without retrofit of the catalyst, they will be considered not to be within the coverage of this certificate unless included in a catalyst control program operated by manufacturer or a United States Government Agency and approved by the Administrator.

In the case of completely assembled vehicles, this certificate of conformity covers only vehicles which are completely manufactured prior to January 1, 2016. Normally incompletely assembled vehicles (such as cab chassis) may be completed after this date, provided that the basic manufacturing (including installation of the emission control system) was completed prior to January 1, 2016. This certificate does not cover vehicles sold, offered for sale, or introduced, or delivered for introduction, into commerce in the U.S. prior to the effective date of the certificate.

# Exhibit 44

	<b>UNITED STATES ENVIRONMENTAL PROTECTION AGENCY</b> <b>2016 MODEL YEAR</b> <b>CERTIFICATE OF CONFORMITY</b> <b>WITH THE CLEAN AIR ACT</b>	<b>OFFICE OF TRANSPORTATION AND AIR QUALITY</b> <b>ANN ARBOR, MICHIGAN 48105</b>
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<b>Certificate Issued To:</b> Cummins Inc. (U.S. Manufacturer or Importer)  <b>Certificate Number:</b> GCEXD06.78VV-001	<b>Effective Date:</b> 05/15/2015  <b>Expiration Date:</b> 12/31/2016	 Byron J. Bunker, Division Director Compliance Division	<b>Issue Date:</b> 05/15/2015  <b>Revision Date:</b> N/A
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<b>Test Group Name:</b> GCEXD06.78VV <b>Evaporative/Refueling Family Name:</b> <b>Applicable Exhaust Emission Standards:</b> HDV1 (Federal HD chassis Class 2b GVW 8501-10000) <b>Applicable Evaporative/Refueling Standards:</b>	<b>Engine Displacement:</b> 6.7 Liters <b>Exhaust Emission Test Fuel Type:</b> Federal Cert Diesel 7-15 PPM Sulfur <b>Full Useful Life Miles: Exhaust Emissions:</b> 120,000 miles <b>Full Useful Life Miles: Evaporative/Refueling Emissions:</b> N/A
<b>Models Covered:</b> Ram: 2500 4X2, 2500 4X4, 3500 4X2, 3500 4X4	

Pursuant to section 206 of the Clean Air Act (42 U.S.C.7525) and 40 CFR Parts 85, 86, 88, 600, 1037, 1065, and 1066 as applicable, this certificate of conformity is hereby issued with respect to test vehicles which have been found to conform to the requirements of the regulations on Control of Air Pollution from New Motor Vehicles and New Motor Vehicle Engines (40 CFR Parts 85, 86, 88, 600, 1037, 1065, and 1066 as applicable) and which represent the new motor vehicle models listed above by test group and evaporative/refueling emission family, more fully described in the application of the above named manufacturer. Vehicles covered by this certificate have demonstrated compliance with the applicable emission standards as more fully described in the manufacturer's application. This certificate covers the above models, which are designed to meet the applicable emission standards specified in 40 CFR Parts 85, 86, 88, 600, 1037, 1065, and 1066 as applicable at both high and low altitude as applicable.

EPA is issuing this certificate subject to the conditions and provisions of 40 CFR 86.1848(c), and 40 CFR 1037 as applicable.

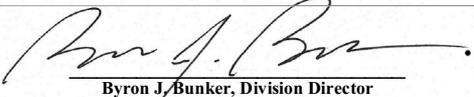
This certificate covers only those new motor vehicles or vehicle engines which conform, in all material respects, to the design specifications that apply to those vehicles or engines described in the documentation required by 40 CFR Parts 85, 86, 88, 600, 1037, 1065, and 1066 as applicable and which are produced during the 2016 model year production period stated on this certificate of the said manufacturer, as defined in 40 CFR Parts 85, 86, 88, 600, 1037, 1065, and 1066 as applicable. The manufacturer shall obtain the approval of the California Air Resources Board (in the form of an executive order issued by the California Air Resources Board) prior to introducing any vehicle covered by this certificate into commerce 1) in the State of California, or 2) in a State that, under the authority of Section 177 of the Clean Air Act, has adopted and placed into effect the California standards to which this test group has been certified.

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In the case of completely assembled vehicles, this certificate of conformity covers only vehicles which are completely manufactured prior to January 1, 2017. Normally incompletely assembled vehicles (such as cab chassis) may be completed after this date, provided that the basic manufacturing (including installation of the emission control system) was completed prior to January 1, 2017. This certificate does not cover vehicles sold, offered for sale, or introduced, or delivered for introduction, into commerce in the U.S. prior to the effective date of the certificate.

# Exhibit 45

	<b>UNITED STATES ENVIRONMENTAL PROTECTION AGENCY</b> <b>2016 MODEL YEAR</b> <b>CERTIFICATE OF CONFORMITY</b> <b>WITH THE CLEAN AIR ACT</b>	<b>OFFICE OF TRANSPORTATION AND AIR QUALITY</b> <b>ANN ARBOR, MICHIGAN 48105</b>
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<b>Certificate Issued To:</b> Cummins Inc. (U.S. Manufacturer or Importer)  <b>Certificate Number:</b> GCEXD06.78WV-002	<b>Effective Date:</b> 05/15/2015  <b>Expiration Date:</b> 12/31/2016	 Byron J. Bunker, Division Director Compliance Division	<b>Issue Date:</b> 05/15/2015  <b>Revision Date:</b> N/A
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<b>Test Group Name:</b> GCEXD06.78WV <b>Evaporative/Refueling Family Name:</b> <b>Applicable Exhaust Emission Standards:</b> HDV2 (Federal HD chassis Class 3 GVW 10001-14000) <b>Applicable Evaporative/Refueling Standards:</b>	<b>Engine Displacement:</b> 6.7 Liters <b>Exhaust Emission Test Fuel Type:</b> Federal Cert Diesel 7-15 PPM Sulfur <b>Full Useful Life Miles: Exhaust Emissions:</b> 120,000 miles <b>Full Useful Life Miles: Evaporative/Refueling Emissions:</b> N/A
<b>Models Covered:</b> Ram: 3500 4X2, 3500 4X4	

Pursuant to section 206 of the Clean Air Act (42 U.S.C.7525) and 40 CFR Parts 85, 86, 88, 600, 1037, 1065, and 1066 as applicable, this certificate of conformity is hereby issued with respect to test vehicles which have been found to conform to the requirements of the regulations on Control of Air Pollution from New Motor Vehicles and New Motor Vehicle Engines (40 CFR Parts 85, 86, 88, 600, 1037, 1065, and 1066 as applicable) and which represent the new motor vehicle models listed above by test group and evaporative/refueling emission family, more fully described in the application of the above named manufacturer. Vehicles covered by this certificate have demonstrated compliance with the applicable emission standards as more fully described in the manufacturer's application. This certificate covers the above models, which are designed to meet the applicable emission standards specified in 40 CFR Parts 85, 86, 88, 600, 1037, 1065, and 1066 as applicable at both high and low altitude as applicable.

EPA is issuing this certificate subject to the conditions and provisions of 40 CFR 86.1848(c), and 40 CFR 1037 as applicable.

This certificate covers only those new motor vehicles or vehicle engines which conform, in all material respects, to the design specifications that apply to those vehicles or engines described in the documentation required by 40 CFR Parts 85, 86, 88, 600, 1037, 1065, and 1066 as applicable and which are produced during the 2016 model year production period stated on this certificate of the said manufacturer, as defined in 40 CFR Parts 85, 86, 88, 600, 1037, 1065, and 1066 as applicable. The manufacturer shall obtain the approval of the California Air Resources Board (in the form of an executive order issued by the California Air Resources Board) prior to introducing any vehicle covered by this certificate into commerce 1) in the State of California, or 2) in a State that, under the authority of Section 177 of the Clean Air Act, has adopted and placed into effect the California standards to which this test group has been certified.

Catalyst-equipped vehicles designed to be operated on gasoline or flexible fuel are equipped with an emission control device which the Administrator has determined will be significantly impaired by the use of leaded fuel. This certificate is issued subject to the conditions specified in 40 CFR 80.24. Catalyst-equipped vehicles designed to be operated on gasoline or flexible fuel, otherwise covered by this certificate, which are driven outside the United States, Canada, Mexico, Japan, Australia, Taiwan and the Bahama Islands will be presumed to have been operated on leaded fuel resulting in deactivation of the catalysts. If these vehicles are imported or offered for importation without retrofit of the catalyst, they will be considered not to be within the coverage of this certificate unless included in a catalyst control program operated by manufacturer or a United States Government Agency and approved by the Administrator.

In the case of completely assembled vehicles, this certificate of conformity covers only vehicles which are completely manufactured prior to January 1, 2017. Normally incompletely assembled vehicles (such as cab chassis) may be completed after this date, provided that the basic manufacturing (including installation of the emission control system) was completed prior to January 1, 2017. This certificate does not cover vehicles sold, offered for sale, or introduced, or delivered for introduction, into commerce in the U.S. prior to the effective date of the certificate.

# Exhibit 46

# Cummins Incorporated

Application for Certification  
Part 1 Update

2015 Model Year

Durability Group: FCEXDPDNNC01  
Evaporative Families: Not Applicable

Test Group: FCEXD06.78W

EPA Summary Sheet ID #: CSI-FCEXD06.78W  
Four Stroke, Diesel Cycle, Diesel Fueled, Direct Injection

6.7 Liter I-6  
HDV (8,501 - 10,000 lbs GVWR)  
Applicable Standards:  
FEDERAL HDV1, CARB LEV III ULEV340

Vehicles Covered:  
Ram 2500 Pickup 2WD/4WD  
Ram 3500 Pickup 2WD/4WD

Vehicles Run:  
Vehicle ID V4DJ75651

For questions, Ravinder D Singh (248) 576-5504 Bhushan Pawar (631) 455-7583





## Cummins Incorporated Table of Contents

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Evaporative/Refueling Family Description Summary  
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Emission Testing Waiver Statement  
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VECI Label  
Confidential Information for Test Group  
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Cummins Incorporated

Section 1 Correspondence and Communication

For questions dealing with the Part I application for this Test Group contact:

Name	Title	Responsibility	Phone	E-mail	Fax
Bhushan Pawar	Certification Engineer	Application Submission	248.576.5504	bhushan.pawar@cummins.com	248.576.7928
Steve Mazure	Manager - Certification Team	Certification Programs	248.576.5471	srm2@chrysler.com	248.576.7928
Ravinder Singh	Manager - Certification Team	Certification Programs	248.576.5504	ravinder.d.singh@cummins.com	248.576.7928

Section 2 Durability Group Description

Durability Group Name: FCXDPDNNC01

For a complete description of the Durability Group Description please see:  
"Common Section Book - Section 2. Durability Group Description"

Section 3 Evaporative/Refueling Family Description

Not Applicable



Cummins Incorporated

Section 4 Durability Procedure Description

Durability Group: FCEXDPDNNC01

Durability Provision Statement:

Based on Cummins Inc.'s good engineering judgement, all the vehicles described in this Application for Certification comply with all applicable full useful life standards.

For a complete description of the Durability Procedure please see:

"Common Section Book - Section 16. Durability Procedure Description"

Indicate if aged components were used.

Indicate whether additive or multiplicative DF's were used.

List all DF's calculated at both full and intermediate useful life and applicable standards (test results and vehicle description).

No

Yes

See attached CSI for DFs and test results.  
CARB - Reference Cert Review Sheet

Evaporative/Refueling Family:

Not Applicable

Section 5 Test Group Description

Test Group Name:

FCEXD06.78VV

Engine displacements covered:

6.7 Liter

Arrangement and number of cylinders:

I-6

Vehicle classes covered:

HDV (8,501 - 10,000 lbs GVWR)

Emission standards class:

HDV1

AB71 Qualified Vehicles:

No



# Air Resources Board



**Mary D. Nichols, Chairman**

9480 Telstar Avenue, Suite 4  
El Monte, California 91731 • www.arb.ca.gov

**Edmund G. Brown Jr.**  
Governor

**Matthew Rodriguez**  
Secretary for  
Environmental Protection

June 26, 2014

Reference No. E-14-146

Mr. Robert Weiss, Director  
On-Board Diagnostics and Service Information  
Cummins Incorporated  
500 Jackson Street  
Columbus, Indiana 47201

**SUBJECT:** Approval and Fines of Cummins Inc.'s (Cummins) On-Board Diagnostics II (OBD II) System for 2015 Model Year Cummins Diesel Test Groups FCEXD06.78VV and FCEXD06.78WV for 2015 Model Year Chassis Dynamometer Certified Medium-Duty Ram 2500 and 3500 Pickup Trucks.

Dear Mr. Weiss:

The Air Resources Board's (ARB) On-Board Diagnostics Branch has received the OBD II system descriptions submitted by Cummins for the 2015 model year test groups listed above. Representations made in the application indicate that the system is compliant with the OBD II regulation<sup>1</sup> with the exception of diesel oxidation catalyst (DOC) feedgas monitoring, ammonia (NH3) sensor in-range high monitoring, idle control system fuel injection quantity monitoring, vehicle speed sensor rationality monitoring, improper reductant monitoring, and closed-loop reductant injection control system monitoring. Therefore, ARB approves the 2015 model year OBD II system with six deficiencies. As stated in the email sent by Mr. Robert Weiss dated June 25, 2014, to Mr. Lawson Adams, Cummins has agreed to pay the required fines for the third through sixth deficiencies as a condition of certification. Although not deficient for the 2015 model year, staff has concerns regarding upstream oxides of nitrogen (NOx) sensor out-of-range monitoring, monitoring test results reporting, durability demonstration vehicle testing, certification documentation, engine-off timer rationality monitoring, downstream NOx sensor offset monitoring, diesel exhaust fluid (DEF) tank temperature sensor rationality monitoring, NH3 sensor performance monitoring, DEF tank heater monitoring, exhaust gas recirculation (EGR) system slow response monitoring, boost pressure control system slow response monitoring, and DOC conversion efficiency monitoring. The details of the DOC feedgas monitoring deficiency, NH3 sensor in-range high monitoring deficiency, idle control system fuel injection quantity monitoring deficiency, vehicle speed sensor rationality monitoring deficiency, upstream NOx sensor out-of-range monitoring concern, monitoring test

<sup>1</sup> Unless otherwise noted, all regulation references are to title 13, CCR, section 1968.2.

*The energy challenge facing California is real. Every Californian needs to take immediate action to reduce energy consumption. For a list of simple ways you can reduce demand and cut your energy costs, see our website: <http://www.arb.ca.gov>.*

California Environmental Protection Agency

Mr. Robert Weiss, Director

June 26, 2014

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results reporting concern, durability demonstration vehicle testing concern, certification documentation concern, and engine-off timer rationality concern can be found below. The details regarding the remaining deficiencies and concerns have been provided in previous ARB approval letters (Reference Nos. E-12-188, E-12-225, E-13-156, and E-13-216).

#### DOC Feedgas Monitoring Deficiency

Section (f)(1.2.3)(B) of the regulation requires malfunction detection when the catalyst is unable to generate the necessary feedgas constituents for proper selective catalytic reduction system operation. In previous presentations to ARB, Cummins has claimed that there is a strong correlation between hydrocarbon conversion and nitrogen dioxide generation since both are oxidation processes. As such, Cummins is utilizing the non-methane hydrocarbon (NMHC) catalyst conversion efficiency monitor (P0420) to comply with the feedgas generation monitor. However, ARB is not fully convinced that deterioration of feedgas generation and NMHC conversion are directly correlated. Therefore, staff cannot conclude whether the NMHC conversion efficiency monitor will reliably detect a DOC malfunction when the catalyst is unable to generate the feedgas or whether further DOC deterioration will be necessary to fail the NMHC conversion monitor. The OBD II system is therefore deficient for monitoring of the DOC feedgas capability. If Cummins is to retain the NMHC catalyst conversion efficiency monitor calibration as is, to avoid a deficiency determination on its future model year products Cummins must include a separate monitor to monitor for proper feedgas generation or provide data that demonstrate the failure mechanisms for NMHC conversion efficiency and feedgas generation have a strong correlation and the current calibration indeed detects a malfunction when the feedgas generation capability has reached the real world limit of its deterioration.

#### NH3 Sensor In-Range High Monitoring Deficiency

Section (f)(5.1.1) of the OBD II regulation requires manufacturers to monitor all exhaust gas sensors used for emission control system feedback or as a monitoring device for proper output signal, activity, response rate, and any other parameter that can affect emissions. Additionally, section (f)(5.3.1)(A) requires manufacturers to define monitoring conditions that will ensure monitoring will occur during the Federal Test Procedure (FTP) cycle or Unified cycle and meet minimum ratio requirements set forth in section (d)(3.2). Accordingly, Cummins monitors the NH3 sensor for in-range high malfunctions by comparing the calculated normalized NH3/NOx ratio value to a calibrated threshold. However, during the emission demonstration of this diagnostic Cummins was unable to detect an NH3 sensor in-range high failure during the FTP cycle. Cummins then attempted and failed to detect an NH3 sensor in-range high failure mode during the Unified cycle. Cummins eventually was able to run and complete this diagnostic after 1.5 hours of on-road testing. Staff is concerned that this indicates the diagnostic is unlikely to routinely complete in-use with sufficient frequency.

Mr. Robert Weiss, Director

June 26, 2014

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Therefore, Cummins is considered deficient for NH3 sensor in-range high monitoring. Additionally, Cummins has argued that this issue is not applicable to the Ram 2500 Pickup and only applicable to the Ram 3500 Pickup due to higher aftertreatment temperatures for the Ram 3500 Pickup during the certification cycles. Staff, however, is not convinced that this diagnostic will be able to run and complete on the Ram 2500 Pickup, and as such, Cummins is required to submit data demonstrating that this diagnostic will detect an NH3 sensor in-range high failure during the FTP cycle or Unified cycle.

#### Idle Control System Fuel Injection Quantity Monitoring Deficiency

Section (f)(15.3.2) requires manufacturers to define idle fuel control system monitoring conditions which are determined to be necessary for robust detection of malfunctions and designed to occur under normal operating conditions. Cummins has implemented a 300 second timer delay into its idle control system fuel injection quantity monitor which is activated after engine start regardless of engine coolant temperature. Cummins' reasoning for the timer delay is to avoid instability from control algorithms such as the misfire monitor, which will run after the engine is in a warm state. Based on the information provided staff does not believe a 300 second timer delay alone will ensure the fuel injection quantity monitor will run before the misfire monitor and accordingly the timer delay is unnecessary. The timer delay does not satisfy the requirements above and, therefore, the idle control system fuel injection quantity monitor is deficient.

#### Vehicle Speed Sensor Rationality Monitoring Deficiency

Cummins' OBD II system uses vehicle speed as an enable condition for various monitors (e.g., P020A, P026B and P0506). Section (f)(15.2.1)(A) requires input components to be monitored for electrical, out-of-range values and, where feasible, rationality faults. Accordingly, Cummins has implemented a rationality diagnostic that compares the maximum and minimum vehicle speeds after a 600 second counter window. This rationality diagnostic resets after each counter window and runs repeatedly during engine operation. A fault is detected when the difference between maximum and minimum vehicle speed is less than 0.621 miles per hour and the accelerator pedal position has changed by at least 20 percent at least 30 times in a 600 second counter window. However, this rationality diagnostic makes a pass decision even if the 30 incidents required to make a judgment have not occurred. This monitoring strategy results in false passes and is, therefore, deficient. Staff expects this monitor to readily yield passing decisions when a malfunction is present.

#### Upstream NOx Sensor Out-Of-Range Monitoring Concern

Section (f)(5.2.2)(B) requires the OBD II system to detect malfunctions of the NOx sensor caused by either a lack of circuit continuity or out-of-range values. Cummins' system detects NOx sensor in-range high (P2201-SE5365) malfunctions during a fuel

Mr. Robert Weiss, Director  
June 26, 2014  
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cut by integrating the cumulative sum of error difference between the measured engine-out NOx and the engine-out NOx virtual model and comparing to a malfunction threshold of 100 parts per million. Staff believes the malfunction threshold is overly conservative and is not convinced Cummins has developed a robust monitor based on the existing system. Thus, to avoid a deficiency on future model year vehicles, Cummins is required to improve the monitor to allow for a more feasible detection of failure or present engineering data to support the existing malfunction criteria.

#### Monitoring Test Results Reporting Concern

Section (g)(4.5) of the OBD II regulation requires diagnostic systems to store test results and report them to a generic scan tool via Mode \$06. Test results are to be updated when a more recent valid test result is available. Additionally, the intent of Mode \$06 is for technicians to be able to evaluate the extent of the failure by the means of the degree of separation from the test value to that of the maximum or minimum test limit. However, for a few diagnostics Cummins only reports one failed test result value regardless of the deterioration of the component/system. Reporting the same test result value for all detected failures undermines the intent of Mode \$06 and doesn't allow a technician to assess the magnitude of the failure. In order to avoid a deficiency determination in future model years, Cummins is required to address this concern.

#### Durability Demonstration Vehicle Testing Concern

During demonstration of the EGR system slow response monitor and variable geometry turbine (VGT) slow response monitor, Cummins tested the durability demonstration vehicle with the latest production intent calibration, which included a change to the diesel particulate filter (DPF) efficiency monitor (P2002-SE4758), and consequently, the OBD II system detected a false failure for the DPF efficiency monitor. Cummins investigated the root cause of the false fault and corrected it after demonstration of the EGR system slow response monitor and VGT slow response monitor. Cummins must retest these demonstrations in order to show that the EGR and VGT slow response monitors will run and complete properly without detecting a false failure of the DPF efficiency monitor.

#### Certification Documentation Concern

ARB staff would like to remind Cummins that it must provide detailed and complete information regarding its OBD II system in its application. During the review of this application, staff found many details in the application materials that were incorrect (e.g., incorrect malfunction criteria, incorrect enable conditions, typographical errors, etc.). Additionally, Cummins should avoid using vague definitions (e.g., degraded, failed, engine at idle state, engine cranking, etc.) and should replace the vague definitions with the actual specifications using engineering units. Such mistakes and lack of complete and accurate information must be avoided for timely review in future

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OBD II applications. Accordingly, Cummins is required to resubmit a clean revised OBD II application to the Document Management System.

Engine-Off Timer Rationality Monitoring Concern

Cummins uses engine-off time as an enable condition for various diagnostics (e.g., P0071, P007B, and P0116). The regulation requires manufacturers to monitor input components for circuit low, circuit high, circuit shorted faults, and to the extent feasible, rationality faults. However, one engine-off timer rationality diagnostic (U3017-SE75324) has been disabled on all systems by Cummins due to false failures discovered in the field. Therefore, Cummins does not satisfy the rationality requirement above and is given a concern for engine-off timer rationality monitoring.

Deficiency Payments

Under the deficiency provisions of section (k) of the OBD II regulation, the deficiencies for which fines apply and the fine amounts per vehicle are defined. Additionally, where practical, the emission level in excess of the required levels has been identified in the details of the deficiencies provided. Therefore, Cummins is subject to fines of \$150 per vehicle for the third through sixth deficiencies for each vehicle that is produced for sale in California from the test groups above. Such fines are to be paid to the State Treasurer for deposit in the Air Pollution Control Fund. The total fines that Cummins will be required to pay will be based on production and distribution records provided by Cummins for the 2015 model year. Cummins could limit its total liability should it elect to implement a running change correcting one or more of these deficiencies during the model year. Vehicles produced subsequent to such changes would be subject to lesser fines.

Should you have questions or comments regarding this letter, please have your staff contact Mr. Lawson Adams, Air Resources Engineer, at (626) 575-6811 or Mr. Dan Kim, Air Resources Engineer, at (626) 575-6671.

Sincerely,



Michael Regenfuss, Chief  
On-Board Diagnostics Branch  
Emissions Compliance, Automotive Regulations and Science Division

cc: See next page

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June 26, 2014  
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cc: Lawson Adams  
Air Resources Engineer  
Emissions Compliance, Automotive Regulations and Science Division

Dan Kim  
Air Resources Engineer  
Emissions Compliance, Automotive Regulations and Science Division



## Cummins Incorporated

### Section 8 Emission testing Waiver Statements

Below is a list clearly identifying the standards applicable to this Test Group for which emission testing was not performed. All Cummins vehicles will conform with the emission standards which emission data is not being provided, as allowed under 40 CFR §86.1829-01 or §86.1810-01.

Formaldehyde - HCHO

### Section 9 OBD Description

For a complete description of the OBD Description please see: "Common Part 1 Section 16. OBD Description"

For OBD Agency Approvals please see: "Common Part 1 Section 16. Agency Approvals"

OBD Demonstration Compliance Statement: This Test Group meets the full intent of both the Clean Air Act as amended in 1990, section 202(m), and the applicable federal OBD regulations contained in 40 CFR §86.005-17 and 40 CFR §86.1806-01, including a reference to those provisions pertaining to deficiencies in the limited instances where an OBD II system that complies with 1968.2 does not comply with all the requirements of section 1968.1.

### Section 10 Description of Alternate - Fueled Vehicles

Not Applicable

## Chrysler Group LLC

## Test Group - FCEXD06.78VV

EPA COMP CODE	AA-100	AA-101	AA-102	AA-200	AA-201	AA-202	AA-300	AA-301	AA-302
E10:Powertrain Control Module	5317110	5317110	5317110	5317110	5317110	5317110	5317110	5317110	5317110
E32:Ammonia Control Module	68171182AA								
E33:Flange Control Module	68149307AB								
F18:Fuel Pump - High Pressure	5264247	5264247	5264247	5264247	5264247	5264247	5264247	5264247	5264247
F42:Air/Fuel Throttle Valve	5314213	5314213	5314213	5314213	5314213	5314213	5314213	5314213	5314213
F50:Fuel Injector	4994925	4994925	4994925	4994925	4994925	4994925	4994925	4994925	4994925
F81:Fuel Rail Pressure Sensor	4306993	4306993	4306993	4306993	4306993	4306993	4306993	4306993	4306993
H06:Selective Catalytic Reduction Catalyst Assembly	68087106AH 68103161AH 68103162AH								
H07:Oxidation Catalyst/Particulate Filter Assembly	68225236AC								
H31:Sensor - Differential Pressure	68085750AA								
H32:Sensor - After Treatment, Temperature	68085774AB 68085778AA								
H33:Sensor - Exhaust Pressure	4928594	4928594	4928594	4928594	4928594	4928594	4928594	4928594	4928594
H34:Sensor - Temperature/Barometric Pressure	4928395	4928395	4928395	4928395	4928395	4928395	4928395	4928395	4928395
H36:Urea Tank Assembly	68085903AA								
H37:Diesel Exhaust Fluid Injector	04627241AB								
H38:Diesel Exhaust Fluid Flange Module	68085913AA								
L03:Nitrous Oxide Sensor	68085740AA								

EPA COMP CODE	AA-100	AA-101	AA-102	AA-200	AA-201	AA-202	AA-300	AA-301	AA-302
L08:Ammonia Sensor	68171181AA								
L16:Crankshaft Position Sensor	2872277	2872277	2872277	2872277	2872277	2872277	2872277	2872277	2872277
M01:Engine Coolant Temp. Sensor	4954905	4954905	4954905	4954905	4954905	4954905	4954905	4954905	4954905
N10:Camshaft	4930770	4930770	4930770	4930770	4930770	4930770	4930770	4930770	4930770
N30:Turbocharger	3798535	3798535	3798535	3798535	3798535	3798535	3798535	3798535	3798535
N31:Charge Air Cooler	52014733AC								
N35:Intake Manifold	5295718	5295718	5295718	5295718	5295718	5295718	5295718	5295718	5295718
N36:Exhaust Manifold / Single	5301441	5301441	5301441	5301441	5301441	5301441	5301441	5301441	5301441
N50:Engine Thermostat	5292712	5292712	5292712	5292712	5292712	5292712	5292712	5292712	5292712
N56:EGR Valve	5254657	5254657	5254657	5254657	5254657	5254657	5254657	5254657	5254657
N57:EGR Cooler	4981669	4981669	4981669	4981669	4981669	4981669	4981669	4981669	4981669
N58:EGR By-Pass Valve	5320759	5320759	5320759	5320759	5320759	5320759	5320759	5320759	5320759
V01:PCV Valve	4936636	4936636	4936636	4936636	4936636	4936636	4936636	4936636	4936636
V07:Mass Airflow Sensor	4984760	4984760	4984760	4984760	4984760	4984760	4984760	4984760	4984760
V08:TMAP Sensor	4921322	4921322	4921322	4921322	4921322	4921322	4921322	4921322	4921322
V71:Crankcase Pressure Sensor	4984575	4984575	4984575	4984575	4984575	4984575	4984575	4984575	4984575
Z01:VECI Label	47480364AA								

## Test Group - FCEXD06.78VV

EPA COMP CODE	AA-400	AA-401	AA-402	AM-100	AM-101	AM-102	AM-200	AM-201	AM-202
E10:Powertrain Control Module	5317110	5317110	5317110	5317110	5317110	5317110	5317110	5317110	5317110
E32:Ammonia Control Module	68171182AA								
E33:Flange Control Module	68149307AB								
F18:Fuel Pump - High Pressure	5264247	5264247	5264247	5264247	5264247	5264247	5264247	5264247	5264247
F42:Air/Fuel Throttle Valve	5314213	5314213	5314213	5314213	5314213	5314213	5314213	5314213	5314213
F50:Fuel Injector	4994925	4994925	4994925	4994925	4994925	4994925	4994925	4994925	4994925
F81:Fuel Rail Pressure Sensor	4306993	4306993	4306993	4306993	4306993	4306993	4306993	4306993	4306993
H06:Selective Catalytic Reduction Catalyst Assembly	68087106AH 68103161AH 68103162AH								
H07:Oxidation Catalyst/Particulate Filter Assembly	68225236AC	68225236AC	68225236AC	68224930AC	68224930AC	68224930AC	68224930AC	68224930AC	68224930AC
H31:Sensor - Differential Pressure	68085750AA								
H32:Sensor - After Treatment, Temperature	68085774AB 68085778AA								
H33:Sensor - Exhaust Pressure	4928594	4928594	4928594	4928594	4928594	4928594	4928594	4928594	4928594
H34:Sensor - Temperature/Barometric Pressure	4928395	4928395	4928395	4928395	4928395	4928395	4928395	4928395	4928395
H36:Urea Tank Assembly	68085903AA								
H37:Diesel Exhaust Fluid Injector	04627241AB								
H38:Diesel Exhaust Fluid Flange Module	68085913AA								
L03:Nitrous Oxide Sensor	68085740AA								

EPA COMP CODE	AA-400	AA-401	AA-402	AM-100	AM-101	AM-102	AM-200	AM-201	AM-202
L08:Ammonia Sensor	68171181AA								
L16:Crankshaft Position Sensor	2872277	2872277	2872277	2872277	2872277	2872277	2872277	2872277	2872277
M01:Engine Coolant Temp. Sensor	4954905	4954905	4954905	4954905	4954905	4954905	4954905	4954905	4954905
N10:Camshaft	4930770	4930770	4930770	4930770	4930770	4930770	4930770	4930770	4930770
N30:Turbocharger	3798535	3798535	3798535	3798535	3798535	3798535	3798535	3798535	3798535
N31:Charge Air Cooler	52014733AC								
N35:Intake Manifold	5295718	5295718	5295718	5295718	5295718	5295718	5295718	5295718	5295718
N36:Exhaust Manifold / Single	5301441	5301441	5301441	5301441	5301441	5301441	5301441	5301441	5301441
N50:Engine Thermostat	5292712	5292712	5292712	5292712	5292712	5292712	5292712	5292712	5292712
N56:EGR Valve	5254657	5254657	5254657	5254657	5254657	5254657	5254657	5254657	5254657
N57:EGR Cooler	4981669	4981669	4981669	4981669	4981669	4981669	4981669	4981669	4981669
N58:EGR By-Pass Valve	5320759	5320759	5320759	5320759	5320759	5320759	5320759	5320759	5320759
V01:PCV Valve	4936636	4936636	4936636	4936636	4936636	4936636	4936636	4936636	4936636
V07:Mass Airflow Sensor	4984760	4984760	4984760	4984760	4984760	4984760	4984760	4984760	4984760
V08:TMAP Sensor	4921322	4921322	4921322	4921322	4921322	4921322	4921322	4921322	4921322
V71:Crankcase Pressure Sensor	4984575	4984575	4984575	4984575	4984575	4984575	4984575	4984575	4984575
Z01:VECI Label	47480364AA								

## Section 11-100 Engine Parts List

**Cummins Inc.**

**Test Group :**FCEXD06.78VV

**Durability Group:** FCEXDPDNNC01 **Standard Fed:** HDV1 **Cal:** ULEV340

Trans. Code	Sales Code	Transfer Case Sales Code/Drive Code	No. of Gears	Over Drive Gear Ratio	Drive Gear Ratio	Engine Sales Code	Torque Code	Torque Size	Conv Clutch Control Type Calib/Special Features
L6	DG7	2R	6	0.63	3.23,1.84,1.41,1.00,0.83,0.63	ETK	WC	310 MM	Electronically shifted data on file
L6	DG7	DK1 / 4P DK3 / 4P	6	0.63	3.23,1.84,1.41,1.00,0.83,0.63	ETK	WC	310 MM	Electronically shifted data on file
M6	DEG	2R	6	0.74	5.94,3.28,1.98,1.31,1.00,0.74	ETK			
M6	DEG	DK1 / 4P DK3 / 4P	6	0.74	5.94,3.28,1.98,1.31,1.00,0.74	ETK			

Section12-200 Transmission

Chrysler Group LLC

FCExD06.78VV

Durability Group: FCExDPDNNC01 Standard Fed: HDV1 Cal: ULEV340

Asterisk (\*) Indicates Manufacturer has elected to certify at this higher test weight class as allowed by CFR 86.1831-01

Engine Code AA-100 Eng Displ: 6.7L (ETK) Evap Family - Evap Code:

Table with columns: Model, Carline Name, Model Qualifier, Opt, Trans./Tr.Case, Torq./Conv./Catalyst Identifier, GVV, LVW Drive, ALVW Drive, Axle/OTGR, N/V, Tire, Tire Mfr., Tire Constr.Cd., Elec Dyno Q.C., Elec Dyno RLHP, Dyno Coeff 70A, Dyno Coeff 70B, Dyno Coeff 70C, Dyno Coeff 20A, Dyno Coeff 20B, Dyno Coeff 20C. Rows include models DJ2A62, DJ2A81, DJ2A91, DJ2A92, DJ2A62, DJ2A81, DJ2A91, DJ2A92.

Engine Code AA-200 Eng Displ: 6.7L (ETK) Evap Family - Evap Code:

Table with columns: Model, Carline Name, Model Qualifier, Opt, Trans./Tr.Case, Torq./Conv./Catalyst Identifier, GVV, LVW Drive, ALVW Drive, Axle/OTGR, N/V, Tire, Tire Mfr., Tire Constr.Cd., Elec Dyno Q.C., Elec Dyno RLHP, Dyno Coeff 70A, Dyno Coeff 70B, Dyno Coeff 70C, Dyno Coeff 20A, Dyno Coeff 20B, Dyno Coeff 20C. Rows include models DJ7A62, DJ7A81, DJ7A91, DJ7A92, DJ7A62, DJ7A81, DJ7A91, DJ7A92.

Engine Code AA-300 Eng Displ: 6.7L (ETK) Evap Family - Evap Code:

Table with columns: Model, Carline Name, Model Qualifier, Opt, Trans./Tr.Case, Torq./Conv./Catalyst Identifier, GVV, LVW Drive, ALVW Drive, Axle/OTGR, N/V, Tire, Tire Mfr., Tire Constr.Cd., Elec Dyno Q.C., Elec Dyno RLHP, Dyno Coeff 70A, Dyno Coeff 70B, Dyno Coeff 70C, Dyno Coeff 20A, Dyno Coeff 20B, Dyno Coeff 20C. Rows include model DJ2A93.

Engine Code AA-400 Eng Displ: 6.7L (ETK) Evap Family - Evap Code:

Table with columns: Model, Carline Name, Model Qualifier, Opt, Trans./Tr. Case, Torq./Conv./Catalyst Identifier, LVW GVV, ALVW TWC Drive, ALVW TWC Drive, Axle/OTGR, N/V, Tire, Tire Mfr., Tire Constr.Cd., Elec Dyno Q.C., Elec Dyno RLHP, Dyno Coeff 70A, Dyno Coeff 70B, Dyno Coeff 70C, Dyno Coeff 20A, Dyno Coeff 20B, Dyno Coeff 20C.

Engine Code AM-100 Eng Displ: 6.7L (ETK) Evap Family - Evap Code:

Table with columns: Model, Carline Name, Model Qualifier, Opt, Trans./Tr. Case, Torq./Conv./Catalyst Identifier, LVW GVV, ALVW TWC Drive, ALVW TWC Drive, Axle/OTGR, N/V, Tire, Tire Mfr., Tire Constr.Cd., Elec Dyno Q.C., Elec Dyno RLHP, Dyno Coeff 70A, Dyno Coeff 70B, Dyno Coeff 70C, Dyno Coeff 20A, Dyno Coeff 20B, Dyno Coeff 20C.

Engine Code AM-200 Eng Displ: 6.7L (ETK) Evap Family - Evap Code:

Table with columns: Model, Carline Name, Model Qualifier, Opt, Trans./Tr. Case, Torq./Conv./Catalyst Identifier, LVW GVV, ALVW TWC Drive, ALVW TWC Drive, Axle/OTGR, N/V, Tire, Tire Mfr., Tire Constr.Cd., Elec Dyno Q.C., Elec Dyno RLHP, Dyno Coeff 70A, Dyno Coeff 70B, Dyno Coeff 70C, Dyno Coeff 20A, Dyno Coeff 20B, Dyno Coeff 20C.

Section12-300 Vehicle

**Chrysler Group LLC**

**Test Group: FCEXD06.78VV - Engine Code Index**

**Durability Group:** FCEXDPDNNC01 **Standard :** HDV1 / ULEV340 **Vehicle Class:** HDV1 (8501-10000 GVW) / M6-MDV1 (GVW 8501-10000)

**Engine Code: AA-100 - 2500 Pickup 2WD AUTO**

Engine Code	RC #	Date	Engine	Carline	Price Class	Trans. Configuration	GVW Min.	GVW Max.	Test Wt. Min.	Test Wt. Max.	Drive Code	Sales Areas
AA-100	Original	04/22/2014	6.7L/ETK	DJ		L6 / Automatic L6 - Lockup/Automatic/6-speed	10000	9900	7000	8000	RWD	NAS
AA-101	001CM	08/11/2014	Remarks:			For all 6.7L DJ/D2 models – Revised PCM Calibration (V1). The changes include update to SCR inducements for DEF quality. Also includes other minor changes and OBD robustness improvements. There is no impact on durability, IRAFs, and emissions compliance of this test group. Updated OBD and AECD documentation is being submitted.						
AA-102	002CM	09/17/2014	Remarks:			For all 6.7L DJ/D2 models – Revised PCM Calibration (V2). The changes include higher torque output (for Aisin models only). Also includes other minor changes and OBD robustness improvements. There is no impact on durability, IRAFs, and emissions compliance of this test group. Updated OBD and AECD documentation is being submitted.						

**Engine Code: AA-200 - 2500 Pickup 4WD AUTO**

Engine Code	RC #	Date	Engine	Carline	Price Class	Trans. Configuration	GVW Min.	GVW Max.	Test Wt. Min.	Test Wt. Max.	Drive Code	Sales Areas
AA-200	Original	04/22/2014	6.7L/ETK	DJ		L6 / Automatic L6 - Lockup/Automatic/6-speed	10000	9900	7500	8500	4WD 4X4	NAS
AA-201	001CM	08/11/2014	Remarks:			For all 6.7L DJ/D2 models – Revised PCM Calibration (V1). The changes include update to SCR inducements for DEF quality. Also includes other minor changes and OBD robustness improvements. There is no impact on durability, IRAFs, and emissions compliance of this test group. Updated OBD and AECD documentation is being submitted.						
AA-202	002CM	09/17/2014	Remarks:			For all 6.7L DJ/D2 models – Revised PCM Calibration (V2). The changes include higher torque output (for Aisin models only). Also includes other minor changes and OBD robustness improvements. There is no impact on durability, IRAFs, and emissions compliance of this test group. Updated OBD and AECD documentation is being submitted.						

**Engine Code: AA-300 - 3500 Pickup 2WD AUTO**

Engine Code	RC #	Date	Engine	Carline	Price Class	Trans. Configuration	GVW Min.	GVW Max.	Test Wt. Min.	Test Wt. Max.	Drive Code	Sales Areas
AA-300	Original	04/22/2014	6.7L/ETK	DJ		L6 / Automatic L6 - Lockup/Automatic/6-speed	9900	9900	8000	8000	RWD	NAS
AA-301	001CM	08/11/2014	Remarks:			For all 6.7L DJ/D2 models – Revised PCM Calibration (V1). The changes include update to SCR inducements for DEF quality. Also includes other minor changes and OBD robustness improvements. There is no impact on durability, IRAFs, and emissions compliance of this test group. Updated OBD and AECD documentation is being submitted.						
AA-302	002CM	09/17/2014	Remarks:			For all 6.7L DJ/D2 models – Revised PCM Calibration (V2). The changes include higher torque output (for Aisin models only). Also includes other minor changes and OBD robustness improvements. There is no impact on durability, IRAFs, and emissions compliance of this test group. Updated OBD and AECD documentation is being submitted.						

**Engine Code: AA-400 - 3500 Pickup 4WD AUTO**

Engine Code	RC #	Date	Engine	Carline	Price Class	Trans. Configuration	GVW Min.	GVW Max.	Test Wt. Min.	Test Wt. Max.	Drive Code	Sales Areas
AA-400	Original	04/22/2014	6.7L/ETK	DJ		L6 / Automatic L6 - Lockup/Automatic/6-speed	9900	9900	8000	8000	RWD	NAS
AA-401	001CM	08/11/2014	Remarks:			For all 6.7L DJ/D2 models – Revised PCM Calibration (V1). The changes include update to SCR inducements for DEF quality. Also includes other minor changes and OBD robustness improvements. There is no impact on durability, IRAFs, and emissions compliance of this test group. Updated OBD and AECD documentation is being submitted.						
AA-402	002CM	09/17/2014	Remarks:			For all 6.7L DJ/D2 models – Revised PCM Calibration (V2). The changes include higher torque output (for Aisin models only). Also includes other minor changes and OBD robustness improvements. There is no impact on durability, IRAFs, and emissions compliance of this test group. Updated OBD and AECD documentation is being submitted.						

**Engine Code: AM-100 - 2500 Pickup 2WD MANUAL**

RC #	Date	Engine	Carline	Trans. Configuration
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Engine Code	RC #	Date	Engine	Carline	Price Class	Trans. Configuration	GVW Min.	GVW Max.	Test Wt. Min.	Test Wt. Max.	Drive Code	Sales Areas
AM-100	Original	04/22/2014	6.7L/ETK	DJ		M6/ Manual 6-speed	10000	9900	7500	8000	RWD	NAS
AM-101	001CM	08/11/2014										
Remarks: For all 6.7L DJ/D2 models – Revised PCM Calibration (V1). The changes include update to SCR inducements for DEF quality. Also includes other minor changes and OBD robustness improvements. There is no impact on durability, IRAFs, and emissions compliance of this test group. Updated OBD and AECD documentation is being submitted.												
AM-102	002CM	09/17/2014										
Remarks: For all 6.7L DJ/D2 models – Revised PCM Calibration (V2). The changes include higher torque output (for Aisin models only). Also includes other minor changes and OBD robustness improvements. There is no impact on durability, IRAFs, and emissions compliance of this test group. Updated OBD and AECD documentation is being submitted.												

**Engine Code: AM-200 - 2500 Pickup 4WD MANUAL**

Engine Code	RC #	Date	Engine	Carline	Price Class	Trans. Configuration	GVW Min.	GVW Max.	Test Wt. Min.	Test Wt. Max.	Drive Code	Sales Areas
AM-200	Original	04/22/2014	6.7L/ETK	DJ		M6/ Manual 6-speed	10000	9900	7500	8500	4WD 4X4 RWD	NAS
AM-201	001CM	08/11/2014										
Remarks: For all 6.7L DJ/D2 models – Revised PCM Calibration (V1). The changes include update to SCR inducements for DEF quality. Also includes other minor changes and OBD robustness improvements. There is no impact on durability, IRAFs, and emissions compliance of this test group. Updated OBD and AECD documentation is being submitted.												
AM-202	002CM	09/17/2014										
Remarks: For all 6.7L DJ/D2 models – Revised PCM Calibration (V2). The changes include higher torque output (for Aisin models only). Also includes other minor changes and OBD robustness improvements. There is no impact on durability, IRAFs, and emissions compliance of this test group. Updated OBD and AECD documentation is being submitted.												

**Test Group: FCEXD06.78VV - No Engine Code Changes**

**Durability Group: FCEXDPDNNC01 Standard Fed: HDV1 Cal: ULEV340**

RC #	Submission Date	Description
No Results Found		

Section12-500 Engine Code Index



Cummins Incorporated

Section 12 - Vehicle and Test Parameters

Vehicle Parameters

Valves per cylinder

Engine  
All 6.7L - 4

SIL usage:

See shift schedule table

Cooling fan configuration:

Models  
All - One fan center front

Additional Cooling:

Models  
All - None

Evaporative Testing Parameters:

Models  
Not Applicable

Fuel temperature Profile:

Models  
Not Applicable

Special Test Procedure:

Models  
All - none

Test Parameters



April 22, 2014

Mr. Joel Dalton,  
Vehicle Programs Group  
Certification and Compliance Division  
U.S. Environmental Protection Agency  
2000 Traverwood Drive  
Ann Arbor, Michigan 48105

Dear Mr. Dalton:

**Re: 2015 Model Year HDV (8,501 – 10,000 lbs GVWR) Certificate of Conformity Request**

Cummins Inc requests a 2015 Certificate of Conformity for the 6.7L 50 State test group FCEXD06.78VV / Durability Group FCEXDPDNNC01. This test group is being certified to 50-State HDV standards and California LEVIII ULEV340 emissions. Cummins Inc agrees that the exhaust and evaporative emission standards listed below and in the application for certification apply to both certification and in-use vehicles according to the provisions of 40 CFR, Parts 86, as applicable. The FTP emission standards (g/mile) for this HDV1 test group are as follows:

<u>Emission Standards</u>	<u>Useful Life</u>	<u>NMOG</u>	<u>CO</u>	<u>NOX</u>	<u>HCHO</u>	<u>PM</u>
HDV1 (Federal)	120K	0.195	7.3	0.2	0.032	0.02
LEVIII ULEV340 (California)	150K	0.340 <sup>1</sup>	6.4	-	0.006	0.06

<sup>1</sup>ARB NOx+NMOG standard is 0.340 g/mile.

Models are as follows:

<u>Division</u>	<u>Model</u>
Ram	Ram 2500 Pickup 2WD/4WD
Ram	Ram 3500 Pickup 2WD/4WD

If there are any questions regarding this submission, please contact Ravinder D Singh at (248) 576-5504 or Matt Psota Bhagwat at (812) 377-7899.

Sincerely,

*RDSingh*

Ravinder D Singh  
Cummins Inc



April 22, 2014

Ms. Annette Hebert  
New Vehicle/Engine Programs Branch  
Haagen-Smit Laboratory  
P.O Box 8001  
9528 Telstar Avenue  
El Monte, California 91734-8001

Dear Ms. Hebert:

**Re: 2015 Model Year MDV (8,501 – 10,000 lbs GVWR) Executive Order Request**

Cummins Inc requests a 2015 Executive Order for the 6.7L 50 State test group FCEXD06.78VV / Durability Group FCEXDPDNNC01. This test group is being certified to 50-State HDV standards and California LEVIII ULEV340 emissions standard. Cummins Inc agrees that the exhaust and evaporative emission standards listed below and in the application for certification apply to both certification and in-use vehicles according to the provisions of 40 CFR, Parts 86, as applicable. The FTP emission standards (g/mile) for this test group are as follows:

<u>Emission Standards</u>	<u>Useful Life</u>	<u>NOx+NMOG</u>	<u>CO</u>	<u>HCHO</u>	<u>PM</u>
LEVIII ULEV340 (California)	150K	0.340	6.4	0.006	0.06

If there are any questions regarding this submission, please contact Ravinder D Singh at (248) 576-5504 or Matt Psota at (812) 377-7899.

Sincerely,

A handwritten signature in black ink that reads 'RDSingh'.

Ravinder D Singh  
Certification Engineer  
Cummins Inc.

cc: Lucky Benedict

Date:04/21/2014

**Manufacturer Contact Information:**

Manufacturer Name: Cummins Inc Fax Number: (optional)  
Contact Name: Ravinder D Singh Email Address: ravinder.d.singh@cummins.com  
Phone Number: (248) 576-5504

Calendar Year: 2014~2014 Fe

Family Name: FCEXD06.78VV

For dual U.S. / IMO Marine only, also give IMO name:

Certification Request Type:  On Highway  Nonroad

**On-Highway Certification Types:**

- LDV** Light-duty Vehicles (Chassis Certification - Federal Certificate)
- LDT** Light-duty Trucks (Chassis Certification - Federal Certificate)
- MDPV** Medium-duty Passenger Vehicles (Chassis Certification - Federal Certificate)
- HDV** Heavy-duty Vehicles(Chassis Certification - Federal Certificate)
- HDE** Heavy-duty Engine (Engine Dynamometer Certification - Federal Certificate)
- LD ICI** Light-duty Vehicles for Independent Commercial Importers
- MDPV ICI** Medium-duty Passenger Vehicles for Independent Commercial Importers
- HDV ICI** Heavy-duty Vehicles for Independent Commercial Importers
- MOTORCYCLE** On-highway Motorcycles
- LDV** Light-duty Vehicles (Chassis Certification - California-Only)
- LDT** Light-duty Trucks (Chassis Certification - California-Only)
- MDPV** Medium-duty Passenger Vehicles (Chassis Certification - California-Only)
- HDV** Heavy-duty Vehicles(Chassis Certification - California-Only)
- HDE CALIF-ONLY** Heavy-duty Engine California-Only Certification
- HDV EVAP** Heavy-duty Evaporative System

**Nonroad Certification Types:**

- NR CI** Nonroad Engine Compression-Ignition (excludes Locomotives, Marine and Recreational)
- NR SI** Nonroad Engine Spark-Ignition
- Locomotives** All Locomotives
- Recreational** Recreational Vehicles (except marine engines)
- All Marine**
- Component Certification for Evaporative Emmissions**

**Fee Payment Information:**

Do you qualify for reduced fee? No

Are you an Independent Commercial Importer? No

Make of the model(s) (list all that apply, separated by commas):

[Redacted]

Model name(s) of vehicle or engine under this engine family/test group (list all that apply, separated by commas):

[Redacted]

Year of the vehicle(s) or engine(s) (list all that apply, separated by commas):

[Redacted]

VIN(s) of the model(s) (list all that apply, separated by commas. Enter "TBD" if unknown):

[Redacted]

Has a certificate been issued? [Redacted]

What is the total number of the vehicles, engines or units covered? [Redacted]

What is the aggregate total retail value of the vehicles, engines or units covered? \$ [Redacted]

**Payment Details:**

Amount Owed (U.S. Funds Only): \$ 28528.00

Payment Type: Online Credit Card

Enter the check number: [Redacted]

Before paying offline please click the PDF Preview button below to print out the form.

Submit Data

**Online Payment****Step 3: Confirm Payment**

1 | 2 | 3

**Thank you.****Your transaction has been successfully completed.****Pay.gov Tracking Information****Application Name:** Motor Vehicle and Engine Compliance Program Fees**Pay.gov Tracking ID:** 25FCNKQ5**Agency Tracking ID:** 74604860230**Transaction Date and Time:** 04/21/2014 13:45 EDT**Payment Summary****Address Information****Account Holder Name:** Victor Schneider  
500 Jackson**Billing Address:** St**Billing Address 2:****City:** Columbus**State / Province:** IN**Zip / Postal Code:** 47201**Country:** USA**Account Information****Card Type:** Visa**Card Number:** \*\*\*\*\*3636**Engine Family:** FCEXD06.78VV**Payment Information****Payment Amount:** \$28,528.00**Transaction Date and Time:** 04/21/2014  
13:45 EDT



**Chrysler Group LLC**

**VEHICLE EMISSION CONTROL INFORMATION**

CONFORMS TO REGULATIONS:  
2015 MY

U.S. EPA: HDV OBD: CA OBD II FUEL: DIESEL

CALIFORNIA: LEV III MDV OBD: CA OBD II FUEL: DIESEL

THIS VEHICLE IS CERTIFIED BY CUMMINS INC. FOR CHRYSLER GROUP LLC

NO ADJUSTMENTS NEEDED

**47480 364AA**

GROUP: FCEXD06.78VW

ENGINE: 6.7L



TC / DFI / CAC / DPF

OC / EGR / EGRC

SCRC / NH3OC / NH3S / NOXS



**Certification Summary Information Report**

**Manufacturer** Cummins Inc. **Manufacturer Code** CEX  
**Test Group** FCExD06.78VV **Evaporative/Refueling Family** N/A  
**Certificate Number** N/A **CARB Executive Order #** N/A  
**Certificate Issue Date** N/A **Certificate Revision Date** N/A  
**Certificate Effective Date** N/A **Conditional Certificate** --  
**CSI Revision #** N/A **CSI Submission/Revision Date** 06/30/2014  
**Model Year** 2015

**Test Group Information**

**CSI Type** Update for Correction **Running Change Reference Number** N/A  
**GHG Exempt Status** Not Exempt

**Drive Sources and Fuel(s)**

**Drive Source #1:** Combustion Engine

Fuel	Basic Fuel Metering System	Lean Burn Strategy Indicator
Diesel	Common Rail Direct Diesel Injection	--

**Hybrid Indicator**

No

**Multiple Fuel Storage**

--

**Multiple Fuel Combustion**

--

**Fuel Cell Indicator**

--

**Federal Clean Fuel Vehicle**

No

**Federal Clean Fuel Vehicle ILEV**

No

**Durability Group Name**

FCExDPDNNC01

**Reduced Fee Test Group**

No

**Complies with HD GHG 2b/3 regulations?**

Yes

**Introduction into Commerce Date**

--

**Independent Commercial Importer?**

--

**SFTP Compliance Indicator**

No

**OBD Compliance Type**

CARB

**Mfr Test Group Comments**

Ram 2500 Pickup 2WD/4WD and Ram 3500 Pickup 2WD/4WD

**Mfr Exhaust / Evap Standards Comments**

--

Test Group		FCEXD06.78VV		Evaporative/Refueling Family		N/A	
Models Covered by this Certificate							
Carline Manufacturer	Division	Carline	Certification Region Code(s)	Drive System	Trans - Type	- # of Gears	Trans - Lockup
Cummins Inc.	2 - Ram	930 - 2500 4X2	Federal	2-Wheel Drive, Rear	Automatic	6	Yes
Cummins Inc.	2 - Ram	955 - 3500 4X4	California + CAA Section 177 states	4-Wheel Drive	Automatic	6	Yes
Cummins Inc.	2 - Ram	930 - 2500 4X2	California + CAA Section 177 states	2-Wheel Drive, Rear	Automatic	6	Yes
Cummins Inc.	2 - Ram	950 - 3500 4X2	Federal	2-Wheel Drive, Rear	Automatic	6	Yes
Cummins Inc.	2 - Ram	955 - 3500 4X4	Federal	4-Wheel Drive	Automatic	6	Yes
Cummins Inc.	2 - Ram	930 - 2500 4X2	Federal	2-Wheel Drive, Rear	Manual	6	No
Cummins Inc.	2 - Ram	935 - 2500 4X4	Federal	4-Wheel Drive	Automatic	6	Yes
Cummins Inc.	2 - Ram	935 - 2500 4X4	California + CAA Section 177 states	4-Wheel Drive	Manual	6	No
Cummins Inc.	2 - Ram	935 - 2500 4X4	California + CAA Section 177 states	4-Wheel Drive	Automatic	6	Yes
Cummins Inc.	2 - Ram	935 - 2500 4X4	Federal	4-Wheel Drive	Manual	6	No
Cummins Inc.	2 - Ram	930 - 2500 4X2	California + CAA Section 177 states	2-Wheel Drive, Rear	Manual	6	No
Cummins Inc.	2 - Ram	950 - 3500 4X2	California + CAA Section 177 states	2-Wheel Drive, Rear	Automatic	6	Yes
<b>Engine Description</b>							
Hybrid Type	--						
Engine Type	4-Stroke Compression Ignition						
Engine Block Arrangement	Inline						
Camless Valvetrain Indicator	No						
Number of Cylinders/Rotors	6						
<b>After Treatment Device(s) (ATD)</b>							
ATD Number	ATD Type	ATD Precious Metal	Substrate Material	Substrate Construction			
1	Oxidation catalyst	Platinum + Palladium	Ceramic	Other			
2	Diesel Particulate Filter	Platinum	Ceramic	Other			
3	Selective Catalytic Reduction	Copper-Zeolite	Ceramic	Other			
4	Other	Platinum	Ceramic	Other			
<b>Mfr After Treatment Device (ATD) Comments</b>							
--							
<b>Direct Ozone Reduction (DOR) Device</b>							
Not Equipped							
<b>Mfr Emission Control Device Comments</b>							
--							

Test Group	FCEXD06.78VV	Evaporative/Refueling Family	N/A							
<b>Engine Configuration Number 1</b>										
Engine Displacement (liters)	6.7	Engine Rated Horsepower	370							
Number of Inlet Valves Per Cylinder	2	Number of Exhaust Valves Per Cylinder	2							
Air Aspiration Method	Turbocharged	Number of Air Aspiration Devices	1							
Air Aspiration Device Configuration	Single	Charge Air Cooler Type	Air							
Cylinder Deactivation Description	N/A	Variable Valve Lift System	N/A							
Variable Valve Timing System Description	N/A	Air/Fuel Sensor # 1 Description	N/A							
Number of Knock Sensors	0	Air/Fuel Sensor # 2 Description	N/A							
Air/Fuel Sensor # 1 Type	Nitrogen oxide	EGR Type	Electronic/Electric							
Air/Fuel Sensor # 2 Type	Nitrogen oxide	Air Injection Type	--							
Mfr Air/Fuel Sensor Comments	--									
Exhaust Gas Recirculation	Yes									
Cooled Exhaust Gas Recirculation	Yes									
Closed Loop Air Injection System	No									
Mfr Engine Configuration Comments	370 HP@2800 RPM/800 ft-lb@1600 RPM for Auto transmission									
<b>Engine Configuration Number 2</b>										
Engine Displacement (liters)	6.7	Engine Rated Horsepower	350							
Number of Inlet Valves Per Cylinder	2	Number of Exhaust Valves Per Cylinder	2							
Air Aspiration Method	Turbocharged	Number of Air Aspiration Devices	1							
Air Aspiration Device Configuration	Single	Charge Air Cooler Type	Air							
Cylinder Deactivation Description	N/A	Variable Valve Lift System	N/A							
Variable Valve Timing System Description	N/A	Air/Fuel Sensor # 1 Description	N/A							
Number of Knock Sensors	0	Air/Fuel Sensor # 2 Description	N/A							
Air/Fuel Sensor # 1 Type	Nitrogen oxide	EGR Type	Electronic/Electric							
Air/Fuel Sensor # 2 Type	Nitrogen oxide	Air Injection Type	--							
Mfr Air/Fuel Sensor Comments	--									
Exhaust Gas Recirculation	Yes									
Cooled Exhaust Gas Recirculation	Yes									
Closed Loop Air Injection System	--									
Mfr Engine Configuration Comments	350 HP@2800 RPM/660 ft-lb@1400 RPM for Manual transmission									
<b>Official Test Numbers</b>										
Test Group	FTP	US06	SC03	Cold CO	Highway	EPA City Litmus Value	EPA City Litmus Threshold	EPA Highway Litmus Value	EPA Highway Litmus Threshold	CREE Weighting Factor
Diesel	FCEX10030909	--	--	--	FCEX10030910	N/A	12.2	N/A	16.7	N/A

<b>Test Group</b>	FCEXD06.78VV		<b>Evaporative/Refueling Family</b>	N/A			
<b>Emission Data Vehicle Information</b>							
<b>Vehicle ID / Configuration</b>	V4DJ75651 / 0						
<b>Vehicle Model</b>	RAM 2500						
<b>Represented Test Vehicle Make</b>	RAM 2500		<b>Represented Test Vehicle Model</b>	RAM 2500			
<b>Drive Sources and Fuel System Details</b>							
<b>Drive Source and Fuel#</b>		<b>Drive Source</b>	<b>Fuel</b>				
1		Combustion Engine	Diesel				
<b>Hybrid Indicator</b>	N						
<b>Multiple Fuel Storage</b>	--						
<b>Fuel Cell Indicator</b>	--						
<b>Rechargeable Energy Storage System</b>	--						
<b>Off-board charge Capable Indicator</b>	--						
<b>Transmission Type</b>	Automatic						
<b>Engine Code</b>	AA-200						
<b>Displacement (liters)</b>	6.7						
<b>Equivalent Test Weight (pounds)</b>	9000						
<b>Drive Mode While Testing</b>	2-Wheel Drive, Rear						
<b>Aged Emission Components</b>	4,000 (mi)						
<b>Dynamometer Coefficients:</b>							
<b>Target Coefficients</b>							
<b>Coefficient Category</b>	<b>A (lbf)</b>	<b>B (lbf/mph)</b>	<b>C (lbf/mph**2)</b>	<b>A (lbf)</b>	<b>B (lbf/mph)</b>	<b>C (lbf/mph**2)</b>	<b>EPA Calculated Total Road Load Horse Power for City/Highway/Evap Coefficients</b>
<b>City/Highway/Evap</b>	58.74	2.7067	0.01654	46.68	0.6634	0.03739	31.4
<b>Manufacturer Test Vehicle Comments</b>					--		

**Certification Summary Information Report**

<b>Test Group</b>	FCEXD06.78VV	Evaporative/Refueling Family	N/A
<b>Test #</b>	FCEX10030909	<b>Test Procedure</b>	2 - CVS 75 and later (w/o can. load)
<b>Exhaust Test # for this Evap Test</b>	N/A	<b>Test Fuel Type</b>	19 - Federal Cert Diesel 7-15 PPM Sulfur
<b>Test Date</b>	03/26/2014	<b>Fuel</b>	Diesel
<b>Vehicle Class</b>	HDV1 (Federal HD chassis Class 2b GVW 8501-10000), MDV6 (Cal. LEV 2/3 MDV GVW 8501-10000)	<b>DF Type</b>	Mfr. Determined
<b>Verify Test Lab ID</b>	CTC		
<b>Test Results</b>			
<b>Test Result Name</b>	<b>Unrounded Test Result</b>	<b>Verify Calculated FE MPG Equivalent Value</b>	
CH4 - Methane	0.014789	--	
Carbon Monoxide	0.095014	--	
Drive Trace Absolute Speed Change Rating	-1.002	--	
Drive Trace Energy Economy Rating	-1.042	--	
Drive Trace Inertia Work Ratio Rating	0	--	
Manufacturer Fuel Economy	15.67	15.67	
Nitrogen Oxide	0.104951	--	
Nitrous Oxide	0.01992	--	
Non-methane Hydrocarbon	0.013576	--	
Particulate Matter	0.0005	--	
Total Hydrocarbon	0.026661	--	
<b>Test Result Name</b>	<b>Unrounded Test Result</b>	<b>Verify Calculated CREE/OPT-CREE</b>	
Carbon-Related Exhaust Emissions	649	649	
<b>Test Result Name</b>	<b>Unrounded Test Result</b>	<b>Verify Calculated CO2</b>	
Carbon dioxide	648.73614	--	
<b>Manufacturer Test Comments</b>	DT-IWRR is currently not calculated by the test lab		

## Certification Summary Information Report

Test Group		Evaporative/Refueling Family										N/A	
Certification Region	Useful Life	Standard Level	Emission Name	Rounded Result	RAF	NMOG/NM HC Ratio	Diesel Adjustment Factor	Add DF	Mult DF	Certification Level	Standard	Pass/Fail	
													FCEXD06.78VV
Fed	120,000 miles	HDV1 (Federal HD chassis Class 2b GVV 8501-10000)	CO	0.10	--	--	0.0013 UP	0.0536	--	0.2	7.3	Pass	
Fed	120,000 miles	HDV1 (Federal HD chassis Class 2b GVV 8501-10000)	CO2	649	--	--	0.00 UP	0.0	--	649	--	--	
Fed	120,000 miles	HDV1 (Federal HD chassis Class 2b GVV 8501-10000)	HC-NM	0.0136	--	--	0.0003 UP	0.0012	--	0.015	0.195	Pass	
Fed	120,000 miles	HDV1 (Federal HD chassis Class 2b GVV 8501-10000)	NOX	0.10	--	--	0.0159 UP	0.00	--	0.1	0.2	Pass	
Fed	120,000 miles	HDV1 (Federal HD chassis Class 2b GVV 8501-10000)	PM	0.000	--	--	0.00 UP	0.00	--	0.00	0.02	Pass	
CA	150,000 miles	California LEV-III ULEV340	CO	0.10	--	--	0.0013 UP	0.0675	--	0.2	6.4	Pass	
CA	150,000 miles	California LEV-III ULEV340	PM	0.000	--	--	0.00 UP	0.00	--	0.00	0.06	Pass	

**NOTE: For Non-charge depleting tests, the Rounded Result for CO2 Emission name is a Verify-calculated value.**

**Certification Summary Information Report**

<b>Test Group</b>	FCEXD06.78VV	Evaporative/Refueling Family	N/A
<b>Test #</b>	FCEX10030910	<b>Test Procedure</b>	<b>3 - HWFE</b>
<b>Exhaust Test # for this Evap Test</b>	N/A	<b>Test Fuel Type</b>	19 - Federal Cert Diesel 7-15 PPM Sulfur
<b>Test Date</b>	03/26/2014	<b>Fuel</b>	N/A
<b>Vehicle Class</b>	N/A	<b>DF Type</b>	Mfr. Determined
<b>Verify Test Lab ID</b>	CTC		
<b>Test Results</b>			
<b>Test Result Name</b>		<b>Unrounded Test Result</b>	<b>Verify Calculated FE MPG Equivalent Value</b>
CH4 - Methane		0.002975	--
Carbon Monoxide		0.049634	--
Drive Trace Absolute Speed Change Rating		-3.409	--
Drive Trace Energy Economy Rating		-0.223	--
Drive Trace Inertia Work Ratio Rating		0	--
Manufacturer Fuel Economy		24.165	24.165
Nitrogen Oxide		0.07297	--
Nitrous Oxide		0.27874	--
Non-methane Hydrocarbon		0.00061	--
Total Hydrocarbon		0.003242	--
<b>Test Result Name</b>		<b>Unrounded Test Result</b>	<b>Verify Calculated CREE/OPT-CREE</b>
Carbon-Related Exhaust Emissions		421.0881	421
<b>Test Result Name</b>		<b>Unrounded Test Result</b>	<b>Verify Calculated CO2</b>
Carbon dioxide		420.79	--
<b>Manufacturer Test Comments</b>	DT-IWRR is currently not calculated by test lab		

Test Group		FCEXD06.78VV		Evaporative/Refueling Family		N/A			
Exhaust Standards									
Cert Region	Vehicle Class	Fuel	California + CAA Section 177 states MDV6 (Cal. LEV 2/3 MDV GVW 8501-10000) Diesel	Cert/In-Use Code Standard Level Test Procedure	Cert California LEV-III ULEV340 CVS 75 and later (w/o can. load)				
Useful Life	Emission Name	Rounded Result	RAF	NMOG/ NMHC	Upward Diesel Adjustment Factor	Downward Diesel Adjustment Factor	Mult DF	Add DF	Std
150,000 miles	CO	--	--	--	0.0013	0.0	--	0.0675	6.4
150,000 miles	HCHO	--	--	--	0.000	0.000	--	0.000	0.006
150,000 miles	NMOG+NOX	--	--	--	0.0162	0.0	--	0.00	0.340
150,000 miles	PM	--	--	--	0.00	0.0	--	0.00	0.06
Cert Region	Vehicle Class	Fuel	Federal HDV1 (Federal HD chassis Class 2b GVW 8501-10000) Diesel	Cert/In-Use Code Standard Level Test Procedure	Cert HDV1 (Federal HD chassis Class 2b GVW 8501-10000) CVS 75 and later (w/o can. load)				
Useful Life	Emission Name	Rounded Result	RAF	NMOG/ NMHC	Upward Diesel Adjustment Factor	Downward Diesel Adjustment Factor	Mult DF	Add DF	Std
120,000 miles	CO	--	--	--	0.0013	0.0	--	0.0536	7.3
120,000 miles	CO2	--	--	--	0.00	0.0	--	0.0	656
120,000 miles	HC-NM	--	--	--	0.0003	0.0	--	0.0012	0.195
120,000 miles	NOX	--	--	--	0.0159	0.0	--	0.00	0.2
120,000 miles	PM	--	--	--	0.00	0.0	--	0.00	0.02
Cert Region	Vehicle Class	Fuel	California + CAA Section 177 states MDV6 (Cal. LEV 2/3 MDV GVW 8501-10000) Diesel	Cert/In-Use Code Standard Level Test Procedure	Cert California LEV-III ULEV340 HWFE				
Useful Life	Emission Name	Rounded Result	RAF	NMOG/ NMHC	Upward Diesel Adjustment Factor	Downward Diesel Adjustment Factor	Mult DF	Add DF	Std
150,000 miles	NMOG+NOX	--	--	--	0.0162	0.0	--	0.00	0.340

Test Group	FCEXD06.78VV	Evaporative/Refueling Family	N/A
<b>Glossary</b>			
<b>Useful Life</b>			
4	4,000 miles	120	120,000 miles
50	50,000 miles	150	150,000 miles
100	100,000 miles		
<b>Emission Name</b>			
HC-TOTAL	Total Hydrocarbon	MFR FE	Manufacturer Fuel Economy
CO	Carbon Monoxide	HC	Hydrocarbon for Running Loss and ORVR
CO2	Carbon dioxide	METHANE	CH4 - Methane
CREE	Carbon-Related Exhaust Emissions	METHANOL	CH3OH - Methanol
OPT-CREE	Optional Carbon-Related Exhaust Emissions	N2O	Nitrous Oxide
NOX	Nitrogen Oxide	SPTBACK	Spitback Hydrocarbon in grams
PM	Particulate Matter	AMP-HRS	Integrated Amp-hours
PM-COMP	SFTP Composite Particulate Matter	START-SOC	System Start State of Charge Watt-hours
HC-NM	Non-methane Hydrocarbon	END-SOC	System End State of Charge Watt-hours
OMHCE	Organic material Hydrocarbon Equivalent	ACT-DISTANCE	Actual Distance Driven (miles)
OMNMHCE	Organic material non-methane HC equivalent	AS-VOLT	Average System Voltage
NMOG	Non-methane organic gas (California)	CO2 BAG 1	Bag 1 Carbon Dioxide
HCHO	Formaldehyde	CO2 BAG 2	Bag 2 Carbon Dioxide
H3C2HO	Acetaldehyde	CO2 BAG 3	Bag 3 Carbon Dioxide
HC-NM+NOX	SFTP Non-methane Hydrocarbon + Nitrogen Oxides for US06 or SC03	CO2 BAG 4	Bag 4 Carbon Dioxide
HC-NM+NOX-COMP	SFTP Composite Non-methane Hydrocarbon + Nitrogen Oxides	NMOG+NOX	Non-methane organic gases plus Nitrogen Oxides
CO-COMP	SFTP Composite Carbon Monoxide	NMOG+NOX-COMP	SFTP Composite Non-methane Organic Gases + Nitrogen Oxides
ETHANOL	C2H5OH - Ethanol	DT-IWRR	Drive Trace Inertia Work Ratio Rating
FE BAG 1	Bag 1 Fuel Economy	DT-ASCR	Drive Trace Absolute Speed Change Rating
FE BAG 2	Bag 2 Fuel Economy	DT-EER	Drive Trace Energy Economy Rating
FE BAG 3	Bag 3 Fuel Economy	COMB-CREE	Combined Carbon-Related Exhaust Emissions
FE BAG 4	Bag 4 Fuel Economy	COMB-OPT-CREE	Combined Optional Carbon-Related Exhaust Emissions
<b>Certification Region</b>			
CA	California + CAA Section 177 states	FA	Federal
<b>Exhaust Emission Standard Level</b>			
B1	Federal Tier 2 Bin 1	L2SULEV30	California LEV-II SULEV30
B2	Federal Tier 2 Bin 2	L2LEV395	California LEV-II LEV395
B3	Federal Tier 2 Bin 3	L2ULEV340	California LEV-II ULEV340
B4	Federal Tier 2 Bin 4	L2LEV630	California LEV-II LEV630
B5	Federal Tier 2 Bin 5	L2ULEV570	California LEV-II ULEV570
B6	Federal Tier 2 Bin 6	L3LEV160	California LEV-III LEV160
B7	Federal Tier 2 Bin 7	L3ULEV125	California LEV-III ULEV125
B8	Federal Tier 2 Bin 8	L3ULEV70	California LEV-III ULEV70

**Certification Summary Information Report**

Test Group	FCEXD06.78VV	Evaporative/Refueling Family	N/A
B9	Federal Tier 2 Bin 9	L3ULEV50	California LEV-III ULEV50
B10	Federal Tier 2 Bin 10	L3SULEV30	California LEV-III SULEV30
B11	Federal Tier 2 Bin 11	L3SULEV20	California LEV-III SULEV20
HDV1	HDV1 (Federal HD chassis Class 2b GVW 8501-10000)	L3LEV395	California LEV-III LEV395
HDV2	HDV2 (Federal HD chassis Class 3 GVW 10001-14000)	L3ULEV340	California LEV-III ULEV340
L2	California LEV-II LEV	L3ULEV250	California LEV-III ULEV250
L2OP	California LEV-II LEV Optional	L3ULEV200	California LEV-III ULEV200
U2	California LEV-II ULEV	L3SULEV170	California LEV-III SULEV170
S2	California LEV-II SULEV	L3SULEV150	California LEV-III SULEV150
ZEV	California ZEV	L3LEV630	California LEV-III LEV630
OT	Other	L3ULEV570	California LEV-III ULEV570
T1	Federal Tier 1	L3ULEV400	California LEV-III ULEV400
PZEV	California PZEV	L3ULEV270	California LEV-III ULEV270
L2LEV160	California LEV-II LEV160	L3SULEV230	California LEV-III SULEV230
L2ULEV125	California LEV-II ULEV125	L3SULEV200	California LEV-III SULEV200
<b>Transmission Type Code</b>			
AMS	Automated Manual-Selectable (e.g. Automated Manual with paddles)	M	Manual
A	Automatic	OT	Other
AM	Automated Manual	SA	Semi-Automatic
CVT	Continuously Variable	SCV	Selectable Continuously Variable (e.g. CVT with paddles)
<b>Drive System Code</b>			
4	4-Wheel Drive	P	Part-time 4-Wheel Drive
F	2-Wheel Drive, Front	A	All Wheel Drive
R	2-Wheel Drive, Rear		
<b>Additional Terms and Acronyms</b>			
AFC	Alternative Fuel Converter	ICI	Independent Commercial Importer
CSI	Certificate Summary Information	ORVR	Onboard Refueling Vapor Recovery
DF	Deterioration Factor	SIL	Shift Indicator Light
Evap	Evaporation, Evaporative	Trans	Transmission

# Exhibit 47



# Cummins Incorporated

Application for Certification  
Part 1 Update

2015 Model Year

Durability Group: FCEXDPDNNC01  
Evaporative Families: Not Applicable

Test Group: FCEXD06.78WV

EPA Summary Sheet ID #: CSI-FCEXD0.678WV  
Four Stroke, Diesel Cycle, Diesel Fueled, Direct Injection

6.7 Liter I-6

HDV (10,001 - 14,000 lbs GVWR)

Applicable Standards:

50 State: - FEDERAL HDV2, California LEVIII ULEV570

Vehicles Covered:

Dodge Ram 3500 Pickup 2WD/4WD

Vehicles Run:

Vehicle ID 6292

For questions, Ravinder D Singh (248) 576-5504 Bhushan Pawar (631) 455-7583



Cummins Incorporated  
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VECI Label

Confidential Information for Test Group

California Unique Information :

VIS for Data Fleet

Data Fleet Test Logs

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Cummins Incorporated

Section 1 Correspondence and Communication

For questions dealing with the Part I application for this Test Group contact:

Name	Title	Responsibility	Phone	E-mail	Fax
Bhushan Pawar	Certification Engineer	Application Submission	631-455-7583	bhushan.pawar@cummins.com	248.576.7928
Steve Mazure	Manager - Certification Team	Certification Programs	248.576.5471	srm2@chrysler.com	248.576.7928
Ravinder D Singh	Manager - Certification Team	Certification Programs	248-576-5504	ravinder.d.singh@cummins.com	248.576.7928

Section 2 Durability Group Description

Durability Group Name: FCXDPDNNC01

For a complete description of the Durability Group Description please see:  
"Common Section Book - Section 2. Durability Group Description"

Section 3 Evaporative/Refueling Family Description

Not Applicable



Cummins Incorporated

Section 4 Durability Procedure Description

Durability Group: FCXDPDNNC01

Durability Provision Statement:

Based on Cummins Inc.'s good engineering judgement, all the vehicles described in this Application for Certification comply with all applicable full useful life standards.

For a complete description of the Durability Procedure please see:

"Common Section Book - Section 16. Durability Procedure Description"

Indicate if aged components were used.

Indicate whether additive or multiplicative DF's were used.

List all DF's calculated at both full and intermediate useful life and applicable standards (test results and vehicle description).

Yes

Not Applicable

See attached CSI for DFs and test results  
CARB - Reference Cert Review Sheet

Evaporative/Refueling Family:

Not Applicable

Section 5 Test Group Description

Test Group Name:

FCEXD06.78WW

Engine displacements covered:

6.7 Liter

Arrangement and number of cylinders:

I-6

Vehicle classes covered:

HDV (10,001 - 14,000 lbs GVWR)

Emission standards class:

HDV2

AB71 Qualified Vehicles:

No



# Air Resources Board



**Mary D. Nichols, Chairman**

9480 Telstar Avenue, Suite 4  
El Monte, California 91731 • www.arb.ca.gov

**Edmund G. Brown Jr.**  
Governor

**Matthew Rodriguez**  
Secretary for  
Environmental Protection

June 26, 2014

Reference No. E-14-146

Mr. Robert Weiss, Director  
On-Board Diagnostics and Service Information  
Cummins Incorporated  
500 Jackson Street  
Columbus, Indiana 47201

**SUBJECT:** Approval and Fines of Cummins Inc.'s (Cummins) On-Board Diagnostics II (OBD II) System for 2015 Model Year Cummins Diesel Test Groups FCEXD06.78VV and FCEXD06.78WV for 2015 Model Year Chassis Dynamometer Certified Medium-Duty Ram 2500 and 3500 Pickup Trucks.

Dear Mr. Weiss:

The Air Resources Board's (ARB) On-Board Diagnostics Branch has received the OBD II system descriptions submitted by Cummins for the 2015 model year test groups listed above. Representations made in the application indicate that the system is compliant with the OBD II regulation<sup>1</sup> with the exception of diesel oxidation catalyst (DOC) feedgas monitoring, ammonia (NH3) sensor in-range high monitoring, idle control system fuel injection quantity monitoring, vehicle speed sensor rationality monitoring, improper reductant monitoring, and closed-loop reductant injection control system monitoring. Therefore, ARB approves the 2015 model year OBD II system with six deficiencies. As stated in the email sent by Mr. Robert Weiss dated June 25, 2014, to Mr. Lawson Adams, Cummins has agreed to pay the required fines for the third through sixth deficiencies as a condition of certification. Although not deficient for the 2015 model year, staff has concerns regarding upstream oxides of nitrogen (NOx) sensor out-of-range monitoring, monitoring test results reporting, durability demonstration vehicle testing, certification documentation, engine-off timer rationality monitoring, downstream NOx sensor offset monitoring, diesel exhaust fluid (DEF) tank temperature sensor rationality monitoring, NH3 sensor performance monitoring, DEF tank heater monitoring, exhaust gas recirculation (EGR) system slow response monitoring, boost pressure control system slow response monitoring, and DOC conversion efficiency monitoring. The details of the DOC feedgas monitoring deficiency, NH3 sensor in-range high monitoring deficiency, idle control system fuel injection quantity monitoring deficiency, vehicle speed sensor rationality monitoring deficiency, upstream NOx sensor out-of-range monitoring concern, monitoring test

<sup>1</sup> Unless otherwise noted, all regulation references are to title 13, CCR, section 1968.2.

*The energy challenge facing California is real. Every Californian needs to take immediate action to reduce energy consumption. For a list of simple ways you can reduce demand and cut your energy costs, see our website: <http://www.arb.ca.gov>.*

California Environmental Protection Agency

Mr. Robert Weiss, Director

June 26, 2014

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results reporting concern, durability demonstration vehicle testing concern, certification documentation concern, and engine-off timer rationality concern can be found below. The details regarding the remaining deficiencies and concerns have been provided in previous ARB approval letters (Reference Nos. E-12-188, E-12-225, E-13-156, and E-13-216).

#### DOC Feedgas Monitoring Deficiency

Section (f)(1.2.3)(B) of the regulation requires malfunction detection when the catalyst is unable to generate the necessary feedgas constituents for proper selective catalytic reduction system operation. In previous presentations to ARB, Cummins has claimed that there is a strong correlation between hydrocarbon conversion and nitrogen dioxide generation since both are oxidation processes. As such, Cummins is utilizing the non-methane hydrocarbon (NMHC) catalyst conversion efficiency monitor (P0420) to comply with the feedgas generation monitor. However, ARB is not fully convinced that deterioration of feedgas generation and NMHC conversion are directly correlated. Therefore, staff cannot conclude whether the NMHC conversion efficiency monitor will reliably detect a DOC malfunction when the catalyst is unable to generate the feedgas or whether further DOC deterioration will be necessary to fail the NMHC conversion monitor. The OBD II system is therefore deficient for monitoring of the DOC feedgas capability. If Cummins is to retain the NMHC catalyst conversion efficiency monitor calibration as is, to avoid a deficiency determination on its future model year products Cummins must include a separate monitor to monitor for proper feedgas generation or provide data that demonstrate the failure mechanisms for NMHC conversion efficiency and feedgas generation have a strong correlation and the current calibration indeed detects a malfunction when the feedgas generation capability has reached the real world limit of its deterioration.

#### NH3 Sensor In-Range High Monitoring Deficiency

Section (f)(5.1.1) of the OBD II regulation requires manufacturers to monitor all exhaust gas sensors used for emission control system feedback or as a monitoring device for proper output signal, activity, response rate, and any other parameter that can affect emissions. Additionally, section (f)(5.3.1)(A) requires manufacturers to define monitoring conditions that will ensure monitoring will occur during the Federal Test Procedure (FTP) cycle or Unified cycle and meet minimum ratio requirements set forth in section (d)(3.2). Accordingly, Cummins monitors the NH3 sensor for in-range high malfunctions by comparing the calculated normalized NH3/NOx ratio value to a calibrated threshold. However, during the emission demonstration of this diagnostic Cummins was unable to detect an NH3 sensor in-range high failure during the FTP cycle. Cummins then attempted and failed to detect an NH3 sensor in-range high failure mode during the Unified cycle. Cummins eventually was able to run and complete this diagnostic after 1.5 hours of on-road testing. Staff is concerned that this indicates the diagnostic is unlikely to routinely complete in-use with sufficient frequency.

Mr. Robert Weiss, Director

June 26, 2014

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Therefore, Cummins is considered deficient for NH3 sensor in-range high monitoring. Additionally, Cummins has argued that this issue is not applicable to the Ram 2500 Pickup and only applicable to the Ram 3500 Pickup due to higher aftertreatment temperatures for the Ram 3500 Pickup during the certification cycles. Staff, however, is not convinced that this diagnostic will be able to run and complete on the Ram 2500 Pickup, and as such, Cummins is required to submit data demonstrating that this diagnostic will detect an NH3 sensor in-range high failure during the FTP cycle or Unified cycle.

#### Idle Control System Fuel Injection Quantity Monitoring Deficiency

Section (f)(15.3.2) requires manufacturers to define idle fuel control system monitoring conditions which are determined to be necessary for robust detection of malfunctions and designed to occur under normal operating conditions. Cummins has implemented a 300 second timer delay into its idle control system fuel injection quantity monitor which is activated after engine start regardless of engine coolant temperature. Cummins' reasoning for the timer delay is to avoid instability from control algorithms such as the misfire monitor, which will run after the engine is in a warm state. Based on the information provided staff does not believe a 300 second timer delay alone will ensure the fuel injection quantity monitor will run before the misfire monitor and accordingly the timer delay is unnecessary. The timer delay does not satisfy the requirements above and, therefore, the idle control system fuel injection quantity monitor is deficient.

#### Vehicle Speed Sensor Rationality Monitoring Deficiency

Cummins' OBD II system uses vehicle speed as an enable condition for various monitors (e.g., P020A, P026B and P0506). Section (f)(15.2.1)(A) requires input components to be monitored for electrical, out-of-range values and, where feasible, rationality faults. Accordingly, Cummins has implemented a rationality diagnostic that compares the maximum and minimum vehicle speeds after a 600 second counter window. This rationality diagnostic resets after each counter window and runs repeatedly during engine operation. A fault is detected when the difference between maximum and minimum vehicle speed is less than 0.621 miles per hour and the accelerator pedal position has changed by at least 20 percent at least 30 times in a 600 second counter window. However, this rationality diagnostic makes a pass decision even if the 30 incidents required to make a judgment have not occurred. This monitoring strategy results in false passes and is, therefore, deficient. Staff expects this monitor to readily yield passing decisions when a malfunction is present.

#### Upstream NOx Sensor Out-Of-Range Monitoring Concern

Section (f)(5.2.2)(B) requires the OBD II system to detect malfunctions of the NOx sensor caused by either a lack of circuit continuity or out-of-range values. Cummins' system detects NOx sensor in-range high (P2201-SE5365) malfunctions during a fuel

Mr. Robert Weiss, Director  
June 26, 2014  
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cut by integrating the cumulative sum of error difference between the measured engine-out NOx and the engine-out NOx virtual model and comparing to a malfunction threshold of 100 parts per million. Staff believes the malfunction threshold is overly conservative and is not convinced Cummins has developed a robust monitor based on the existing system. Thus, to avoid a deficiency on future model year vehicles, Cummins is required to improve the monitor to allow for a more feasible detection of failure or present engineering data to support the existing malfunction criteria.

#### Monitoring Test Results Reporting Concern

Section (g)(4.5) of the OBD II regulation requires diagnostic systems to store test results and report them to a generic scan tool via Mode \$06. Test results are to be updated when a more recent valid test result is available. Additionally, the intent of Mode \$06 is for technicians to be able to evaluate the extent of the failure by the means of the degree of separation from the test value to that of the maximum or minimum test limit. However, for a few diagnostics Cummins only reports one failed test result value regardless of the deterioration of the component/system. Reporting the same test result value for all detected failures undermines the intent of Mode \$06 and doesn't allow a technician to assess the magnitude of the failure. In order to avoid a deficiency determination in future model years, Cummins is required to address this concern.

#### Durability Demonstration Vehicle Testing Concern

During demonstration of the EGR system slow response monitor and variable geometry turbine (VGT) slow response monitor, Cummins tested the durability demonstration vehicle with the latest production intent calibration, which included a change to the diesel particulate filter (DPF) efficiency monitor (P2002-SE4758), and consequently, the OBD II system detected a false failure for the DPF efficiency monitor. Cummins investigated the root cause of the false fault and corrected it after demonstration of the EGR system slow response monitor and VGT slow response monitor. Cummins must retest these demonstrations in order to show that the EGR and VGT slow response monitors will run and complete properly without detecting a false failure of the DPF efficiency monitor.

#### Certification Documentation Concern

ARB staff would like to remind Cummins that it must provide detailed and complete information regarding its OBD II system in its application. During the review of this application, staff found many details in the application materials that were incorrect (e.g., incorrect malfunction criteria, incorrect enable conditions, typographical errors, etc.). Additionally, Cummins should avoid using vague definitions (e.g., degraded, failed, engine at idle state, engine cranking, etc.) and should replace the vague definitions with the actual specifications using engineering units. Such mistakes and lack of complete and accurate information must be avoided for timely review in future

Mr. Robert Weiss, Director  
June 26, 2014  
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OBD II applications. Accordingly, Cummins is required to resubmit a clean revised OBD II application to the Document Management System.

Engine-Off Timer Rationality Monitoring Concern

Cummins uses engine-off time as an enable condition for various diagnostics (e.g., P0071, P007B, and P0116). The regulation requires manufacturers to monitor input components for circuit low, circuit high, circuit shorted faults, and to the extent feasible, rationality faults. However, one engine-off timer rationality diagnostic (U3017-SE75324) has been disabled on all systems by Cummins due to false failures discovered in the field. Therefore, Cummins does not satisfy the rationality requirement above and is given a concern for engine-off timer rationality monitoring.

Deficiency Payments

Under the deficiency provisions of section (k) of the OBD II regulation, the deficiencies for which fines apply and the fine amounts per vehicle are defined. Additionally, where practical, the emission level in excess of the required levels has been identified in the details of the deficiencies provided. Therefore, Cummins is subject to fines of \$150 per vehicle for the third through sixth deficiencies for each vehicle that is produced for sale in California from the test groups above. Such fines are to be paid to the State Treasurer for deposit in the Air Pollution Control Fund. The total fines that Cummins will be required to pay will be based on production and distribution records provided by Cummins for the 2015 model year. Cummins could limit its total liability should it elect to implement a running change correcting one or more of these deficiencies during the model year. Vehicles produced subsequent to such changes would be subject to lesser fines.

Should you have questions or comments regarding this letter, please have your staff contact Mr. Lawson Adams, Air Resources Engineer, at (626) 575-6811 or Mr. Dan Kim, Air Resources Engineer, at (626) 575-6671.

Sincerely,



Michael Regenfuss, Chief  
On-Board Diagnostics Branch  
Emissions Compliance, Automotive Regulations and Science Division

cc: See next page

Mr. Robert Weiss, Director  
June 26, 2014  
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cc: Lawson Adams  
Air Resources Engineer  
Emissions Compliance, Automotive Regulations and Science Division

Dan Kim  
Air Resources Engineer  
Emissions Compliance, Automotive Regulations and Science Division



## Cummins Incorporated

### Section 8 Emission testing Waiver Statements

Below is a list clearly identifying the standards applicable to this Test Group for which emission testing was not performed. All Cummins applicable vehicles will conform with the emission standards which emission data is not being provided, as allowed under 40 CFR §86.1829-01 or §86.1810-01.

HCHO

### Section 9 OBD Description

For a complete description of the OBD Description please see: "Common Part 1 Section 16. OBD Description"

For OBD Agency Approvals please see: "Common Part 1 Section 16. Agency Approvals"

OBD Demonstration Compliance Statement: This Test Group meets the full intent of both the Clean Air Act as amended in 1990, section 202(m), and the applicable federal OBD regulations contained in 40 CFR §86.005-17 and 40 CFR §86.1806-01, including a reference to those provisions pertaining to deficiencies in the limited instances where an OBD II system that complies with 1968.2 does not comply with all the requirements of section 1968.1.

Not Applicable

### Section 10 Description of Alternate - Fueled Vehicles

**Cummins Inc.****Test Group - FCExD06.78WV**

EPA COMP CODE	AA-100	AA-200	AA-300	AA-400	AM-100	AM-200
E10:Powertrain Control Module						
E32:Ammonia Control Module						
E33:Flange Control Module						
F40:Throttle Body						
F50:Fuel Injector						
H06:Selective Catalytic Reduction Catalyst Assembly						
H07:Oxidation Catalyst/Particulate Filter Assembly						
H31:Sensor - Differential Pressure						
H33:Sensor - Exhaust Pressure						
H34:Sensor - Temperature/Barometric Pressure						
H36:Urea Tank Assembly						
H37:Diesel Exhaust Fluid Injector						
H38:Diesel Exhaust Fluid Flange Module						
L03:Nitrous Oxide Sensor						
L08:Ammonia Sensor						
N56:EGR Valve						
N57:EGR Cooler						

EPA COMP CODE	AA-100	AA-200	AA-300	AA-400	AM-100	AM-200
N58:EGR By-Pass Valve						
V01:PCV Valve						
Z01:VECI Label						

Section11-100 Engine Parts List

## Cummins Inc.

**Test Group :** FCEXD06.78WV

**Durability Group:** FCEXDPDNNC01 **Standard Fed:** HDV2 **Cal:** ULEV570

Trans. Code	Sales Code	Transfer Case Sales Code/Drive Code	No. of Gears	Over Drive Gear Ratio	Drive Gear Ratio	Engine Sales Code	Torque Code	Torque Size	Conv Clutch Control Type Calib/Special Features
L6	DG7	2R	6	0.63	3.23,1.84,1.41,1.00,0.83,0.63	ETK	WC	310 MM	Electronically shifted data on file
L6	DG7	DK1 / 4P DK3 / 4P	6	0.63	3.23,1.84,1.41,1.00,0.83,0.63	ETK	WC	310 MM	Electronically shifted data on file
L6	DF2	2R	6	0.63	3.75,2.00,1.34,1.00,0.77,0.63	ETK	N/A		Electronically shifted data on file
L6	DF2	DK1 / 4P DK3 / 4P	6	0.63	3.75,2.00,1.34,1.00,0.77,0.63	ETK	N/A		Electronically shifted data on file
M6	DEG	2R	6	0.74	5.94,3.28,1.98,1.31,1.00,0.74	ETK			
M6	DEG	DK1 / 4P DK3 / 4P	6	0.74	5.94,3.28,1.98,1.31,1.00,0.74	ETK			

Section12-200 Transmission

Cummins Inc.

FCEXD06.78WV

Durability Group: FCEXDPDNNC01

Standard Fed: HDV2 Cal: ULEV570

Asterisk (\*) Indicates Manufacturer has elected to certify at this higher test weight class as allowed by CFR 86.1831-01

Engine Code AA-100 Eng Displ: 6.7L (ETK) Evap Family - Evap Code:

Table with columns: Model, Carline Name, Model Qualifier, Opt, Trans./Tr. Case, Torq. Conv./Catalyst Identifier, GVW, LVW TWC Drive Curb, ALVW TWC Drive Curb, Axle / OTGR, NV, Tire, Tire Mfr., Tire Constr.Cd., Elec Dyno Q.C., Elec Dyno RLHP, Dyno Coeff 70A, Dyno Coeff 70B, Dyno Coeff 70C, Dyno Coeff 20A, Dyno Coeff 20B, Dyno Coeff 20C. Rows include models D23A62, D23A91, D23A81, D23A92, D23A62, D23A81, D23A92.

Engine Code AA-200 Eng Displ: 6.7L (ETK) Evap Family - Evap Code:

Table with columns: Model, Carline Name, Model Qualifier, Opt, Trans./Tr. Case, Torq. Conv./Catalyst Identifier, GVW, LVW TWC Drive Curb, ALVW TWC Drive Curb, Axle / OTGR, NV, Tire, Tire Mfr., Tire Constr.Cd., Elec Dyno Q.C., Elec Dyno RLHP, Dyno Coeff 70A, Dyno Coeff 70B, Dyno Coeff 70C, Dyno Coeff 20A, Dyno Coeff 20B, Dyno Coeff 20C. Rows include model D28A62.

Model	Carline Name	Model Qualifier	Opt	Trans./Tr. Case	Torq. Conv./Catalyst Identifier	GVW	LWV TWC Drive Curb	ALWV TWC Drive Curb	Axle / OTGR	N/V	Tire	Tire Mfr.	Tire Constr. Cd.	Elec Dyno Q.C.	Elec Dyno RLHP	Dyno Coeff 70A	Dyno Coeff B	Dyno Coeff 70C	Dyno Coeff 20A	Dyno Coeff 20B	Dyno Coeff 20C													
D28A91 RAM-Cummins: 3500 4X4	L6 - 4WD DG7 / DK1-4P DK3-4P	WC				11700	8000	10000	3.42	26.9	LT285/60R20E TEA TZF	EJ642Q	18.59	31.6	58.37000	2.704500	0.017380	64.21000	2.975000	0.019120														
							8000	10000	3.42	22.6	LT275/70R18E TCN TZF	EJ487Q	19.26	32.1	67.66000	2.794800	0.013350	74.43000	3.074300	0.014690														
							3038	4696	3.42	22.6	LT275/70R18E TCP TZF	EJ496Q	19.08	32.4	69.30000	2.797400	0.013530	76.23000	3.077100	0.014880														
							7842	9771	3.42	22.5	LT285/60R20E TEA TZF	EJ642Q	19.05	32.4	70.59000	2.736700	0.014360	77.65000	3.104000	0.015800														
									3.73	24.7	LT275/70R18E TCN TZF	EJ487Q	19.26	32.1	67.66000	2.794800	0.013350	74.43000	3.074300	0.014690														
									3.73	24.6	LT275/70R18E TCP TZF	EJ496Q	19.08	32.4	69.30000	2.797400	0.013530	76.23000	3.077100	0.014880														
									3.73	24.5	LT285/60R20E TEA TZF	EJ642Q	19.05	32.4	70.59000	2.736700	0.014360	77.65000	3.104000	0.015800														
									4.10	27.1	LT275/70R18E TCN TZF	EJ487Q	19.26	32.1	67.66000	2.794800	0.013350	74.43000	3.074300	0.014690														
									4.10	27.1	LT275/70R18E TCP TZF	EJ496Q	19.08	32.4	69.30000	2.797400	0.013530	76.23000	3.077100	0.014880														
									4.10	26.9	LT285/60R20E TEA TZF	EJ642Q	19.05	32.4	70.59000	2.736700	0.014360	77.65000	3.104000	0.015800														
							D28A92 RAM-Cummins: 3500 4X4	L6 - 4WD DG7 / DK1-4P DK3-4P	WC				12300	8500	10000	3.42	22.6	LT275/70R18E TCN TZF	EJ487Q	19.32	32.0	65.61000	2.608000	0.017600	72.17000	2.868800	0.019360							
														8500	10000	3.42	22.6	LT275/70R18E TCP TZF	EJ496Q	19.14	32.3	67.29000	2.610700	0.017780	74.02000	2.871800	0.019560							
														3069	4857	3.42	22.5	LT285/60R20E TEA TZF	EJ642Q	19.11	32.4	68.67000	2.548500	0.018630	75.54000	2.803400	0.020490							
8015	10157	3.42	22.5	LT275/70R18E TCN TZF	EJ487Q	19.32								32.0	65.61000	2.608000	0.017600	72.17000	2.868800	0.019360														
		3.73	24.6	LT275/70R18E TCP TZF	EJ496Q	19.14								32.3	67.29000	2.610700	0.017780	74.02000	2.871800	0.019560														
		3.73	24.5	LT285/60R20E TEA TZF	EJ642Q	19.11								32.4	68.67000	2.548500	0.018630	75.54000	2.803400	0.020490														
		4.10	27.1	LT275/70R18E TCN TZF	EJ487Q	19.32								32.0	65.61000	2.608000	0.017600	72.17000	2.868800	0.019360														
		4.10	27.1	LT275/70R18E TCP TZF	EJ496Q	19.14								32.3	67.29000	2.610700	0.017780	74.02000	2.871800	0.019560														
		4.10	26.9	LT285/60R20E TEA TZF	EJ642Q	19.11								32.4	68.67000	2.548500	0.018630	75.54000	2.803400	0.020490														
D28A81 RAM-Cummins: 3500 4X4	L6 - 4WD DG7 / DK1-4P DK3-4P	WC				12400								8500	10500	3.42	22.6	LT275/70R18E TCN TZF	EJ487Q	20.02	32.4	67.90000	2.589300	0.018330	74.69000	2.848200	0.020160							
														8500	10500	3.42	22.6	LT275/70R18E TCP TZF	EJ496Q	19.85	32.7	69.44000	2.591500	0.018510	76.38000	2.850700	0.020360							
														3268	5034	3.42	22.5	LT285/60R20E TEA TZF	EJ642Q	19.79	32.8	71.07000	2.529000	0.019380	78.18000	2.781900	0.021320							
														8247	10323	3.42	22.5	LT275/70R18E TCN TZF	EJ487Q	20.02	32.4	67.90000	2.589300	0.018330	74.69000	2.848200	0.020160							
									3.73	24.7	LT275/70R18E TCP TZF	EJ496Q	19.85	32.7	69.44000	2.591500	0.018510	76.38000	2.850700	0.020360														
									3.73	24.5	LT285/60R20E TEA TZF	EJ642Q	19.79	32.8	71.07000	2.529000	0.019380	78.18000	2.781900	0.021320														
									4.10	27.1	LT275/70R18E TCN TZF	EJ487Q	20.02	32.4	67.90000	2.589300	0.018330	74.69000	2.848200	0.020160														
									4.10	27.1	LT275/70R18E TCP TZF	EJ496Q	19.85	32.7	69.44000	2.591500	0.018510	76.38000	2.850700	0.020360														
									4.10	26.9	LT285/60R20E TEA TZF	EJ642Q	19.79	32.8	71.07000	2.529000	0.019380	78.18000	2.781900	0.021320														
							D28A62 RAM-Cummins: 3500 4X4	L6 - 4WD DG7 / DK1-4P DK3-4P	WC				14000	8000	11000	3.42	23.3	LT235/80R17E TV2 TZN	17NCRDDA2G	20.24	33.6	60.93000	2.692000	0.022620	67.02000	2.961200	0.024880							
														8000	11000	3.42	23.3	LT235/80R17E TV3 TZN	17NCRDDA2G	19.44	35.0	65.57000	2.658400	0.025570	72.13000	2.924200	0.028130							
														3192	5908	3.42	23.3	LT235/80R17E TPY TZE	75430	18.56	36.6	80.58000	2.698600	0.023700	88.64000	2.968500	0.026070							
														7794	10897	3.42	23.3	LT235/80R17E TP9 TZE	72880	17.88	38.0	86.63000	2.638200	0.026710	95.29000	2.902000	0.029380							
		3.73	25.4	LT235/80R17E TV2 TZN	17NCRDDA2G	20.24								33.6	60.93000	2.692000	0.022620	67.02000	2.961200	0.024880														
		3.73	25.4	LT235/80R17E TV3 TZN	17NCRDDA2G	19.44								35.0	65.57000	2.658400	0.025570	72.13000	2.924200	0.028130														
		3.73	25.4	LT235/80R17E TPY TZE	75430	18.56								36.6	80.58000	2.698600	0.023700	88.64000	2.968500	0.026070														
		3.73	25.4	LT235/80R17E TP9 TZE	72880	17.88								38.0	86.63000	2.638200	0.026710	95.29000	2.902000	0.029380														
		4.10	27.9	LT235/80R17E TV2 TZN	17NCRDDA2G	20.24								33.6	60.93000	2.692000	0.022620	67.02000	2.961200	0.024880														
		4.10	27.9	LT235/80R17E TV3 TZN	17NCRDDA2G	19.44								35.0	65.57000	2.658400	0.025570	72.13000	2.924200	0.028130														
		4.10	27.9	LT235/80R17E TPY TZE	75430	18.56								36.6	80.58000	2.698600	0.023700	88.64000	2.968500	0.026070														
		4.10	27.9	LT235/80R17E TP9 TZE	72880	17.88								38.0	86.63000	2.638200	0.026710	95.29000	2.902000	0.029380														
D28A81 RAM-Cummins: 3500 4X4	L6 - 4WD DG7 / DK1-4P DK3-4P	WC				14000								9000	11500	3.42	23.3	LT235/80R17E TV2 TZN	17NCRDDA2G	20.33	35.0	66.95000	2.373400	0.030710	73.65000	2.610700	0.033780							
							9000	11500	3.42	23.3	LT235/80R17E TV3 TZN	17NCRDDA2G	19.58	36.3	73.20000	2.483100	0.030050	80.52000	2.731400	0.033060														
							3607	6013	3.42	23.3	LT235/80R17E TPY TZE	75430	18.67	38.1	87.07000	2.379500	0.031820	95.78000	2.617500	0.035000														
							8585	11292	3.42	23.3	LT235/80R17E TP9 TZE	72880	17.99	39.5	95.13000	2.462300	0.031230	104.64000	2.708500	0.034350														
									3.73	25.4	LT235/80R17E TV2 TZN	17NCRDDA2G	20.33	35.0	66.95000	2.373400	0.030710	73.65000	2.610700	0.033780														
									3.73	25.4	LT235/80R17E TV3 TZN	17NCRDDA2G	19.58	36.3	73.20000	2.483100	0.030050	80.52000	2.731400	0.033060														
									3.73	25.4	LT235/80R17E TPY TZE	75430	18.67	38.1	87.07000	2.379500	0.031820	95.78000	2.617500	0.035000														
									3.73	25.4	LT235/80R17E TP9 TZE	72880	17.99	39.5	95.13000	2.462300	0.031230	104.64000	2.708500	0.034350														
									4.10	27.9	LT235/80R17E TV2 TZN	17NCRDDA2G	20.33	35.0	66.95000	2.373400	0.030710	73.65000	2.610700	0.033780														
									4.10	27.9	LT235/80R17E TV3 TZN	17NCRDDA2G	19.58	36.3	73.20000	2.483100	0.030050	80.52000	2.731400	0.033060														
									4.10	27.9	LT235/80R17E TPY TZE	75430	18.67	38.1	87.07000	2.379500	0.031820	95.78000	2.617500	0.035000														
									4.10	27.9	LT235/80R17E TP9 TZE	72880	17.99	39.5	95.13000	2.462300	0.031230	104.64000	2.708500	0.034350														
							D28A92 RAM-Cummins: 3500 4X4	L6 - 4WD DG7 / DK1-4P DK3-4P	WC				14000	8500	11000	3.42	23.3</																	

Table with columns for Model, Cummins, RWD, DF2, and various performance metrics (3142, 6026, 3.42, etc.) for engine configurations D23A81, D23A92, and D28A92.

Engine Code AA-400 Eng Displ: 6.7L (ETK) Evap Family - Evap Code:

Large table with columns for Model, Carline Name, Model Qualifier, Opt, Trans./Tr. Case, Torq. Conv./Catalyst Identifier, GWW, LVW TWC Drive Curb, ALWV TWC Drive Curb, Axle / OTGR, NV, Tire, Tire Mfr., Tire Constr. Cd., Elec Dyno Q.C., Elec Dyno RLHP, Dyno Dyno 70A, Dyno Dyno Coeff B, Dyno Dyno Coeff 70C, Dyno Dyno Coeff 20A, Dyno Dyno Coeff 20B, Dyno Dyno Coeff 20C.

3.73	25.4	LT235/80R17E TP9	TZE	72880	18.56	38.3	98.55000	2.095800	0.033580	108.4100	2.305400	0.036940
4.10	27.9	LT235/80R17E TV2	TZN	17NCRDDA2G	21.06	33.8	65.08000	2.409500	0.027100	71.59000	2.650500	0.029810
4.10	27.9	LT235/80R17E TV3	TZN	17NCRDDA2G	20.23	35.1	76.76000	2.116700	0.032400	84.44000	2.328400	0.035640
4.10	27.9	LT235/80R17E TPY	TZE	75430	19.29	36.8	85.08000	2.415400	0.028210	93.59000	2.656900	0.031030
4.10	27.9	LT235/80R17E TP9	TZE	72880	18.56	38.3	98.55000	2.095800	0.033580	108.4100	2.305400	0.036940

Engine Code AM-100 Eng Displ: 6.7L (ETK) Evap Family - Evap Code:

Model	Carline Name	Model Qualifier	Opt	Trans. / Tr. Case	Torq. Conv. / Catalyst Identifier	GVW	L/VW TWC Drive Curb	AL/VW TWC Drive Curb	Axle / OTGR	N/V	Tire	Tire Mfr.	Tire Constr. Cd.	Elec Dyno Q.C.	Elec Dyno RLHP	Dyno Coeff 70A	Dyno Coeff 70B	Dyno Coeff 70C	Dyno Coeff 20A	Dyno Coeff 20B	Dyno Coeff 20C
D23A62 RAM-Cummins: 3500 4X2	M6 - RWD DEG	3500 4X2				11100	7500	9000	3.42	26.6	LT275/70R18E TCN	ZF	EJ487Q	22.63	24.6	57.67000	0.936200	0.032000	63.44000	1.029800	0.035200
							2832	4502	3.42	26.5	LT275/70R18E TCP	ZF	EJ496Q	22.39	24.9	59.19000	0.938600	0.032160	65.11000	1.032500	0.035380
							7121	9111	3.42	26.4	LT285/60R20E TEA	ZF	EJ642Q	22.37	24.9	60.28000	0.881300	0.032940	66.31000	0.969400	0.036230
							3.73	29	LT275/70R18E TCN	ZF	EJ487Q	22.63	24.6	57.67000	0.936200	0.032000	63.44000	1.029800	0.035200		
							3.73	28.9	LT275/70R18E TCP	ZF	EJ496Q	22.39	24.9	59.19000	0.938600	0.032160	65.11000	1.032500	0.035380		
D23A91 RAM-Cummins: 3500 4X2	M6 - RWD DEG	3500 4X2				11500	8000	9500	3.42	26.6	LT275/70R18E TCN	ZF	EJ487Q	23.82	24.7	54.15000	1.245800	0.027420	59.57000	1.370400	0.030160
							2950	4694	3.42	26.5	LT275/70R18E TCP	ZF	EJ496Q	23.55	25.0	55.75000	1.248300	0.027590	61.33000	1.373100	0.030350
							7478	9489	3.42	26.4	LT285/60R20E TEA	ZF	EJ642Q	23.52	25.0	56.95000	1.188900	0.028400	62.65000	1.307800	0.031240
							3.73	29	LT275/70R18E TCN	ZF	EJ487Q	23.82	24.7	54.15000	1.245800	0.027420	59.57000	1.370400	0.030160		
							3.73	28.9	LT275/70R18E TCP	ZF	EJ496Q	23.55	25.0	55.75000	1.248300	0.027590	61.33000	1.373100	0.030350		
D23A81 RAM-Cummins: 3500 4X2	M6 - RWD DEG	3500 4X2				11600	8000	9500	3.42	26.6	LT275/70R18E TCN	ZF	EJ487Q	23.95	24.5	57.98000	0.781900	0.034800	63.78000	0.860100	0.038280
							3147	4746	3.42	26.5	LT275/70R18E TCP	ZF	EJ496Q	23.67	24.8	59.60000	0.784500	0.034970	65.56000	0.863000	0.038470
							7839	9719	3.42	26.4	LT285/60R20E TEA	ZF	EJ642Q	23.63	24.9	60.85000	0.724200	0.035790	66.94000	0.796600	0.039370
							3.73	29	LT275/70R18E TCN	ZF	EJ487Q	23.95	24.5	57.98000	0.781900	0.034800	63.78000	0.860100	0.038280		
							3.73	28.9	LT275/70R18E TCP	ZF	EJ496Q	23.67	24.8	59.60000	0.784500	0.034970	65.56000	0.863000	0.038470		
D23A92 RAM-Cummins: 3500 4X2	M6 - RWD DEG	3500 4X2				12000	8000	10000	3.42	26.6	LT275/70R18E TCN	ZF	EJ487Q	24.38	25.4	59.89000	0.799200	0.036200	65.88000	0.879100	0.039820
							2954	4811	3.42	26.5	LT275/70R18E TCP	ZF	EJ496Q	24.10	25.7	61.52000	0.801800	0.036380	67.67000	0.882000	0.040020
							7605	9803	3.42	26.4	LT285/60R20E TEA	ZF	EJ642Q	24.06	25.7	62.82000	0.741000	0.037210	69.10000	0.815100	0.040930
							3.73	29	LT275/70R18E TCN	ZF	EJ487Q	24.38	25.4	59.89000	0.799200	0.036200	65.88000	0.879100	0.039820		
							3.73	28.9	LT275/70R18E TCP	ZF	EJ496Q	24.10	25.7	61.52000	0.801800	0.036380	67.67000	0.882000	0.040020		
D23A62 RAM-Cummins: 3500 4X2	M6 - RWD DEG	3500 4X2				14000	8000	11000*	3.42	27.4	LT235/80R17E TV2	TZN	17NCRDDA2G	23.47	29.0	64.13000	1.063900	0.040060	70.54000	1.170300	0.044070
							3174	6042	3.42	27.4	LT235/80R17E TV3	TZN	17NCRDDA2G	22.45	30.3	67.13000	1.267200	0.038760	73.84000	1.393900	0.042640
							7483	10742	3.42	27.4	LT235/80R17E TPY	TZE	75430	20.36	31.9	82.99000	1.068000	0.041130	91.29000	1.174800	0.045240
							3.42	27.4	LT235/80R17E TP9	TZE	72880	19.49	33.3	87.86000	1.245600	0.039900	96.65000	1.370200	0.043890		
							3.73	29.9	LT235/80R17E TV2	TZN	17NCRDDA2G	23.47	29.0	64.13000	1.063900	0.040060	70.54000	1.170300	0.044070		
D23A81 RAM-Cummins: 3500 4X2	M6 - RWD DEG	3500 4X2				14000	8500	11000	3.42	27.4	LT235/80R17E TV2	TZN	17NCRDDA2G	24.28	28.0	62.64000	0.967700	0.039680	68.90000	1.064500	0.043650
							3513	6116	3.42	27.4	LT235/80R17E TV3	TZN	17NCRDDA2G	23.30	29.2	70.13000	0.707300	0.045440	77.14000	0.778000	0.049980
							8233	11117	3.42	27.4	LT235/80R17E TPY	TZE	75430	21.94	31.0	81.99000	0.971800	0.040770	90.19000	1.069000	0.044850
							3.42	27.4	LT235/80R17E TP9	TZE	72880	21.04	32.3	91.69000	0.685800	0.046610	100.8600	0.754400	0.051270		
							3.73	29.9	LT235/80R17E TV2	TZN	17NCRDDA2G	24.28	28.0	62.64000	0.967700	0.039680	68.90000	1.064500	0.043650		
D23A92 RAM-Cummins: 3500 4X2	M6 - RWD DEG	3500 4X2				14000	8500	11000	3.42	27.4	LT235/80R17E TV2	TZN	17NCRDDA2G	24.08	28.3	71.45000	0.628400	0.043660	78.60000	0.691200	0.048030
							3300	5985	3.42	27.4	LT235/80R17E TV3	TZN	17NCRDDA2G	22.87	29.8	75.49000	0.674800	0.045600	83.04000	0.742300	0.050160
							7961	10981	3.42	27.4	LT235/80R17E TPY	TZE	75430	21.79	31.2	90.68000	0.632500	0.044750	99.75000	0.695800	0.049230
							3.42	27.4	LT235/80R17E TP9	TZE	72880	20.70	32.9	96.89000	0.653500	0.046760	106.5800	0.718900	0.051440		
							3.73	29.9	LT235/80R17E TV2	TZN	17NCRDDA2G	24.08	28.3	71.45000	0.628400	0.043660	78.60000	0.691200	0.048030		

Engine Code AM-200 Eng Displ: 6.7L (ETK) Evap Family - Evap Code:

Model	Carline Name	Model Qualifier	Opt	Trans. / Tr. Case	Torq. Conv. / Catalyst Identifier	GVW	L/VW TWC Drive Curb	AL/VW TWC Drive Curb	Axle / OTGR	N/V	Tire	Tire Mfr.	Tire Constr. Cd.	Elec Dyno Q.C.	Elec Dyno RLHP	Dyno Coeff 70A	Dyno Coeff 70B	Dyno Coeff 70C	Dyno Coeff 20A	Dyno Coeff 20B	Dyno Coeff 20C
D28A62 RAM-Cummins: 3500 4X4	M6 - 4WD DEG / DK1-4P DK3-4P	3500 4X4				11500	8000	9500	3.42	26.6	LT275/70R18E TCN	ZF	EJ487Q	20.16	29.1	63.26000	1.498500	0.032170	69.59000	1.648400	0.035390
							2860	4569	3.42	26.5	LT275/70R18E TCP	ZF	EJ496Q	19.96	29.4	64.84000	1.501000	0.032340	71.32000	1.651100	0.035570
							7469	9484	3.42	26.4	LT285/60R20E TEA	ZF	EJ642Q	19.94	29.5	66.02000	1.442000	0.033140	72.62000	1.586200	0.036450
							3.73	29	LT275/70R18E TCN	ZF	EJ487Q	20.16	29.1	63.26000	1.498500	0.032170	69.59000	1.648400	0.035390		
							3.73	28.9	LT275/70R18E TCP	ZF	EJ496Q	19.96	29.4	64.84000	1.501000	0.032340	71.32000	1.651100	0.035570		
D28A91 RAM-Cummins: 3500 4X4	M6 - 4WD DEG / DK1-4P DK3-4P	3500 4X4				11700	8000	10000	3.42	26.6	LT275/70R18E TCN	ZF	EJ487Q	20.64	29.9	75.25000	1.532400	0.029100	82.78000	1.685600	0.032010
							3061	4707	3.42	26.5	LT275/70R18E TCP	ZF	EJ496Q	20.44	30.2	76.89000	1.535000	0.029280	84.58000	1.688500	0.032210
							7903	9802	3.42	26.4	LT285/60R20E TEA	ZF	EJ642Q	20.41	30.3	78.19000	1.474100	0.030110	86.01000	1.621500	0.033120
							3.73	29	LT275/70R18E TCN	ZF	EJ487Q	20.64	29.9	75.25000	1.532400	0.029100	82.78000	1.685600	0.032010		
							3.73	28.9	LT275/70R18E TCP	ZF	EJ496Q	20.44	30.2	76.89000	1.535000	0.029280	84.58000	1.688500	0.032210		
D28A92 RAM-Cummins: 3500 4X4	M6 - 4WD DEG / DK1-4P DK3-4P	3500 4X4				12300	8500	10000	3.42	26.6	LT275/70R18E TCN	ZF	EJ487Q	20.72	29.8	73.18000	1.345500	0.033350	80.50000	1.480100	0.036690
							3064	4855	3.42	26.5	LT275/70R18E TCP	ZF	EJ496Q	20.51	30.1	74.87000	1.348200	0.033530	82.36000	1.483000	0.036880
							8064	10182	3.42	26.4	LT285/60R20E TEA	ZF	EJ642Q	20.47	30.2	76.25000	1.285800	0.034390	83.88000	1.414400	0.037830
							3.73	29	LT275/70R18E TCN	ZF	EJ487Q	20.72	29.8	73.18000	1.345500	0.033350	80.50000	1.480100	0.036690		
							3.73	28.9	LT275/70R18E TCP	ZF	EJ496Q	20.51	30.1	74.87000	1.348200	0.033530	82.36000	1.483000	0.036880		
D28A81 RAM-Cummins: 3500 4X4	M6 - 4WD DEG / DK1-4P DK3-4P	3500 4X4				12400	8500	10500	3.42	26.6	LT275/70R18E TCN	ZF	EJ487Q	21.41	30.3	75.81000	1.327900	0.034080	83.39000	1.460700	0.037490
							3276	5038	3.42	26.5	LT275/70R18E TCP	ZF	EJ496Q	21.20	30.6	77.52000	1.330600	0.034270	85.27000	1.463700	0.037700
							8301	10351	3.42	26.4	LT285/60R20E TEA	ZF	EJ642Q	21.15	30.7	78.99000	1.267100	0.035140	86.89000	1.393800	0.038650
							3.73	29	LT275/70R18E TCN	ZF	EJ487Q	21.41	30.3	75.81000	1.327900	0.034080	83.39000	1.460700	0.037490		
							3.73	28.9	LT275/70R18E TCP	ZF	EJ496Q	21.20	30.6	77.52000	1.330600	0.034270	85.27000	1.463700	0.037700		
D28A62 RAM-Cummins: 3500 4X4	M6 - 4WD DEG / DK1-4P DK3-4P	3500 4X4				14000	8000	11000	3.42	27.4	LT235/80R17E TV2	TZN	17NCRDDA2G	21.63	31.5	68.58000	1.429800	0.038370	75.44000	1.572800	0.042210
							3215	5919	3.42	27.4	LT235/80R17E TV3	TZN	17NCRDDA2G	20.71	32.9	73.25000	1.396300	0.041330	80.58000	1.535900	0.045460
							7854	10927	3.42	27.4	LT235/80R17E TPY	TZE	75430	19.72	34.5	88.28000					

D28A92 RAM-	M6 -	14000	8500	11000	3.42	27.4	LT235/80R17E	TP9	TZE	72880	19.03	37.4	102.7800	1.199900	0.046990	113.0600	1.319900	0.051690
Cummins:	4WD	3407	5881	3.42	27.4	LT235/80R17E	TV2	TZN	17NCRDDA2G	21.64	31.4	71.55000	1.143700	0.042840	78.71000	1.258100	0.047120	
3500 4X4	DEG /	8411	11206	3.42	27.4	LT235/80R17E	TV3	TZN	17NCRDDA2G	20.74	32.8	83.13000	0.850600	0.048150	91.44000	0.935700	0.052970	
	DK1-4P			3.42	27.4	LT235/80R17E	TPY	TZE	75430	19.70	34.5	91.57000	1.150100	0.043940	100.7300	1.265100	0.048330	
	DK3-4P			3.42	27.4	LT235/80R17E	TP9	TZE	72880	18.92	36.0	104.8700	0.830300	0.049310	115.3600	0.913300	0.054240	
				3.73	29.9	LT235/80R17E	TV2	TZN	17NCRDDA2G	21.64	31.4	71.55000	1.143700	0.042840	78.71000	1.258100	0.047120	
				3.73	29.9	LT235/80R17E	TV3	TZN	17NCRDDA2G	20.74	32.8	83.13000	0.850600	0.048150	91.44000	0.935700	0.052970	
				3.73	29.9	LT235/80R17E	TPY	TZE	75430	19.70	34.5	91.57000	1.150100	0.043940	100.7300	1.265100	0.048330	
				3.73	29.9	LT235/80R17E	TP9	TZE	72880	18.92	36.0	104.8700	0.830300	0.049310	115.3600	0.913300	0.054240	

Section12-300 Vehicle

**Cummins Inc.**

**Test Group: FCEXD06.78WV - Engine Code Index**

**Durability Group:** Standard : HDV2 / ULEV570 **Vehicle Class:** HDV2 (10001-14000 GVW) / M7-MDV2 (GVW 10001-14000)  
**FCEXDPDNNC01**

**Engine Code: AA-100 - RAM 3500 2WD AUTO**

Engine Code	RC #	Date	Engine	Carline	Price Class	Trans. Configuration	GVW Min.	GVW Max.	Test Wt. Min.	Test Wt. Max.	Drive Code	Sales Areas
AA-100	Original		6.7L/ETK	D2		L6 / Automatic L6 - Lockup/Automatic/6-speed	11100	14000	7500	8500	RWD	NAS

**Engine Code: AA-200 - RAM 3500 4WD AUTO**

Engine Code	RC #	Date	Engine	Carline	Price Class	Trans. Configuration	GVW Min.	GVW Max.	Test Wt. Min.	Test Wt. Max.	Drive Code	Sales Areas
AA-200	Original		6.7L/ETK	D2		L6 / Automatic L6 - Lockup/Automatic/6-speed	11500	14000	7500	9000	4WD	NAS

**Engine Code: AA-300 - RAM 3500 2WD AUTO AISIN**

Engine Code	RC #	Date	Engine	Carline	Price Class	Trans. Configuration	GVW Min.	GVW Max.	Test Wt. Min.	Test Wt. Max.	Drive Code	Sales Areas
AA-300	Original		6.7L/ETK	D2		L6 / Automatic L6 - Lockup/Automatic/6-speed	11100	14000	7500	8500	RWD	NAS

**Engine Code: AA-400 - RAM 3500 4WD AUTO AISIN**

Engine Code	RC #	Date	Engine	Carline	Price Class	Trans. Configuration	GVW Min.	GVW Max.	Test Wt. Min.	Test Wt. Max.	Drive Code	Sales Areas
AA-400	Original		6.7L/ETK	D2		L6 / Automatic L6 - Lockup/Automatic/6-speed	11500	14000	8000	9000	4WD	NAS

**Engine Code: AM-100 - RAM 3500 2WD MANUAL**

Engine Code	RC #	Date	Engine	Carline	Price Class	Trans. Configuration	GVW Min.	GVW Max.	Test Wt. Min.	Test Wt. Max.	Drive Code	Sales Areas
AM-100	Original		6.7L/ETK	D2		M6/ Manual 6-speed M6 - Manual 6-speed	11100	14000	7500	8500	RWD	NAS

**Engine Code: AM-200 - RAM 3500 4WD MANUAL**

Engine Code	RC #	Date	Engine	Carline	Price Class	Trans. Configuration	GVW Min.	GVW Max.	Test Wt. Min.	Test Wt. Max.	Drive Code	Sales Areas
AM-200	Original		6.7L/ETK	D2		M6/ Manual 6-speed M6 - Manual 6-speed	11500	14000	8000	9000	4WD	NAS

**Test Group: FCEXD06.78WV - No Engine Code Changes**

**Durability Group: FCEXDPDNNC01 Standard Fed: HDV2 Cal: ULEV570**

RC #	Submission Date	Description
No Results Found		

Section12-500 Engine Code Index



Cummins Incorporated

Section 12 - Vehicle and Test Parameters

Vehicle Parameters

Valves per cylinder

Engine  
All 6.7L - 4

Test Parameters

SIL usage:

See shift schedule table

Cooling fan configuration:

Models  
All - One fan center front

Addition Cooling:

Models  
All - None

Evaporative Testing Parameters:

Models  
Not Applicable

Fuel temperature Profile:

Models  
Not Applicable

Special Test Procedure:

Models  
All - none



November 26, 2014

Mr. Joel Dalton  
Vehicle Programs Group  
Certification and Compliance Division  
U.S. Environmental Protection Agency  
2000 Traverwood Drive  
Ann Arbor, Michigan 48105

Dear Mr. Dalton:

**Re: 2015 Model Year HDV (10,001 – 14,000 lbs GVWR) Certificate of Conformity Request**

Cummins Inc requests a 2015 Certificate of Conformity for the 6.7L 50 State test group FCEXD06.78WV / Durability Group FCEXDPDNNC01. This test group is being certified to 50-State HDV standards and California LEV III ULEV570 emissions. Cummins Inc. agrees that the exhaust emission standards listed below and in the application for certification apply to both certification and in-use vehicles according to the provisions of 40 CFR, Parts 86, as applicable. The FTP emission standards (g/mile) for this HDV2 test group are as follows:

<u>Emission Standards</u>	<u>Useful Life</u>	<u>NMOG</u>	<u>CO</u>	<u>NOX</u>	<u>HCHO</u>	<u>PM</u>
HDV2 (Federal)	120K	0.230	8.1	0.4	0.040	0.02
LEVIII ULEV570	150K	0.570 <sup>1</sup>	7.3	-	0.006	0.06

<sup>1</sup>ARB NOx+NMOG standard is 0.570 g/mile

Models are as follows:

<u>Division</u>	<u>Model</u>
Ram	3500 Pickup 2WD
Ram	3500 Pickup 4WD

If there are any questions regarding this submission, please contact Ravinder D Singh at (248) 576-5504 or Bhushan Pawar at (631) 455-7583.

Sincerely,

Ravinder D Singh  
Certification Engineer  
Cummins Inc.



November 26, 2014

Ms. Annette Hebert  
New Vehicle/Engine Programs Branch  
Haagen-Smit Laboratory  
P.O Box 8001  
9528 Telstar Avenue  
El Monte, California 91734-8001

Dear Ms. Hebert:

**Re: 2015 Model Year MDV (10,001 – 14,000 lbs GVWR) Executive Order Request**

Cummins Inc requests a 2015 Certificate of Conformity for the 6.7L 50 State test group FCEXD06.78WV / Durability Group FCEXDPDNNC01. This test group is being certified to 50-State HDV standards and California LEV III ULEV570 emissions standard. Cummins Inc agrees that the exhaust emission standards listed below and in the application for certification apply to both certification and in-use vehicles according to the provisions of 40 CFR, Parts 86, as applicable. The FTP emission standards for this test group are as follows:

<u>Emission Standards</u>	<u>Useful Life</u>	<u>NMOG+NOX</u>	<u>CO</u>	<u>HCHO</u>	<u>PM</u>
LEVIII ULEV570	150K	0.570	7.3	0.006	0.06

If there are any questions regarding this submission, please contact Ravinder D Singh at (248) 576-5504 or Bhushan Pawar at (631) 455-7583.

Sincerely,

*RDSingh*

Ravinder D Singh  
Certification Engineer  
Cummins Inc.

cc: Lucky Benedict

Date:04/22/2014

**Manufacturer Contact Information:**

Manufacturer Name:  Fax Number:  (optional)  
Contact Name:  Email Address:   
Phone Number:

Calendar Year:

Family Name:

For dual U.S. / IMO Marine only, also give IMO name:

Certification Request Type:  On Highway  Nonroad

**On-Highway Certification Types:**

- LDV** Light-duty Vehicles (Chassis Certification - Federal Certificate)
- LDT** Light-duty Trucks (Chassis Certification - Federal Certificate)
- MDPV** Medium-duty Passenger Vehicles (Chassis Certification - Federal Certificate)
- HDV** Heavy-duty Vehicles(Chassis Certification - Federal Certificate)
- HDE** Heavy-duty Engine (Engine Dynamometer Certification - Federal Certificate)
- LD ICI** Light-duty Vehicles for Independent Commercial Importers
- MDPV ICI** Medium-duty Passenger Vehicles for Independent Commercial Importers
- HDV ICI** Heavy-duty Vehicles for Independent Commercial Importers
- MOTORCYCLE** On-highway Motorcycles
- LDV** Light-duty Vehicles (Chassis Certification - California-Only)
- LDT** Light-duty Trucks (Chassis Certification - California-Only)
- MDPV** Medium-duty Passenger Vehicles (Chassis Certification - California-Only)
- HDV** Heavy-duty Vehicles(Chassis Certification - California-Only)
- HDE CALIF-ONLY** Heavy-duty Engine California-Only Certification
- HDV EVAP** Heavy-duty Evaporative System

**Nonroad Certification Types:**

- NR CI** Nonroad Engine Compression-Ignition (excludes Locomotives, Marine and Recreational)
- NR SI** Nonroad Engine Spark-Ignition
- Locomotives** All Locomotives
- Recreational** Recreational Vehicles (except marine engines)
- All Marine**
- Component Certification for Evaporative Emmissions**

**Fee Payment Information:**

Do you qualify for reduced fee?

Are you an Independent Commercial Importer?

Make of the model(s) (list all that apply, separated by commas):

Model name(s) of vehicle or engine under this engine family/test group (list all that apply, separated by commas):

Year of the vehicle(s) or engine(s) (list all that apply, separated by commas):

VIN(s) of the model(s) (list all that apply, separated by commas. Enter "TBD" if unknown):

Has a certificate been issued?

What is the total number of the vehicles, engines or units covered?

What is the aggregate total retail value of the vehicles, engines or units covered? \$

**Payment Details:**

Amount Owed (U.S. Funds Only): \$

Payment Type:

Enter the check number:

Before paying offline please click the PDF Preview button below to print out the form.

Online Payment

Step 3: Confirm Payment

1 | 2 | 3

Thank you.  
Your transaction has been successfully completed.

Pay.gov Tracking Information

Application Name: Motor Vehicle and Engine Compliance Program Fees

Pay.gov Tracking ID: 25FDB1PC

Agency Tracking ID: 74605496110

Transaction Date and Time: 04/22/2014 10:10 EDT

Payment Summary

Address Information	Account Information	Payment Information
<p><b>Account Holder Name:</b> Victor Schneider 500 Jackson St <b>Billing Address:</b> St <b>Billing Address 2:</b> City: Columbus <b>State / Province:</b> IN <b>Zip / Postal Code:</b> 47201 <b>Country:</b> USA</p>	<p><b>Card Type:</b> Visa <b>Card Number:</b> *****3636 <b>Engine Family:</b> FCEXD06.78WV</p>	<p><b>Payment Amount:</b> \$28,528.00 <b>Transaction Date and Time:</b> 04/22/2014 10:10 EDT</p>



**Chrysler Group LLC**

**VEHICLE EMISSION CONTROL INFORMATION**

CONFORMS TO REGULATIONS:  
2015 MY

U.S. EPA: HDV OBD: CA OBD II FUEL: DIESEL

CALIFORNIA: LEV III MDV OBD: CA OBD II FUEL: DIESEL

THIS VEHICLE IS CERTIFIED BY CUMMINS INC. FOR CHRYSLER GROUP LLC

NO ADJUSTMENTS NEEDED

**47480 365AA**

GROUP: FCEXD06.78WV ENGINE: 6.7L



TC / DFI / CAC / DPF  
OC / EGR / EGRC  
SCRC / NH3OC / NH3S / NOXS



<b>Manufacturer</b>	Cummins Inc.	<b>Manufacturer Code</b>	CEX
<b>Test Group</b>	FCEXD06.78WV	<b>Evaporative/Refueling Family</b>	N/A
<b>Certificate Number</b>	N/A	<b>CARB Executive Order #</b>	N/A
<b>Certificate Issue Date</b>	N/A	<b>Certificate Revision Date</b>	N/A
<b>Certificate Effective Date</b>	N/A	<b>Conditional Certificate</b>	--
<b>CSI Revision #</b>	N/A	<b>CSI Submission/Revision Date</b>	07/03/2014
<b>Model Year</b>	2015		

**Test Group Information**

<b>CSI Type</b>	Update for Correction	<b>Running Change Reference Number</b>	N/A
<b>GHG Exempt Status</b>	Not Exempt		

**Drive Sources and Fuel(s)**

**Drive Source #1:**

Fuel	Basic Fuel Metering System	Lean Burn Strategy Indicator
Diesel	Common Rail Direct Diesel Injection	--

**Hybrid Indicator**

No

**Multiple Fuel Storage**

--

**Multiple Fuel Combustion**

--

**Fuel Cell Indicator**

--

**Federal Clean Fuel Vehicle**

No

**Federal Clean Fuel Vehicle ILEV**

No

**Durability Group Name**

FCEXDPDNNC01

**Reduced Fee Test Group**

No

**Complies with HD GHG 2b/3 regulations?**

Yes

**Introduction into Commerce Date**

07/14/2014

**Independent Commercial Importer?**

--

**SFTP Compliance Indicator**

No

**OBD Compliance Type**

CARB

**Mfr Test Group Comments**

Weighted CH4 result = 0.009 g/mi vs. 0.05 g/mi std. Weighted N2O result = .086 g/mi vs. 0.12 FEL. Weighted CO2 result is 722 g/mi

**Mfr Exhaust / Evap Standards Comments**

--

Test Group		FCEXD06.78WV		Evaporative/Refueling Family		N/A	
Models Covered by this Certificate							
Carline Manufacturer	Division	Carline	Certification Region Code(s)	Drive System	Trans - Type	- # of Gears	Trans - Lockup
Cummins Inc.	2 - Ram	950 - 3500 4X2	Federal	2-Wheel Drive, Rear	Automatic	6	Yes
Cummins Inc.	2 - Ram	955 - 3500 4X4	California + CAA Section 177 states	4-Wheel Drive	Manual	6	No
Cummins Inc.	2 - Ram	955 - 3500 4X4	Federal	4-Wheel Drive	Manual	6	No
Cummins Inc.	2 - Ram	950 - 3500 4X2	California + CAA Section 177 states	2-Wheel Drive, Rear	Manual	6	No
Cummins Inc.	2 - Ram	950 - 3500 4X2	Federal	2-Wheel Drive, Rear	Manual	6	No
Cummins Inc.	2 - Ram	950 - 3500 4X2	California + CAA Section 177 states	2-Wheel Drive, Rear	Automatic	6	Yes
Cummins Inc.	2 - Ram	955 - 3500 4X4	Federal	4-Wheel Drive	Automatic	6	Yes
Cummins Inc.	2 - Ram	955 - 3500 4X4	California + CAA Section 177 states	4-Wheel Drive	Automatic	6	Yes
Engine Description							
Hybrid Type	--			Hybrid Description		--	
Engine Type	4-Stroke Compression Ignition			Mfr Engine Description		6.7L Diesel	
Engine Block Arrangement	Inline			Mfr Engine Block Arrangement Description		--	
Camless Valvetrain Indicator	No			Oil Viscosity/Classification		SAE 5W-20	
Number of Cylinders/Rotors	6						
After Treatment Device(s) (ATD)							
ATD Number	ATD Type	ATD Precious Metal	Substrate Material	Substrate Construction			
1	Oxidation catalyst	Platinum + Paladium	Ceramic	Other			
2	Diesel Particulate Filter	Platinum	Ceramic	Other			
3	Selective Catalytic Reduction	Copper-Zeolite	Ceramic	Other			
4	Other	Platinum	Ceramic	Other			
Mfr After Treatment Device (ATD) Comments							
--							
Direct Ozone Reduction (DOR) Device							
Not Equipped							
Mfr Emission Control Device Comments							
--							

Test Group	FCEXD06.78WV	Evaporative/Refueling Family	N/A
<b>Engine Configuration Number 1</b>			
Engine Displacement (liters)	6.7	Engine Rated Horsepower	370
Number of Inlet Valves Per Cylinder	2	Number of Exhaust Valves Per Cylinder	2
Air Aspiration Method	Turbocharged	Number of Air Aspiration Devices	1
Air Aspiration Device Configuration	Single	Charge Air Cooler Type	Air
Cylinder Deactivation Description	N/A	Variable Valve Lift System	N/A
Variable Valve Timing System Description	N/A	Air/Fuel Sensor # 1 Description	N/A
Number of Knock Sensors	0	Air/Fuel Sensor # 2 Description	N/A
Air/Fuel Sensor # 1 Type	Nitrogen oxide	EGR Type	Electronic/Electric
Air/Fuel Sensor # 2 Type	Nitrogen oxide	Air Injection Type	--
Mfr Air/Fuel Sensor Comments	--		
Exhaust Gas Recirculation	Yes		
Cooled Exhaust Gas Recirculation	Yes		
Closed Loop Air Injection System	No		
Mfr Engine Configuration Comments	370HP@2800 RPM/800 ft-lb@1600 RPM for Auto transmission		
<b>Engine Configuration Number 2</b>			
Engine Displacement (liters)	6.7	Engine Rated Horsepower	350
Number of Inlet Valves Per Cylinder	2	Number of Exhaust Valves Per Cylinder	2
Air Aspiration Method	Turbocharged	Number of Air Aspiration Devices	1
Air Aspiration Device Configuration	Single	Charge Air Cooler Type	Air
Cylinder Deactivation Description	N/A	Variable Valve Lift System	N/A
Variable Valve Timing System Description	N/A	Air/Fuel Sensor # 1 Description	N/A
Number of Knock Sensors	0	Air/Fuel Sensor # 2 Description	N/A
Air/Fuel Sensor # 1 Type	Nitrogen oxide	EGR Type	Electronic/Electric
Air/Fuel Sensor # 2 Type	Nitrogen oxide	Air Injection Type	--
Mfr Air/Fuel Sensor Comments	--		
Exhaust Gas Recirculation	Yes		
Cooled Exhaust Gas Recirculation	Yes		
Closed Loop Air Injection System	--		
Mfr Engine Configuration Comments	350HP@2800 RPM/660 ft-lb@1400 RPM for Manual transmission		

<b>Test Group</b>	FCEXD06.78WV	Evaporative/Refueling Family	N/A
<b>Engine Configuration Number 3</b>			
Engine Displacement (liters)	6.7	Engine Rated Horsepower	385
Number of Inlet Valves Per Cylinder	2	Number of Exhaust Valves Per Cylinder	2
Air Aspiration Method	Turbocharged	Number of Air Aspiration Devices	1
Air Aspiration Device Configuration	Single	Charge Air Cooler Type	Air
Cylinder Deactivation Description	N/A	Variable Valve Lift System	N/A
Variable Valve Timing System Description	N/A		
Number of Knock Sensors	0	Air/Fuel Sensor # 1 Description	N/A
Air/Fuel Sensor # 1 Type	Nitrogen oxide	Air/Fuel Sensor # 2 Description	N/A
Air/Fuel Sensor # 2 Type	Nitrogen oxide	EGR Type	Electronic/Electric
Mfr Air/Fuel Sensor Comments	--	Air Injection Type	--
Exhaust Gas Recirculation	Yes		
Cooled Exhaust Gas Recirculation	Yes		
Closed Loop Air Injection System	--		
Mfr Engine Configuration Comments	385 HP@2800 RPM/850 ft-lb@1700 RPM for Auto transmission		

**Official Test Numbers**

Test Group Fuel	FTP	US06	SC03	Cold CO	Highway	EPA City Litmus Value	EPA City Litmus Threshold	EPA Highway Litmus Value	EPA Highway Litmus Threshold	CREE Weighting Factor
Diesel	FCEX91002267	--	--	--	FCEX91002268	N/A	9.4	N/A	12.4	N/A

**Official Charge Depleting Test Numbers**

Test Group Fuel	UDDS
Diesel	--



**Certification Summary Information Report**

<b>Test Group</b>	FCEXD06.78WV	Evaporative/Refueling Family	N/A
<b>Test #</b>	FCEX91002267	<b>Test Procedure</b>	2 - CVS 75 and later (w/o can. load)
<b>Exhaust Test # for this Evap Test</b>	N/A	<b>Test Fuel Type</b>	19 - Federal Cert Diesel 7-15 PPM Sulfur
<b>Test Date</b>	05/07/2014	<b>Fuel</b>	Diesel
<b>Vehicle Class</b>	HDV2 (Federal HD chassis Class 3 GVW 10001-14000), MDV7 (Cal. LEV 2/3 MDV GVW 10001-14000)	<b>DF Type</b>	Mfr. Determined
<b>Verify Test Lab ID</b>	--		
<b>Test Results</b>			
<b>Test Result Name</b>	<b>Unrounded Test Result</b>	<b>Verify Calculated FE MPG Equivalent Value</b>	
Bag 1 Carbon Dioxide	899.797895	--	
Bag 1 Fuel Economy	11.3010912	--	
Bag 2 Carbon Dioxide	859.1325418	--	
Bag 2 Fuel Economy	11.8420565	--	
Bag 3 Carbon Dioxide	790.3661825	--	
Bag 3 Fuel Economy	12.8731628	--	
CH4 - Methane	0.0138305	--	
Carbon Monoxide	0.0917509	--	
Drive Trace Absolute Speed Change Rating	-0.401659	--	
Drive Trace Energy Economy Rating	-0.323013	--	
Drive Trace Inertia Work Ratio Rating	-1.303705	--	
Manufacturer Fuel Economy	11.9822304	--	
Nitrogen Oxide	0.1703354	--	
Nitrous Oxide	0.0879347	--	
Non-methane Hydrocarbon	0.0183326	--	
Non-methane organic gas (California)	0.0183326	--	
Particulate Matter	0.0010641	--	
Total Hydrocarbon	0.0311854	--	
<b>Test Result Name</b>	<b>Unrounded Test Result</b>	<b>Verify Calculated CREE/OPT-CREE</b>	
Carbon-Related Exhaust Emissions	0	849	
Optional Carbon-Related Exhaust Emissions	0	876	
<b>Test Result Name</b>	<b>Unrounded Test Result</b>	<b>Verify Calculated CO2</b>	
Carbon dioxide	848.6695803	--	
<b>Manufacturer Test Comments</b>	TC This test has particulate results.TC CREE set to default value TC (NMOG=NMHC)		

Certification Summary Information Report

Test Group		Evaporative/Refueling Family										N/A	
Certification Region	Useful Life	Standard Level	Emission Name	Rounded Result	RAF	NMOG/NM HC Ratio	Diesel Adjustment Factor	Add DF	Mult DF	Certification Level	Standard	Pass/Fail	
													CO
Fed	120,000 miles	HDV2 (Federal HD chassis Class 3 GVW 10001-14000)	CO	0.09	--	--	0.0013 UP	0.0536	--	0.1	8.1	Pass	
Fed	120,000 miles	HDV2 (Federal HD chassis Class 3 GVW 10001-14000)	CO2	849	--	--	0.00 UP	0.0	--	849	--	--	
Fed	120,000 miles	HDV2 (Federal HD chassis Class 3 GVW 10001-14000)	HC-NM	0.0183	--	--	0.0003 UP	0.0012	--	0.020	0.230	Pass	
Fed	120,000 miles	HDV2 (Federal HD chassis Class 3 GVW 10001-14000)	NOX	0.17	--	--	0.0159 UP	0.00	--	0.2	0.4	Pass	
Fed	120,000 miles	HDV2 (Federal HD chassis Class 3 GVW 10001-14000)	PM	0.001	--	--	0.00 UP	0.00	--	0.00	0.02	Pass	
CA	150,000 miles	California LEV-III ULEV570	CO	0.09	--	--	0.0013 UP	0.0675	--	0.2	7.3	Pass	
CA	150,000 miles	California LEV-III ULEV570	NMOG	0.0183	--	--	0.0 UP	0.00	--	0.018	999.999	Pass	
CA	150,000 miles	California LEV-III ULEV570	NMOG+NOX	0.1886	--	--	0.0162 UP	--	--	0.189	0.570	Pass	
CA	150,000 miles	California LEV-III ULEV570	NOX	0.1703	--	--	0.00 UP	0.00	--	0.170	999.999	Pass	
CA	150,000 miles	California LEV-III ULEV570	PM	0.001	--	--	0.00 UP	0.00	--	0.00	0.06	Pass	

NOTE: For Non-charge depleting tests, the Rounded Result for CO2 Emission name is a Verify-calculated value.

**Certification Summary Information Report**

<b>Test Group</b>	FCEXD06.78WV	Evaporative/Refueling Family	N/A
<b>Test #</b>	FCEX91002268	<b>Test Procedure</b>	<b>3 - HWFE</b>
<b>Exhaust Test # for this Evap Test</b>	N/A	<b>Test Fuel Type</b>	19 - Federal Cert Diesel 7-15 PPM Sulfur
<b>Test Date</b>	05/07/2014	<b>Fuel</b>	Diesel
<b>Vehicle Class</b>	MDV7 (Cal. LEV 2/3 MDV GVW 10001-14000)	<b>DF Type</b>	Mfr. Determined
<b>Verify Test Lab ID</b>	--		
<b>Test Results</b>			
<b>Test Result Name</b>	<b>Unrounded Test Result</b>	<b>Verify Calculated FE MPG Equivalent Value</b>	
CH4 - Methane	0.0026909	--	
Carbon Monoxide	0.021532	--	
Drive Trace Absolute Speed Change Rating	-2.821722	--	
Drive Trace Energy Economy Rating	-0.046326	--	
Drive Trace Inertia Work Ratio Rating	-3.94257	--	
Manufacturer Fuel Economy	17.9439114	--	
Nitrogen Oxide	0.0811965	--	
Nitrous Oxide	0.0832638	--	
Non-methane Hydrocarbon	0.0037457	--	
Non-methane organic gas (California)	0.0037457	--	
Particulate Matter	0.0003497	--	
Total Hydrocarbon	0.0062464	--	
<b>Test Result Name</b>	<b>Unrounded Test Result</b>	<b>Verify Calculated CREE/OPT-CREE</b>	
Carbon-Related Exhaust Emissions	0	567	
Optional Carbon-Related Exhaust Emissions	0	592	
<b>Test Result Name</b>	<b>Unrounded Test Result</b>	<b>Verify Calculated CO2</b>	
Carbon dioxide	567.0369884	--	
<b>Manufacturer Test Comments</b>			
TC This test has particulate results.TC CREE set to default value TC (NMOG=NMHC)			

**Certification Summary Information Report**

Test Group		Evaporative/Refueling Family										N/A
Certification Region	Useful Life	Standard Level	Emission Name	Rounded Result	RAF	NMOG/NM HC Ratio	Diesel Adjustment Factor	Add DF	Mult DF	Certification Level	Standard	Pass/Fail
CA	150,000 miles	California LEV-III ULEV570	CO2	567	--	--	0.00 UP	0.00	--	567	--	--
CA	150,000 miles	California LEV-III ULEV570	NMOG	0.0037	--	--	0.0000 UP	0.00	--	0.004	999.999	Pass
CA	150,000 miles	California LEV-III ULEV570	NMOG+NOX	0.0849	--	--	0.0162 UP	--	--	0.085	0.570	Pass
CA	150,000 miles	California LEV-III ULEV570	NOX	0.0812	--	--	0.00 UP	0.00	--	0.081	999.999	Pass

**NOTE: For Non-charge depleting tests, the Rounded Result for CO2 Emission name is a Verify-calculated value.**

Test Group		FCEXD06.78WV		Evaporative/Refueling Family		N/A	
Exhaust Standards							
Cert Region	California + CAA Section 177 states			Cert/In-Use Code		Cert	
Vehicle Class	MDV7 (Cal. LEV 2/3 MDV GVW 10001-14000)			Standard Level		California LEV-III ULEV570	
Fuel	Diesel			Test Procedure		HWFE	
Useful Life	Emission Name	Rounded Result	RAF	NMOG / NMHC	Upward Diesel Adjustment Factor	Downward Diesel Adjustment Factor	Std
150,000 miles	CO2	--	--	--	0.00	0.0	999,999
150,000 miles	NMOG	--	--	--	0.0000	0.0	999,999
150,000 miles	NMOG+NOX	--	--	--	0.0162	0.0	0.570
150,000 miles	NOX	--	--	--	0.00	0.0	999,999
Cert Region	Federal			Cert/In-Use Code		Cert	
Vehicle Class	HDV2 (Federal HD chassis Class 3 GVW 10001-14000)			Standard Level		HDV2 (Federal HD chassis Class 3 GVW 10001-14000)	
Fuel	Diesel			Test Procedure		CVS 75 and later (w/o can. load)	
Useful Life	Emission Name	Rounded Result	RAF	NMOG / NMHC	Upward Diesel Adjustment Factor	Downward Diesel Adjustment Factor	Std
120,000 miles	CO	--	--	--	0.0013	0.0	8.1
120,000 miles	CO2	--	--	--	0.00	0.0	999,999
120,000 miles	HC-NM	--	--	--	0.0003	0.0	0.230
120,000 miles	NOX	--	--	--	0.0159	0.0	0.4
120,000 miles	PM	--	--	--	0.00	0.0	0.02

**Certification Summary Information Report**

Test Group		Evaporative/Refueling Family		Cert/In-Use Code		N/A			
Cert Region		California + CAA Section 177 states		Cert		Cert			
Vehicle Class		MDV7 (Cal. LEV 2/3 MDV GVW 10001-14000)		California LEV-III ULEV570		California LEV-III ULEV570			
Fuel		Diesel		Test Procedure		CVS 75 and later (w/o can. load)			
Useful Life	Emission Name	Rounded Result	RAF	NMOG/NMHC	Upward Diesel Adjustment Factor	Downward Diesel Adjustment Factor	Mult DF	Add DF	Std
150,000 miles	CO	--	--	--	0.0013	0.0	--	0.0675	7.3
150,000 miles	HCHO	--	--	--	0.000	0.0	--	0.000	0.006
150,000 miles	NMOG	--	--	--	0.0	0.0	--	0.00	999.999
150,000 miles	NMOG+NOX	--	--	--	0.0162	0.0	--	0.00	0.570
150,000 miles	NOX	--	--	--	0.00	0.0	--	0.00	999.999
150,000 miles	PM	--	--	--	0.00	0.0	--	0.00	0.06

Test Group	FCEXD06.78WV	Evaporative/Refueling Family	N/A
<b>Glossary</b>			
<b>Useful Life</b>			
4	4,000 miles	120	120,000 miles
50	50,000 miles	150	150,000 miles
100	100,000 miles		
<b>Emission Name</b>			
HC-TOTAL	Total Hydrocarbon	MFR FE	Manufacturer Fuel Economy
CO	Carbon Monoxide	HC	Hydrocarbon for Running Loss and ORVR
CO2	Carbon dioxide	METHANE	CH4 - Methane
CREE	Carbon-Related Exhaust Emissions	METHANOL	CH3OH - Methanol
OPT-CREE	Optional Carbon-Related Exhaust Emissions	N2O	Nitrous Oxide
NOX	Nitrogen Oxide	SPTBACK	Spitback Hydrocarbon in grams
PM	Particulate Matter	AMP-HRS	Integrated Amp-hours
PM-COMP	SFTP Composite Particulate Matter	START-SOC	System Start State of Charge Watt-hours
HC-NM	Non-methane Hydrocarbon	END-SOC	System End State of Charge Watt-hours
OMHCE	Organic material Hydrocarbon Equivalent	ACT-DISTANCE	Actual Distance Driven (miles)
OMNMHCE	Organic material non-methane HC equivalent	AS-VOLT	Average System Voltage
NMOG	Non-methane organic gas (California)	CO2 BAG 1	Bag 1 Carbon Dioxide
HCHO	Formaldehyde	CO2 BAG 2	Bag 2 Carbon Dioxide
H3C2HO	Acetaldehyde	CO2 BAG 3	Bag 3 Carbon Dioxide
HC-NM+NOX	SFTP Non-methane Hydrocarbon + Nitrogen Oxides for US06 or SC03	CO2 BAG 4	Bag 4 Carbon Dioxide
HC-NM+NOX-COMP	SFTP Composite Non-methane Hydrocarbon + Nitrogen Oxides	NMOG+NOX	Non-methane organic gases plus Nitrogen Oxides
CO-COMP	SFTP Composite Carbon Monoxide	NMOG+NOX-COMP	SFTP Composite Non-methane Organic Gases + Nitrogen Oxides
ETHANOL	C2H5OH - Ethanol	DT-IWRR	Drive Trace Inertia Work Ratio Rating
FE BAG 1	Bag 1 Fuel Economy	DT-ASCR	Drive Trace Absolute Speed Change Rating
FE BAG 2	Bag 2 Fuel Economy	DT-EER	Drive Trace Energy Economy Rating
FE BAG 3	Bag 3 Fuel Economy	COMB-CREE	Combined Carbon-Related Exhaust Emissions
FE BAG 4	Bag 4 Fuel Economy	COMB-OPT-CREE	Combined Optional Carbon-Related Exhaust Emissions
<b>Certification Region</b>			
CA	California + CAA Section 177 states	FA	Federal
<b>Exhaust Emission Standard Level</b>			
B1	Federal Tier 2 Bin 1	L2SULEV30	California LEV-II SULEV30
B2	Federal Tier 2 Bin 2	L2LEV395	California LEV-II LEV395
B3	Federal Tier 2 Bin 3	L2ULEV340	California LEV-II ULEV340
B4	Federal Tier 2 Bin 4	L2LEV630	California LEV-II LEV630
B5	Federal Tier 2 Bin 5	L2ULEV570	California LEV-II ULEV570
B6	Federal Tier 2 Bin 6	L3LEV160	California LEV-III LEV160
B7	Federal Tier 2 Bin 7	L3ULEV125	California LEV-III ULEV125
B8	Federal Tier 2 Bin 8	L3ULEV70	California LEV-III ULEV70

**Certification Summary Information Report**

Test Group	FCEXD06.78WV	Evaporative/Refueling Family	N/A
B9	Federal Tier 2 Bin 9	L3ULEV50	California LEV-III ULEV50
B10	Federal Tier 2 Bin 10	L3SULEV30	California LEV-III SULEV30
B11	Federal Tier 2 Bin 11	L3SULEV20	California LEV-III SULEV20
HDV1	HDV1 (Federal HD chassis Class 2b GVW 8501-10000)	L3LEV395	California LEV-III LEV395
HDV2	HDV2 (Federal HD chassis Class 3 GVW 10001-14000)	L3ULEV340	California LEV-III ULEV340
L2	California LEV-II LEV	L3ULEV250	California LEV-III ULEV250
L2OP	California LEV-II LEV Optional	L3ULEV200	California LEV-III ULEV200
U2	California LEV-II ULEV	L3SULEV170	California LEV-III SULEV170
S2	California LEV-II SULEV	L3SULEV150	California LEV-III SULEV150
ZEV	California ZEV	L3LEV630	California LEV-III LEV630
OT	Other	L3ULEV570	California LEV-III ULEV570
T1	Federal Tier 1	L3ULEV400	California LEV-III ULEV400
PZEV	California PZEV	L3ULEV270	California LEV-III ULEV270
L2LEV160	California LEV-II LEV160	L3SULEV230	California LEV-III SULEV230
L2ULEV125	California LEV-II ULEV125	L3SULEV200	California LEV-III SULEV200
<b>Transmission Type Code</b>			
AMS	Automated Manual-Selectable (e.g. Automated Manual with paddles)	M	Manual
A	Automatic	OT	Other
AM	Automated Manual	SA	Semi-Automatic
CVT	Continuously Variable	SCV	Selectable Continuously Variable (e.g. CVT with paddles)
<b>Drive System Code</b>			
4	4-Wheel Drive	P	Part-time 4-Wheel Drive
F	2-Wheel Drive, Front	A	All Wheel Drive
R	2-Wheel Drive, Rear		
<b>Additional Terms and Acronyms</b>			
AFC	Alternative Fuel Converter	ICI	Independent Commercial Importer
CSI	Certificate Summary Information	ORVR	Onboard Refueling Vapor Recovery
DF	Deterioration Factor	SIL	Shift Indicator Light
Evap	Evaporation, Evaporative	Trans	Transmission

# Exhibit 48

# Cummins Incorporated

Application for Certification  
Part 1

2016 Model Year

Durability Group: GCEXDPDNNC01  
Evaporative Families: Not Applicable

Test Group: GCEXD06.78W

EPA Summary Sheet ID #: CSI-GCEXD06.78W  
Four Stroke, Diesel Cycle, Diesel Fueled, Direct Injection

6.7 Liter I-6  
HDV (8,501 - 10,000 lbs GVWR)  
Applicable Standards:  
FEDERAL HDV1, CARB LEV III ULEV340

Vehicles Covered:  
Ram 2500 Pickup 2WD/4WD  
Ram 3500 Pickup 2WD/4WD

Vehicles Run:  
Vehicle ID V4DJ75651

For questions, Ravinder D Singh 248-576-5504 Bhushan Pawar 631-455-7584





## Cummins Incorporated Table of Contents

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Cummins Incorporated

Section 1 Correspondence and Communication

For questions dealing with the Part I application for this Test Group contact:

Name	Title	Responsibility	Phone	E-mail	Fax
Bhushan Pawar	Certification Engineer	Application Submission	631-455-7583	bhushan.pawar@cummins.com	248.576.7928
Ravinder D Singh	Manager - Certification Team	Application Submission	248.576.5504	ravinder.d.singh@cummins.com	248.576.7928
Steve Mazure	Manager - Certification Team	Certification Programs	248.576.5471	srm2@chrysler.com	248.576.7928
Matt Psota	Manager - Certification Team	Certification Programs	812.377.7899	matt.psota@cummins.com	812.377.8739

Section 2 Durability Group Description

Durability Group Name: GCXDPDNNC01

For a complete description of the Durability Group Description please see:  
"Common Section Book - Section 2. Durability Group Description"

Section 3 Evaporative/Refueling Family Description

Not Applicable



Cummins Incorporated

Section 4 Durability Procedure Description

Durability Group: GCXDPDNNC01

Durability Provision Statement:

Based on Cummins Inc.'s good engineering judgement, all the vehicles described in this Application for Certification comply with all applicable full useful life standards.

For a complete description of the Durability Procedure please see:

"Common Section Book - Section 16. Durability Procedure Description"

Indicate if aged components were used.

Indicate whether additive or multiplicative DF's were used.

List all DF's calculated at both full and intermediate useful life and applicable standards (test results and vehicle description).

No

Yes

See attached CSI for DFs and test results.  
CARB - Reference Cert Review Sheet

Evaporative/Refueling Family:  
Not Applicable

Section 5 Test Group Description

Test Group Name:

GCXDX06.78V

Engine displacements covered:

6.7 Liter

Arrangement and number of cylinders:

I-6

Vehicle classes covered:

HDV (8,501 - 10,000 lbs GVWR)

Emission standards class:

HDV1

AB71 Qualified Vehicles:

No



**Cummins Incorporated**

Section 8 Emission testing Waiver Statements

Below is a list clearly identifying the standards applicable to this Test Group for which emission testing was not performed. All Cummins vehicles will conform with the emission standards which emission data is not being provided, as allowed under 40 CFR §86.1829-01 or §86.1810-01.

Formaldehyde - HCHO

Section 9 OBD Description

For a complete description of the OBD Description please see: "Common Part 1 Section 16. OBD Description"

For OBD Agency Approvals please see: "Common Part 1 Section 16. Agency Approvals"

OBD Demonstration Compliance Statement: This Test Group meets the full intent of both the Clean Air Act as amended in 1990, section 202(m), and the applicable federal OBD regulations contained in 40 CFR §86.005-17 and 40 CFR §86.1806-01, including a reference to those provisions pertaining to deficiencies in the limited instances where an OBD II system that complies with 1968.2 does not comply with all the requirements of section 1968.1.

Section 10 Description of Alternate - Fueled Vehicles

Not Applicable

## FCA US LLC

## Test Group - GCEXD06.78VV

EPA COMP CODE	AA-100	AA-200	AA-300	AA-400	AM-100	AM-200
E10:Powertrain Control Module						
E32:Ammonia Control Module						
E33:Flange Control Module						
F18:Fuel Pump - High Pressure						
F42:Air/Fuel Throttle Valve						
F50:Fuel Injector						
F81:Fuel Rail Pressure Sensor						
H06:Selective Catalytic Reduction Catalyst Assembly						
H07:Oxidation Catalyst/Particulate Filter Assembly						
H31:Sensor - Differential Pressure						
H32:Sensor - After Treatment, Temperature						
H33:Sensor - Exhaust Pressure						
H34:Sensor - Temperature/Barometric Pressure						
H36:Urea Tank Assembly						
H37:Diesel Exhaust Fluid Injector						
H38:Diesel Exhaust Fluid Flange Module						
L03:Nitrous Oxide Sensor						

<b>EPA COMP CODE</b>	<b>AA-100</b>	<b>AA-200</b>	<b>AA-300</b>	<b>AA-400</b>	<b>AM-100</b>	<b>AM-200</b>
L16:Crankshaft Position Sensor						
M01:Engine Coolant Temp. Sensor						
N10:Camshaft						
N30:Turbocharger						
N31:Charge Air Cooler						
N35:Intake Manifold						
N36:Exhaust Manifold / Single						
N50:Engine Thermostat						
N56:EGR Valve						
N57:EGR Cooler						
N58:EGR By-Pass Valve						
V01:PCV Valve						
V07:Mass Airflow Sensor						
V08:TMAP Sensor						
V71:Crankcase Pressure Sensor						
Z01:VECI Label						

## Section11-100 Engine Parts List

## FCA US LLC

**Test Group :** GCEXD06.78VV

**Durability Group:** GCEXDPDNNC01 **Standard Fed:** HDV1 **Cal:** ULEV340

Trans. Code	Sales Code	Transfer Case Sales Code/Drive Code	No. of Gears	Over Drive Gear Ratio	Drive Gear Ratio	Engine Sales Code	Torque Code	Torque Size	Conv Clutch Control Type Calib/Special Features
L6	DG7	2R	6	0.63	3.23,1.84,1.41,1.00,0.83,0.63	ETK	WC	310 MM	Electronically shifted data on file
L6	DG7	DK1 / 4P DK3 / 4P	6	0.63	3.23,1.84,1.41,1.00,0.83,0.63	ETK	WC	310 MM	Electronically shifted data on file
M6	DEG	DK1 / 4P DK3 / 4P	6	0.74	5.94,3.28,1.98,1.31,1.00,0.74	ETK			
M6	DEG	2R	6	0.74	5.94,3.28,1.98,1.31,1.00,0.74	ETK			

Section12-200 Transmission

FCA US LLC

GCEXD06.78VV

Durability Group: Standard Fed: HDV1 Cal: ULEV340  
GCEXDPDNNC01

Asterisk (\*) Indicates Manufacturer has elected to certify at this higher test weight class as allowed by CFR 86.1831-01

Engine Code AA-100 Eng Displ: 6.7L (ETK) Evap Family - Evap Code:

Model	Carline Name	Model Qualifier	Opt	Trans. / Tr. Case	Torq. Conv./ Catalyst Identifier	GVW	LWV	ALVW	Axle / OTGR	N/V	Tire	Tire Mfr.	Tire Constr. Cd.	Elec	Elec	Dyno	Dyno	Dyno	Dyno	Dyno	Dyno		
							TWC Drive Curb	TWC Drive Curb						Q.C.	RLHP	70A	70 B	70C	20A	20B	20C		
DJ2A62	RAM-Cummins: 2500 4X2			L6 - RWD WC DG7		10000	7500	8500 3.42	24.3	LT245/70R17E TWD	ZTF	02071T	20.77	25.3	49.28000	1.812700	0.019980	54.21000	1.994000	0.021980	0.020720		
							2738	3996 3.42	22.6	LT275/70R18E TCN	ZTF	EJ487Q	20.22	26.0	44.83000	2.060700	0.018840	49.31000	2.266800	0.021240			
							6984	8492 3.42	22.6	LT275/70R18E TCP	ZTF	EJ496Q	19.66	26.7	47.40000	2.098600	0.019310	52.14000	2.308500	0.021240			
DJ2A81	RAM-Cummins: 2500 4X2			L6 - RWD WC DG7		10000	8000	9000 3.42	22.6	LT275/70R18E TCN	ZTF	EJ487Q	21.37	26.0	50.79000	2.405900	0.020660	55.87000	2.646500	0.010630	0.010630		
							3119	3914 3.42	22.6	LT275/70R18E TCP	ZTF	EJ496Q	20.78	26.8	50.71000	2.354900	0.012940	55.78000	2.590400	0.014230			
							7749	8874 3.42	22.5	LT285/60R20E TEA	ZTF	EJ642Q	20.78	26.8	51.70000	2.298100	0.013710	56.87000	2.527900	0.015080			
DJ2A91	RAM-Cummins: 2500 4X2			L6 - RWD WC DG7		10000	7500	8500 3.42	24.3	LT245/70R17E TWD	ZTF	02071T	21.09	24.9	50.95000	1.847500	0.017440	56.05000	2.032300	0.019180	0.019180		
							2914	3965 3.42	22.6	LT275/70R18E TCP	ZTF	EJ496Q	20.90	25.1	48.54000	1.739600	0.012240	53.39000	1.913600	0.023360			
							7364	8682 3.42	22.5	LT285/60R20E TEA	ZTF	EJ642Q	20.90	25.2	49.47000	1.684000	0.021990	54.42000	1.852400	0.024190			
DJ2A92	RAM-Cummins: 2500 4X2			L6 - RWD WC DG7		10000	8000*	8500 3.42	24.3	LT245/70R17E TWD	ZTF	02071T	20.23	26.0	51.10000	2.125100	0.015000	56.21000	2.337600	0.016500	0.016500		
							2892	3814 3.42	22.6	LT275/70R18E TCN	ZTF	EJ487Q	19.79	26.6	48.07000	2.046200	0.019530	52.88000	2.250800	0.021480			
							7444	8722 3.42	22.6	LT275/70R18E TCP	ZTF	EJ496Q	19.16	27.4	51.11000	2.216700	0.017520	56.22000	2.438400	0.019270			
DJ2A62	RAM-Cummins: 2500 4X2			L6 - RWD WC DG7		9900	7500	8500 3.42	24.3	LT245/70R17E TWD	ZTF	02071T	20.77	25.3	49.28000	1.812700	0.019980	54.21000	1.994000	0.021980	0.021980		
							2721	3940 3.42	22.6	LT275/70R18E TCN	ZTF	EJ487Q	20.22	26.0	44.83000	2.060700	0.018840	49.31000	2.266800	0.020720			
							6977	8438 3.42	22.6	LT275/70R18E TCP	ZTF	EJ496Q	19.66	26.7	47.40000	2.098600	0.019310	52.14000	2.308500	0.021240			
DJ2A81	RAM-Cummins: 2500 4X2			L6 - RWD WC DG7		9900	8000	9000 3.42	22.6	LT275/70R18E TCN	ZTF	EJ487Q	21.37	26.0	50.79000	2.405900	0.020660	55.87000	2.646500	0.010630	0.010630		
							3172	3890 3.42	22.6	LT275/70R18E TCP	ZTF	EJ496Q	20.78	26.8	50.71000	2.354900	0.012940	55.78000	2.590400	0.014230			
							7842	8871 3.42	22.5	LT285/60R20E TEA	ZTF	EJ642Q	20.78	26.8	51.70000	2.298100	0.013710	56.87000	2.527900	0.015080			
DJ2A91	RAM-Cummins: 2500 4X2			L6 - RWD WC DG7		9900	8000	9000 3.42	24.3	LT245/70R17E TWD	ZTF	02071T	22.24	25.0	51.63000	1.848300	0.017460	56.79000	2.033100	0.019210	0.019210		
							3013	3889 3.42	22.6	LT275/70R18E TCP	ZTF	EJ496Q	22.04	25.3	49.23000	1.741800	0.022250	54.15000	1.916000	0.023380			
							7721	8811 3.42	22.5	LT285/60R20E TEA	ZTF	EJ642Q	22.03	25.3	50.19000	1.685600	0.022010	55.21000	1.854200	0.024210			
DJ2A92	RAM-Cummins: 2500 4X2			L6 - RWD WC DG7		9900	8000	8500 3.42	24.3	LT245/70R17E TWD	ZTF	02071T	20.23	26.0	51.10000	2.125100	0.015000	56.21000	2.337600	0.016500	0.016500		
							2924	3812 3.42	22.6	LT275/70R18E TCN	ZTF	EJ487Q	19.79	26.6	48.07000	2.046200	0.019530	52.88000	2.250800	0.021480			
							7475	8688 3.42	22.6	LT275/70R18E TCP	ZTF	EJ496Q	19.16	27.4	51.11000	2.216700	0.017520	56.22000	2.438400	0.019270			
									22.5	LT285/60R20E TEA	ZTF	EJ642Q	19.16	27.4	52.05000	2.160900	0.018270	57.26000	2.377000	0.020100	0.020100		

Engine Code AA-200 Eng Displ: 6.7L (ETK) Evap Family - Evap Code:

Model	Carline Name	Model Qualifier	Opt	Trans. / Tr. Case	Torq. Conv./ Catalyst Identifier	GVW	LWV	ALVW	Axle / OTGR	N/V	Tire	Tire Mfr.	Tire Constr. Cd.	Elec	Elec	Dyno	Dyno	Dyno	Dyno	Dyno	Dyno		
							TWC Drive Curb	TWC Drive Curb						Q.C.	RLHP	70A	70 B	70C	20A	20B	20C		
DJ7A62	RAM-Cummins: 2500 4X4			L6 - 4WD WC DG7 / DK1-4P DK3-4P		10000	7500	8500 3.42	24.3	LT245/70R17E TWD	ZTF	02071T	17.52	30.0	57.46000	2.346200	0.020110	63.21000	2.580800	0.022120	0.022120		
							2749	3848 3.42	22.6	LT275/70R18E TCN	ZTF	EJ487Q	17.17	30.6	48.29000	2.802900	0.016500	53.12000	3.083200	0.018150			
							7327	8664 3.42	22.6	LT275/70R18E TCP	ZTF	EJ496Q	16.49	31.9	49.55000	2.968000	0.016480	54.51000	3.264800	0.018130			
DJ7A81	RAM-Cummins: 2500 4X4			L6 - 4WD WC DG7 / DK1-4P DK3-4P		10000	8500	9000 3.42	22.6	LT275/70R18E TCN	ZTF	EJ487Q	18.23	30.5	55.30000	2.327400	0.022950	60.83000	2.560100	0.025250	0.025250		
							3244	3819 3.42	22.6	LT275/70R18E TCP	ZTF	EJ496Q	18.06	30.8	56.93000	2.330100	0.023110	62.62000	2.563100	0.025420			
							8286	9143 3.42	22.5	LT285/60R20E TEA	ZTF	EJ642Q	18.05	30.8	57.97000	2.272200	0.023890	63.77000	2.499400	0.026280			
DJ7A91	RAM-Cummins: 2500 4X4			L6 - 4WD WC DG7 / DK1-4P DK3-4P		10000	8000	9000 3.42	24.3	LT245/70R17E TWD	ZTF	02071T	18.55	30.0	51.56000	2.543400	0.018540	56.72000	2.797700	0.020390	0.020390		
							2940	3832 3.42	22.6	LT275/70R18E TCP	ZTF	EJ496Q	18.03	30.9	50.60000	2.736500	0.017670	55.66000	3.010200	0.019440			
							7680	8840 3.42	22.5	LT285/60R20E TEA	ZTF	EJ642Q	18.02	30.9	51.57000	2.679900	0.018430	56.73000	2.947900	0.020270			
DJ7A92	RAM-Cummins: 2500 4X4			L6 - 4WD WC DG7 / DK1-4P DK3-4P		10000	8000	9000 3.42	24.3	LT245/70R17E TWD	ZTF	02071T	18.24	30.5	55.76000	2.929000	0.010650	61.34000	3.221900	0.011720	0.011720		
							3000	3723 3.42	22.6	LT275/70R18E TCN	ZTF	EJ487Q	18.26	30.5	48.73000	3.026300	0.011430	53.80000	3.328900	0.012570			
							7889	8944 3.42	22.6	LT275/70R18E TCP	ZTF	EJ496Q	17.73	31.4	58.74000	2.706700	0.016540	64.61000	2.977400	0.018190			
DJ7A62	RAM-Cummins: 2500 4X4			L6 - 4X4 WC DG7 / DK1-4P DK3-4P		9900	8000	8500 3.42	24.3	LT245/70R17E TWD	ZTF	02071T	17.52	30.0	57.46000	2.346200	0.020110	63.21000	2.580800	0.022120	0.022120		
							2809	3812 3.42	22.6	LT275/70R18E TCN	ZTF	EJ487Q	17.17	30.6	48.29000	2.802900	0.016500	53.12000	3.083200	0.018150			
							7462	8681 3.42	22.6	LT275/70R18E TCP	ZTF	EJ496Q	16.49	31.9	49.55000	2.968000	0.016480	54.51000	3.264800	0.018130			
DJ7A81	RAM-Cummins: 2500 4X4			L6 - 4X4 WC DG7 / DK1-4P DK3-4P		9900	8500	9000 3.42	22.6	LT275/70R18E TCN	ZTF	EJ487Q	18.23	30.5	55.30000	2.327400	0.022950	60.83000	2.560100	0.025250	0.025250		
							3184	3738 3.42	22.6	LT275/70R18E TCP	ZTF	EJ496Q	18.06	30.8	56.93000	2.330100	0.023110	62.62000	2.563100	0.025420			
							8200	9050 3.42	22.5	LT285/60R20E TEA	ZTF	EJ642Q	18.05	30.8	57.97000	2.272200	0.023890	63.77000	2.499400	0.026280			
DJ7A91	RAM-Cummins: 2500 4X4			L6 - 4X4 WC DG7 / DK1-4P DK3-4P		9900	8000	9000 3.42	24.3	LT245/70R17E TWD	ZTF	02071T	18.55	30.0	51.56000	2.543400	0.018540	56.72000	2.797700	0.020390	0.020390		
							3098	3796 3.42	22.6	LT275/70R18E TCP	ZTF	EJ496Q	18.03	30.9	50.60000	2.736500	0.017670	55.66000	3.010200	0.019440			
							7929	8915 3.42	22.5	LT285/60R20E TEA	ZTF	EJ642Q	18.02	30.9	51.57000	2.679900	0.018430	56.73000	2.947900	0.020270			
DJ7A92	RAM-Cummins: 2500 4X4			L6 - 4X4 WC DG7 / DK1-4P DK3-4P		9900	8000	9000 3.42	24.3	LT245/70R17E TWD	ZTF	02071T	18.24	30.5	55.76000	2.929000	0.010650	61.34000	3.221900	0.011720	0.011720		
							3015	3650 3.42	22.6	LT275/70R18E TCN	ZTF	EJ487Q	18.26	30.5	48.73000	3.026300	0.011430	53.80000	3.328900	0.012570			

**Engine Code AA-400      Eng Displ: 6.7L (ETK)      Evap Family - Evap Code:**

Model	Carline Name	Model Qualifier	Opt	Trans. / Tr. Case	Torq. Conv./ Catalyst Identifier	LVW GVV	ALVW TWC Drive	ALVW TWC Drive	Axle / OTGR	N/V	Tire	Tire Mfr.	Tire Constr.Cd.	Elec Dyno Q.C.	Elec Dyno RLHP	Dyno Coeff 70A	Dyno Coeff 70B	Dyno Coeff 70C	Dyno Coeff 20A	Dyno Coeff 20B	Dyno Coeff 20C	
																						GVV
DJ7A93				L6 - RWD WC		9900	8500*	9000	3.42	24.3	LT245/70R17E	TWD	TZF	02071T	18.24	30.5	55.76000	2.929000	0.010650	61.34000	3.221900	0.011720
							3015	3650	3.42	22.6	LT275/70R18E	TCN	TZF	EJ487Q	18.26	30.5	48.73000	3.026300	0.011430	53.60000	3.328900	0.012570
							7917	8908	3.42	22.6	LT275/70R18E	TCP	TZF	EJ496Q	17.73	31.4	58.74000	2.706700	0.016340	64.61000	2.977400	0.018190
									3.42	22.5	LT285/60R20E	TEA	TZF	EJ642Q	17.72	31.4	59.74000	2.649600	0.017310	65.71000	2.914600	0.019040

**Engine Code AM-100      Eng Displ: 6.7L (ETK)      Evap Family - Evap Code:**

Model	Carline Name	Model Qualifier	Opt	Trans. / Tr. Case	Torq. Conv./ Catalyst Identifier	LVW GVV	ALVW TWC Drive	ALVW TWC Drive	Axle / OTGR	N/V	Tire	Tire Mfr.	Tire Constr.Cd.	Elec Dyno Q.C.	Elec Dyno RLHP	Dyno Coeff 70A	Dyno Coeff 70B	Dyno Coeff 70C	Dyno Coeff 20A	Dyno Coeff 20B	Dyno Coeff 20C	
																						GVV
DJ2A62	RAM-Cummins: 2500 4X2			M6 - RWD DEG		10000	7500	8500	3.42	28.6	LT245/70R17E	TWD	TZF	02071T	22.58	23.3	55.83000	0.546000	0.036640	61.41000	0.600600	0.040300
							2803	4028	3.42	28.6	LT275/70R18E	TCN	TZF	EJ487Q	21.94	24.0	51.37000	0.794500	0.035500	56.51000	0.874000	0.039050
							7083	8541	3.42	28.5	LT275/70R18E	TCP	TZF	EJ496Q	21.27	24.7	53.95000	0.832400	0.035970	59.35000	0.915600	0.039570
DJ2A81	RAM-Cummins: 2500 4X2			M6 - RWD DEG		10000	8000	9000	3.42	28.6	LT275/70R18E	TCN	TZF	EJ487Q	23.19	24.0	57.24000	1.139500	0.026230	62.96000	1.253500	0.028950
							3127	3919	3.42	28.6	LT275/70R18E	TCP	TZF	EJ496Q	22.50	24.7	57.17000	1.088400	0.029600	62.89000	1.197200	0.032560
							7817	8908	3.42	28.4	LT285/60R20E	TEA	TZF	EJ642Q	22.49	24.8	58.16000	1.031500	0.030370	63.98000	1.134700	0.033410
DJ2A91	RAM-Cummins: 2500 4X2			M6 - RWD DEG		10000	7500	8500	3.42	28.6	LT245/70R17E	TWD	TZF	02071T	22.97	22.9	57.39000	0.580600	0.034100	63.13000	0.638700	0.037510
							2912	3964	3.42	28.5	LT275/70R18E	TCP	TZF	EJ496Q	22.76	23.1	54.98000	0.473100	0.037900	60.48000	0.520400	0.041690
							7427	8714	3.42	28.4	LT285/60R20E	TEA	TZF	EJ642Q	22.75	23.1	55.92000	0.417400	0.038650	61.51000	0.459100	0.042520
DJ2A92	RAM-Cummins: 2500 4X2			M6 - RWD DEG		10000	8000	9000	3.42	28.6	LT245/70R17E	TWD	TZF	02071T	23.15	24.0	58.20000	0.859100	0.031680	64.02000	0.945000	0.034850
							2916	3826	3.42	28.6	LT275/70R18E	TCN	TZF	EJ487Q	22.62	24.6	55.13000	0.781700	0.036190	60.64000	0.859900	0.039810
							7553	8776	3.42	28.5	LT275/70R18E	TCP	TZF	EJ496Q	21.83	25.5	58.21000	0.952300	0.034190	64.03000	1.047500	0.037610
DJ2A62	RAM-Cummins: 2500 4X2			M6 - RWD DEG		9900	7500	8500	3.42	28.6	LT245/70R17E	TWD	TZF	02071T	22.58	23.3	55.83000	0.546000	0.036640	61.41000	0.600600	0.040300
							2786	3972	3.42	28.6	LT275/70R18E	TCN	TZF	EJ487Q	21.94	24.0	51.37000	0.794500	0.035500	56.51000	0.874000	0.039050
							7076	8488	3.42	28.5	LT275/70R18E	TCP	TZF	EJ496Q	21.27	24.7	53.95000	0.832400	0.035970	59.35000	0.915600	0.039570
DJ2A81	RAM-Cummins: 2500 4X2			M6 - RWD DEG		9900	8000	9000	3.42	28.6	LT275/70R18E	TCN	TZF	EJ487Q	23.19	24.0	57.24000	1.139500	0.026230	62.96000	1.253500	0.028950
							3180	3894	3.42	28.5	LT275/70R18E	TCP	TZF	EJ496Q	22.50	24.7	57.17000	1.088400	0.029600	62.89000	1.197200	0.032560
							7910	8905	3.42	28.4	LT285/60R20E	TEA	TZF	EJ642Q	22.49	24.8	58.16000	1.031500	0.030370	63.98000	1.134700	0.033410
DJ2A91	RAM-Cummins: 2500 4X2			M6 - RWD DEG		9900	8000	9000	3.42	28.6	LT245/70R17E	TWD	TZF	02071T	24.22	23.0	58.07000	0.581400	0.034120	63.88000	0.639500	0.037530
							3011	3888	3.42	28.5	LT275/70R18E	TCP	TZF	EJ496Q	23.98	23.2	55.66000	0.475200	0.037910	61.23000	0.522700	0.041700
							7785	8842	3.42	28.4	LT285/60R20E	TEA	TZF	EJ642Q	23.97	23.2	56.63000	0.418900	0.038670	62.29000	0.460800	0.042540
DJ2A92	RAM-Cummins: 2500 4X2			M6 - RWD DEG		9900	8000	9000	3.42	28.6	LT245/70R17E	TWD	TZF	02071T	23.15	24.0	58.20000	0.859100	0.031680	64.02000	0.945000	0.034850
							3004	3758	3.42	28.6	LT275/70R18E	TCN	TZF	EJ487Q	22.62	24.6	55.13000	0.781700	0.036190	60.64000	0.859900	0.039810
							7686	8793	3.42	28.5	LT275/70R18E	TCP	TZF	EJ496Q	21.83	25.5	58.21000	0.952300	0.034190	64.03000	1.047500	0.037610
			3.42	28.4	LT285/60R20E	TEA	TZF	EJ642Q	21.83	25.5	59.17000	0.895800	0.034950	65.09000	0.985400	0.038450						

**Engine Code AM-200      Eng Displ: 6.7L (ETK)      Evap Family - Evap Code:**

Model	Carline Name	Model Qualifier	Opt	Trans. / Tr. Case	Torq. Conv./ Catalyst Identifier	LVW GVV	ALVW TWC Drive	ALVW TWC Drive	Axle / OTGR	N/V	Tire	Tire Mfr.	Tire Constr.Cd.	Elec Dyno Q.C.	Elec Dyno RLHP	Dyno Coeff 70A	Dyno Coeff 70B	Dyno Coeff 70C	Dyno Coeff 20A	Dyno Coeff 20B	Dyno Coeff 20C	
																						GVV
DJ7A62	RAM-Cummins: 2500 4X4			M6 - 4WD DEG / DK1-4P DK3-4P		10000	7500	8500	3.42	28.6	LT245/70R17E	TWD	TZF	02071T	18.88	27.8	65.01000	1.083400	0.035860	71.51000	1.191700	0.039450
							2791	3869	3.42	28.6	LT275/70R18E	TCN	TZF	EJ487Q	18.48	28.5	55.84000	1.540400	0.032250	61.42000	1.694400	0.035480
							7410	8705	3.42	28.5	LT275/70R18E	TCP	TZF	EJ496Q	17.69	29.7	57.09000	1.705500	0.032230	62.80000	1.876100	0.035450
									3.42	28.4	LT285/60R20E	TEA	TZF	EJ642Q	17.69	29.7	58.03000	1.649800	0.032980	63.83000	1.814800	0.036280
DJ7A81	RAM-Cummins: 2500 4X4			M6 - 4WD DEG / DK1-4P DK3-4P		10000	8500	9000	3.42	28.6	LT275/70R18E	TCN	TZF	EJ487Q	19.62	28.4	62.91000	1.065100	0.038700	69.20000	1.171600	0.042570
							3249	3821	3.42	28.5	LT275/70R18E	TCP	TZF	EJ496Q	19.42	28.7	64.48000	1.067600	0.038860	70.93000	1.174400	0.042750
							8350	9175	3.42	28.4	LT285/60R20E	TEA	TZF	EJ642Q	19.41	28.7	65.57000	1.009700	0.039650	72.13000	1.110700	0.043620
DJ7A91	RAM-Cummins: 2500 4X4			M6 - 4WD DEG / DK1-4P DK3-4P		10000	8000	9000	3.42	28.6	LT245/70R17E	TWD	TZF	02071T	19.99	27.9	59.13000	1.280600	0.034290	65.04000	1.408700	0.037720
							2944	3834	3.42	28.5	LT275/70R18E	TCP	TZF	EJ496Q	19.40	28.7	58.04000	1.473600	0.033420	63.84000	1.621000	0.036760
							7743	8872	3.42	28.4	LT285/60R20E	TEA	TZF	EJ642Q	19.39	28.7	59.10000	1.417100	0.034180	65.01000	1.558800	0.037600
DJ7A92	RAM-Cummins: 2500 4X4			M6 - 4WD DEG / DK1-4P DK3-4P		10000	8500	9000	3.42	28.6	LT275/70R18E	TCN	TZF	EJ487Q	19.65	28.3	56.35000	1.763900	0.027180	61.99000	1.940300	0.029900
							3005	3725	3.42	28.6	LT245/70R17E	TWD	TZF	02071T	19.62	28.4	63.38000	1.666200	0.026410	69.72000	1.832800	0.029050
							7955	8978	3.42	28.5	LT275/70R18E	TCP	TZF	EJ496Q	19.05	29.2	66.28000	1.444100	0.032290	72.91000	1.588500	0.035520
DJ7A62	RAM-Cummins: 2500 4X4			M6 - 4X4 DEG / DK1-4P DK3-4P		9900	8000	8500	3.42	28.6	LT245/70R17E	TWD	TZF	02071T	18.88	27.8	65.01000	1.083400	0.035860	71.51000	1.191700	0.039450
							2851	3833	3.42	28.6	LT275/70R18E	TCN	TZF	EJ487Q	18.48	28.5	55.84000	1.540400	0.032250	61.42000	1.694400	0.035480
							7544	8722	3.42	28.5	LT275/70R18E	TCP	TZF	EJ496Q	17.69	29.7	57.09000	1.705500	0.032230	62.80000	1.876100	0.035450
DJ7A91	RAM-Cummins: 2500 4X4			M6 - 4X4 DEG / DK1-4P DK3-4P		9900	8500	9000	3.42	28.4	LT285/60R20E	TEA	TZF	EJ642Q	17.69	29.7						

FCA US LLC

Test Group: GCEXD06.78VV - Engine Code Index

Durability Group: Standard : HDV1 / ULEV340 Vehicle Class: HDV1 (8501-10000 GVW) / M6-MDV1 (GVW 8501-10000)  
 GCEXDPDNNC01

Engine Code: AA-100 - 2500 Pickup 2WD AUTO

Engine Code	RC #	Date	Engine	Carline	Price Class	Trans. Configuration	GVW Min.	GVW Max.	Test Wt. Min.	Test Wt. Max.	Drive Code	Sales Areas
AA-100	Original		6.7L/ETK	DJ		L6 / Automatic L6 - Lockup/Automatic/6-speed	10000	9900	7500	8000	RWD	NAS

Engine Code: AA-200 - 2500 Pickup 4WD AUTO

Engine Code	RC #	Date	Engine	Carline	Price Class	Trans. Configuration	GVW Min.	GVW Max.	Test Wt. Min.	Test Wt. Max.	Drive Code	Sales Areas
AA-200	Original		6.7L/ETK	DJ		L6 / Automatic L6 - Lockup/Automatic/6-speed	10000	9900	7500	8500	4WD 4X4	NAS

Engine Code: AA-300 - 3500 Pickup 2WD AUTO

Engine Code	RC #	Date	Engine	Carline	Price Class	Trans. Configuration	GVW Min.	GVW Max.	Test Wt. Min.	Test Wt. Max.	Drive Code	Sales Areas
AA-300	Original		6.7L/ETK	DJ		L6 / Automatic L6 - Lockup/Automatic/6-speed	9900	9900	8000	8000	RWD	NAS

Engine Code: AA-400 - 3500 Pickup 4WD AUTO

Engine Code	RC #	Date	Engine	Carline	Price Class	Trans. Configuration	GVW Min.	GVW Max.	Test Wt. Min.	Test Wt. Max.	Drive Code	Sales Areas
AA-400	Original		6.7L/ETK	DJ		L6 / Automatic L6 - Lockup/Automatic/6-speed	9900	9900	8500	8500	RWD	NAS

Engine Code: AM-100 - 2500 Pickup 2WD Manual

Engine Code	RC #	Date	Engine	Carline	Price Class	Trans. Configuration	GVW Min.	GVW Max.	Test Wt. Min.	Test Wt. Max.	Drive Code	Sales Areas
AM-100	Original		6.7L/ETK	DJ		M6/ Manual 6-speed M6 - Manual 6-speed	10000	9900	7500	8000	RWD	NAS

Engine Code: AM-200 - 2500 Pickup 4WD Manual

Engine Code	RC #	Date	Engine	Carline	Price Class	Trans. Configuration	GVW Min.	GVW Max.	Test Wt. Min.	Test Wt. Max.	Drive Code	Sales Areas
AM-200	Original		6.7L/ETK	DJ		M6/ Manual 6-speed M6 - Manual 6-speed	10000	9900	7500	8500	4WD 4X4 RWD	NAS

**Test Group: GCEXD06.78VV - No Engine Code Changes**

**Durability Group: GCEXDPDNNC01 Standard Fed: HDV1 Cal: ULEV340**

RC #	Submission Date	Description
No Results Found		

Section12-500 Engine Code Index



Cummins Incorporated

Section 12 - Vehicle and Test Parameters

Vehicle Parameters

Valves per cylinder

Engine  
All 6.7L - 4

SIL usage:

See shift schedule table

Cooling fan configuration:

Models  
All - One fan center front

Additional Cooling:

Models  
All - None

Evaporative Testing Parameters:

Models  
Not Applicable

Fuel temperature Profile:

Models  
Not Applicable

Special Test Procedure:

Models  
All - none

Test Parameters



January 22, 2015

Mr. Joel Dalton,  
Vehicle Programs Group  
Certification and Compliance Division  
U.S. Environmental Protection Agency  
2000 Traverwood Drive  
Ann Arbor, Michigan 48105

Dear Mr. Dalton:

**Re: 2016 Model Year HDV (8,501 – 10,000 lbs GVWR) Certificate of Conformity Request**

Cummins Inc requests a 2016 Certificate of Conformity for the 6.7L 50 State test group GCEXD06.78VV / Durability Group GCEXDPDNNC01. This test group is being certified to 50-State HDV standards and California LEVIII ULEV340 emissions. Cummins Inc. agrees that the exhaust and evaporative emission standards listed below and in the application for certification apply to both certification and in-use vehicles according to the provisions of 40 CFR, Parts 86, as applicable. The FTP emission standards (g/mile) for this HDV1 test group are as follows:

<u>Emission Standards</u>	<u>Useful Life</u>	<u>NMOG</u>	<u>CO</u>	<u>NOX</u>	<u>HCHO</u>	<u>PM</u>
HDV1 (Federal)	120K	0.195	7.3	0.2	0.032	0.02
LEVIII ULEV340 (California)	150K	0.340 <sup>1</sup>	6.4	-	0.006	0.06

<sup>1</sup>ARB NOx+NMOG standard is 0.340 g/mile.

Models are as follows:

<u>Division</u>	<u>Model</u>
Ram	Ram 2500 Pickup 2WD/4WD
Ram	Ram 3500 Pickup 2WD/4WD

If there are any questions regarding this submission, please contact me at (631) 455-7583 or Ravinder D Singh at (248) 576-5504 or Matt Psota at (812) 377-7899.

Sincerely,

*Bhushan Pawar*

Bhushan P. Pawar  
Cummins Inc.



January 22, 2015

Ms. Annette Hebert  
New Vehicle/Engine Programs Branch  
Haagen-Smit Laboratory  
P.O Box 8001  
9528 Telstar Avenue  
El Monte, California 91734-8001

Dear Ms. Hebert:

**Re: 2016 Model Year MDV (8,501 – 10,000 lbs GVWR) Executive Order Request**

Cummins Inc requests a 2016 Executive Order for the 6.7L 50 State test group GCEXD06.78VV / Durability Group GCEXDPDNNC01. This test group is being certified to 50-State HDV standards and California LEVIII ULEV340 emissions standard. Cummins Inc. agrees that the exhaust and evaporative emission standards listed below and in the application for certification apply to both certification and in-use vehicles according to the provisions of 40 CFR, Parts 86, as applicable. The FTP emission standards (g/mile) for this test group are as follows:

<u>Emission Standards</u>	<u>Useful Life</u>	<u>NOx+NMOG</u>	<u>CO</u>	<u>HCHO</u>	<u>PM</u>
LEVIII ULEV340 (California)	150K	0.340	6.4	0.006	0.06

If there are any questions regarding this submission, please contact me at (631) 455-7583 or Ravinder D Singh at (248) 576-5504 or Matt Psota at (812) 377-7899.

Sincerely,

*Bhushan Pawar*

Bhushan P. Pawar  
Certification Engineer  
Cummins Inc.

cc: Lucky Benedict

Date:01/12/2015

**Manufacturer Contact Information:**

Manufacturer Name:  Fax Number:  (optional)

Contact Name:  Email Address:

Phone Number:

Calendar Year:

Family Name:

For dual U.S. / IMO Marine only, also give IMO name:

Certification Request Type:  On Highway  Nonroad

**On-Highway Certification Types:**

- LDV** Light-duty Vehicles (Chassis Certification - Federal Certificate)
- LDT** Light-duty Trucks (Chassis Certification - Federal Certificate)
- MDPV** Medium-duty Passenger Vehicles (Chassis Certification - Federal Certificate)
- HDV** Heavy-duty Vehicles(Chassis Certification - Federal Certificate)
- HDE** Heavy-duty Engine (Engine Dynamometer Certification - Federal Certificate)
- LD ICI** Light-duty Vehicles for Independent Commercial Importers
- MDPV ICI** Medium-duty Passenger Vehicles for Independent Commercial Importers
- HDV ICI** Heavy-duty Vehicles for Independent Commercial Importers
- MOTORCYCLE** On-highway Motorcycles
- LDV** Light-duty Vehicles (Chassis Certification - California-Only)
- LDT** Light-duty Trucks (Chassis Certification - California-Only)
- MDPV** Medium-duty Passenger Vehicles (Chassis Certification - California-Only)
- HDV** Heavy-duty Vehicles(Chassis Certification - California-Only)
- HDE CALIF-ONLY** Heavy-duty Engine California-Only Certification
- HDV EVAP** Heavy-duty Evaporative System

**Nonroad Certification Types:**

- NR CI** Nonroad Engine Compression-Ignition (excludes Locomotives, Marine and Recreational)
- NR SI** Nonroad Engine Spark-Ignition
- Locomotives** All Locomotives
- Recreational** Recreational Vehicles (except marine engines)
- All Marine**
- Component Certification for Evaporative Emmissions**

**Fee Payment Information:**

Do you qualify for reduced fee?

Are you an Independent Commercial Importer?

Make of the model(s) (list all that apply, separated by commas):

Model name(s) of vehicle or engine under this engine family/test group (list all that apply, separated by commas):

Year of the vehicle(s) or engine(s) (list all that apply, separated by commas):

VIN(s) of the model(s) (list all that apply, separated by commas. Enter "TBD" if unknown):

Has a certificate been issued?

What is the total number of the vehicles, engines or units covered?

What is the aggregate total retail value of the vehicles, engines or units covered? \$

**Payment Details:**

Amount Owed (U.S. Funds Only): \$

Payment Type:

Enter the check number:

Before paying offline please click the PDF Preview button below to print out the form.

Submit Data



## Receipt

### Your payment is complete

Pay.gov Tracking ID: 25J96M7M

Agency Tracking ID: 74735398127

Form Name: EPA MVECP Certification Fee Filing Form

Application Name: Motor Vehicle and Engine Compliance Program Fees

### Payment Information

Payment Type: Debit or credit card

Payment Amount: \$26,741.00

Transaction Date: 01/12/2015 01:19:15 PM EST

Payment Date: 01/12/2015

Engine Family: GCEXD06.78VV

### Account Information

Card Holder Name: VICTOR SCHNEIDER

Billing Address: 500 Jackson St.

Billing Address 2:

City: Columbus

Country: United States

State/Province: IN

ZIP/Postal Code: 47201

Card Type: Visa

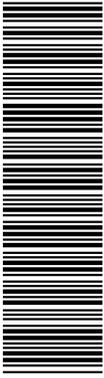
Card Number: \*\*\*\*\*3636

### Email Confirmation Receipt

Confirmation Receipts have been emailed to:

bhushan.pawar@cummins.com

shawnte.s.bruner@cummins.com

<b>FCA US LLC</b>	<b>VEHICLE EMISSION CONTROL INFORMATION</b>	CONFORMS TO REGULATIONS: 2016 MY
U.S. EPA: HDV OBD: CA OBD II FUEL: DIESEL	CALIFORNIA: LEV III MDV OBD: CA OBD II FUEL: DIESEL	
THIS VEHICLE IS CERTIFIED BY CUMMINS INC. FOR FCA US LLC		
NO ADJUSTMENTS NEEDED	GROUP: GCExD06.78Vv ENGINE: 6.7L	TC / DF1 / CAC / DPF OC / EGR / EGRC SCRC / NH3OC / RDOS / NOXS
<b>47480 543AA</b>		

**Certification Summary Information Report**

<b>Manufacturer</b>	Cummins Inc.	<b>Manufacturer Code</b>	CEX
<b>Test Group</b>	GCEXD06.78VV	<b>Evaporative/Refueling Family</b>	N/A
<b>Certificate Number</b>	N/A	<b>CARB Executive Order #</b>	N/A
<b>Certificate Issue Date</b>	N/A	<b>Certificate Revision Date</b>	N/A
<b>Certificate Effective Date</b>	N/A	<b>Conditional Certificate</b>	--
<b>CSI Revision #</b>	N/A	<b>CSI Submission/Revision Date</b>	01/20/2015
<b>Model Year</b>	2016		

**Test Group Information**

<b>CSI Type</b>	New	<b>Running Change Reference Number</b>	N/A
<b>GHG Exempt Status</b>	Not Exempt		

**Drive Sources and Fuel(s)**

**Drive Source #1:**

Fuel	Basic Fuel Metering System	Lean Burn Strategy Indicator
Diesel	Common Rail Direct Diesel Injection	--

**Hybrid Indicator**

No

**Multiple Fuel Storage**

--

**Multiple Fuel Combustion**

--

**Fuel Cell Indicator**

--

**Federal Clean Fuel Vehicle**

No

**Federal Clean Fuel Vehicle ILEV**

No

**Durability Group Name**

GCEXD06.78VV

**Reduced Fee Test Group**

No

**Complies with HD GHG 2b/3 regulations?**

Yes

**Introduction into Commerce Date**

--

**Independent Commercial Importer?**

--

**SFTP Federal Composite Compliance Identifier**

Not Applicable

**SFTP LEV-III Composite Compliance Indicator**

No

**OBD Compliance Type**

CARB

**Mfr Test Group Comments**

Weighted CH4 result = 0.004 g/mi vs. 0.05 g/mi std. Weighted N2O result = 0.132 g/mi vs. 0.18 FEL. Weighted CO2 result is 577 g/mi

**Mfr Exhaust / Evap Standards Comments**

--

**Rechargeable Energy Storage System Indicator**

--

**Off-board Charge Capable Indicator**

--

**EPA Vehicle Class**

M6, HDV1

**Federal Clean Fuel Vehicle Standard**

--

**California Partial Zero Emissions Vehicle Indicator**

--

**Durability Group Equivalency Factor**

1.0

**Certification Region Code(s)**

FA, CA

**CAP2000 Conditional Certificate?**

N/A

**Alternative Fuel Converter Certificate?**

--

**SFTP Tier 2 Composite CO Option**

--

**OBD Demonstration Vehicle Test Group**

GCEXD06.78VV

Test Group		GCEXD06.78VV		Evaporative/Refueling Family		N/A	
Models Covered by this Certificate							
Carline Manufacturer	Division	Carline	Certification Region Code(s)	Drive System	Trans - Type	- # of Gears	Trans - Lockup
Cummins Inc.	2 - Ram	930 - 2500 4X2	Federal	2-Wheel Drive, Rear	Manual	6	No
Cummins Inc.	2 - Ram	935 - 2500 4X4	California + CAA Section 177 states	4-Wheel Drive	Automatic	6	Yes
Cummins Inc.	2 - Ram	950 - 3500 4X2	California + CAA Section 177 states	2-Wheel Drive, Rear	Automatic	6	Yes
Cummins Inc.	2 - Ram	955 - 3500 4X4	Federal	4-Wheel Drive	Automatic	6	Yes
Cummins Inc.	2 - Ram	930 - 2500 4X2	California + CAA Section 177 states	2-Wheel Drive, Rear	Manual	6	No
Cummins Inc.	2 - Ram	930 - 2500 4X2	California + CAA Section 177 states	2-Wheel Drive, Rear	Automatic	6	Yes
Cummins Inc.	2 - Ram	955 - 3500 4X4	California + CAA Section 177 states	4-Wheel Drive	Automatic	6	Yes
Cummins Inc.	2 - Ram	950 - 3500 4X2	Federal	2-Wheel Drive, Rear	Automatic	6	Yes
Cummins Inc.	2 - Ram	935 - 2500 4X4	Federal	4-Wheel Drive	Manual	6	No
Cummins Inc.	2 - Ram	930 - 2500 4X2	Federal	2-Wheel Drive, Rear	Automatic	6	Yes
Cummins Inc.	2 - Ram	935 - 2500 4X4	Federal	4-Wheel Drive	Automatic	6	Yes
Cummins Inc.	2 - Ram	935 - 2500 4X4	California + CAA Section 177 states	4-Wheel Drive	Manual	6	No
Engine Description							
Hybrid Type	--					--	
Engine Type	4-Stroke Compression Ignition					6.7L Diesel	
Engine Block Arrangement	Inline					--	
Camless Valvetrain Indicator	No					SAE 5W-20	
Number of Cylinders/Rotors	6						
After Treatment Device(s) (ATD)							
ATD Number	ATD Type	ATD Precious Metal	Substrate Material	Substrate Construction			
1	Oxidation catalyst	Platinum + Palladium	Ceramic	Other			
2	Diesel Particulate Filter	Platinum	Ceramic	Other			
3	Selective Catalytic Reduction	Copper-Zeolite	Ceramic	Other			
4	Other	Platinum	Ceramic	Other			
Mfr After Treatment Device (ATD) Comments	--						
Direct Ozone Reduction (DOR) Device	Not Equipped						
Mfr Emission Control Device Comments	--						

**Certification Summary Information Report**

Test Group	GCEXD06.78VV	Evaporative/Refueling Family	N/A
<b>Engine Configuration Number 1</b>			
Engine Displacement (liters)	6.7	Engine Rated Horsepower	370
Number of Inlet Valves Per Cylinder	2	Number of Exhaust Valves Per Cylinder	2
Air Aspiration Method	Turbocharged	Number of Air Aspiration Devices	1
Air Aspiration Device Configuration	Single	Charge Air Cooler Type	Air
Cylinder Deactivation Description	N/A	Variable Valve Lift System	N/A
Variable Valve Timing System Description	N/A	Air/Fuel Sensor # 1 Description	N/A
Number of Knock Sensors	0	Air/Fuel Sensor # 2 Description	N/A
Air/Fuel Sensor # 1 Type	Nitrogen oxide	EGR Type	Electronic/Electric
Air/Fuel Sensor # 2 Type	Nitrogen oxide	Air Injection Type	--
Mfr Air/Fuel Sensor Comments	--		
Exhaust Gas Recirculation	Yes		
Cooled Exhaust Gas Recirculation	Yes		
Closed Loop Air Injection System	No		
Mfr Engine Configuration Comments	370 HP@2800 RPM/800 ft-lb@1600 RPM for Auto transmission		
<b>Engine Configuration Number 2</b>			
Engine Displacement (liters)	6.7	Engine Rated Horsepower	350
Number of Inlet Valves Per Cylinder	2	Number of Exhaust Valves Per Cylinder	2
Air Aspiration Method	Turbocharged	Number of Air Aspiration Devices	1
Air Aspiration Device Configuration	Single	Charge Air Cooler Type	Air
Cylinder Deactivation Description	N/A	Variable Valve Lift System	N/A
Variable Valve Timing System Description	N/A	Air/Fuel Sensor # 1 Description	N/A
Number of Knock Sensors	0	Air/Fuel Sensor # 2 Description	N/A
Air/Fuel Sensor # 1 Type	Nitrogen oxide	EGR Type	Electronic/Electric
Air/Fuel Sensor # 2 Type	Nitrogen oxide	Air Injection Type	--
Mfr Air/Fuel Sensor Comments	--		
Exhaust Gas Recirculation	Yes		
Cooled Exhaust Gas Recirculation	Yes		
Closed Loop Air Injection System	No		
Mfr Engine Configuration Comments	350 HP@2800 RPM/660 ft-lb@1400 RPM for Manual transmission		
<b>Official Test Numbers</b>			
Test Group	FTP	US06	SC03
Fuel	GCEX10034010	--	--
		Cold CO	--
		Highway	GCEX10034013
		EPA City Litmus Value	N/A
		EPA City Litmus Threshold	11.5
		EPA Highway Litmus Value	N/A
		EPA Highway Litmus Threshold	16.3
		CREE Weighting Factor	N/A



**Certification Summary Information Report**

<b>Test Group</b>	GCEXD06.78VV	<b>Evaporative/Refueling Family</b>	N/A
<b>Test #</b>	GCEX10034010	<b>Test Procedure</b>	2 - CVS 75 and later (w/o can. load)
<b>Exhaust Test # for this Evap Test</b>	N/A	<b>Test Fuel Type</b>	19 - Federal Cert Diesel 7-15 PPM Sulfur
<b>Test Date</b>	10/17/2014	<b>Fuel</b>	Diesel
<b>Vehicle Class</b>	HDV1 (Federal HD chassis Class 2b GVW 8501-10000), MDV6 (Cal. LEV 2/3 MDV GVW 8501-10000)	<b>DF Type</b>	Mfr. Determined
<b>Verify Test Lab ID</b>	CTC		
<b>E10 Evaporative Test Measurement Method</b>	--		
<b>Test Results</b>			
<b>Test Result Name</b>	<b>Unrounded Test Result</b>	<b>Verify Calculated FE MPG Equivalent Value</b>	
CH4 - Methane	0.01316	--	
Carbon Monoxide	0.08477	--	
<b>Drive Trace Absolute Speed Change Rating</b>	-0.689	--	
<b>Drive Trace Energy Economy Rating</b>	-0.031	--	
<b>Drive Trace Inertia Work Ratio Rating</b>	0	--	
<b>Manufacturer Fuel Economy</b>	14.6588	14.6588	
Nitrogen Oxide	0.011975	--	
Nitrous Oxide	0.023	--	
Non-methane Hydrocarbon	0.00489	--	
Particulate Matter	0.000015	--	
Total Hydrocarbon	0.01841	--	
<b>Test Result Name</b>	<b>Unrounded Test Result</b>	<b>Verify Calculated CREE/OPT-CREE</b>	
Carbon-Related Exhaust Emissions	694	694	
<b>Test Result Name</b>	<b>Unrounded Test Result</b>	<b>Verify Calculated CO2</b>	
Carbon dioxide	693.8	--	
<b>Manufacturer Test Comments</b>	DT-IWRR is currently not calculated by the test lab		

Certification Summary Information Report

Test Group		Evaporative/Refueling Family										N/A
Certification Region	Useful Life	Standard Level	Emission Name	Rounded Result	RAF	NMOG/NM HC Ratio	Diesel Adjustment Factor	Add DF	Mult DF	Certification Level	Standard	Pass/Fail
Fed	120,000 miles	HDV1 (Federal HD chassis Class 2b GVW 8501-10000)	CO	0.08	--	--	0.0013 UP	0.0536	--	0.1	7.3	Pass
Fed	120,000 miles	HDV1 (Federal HD chassis Class 2b GVW 8501-10000)	CO2	694	--	--	0.00 UP	0.0	--	694	--	--
Fed	120,000 miles	HDV1 (Federal HD chassis Class 2b GVW 8501-10000)	HC-NM	0.0049	--	--	0.0003 UP	0.0012	--	0.006	0.195	Pass
Fed	120,000 miles	HDV1 (Federal HD chassis Class 2b GVW 8501-10000)	NOX	0.01	--	--	0.0159 UP	0.00	--	0.0	0.2	Pass
Fed	120,000 miles	HDV1 (Federal HD chassis Class 2b GVW 8501-10000)	PM	0.000	--	--	0.00 UP	0.00	--	0.00	0.02	Pass
CA	150,000 miles	California LEV-III ULEV340	CO	0.08	--	--	0.0013 UP	0.0675	--	0.1	6.4	Pass
CA	150,000 miles	California LEV-III ULEV340	NOX	0.0120	--	--	0.00 UP	0.00	--	0.012	999.999	Pass
CA	150,000 miles	California LEV-III ULEV340	PM	0.000	--	--	0.00 UP	0.00	--	0.00	0.06	Pass

NOTE: For Non-charge depleting tests, the Rounded Result for CO2 Emission name is a Verify-calculated value.

**Certification Summary Information Report**

<b>Test Group</b>	GCEXD06.78VV	<b>Evaporative/Refueling Family</b>	N/A
<b>Test #</b>	GCEX10034011	<b>Test Procedure</b>	2 - CVS 75 and later (w/o can. load)
<b>Exhaust Test # for this Evap Test</b>	N/A	<b>Test Fuel Type</b>	19 - Federal Cert Diesel 7-15 PPM Sulfur
<b>Test Date</b>	11/06/2014	<b>Fuel</b>	Diesel
<b>Vehicle Class</b>	HDV1 (Federal HD chassis Class 2b GVW 8501-10000), MDV6 (Cal. LEV 2/3 MDV GVW 8501-10000)	<b>DF Type</b>	Mfr. Determined
<b>Verify Test Lab ID</b>	CTC		
<b>E10 Evaporative Test Measurement Method</b>	--		
<b>Test Results</b>			
<b>Test Result Name</b>	<b>Unrounded Test Result</b>	<b>Verify Calculated FE MPG Equivalent Value</b>	
CH4 - Methane	0.00575	--	
Carbon Monoxide	0.12468	--	
<b>Drive Trace Absolute Speed Change Rating</b>	-0.613	--	
<b>Drive Trace Energy Economy Rating</b>	-0.19	--	
<b>Drive Trace Inertia Work Ratio Rating</b>	0	--	
<b>Manufacturer Fuel Economy</b>	14.6152	14.6152	
Nitrogen Oxide	0.12135	--	
Nitrous Oxide	0.02	--	
Non-methane Hydrocarbon	0.01467	--	
Particulate Matter	0.000186	--	
Total Hydrocarbon	0.02142	--	
<b>Test Result Name</b>	<b>Unrounded Test Result</b>	<b>Verify Calculated CREE/OPT-CREE</b>	
Carbon-Related Exhaust Emissions	697	696	
<b>Test Result Name</b>	<b>Unrounded Test Result</b>	<b>Verify Calculated CO2</b>	
Carbon dioxide	696.1	--	
<b>Manufacturer Test Comments</b>	DT-IWRR is currently not calculated by the test lab. Retest Reason: minor leak was observed on the vehicle.		

Certification Summary Information Report

Test Group		Evaporative/Refueling Family										N/A
Certification Region	Useful Life	Standard Level	Emission Name	Rounded Result	RAF	NMOG/NM HC Ratio	Diesel Adjustment Factor	Add DF	Mult DF	Certification Level	Standard	Pass/Fail
Fed	120,000 miles	HDV1 (Federal HD chassis Class 2b GVW 8501-10000)	CO	0.12	--	--	0.0013 UP	0.0536	--	0.2	7.3	Pass
Fed	120,000 miles	HDV1 (Federal HD chassis Class 2b GVW 8501-10000)	CO2	696	--	--	0.00 UP	0.0	--	696	--	--
Fed	120,000 miles	HDV1 (Federal HD chassis Class 2b GVW 8501-10000)	HC-NM	0.0147	--	--	0.0003 UP	0.0012	--	0.016	0.195	Pass
Fed	120,000 miles	HDV1 (Federal HD chassis Class 2b GVW 8501-10000)	NOX	0.12	--	--	0.0159 UP	0.00	--	0.1	0.2	Pass
Fed	120,000 miles	HDV1 (Federal HD chassis Class 2b GVW 8501-10000)	PM	0.000	--	--	0.00 UP	0.00	--	0.00	0.02	Pass
CA	150,000 miles	California LEV-III ULEV340	CO	0.12	--	--	0.0013 UP	0.0675	--	0.2	6.4	Pass
CA	150,000 miles	California LEV-III ULEV340	NOX	0.1214	--	--	0.00 UP	0.00	--	0.121	999.999	Pass
CA	150,000 miles	California LEV-III ULEV340	PM	0.000	--	--	0.00 UP	0.00	--	0.00	0.06	Pass

NOTE: For Non-charge depleting tests, the Rounded Result for CO2 Emission name is a Verify-calculated value.

**Certification Summary Information Report**

<b>Test Group</b>	GCEXD06.78VV	<b>Evaporative/Refueling Family</b>	N/A
<b>Test #</b>	GCEX10034012	<b>Test Procedure</b>	<b>3 - HWFE</b>
<b>Exhaust Test # for this Evap Test</b>	N/A	<b>Test Fuel Type</b>	19 - Federal Cert Diesel 7-15 PPM Sulfur
<b>Test Date</b>	10/17/2014	<b>Fuel</b>	Diesel
<b>Vehicle Class</b>	MDV6 (Cal. LEV 2/3 MDV GVW 8501-10000)	<b>DF Type</b>	Mfr. Determined
<b>Verify Test Lab ID</b>	CTC		
<b>E10 Evaporative Test Measurement Method</b>	--		
<b>Test Results</b>			
<b>Test Result Name</b>	<b>Unrounded Test Result</b>	<b>Verify Calculated FE MPG Equivalent Value</b>	
CH4 - Methane	0.00311	--	
Carbon Monoxide	0.06322	--	
Drive Trace Absolute Speed Change Rating	0.708	--	
Drive Trace Energy Economy Rating	-0.09	--	
Drive Trace Inertia Work Ratio Rating	0	--	
Manufacturer Fuel Economy	23.5497	23.5497	
Nitrogen Oxide	0.09252	--	
Nitrous Oxide	0.315	--	
Non-methane Hydrocarbon	0	--	
Total Hydrocarbon	0.00305	--	
<b>Test Result Name</b>	<b>Unrounded Test Result</b>	<b>Verify Calculated CREE/OPT-CREE</b>	
Carbon-Related Exhaust Emissions	432	432	
<b>Test Result Name</b>	<b>Unrounded Test Result</b>	<b>Verify Calculated CO2</b>	
Carbon dioxide	431.6	--	
<b>Manufacturer Test Comments</b>			
DT-IWRR is currently not calculated by test lab			
<b>Certification Region</b>	<b>Useful Life</b>	<b>Standard Level</b>	<b>Emission Name</b>
CA	150,000 miles	California LEV-III ULEV340	CO2
CA	150,000 miles	California LEV-III ULEV340	NOX
		<b>Rounded Result</b>	<b>RAF</b>
		432	--
		0.0925	--
		<b>NMOG/NM HC Ratio</b>	<b>Adjustment Factor</b>
		--	0.00 UP
		--	0.00 UP
		<b>Add DF</b>	<b>Mult DF</b>
		0.00	--
		0.00	--
		<b>Certification Level</b>	<b>Standard</b>
		432	--
		0.092	999,999
			Pass

**NOTE: For Non-charge depleting tests, the Rounded Result for CO2 Emission name is a Verify-calculated value.**



Test Group		GCEXD06.78VV		Evaporative/Refueling Family		N/A	
Exhaust Standards							
Cert Region	Vehicle Class	Fuel	Emission Name	Rounded Result	RAF	NMOG / NMHC	Cert/In-Use Code
Federal	HDV1 (Federal HD chassis Class 2b 8501-10000)	Diesel					HDV1 (Federal HD chassis Class 2b GVV 8501-10000)
Useful Life	Emission Name	Rounded Result	RAF	NMOG / NMHC	Upward Diesel Adjustment Factor	Downward Diesel Adjustment Factor	Mult DF
120,000 miles	CO	--	--	--	0.0013	0.0	--
120,000 miles	CO2	--	--	--	0.00	0.0	--
120,000 miles	HC-NM	--	--	--	0.0003	0.0	--
120,000 miles	NOX	--	--	--	0.0159	0.0	--
120,000 miles	PM	--	--	--	0.00	0.0	--
					Add DF	Std	
					0.0536	7.3	
					0.0	999,999	
					0.0012	0.195	
					0.00	0.2	
					0.00	0.02	
					0.00	0.02	
Cert Region	Vehicle Class	Fuel	Emission Name	Rounded Result	RAF	NMOG / NMHC	Cert/In-Use Code
California + CAA Section 177 states	MDV6 (Cal. LEV 2/3 MDV GVV 8501-10000)	Diesel					California LEV-III ULEV340
Useful Life	Emission Name	Rounded Result	RAF	NMOG / NMHC	Upward Diesel Adjustment Factor	Downward Diesel Adjustment Factor	Mult DF
150,000 miles	CO2	--	--	--	0.00	0.0	--
150,000 miles	NMOG	--	--	--	0.0000	0.0	--
150,000 miles	NMOG+NOX	--	--	--	0.0162	0.0	--
150,000 miles	NOX	--	--	--	0.00	0.0	--
					Add DF	Std	
					0.00	999,999	
					0.0000	999,999	
					0.00	0.340	
					0.00	999,999	
Cert Region	Vehicle Class	Fuel	Emission Name	Rounded Result	RAF	NMOG / NMHC	Cert/In-Use Code
California + CAA Section 177 states	MDV6 (Cal. LEV 2/3 MDV GVV 8501-10000)	Diesel					California LEV-III ULEV340
Useful Life	Emission Name	Rounded Result	RAF	NMOG / NMHC	Upward Diesel Adjustment Factor	Downward Diesel Adjustment Factor	Mult DF
150,000 miles	CO	--	--	--	0.0013	0.0	--
150,000 miles	HCHO	--	--	--	0.000	0.000	--
150,000 miles	NMOG	--	--	--	0.0000	0.00	--
150,000 miles	NMOG+NOX	--	--	--	0.0162	0.0	--
150,000 miles	NOX	--	--	--	0.00	0.00	--
150,000 miles	PM	--	--	--	0.00	0.0	--
					Add DF	Std	
					0.0675	6.4	
					0.000	0.006	
					0.0000	999,999	
					0.00	0.340	
					0.00	999,999	
					0.00	0.06	

**Certification Summary Information Report**

Date: 01/20/2015 05:09:11 PM

<b>Test Group</b>	GCEXD06.78VV	Evaporative/Refueling Family	N/A
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Test Group	GCEXD06.78VV	Evaporative/Refueling Family	N/A
<b>Glossary</b>			
<b>Useful Life</b>			
4	4,000 miles	120	120,000 miles
50	50,000 miles	150	150,000 miles
100	100,000 miles		
<b>Emission Name</b>			
HC-TOTAL	Total Hydrocarbon	METHANOL	CH3OH - Methanol
CO	Carbon Monoxide	N2O	Nitrous Oxide
CO2	Carbon dioxide	SPITBACK	Spitback Hydrocarbon in grams
CREE	Carbon-Related Exhaust Emissions	AMP-HRS	Integrated Amp-hours
OPT-CREE	Optional Carbon-Related Exhaust Emissions	START-SOC	System Start State of Charge Watt-hours
NOX	Nitrogen Oxide	END-SOC	System End State of Charge Watt-hours
PM	Particulate Matter	ACT-DISTANCE	Actual Distance Driven (miles)
PM-COMP	SFTP Composite Particulate Matter	AS-VOLT	Average System Voltage
HC-NM	Non-methane Hydrocarbon	CO2 BAG 1	Bag 1 Carbon Dioxide
OMHCE	Organic material Hydrocarbon Equivalent	CO2 BAG 2	Bag 2 Carbon Dioxide
OMNMHCE	Organic material non-methane HC equivalent	CO2 BAG 3	Bag 3 Carbon Dioxide
NMOG	Non-methane organic gas (California)	CO2 BAG 4	Bag 4 Carbon Dioxide
HCHO	Formaldehyde	NMOG+NOX	Non-methane organic gases plus Nitrogen Oxides
H3C2HO	Acetaldehyde	NMOG+NOX-COMP	SFTP Composite Non-methane Organic Gases + Nitrogen Oxides
HC-NM+NOX	SFTP Non-methane Hydrocarbon + Nitrogen Oxides for US06 or SC03	DT-IWRR	Drive Trace Inertia Work Ratio Rating
HC-NM+NOX-COMP	SFTP Composite Non-methane Hydrocarbon + Nitrogen Oxides	DT-ASCR	Drive Trace Absolute Speed Change Rating
CO-COMP	SFTP Composite Carbon Monoxide	DT-EER	Drive Trace Energy Economy Rating
ETHANOL	C2H5OH - Ethanol	COMB-CREE	Combined Carbon-Related Exhaust Emissions
FE BAG 1	Bag 1 Fuel Economy	COMB-OPT-CREE	Combined Optional Carbon-Related Exhaust Emissions
FE BAG 2	Bag 2 Fuel Economy	HC-TOTAL-EQUIV	Total Hydrocarbon equivalent - Evap only
FE BAG 3	Bag 3 Fuel Economy	METHANE-COMB	Combined CH4 for HD 2b/3 vehicles only
FE BAG 4	Bag 4 Fuel Economy	N2O-COMB	Combined Nitrous Oxide for HD 2b/3 vehicles only
MFR FE	Manufacturer Fuel Economy	LEAK-DIA	Effective Leak Diameter (inches)
HC	Hydrocarbon for Running Loss and ORVR	LEAK-GAS CAP	Gas Cap Leakage (cc/min)
METHANE	CH4 - Methane		
<b>Certification Region</b>			
CA	California + CAA Section 177 states	FA	Federal
<b>Exhaust Emission Standard Level</b>			
B1	Federal Tier 2 Bin 1	L3ULEV340	California LEV-III ULEV340
B2	Federal Tier 2 Bin 2	L3ULEV250	California LEV-III ULEV250
B3	Federal Tier 2 Bin 3	L3ULEV200	California LEV-III ULEV200
B4	Federal Tier 2 Bin 4	L3SULEV170	California LEV-III SULEV170
B5	Federal Tier 2 Bin 5	L3SULEV150	California LEV-III SULEV150

## Certification Summary Information Report

Test Group	GCEXD06.78VV	Evaporative/Refueling Family	N/A
B6	Federal Tier 2 Bin 6	L3LEV630	California LEV-III LEV630
B7	Federal Tier 2 Bin 7	L3ULEV570	California LEV-III ULEV570
B8	Federal Tier 2 Bin 8	L3ULEV400	California LEV-III ULEV400
B9	Federal Tier 2 Bin 9	L3ULEV270	California LEV-III ULEV270
B10	Federal Tier 2 Bin 10	L3SULEV230	California LEV-III SULEV230
B11	Federal Tier 2 Bin 11	L3SULEV200	California LEV-III SULEV200
HDV1	HDV1 (Federal HD chassis Class 2b GVW 8501-10000)	T3B160	Federal Tier 3 Bin 160
HDV2	HDV2 (Federal HD chassis Class 3 GVW 10001-14000)	T3B125	Federal Tier 3 Bin 125
L2	California LEV-II LEV	T3B110	Federal Tier 3 Transitional Bin 110
L2OP	California LEV-II LEV Optional	T3B85	Federal Tier 3 Transitional Bin 85
U2	California LEV-II ULEV	T3SULEV30	Federal Tier 3 Transitional LEV-II SULEV30 Carryover
S2	California LEV-II SULEV	T3B70	Federal Tier 3 Bin 70
ZEV	California ZEV	T3B50	Federal Tier 3 Bin 50
OT	Other	T3B30	Federal Tier 3 Bin 30
T1	Federal Tier 1	T3B20	Federal Tier 3 Bin 20
PZEV	California PZEV	T3B0	Federal Tier 3 Bin 0
L2LEV160	California LEV-II LEV160	HDV2B395	Federal Tier 3 HD Class 2b Transitional Bin 395
L2ULEV125	California LEV-II ULEV125	HDV2B340	Federal Tier 3 HD Class 2b Transitional Bin 340
L2SULEV30	California LEV-II SULEV30	HDV2B250	Federal Tier 3 HD Class 2b Bin 250
L2LEV395	California LEV-II LEV395	HDV2B200	Federal Tier 3 HD Class 2b Bin 200
L2ULEV340	California LEV-II ULEV340	HDV2B170	Federal Tier 3 HD Class 2b Bin 170
L2LEV630	California LEV-II LEV630	HDV2B150	Federal Tier 3 HD Class 2b Bin 150
L2ULEV570	California LEV-II ULEV570	HDV2B0	Federal Tier 3 HD Class 2b Bin 0
L3LEV160	California LEV-III LEV160	HDV3B630	Federal Tier 3 HD Class 3 Transitional Bin 630
L3ULEV125	California LEV-III ULEV125	HDV3B570	Federal Tier 3 HD Class 3 Transitional Bin 570
L3ULEV70	California LEV-III ULEV70	HDV3B400	Federal Tier 3 HD Class 3 Bin 400
L3ULEV50	California LEV-III ULEV50	HDV3B270	Federal Tier 3 HD Class 3 Bin 270
L3SULEV30	California LEV-III SULEV30	HDV3B230	Federal Tier 3 HD Class 3 Bin 230
L3SULEV20	California LEV-III SULEV20	HDV3B200	Federal Tier 3 HD Class 3 Bin 200
L3LEV395	California LEV-III LEV395	HDV3B0	Federal Tier 3 HD Class 3 Bin 0
<b>Transmission Type Code</b>			
AMS	Automated Manual- Selectable (e.g. Automated Manual with paddles)	M	Manual
A	Automatic	OT	Other
AM	Automated Manual	SA	Semi-Automatic
CVT	Continuously Variable	SCV	Selectable Continuously Variable (e.g. CVT with paddles)
<b>Drive System Code</b>			
4	4-Wheel Drive	P	Part-time 4-Wheel Drive
F	2-Wheel Drive, Front	A	All Wheel Drive
R	2-Wheel Drive, Rear		

**Certification Summary Information Report**

Test Group	GCEXD06.78VV	Evaporative/Refueling Family	N/A
<b>Additional Terms and Acronyms</b>			
AFC	Alternative Fuel Converter	ICI	Independent Commercial Importer
CSI	Certificate Summary Information	ORVR	Onboard Refueling Vapor Recovery
DF	Deterioration Factor	SIL	Shift Indicator Light
Evap	Evaporation, Evaporative	Trans	Transmission

# Exhibit 49



## Cummins Incorporated

Application for Certification  
Part 1

2017 Model Year

Durability Group: HCEXDPDNNC01  
Evaporative Families: Not Applicable

Test Group: HCEXD06.78W

EPA Summary Sheet ID #: CSI-HCEXD06.78W  
Four Stroke, Diesel Cycle, Diesel Fueled, Direct Injection

6.7 Liter I-6  
HDV (8,501 - 10,000 lbs GVWR)  
Applicable Standards:  
FEDERAL HDV1, CARB LEV III ULEV340

Vehicles Covered:

Ram 2500 Pickup 2WD/4WD  
Ram 3500 Pickup 2WD/4WD

Vehicles Run:

Vehicle ID V4DJ75651

For questions, Ravinder D Singh 248-576-5504 Bhushan Pawar 631-455-7584



Cummins Incorporated  
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Cummins Incorporated

Section 1 Correspondence and Communication

For questions dealing with the Part I application for this Test Group contact:

Name	Title	Responsibility	Phone	E-mail	Fax
Bhushan Pawar	Certification Engineer	Application Submission	631-455-7583	bhushan.pawar@cummins.com	248.576.7928
Ravinder D Singh	Manager - Certification Team	Application Submission	248.576.5504	ravinder.d.singh@cummins.com	248.576.7928
Steve Mazure	Manager - Certification Team	Certification Programs	248.576.5471	srm2@chrysler.com	248.576.7928
Matt Psota	Manager - Certification Team	Certification Programs	812.377.7899	matt.psota@cummins.com	812.377.8739

Section 2 Durability Group Description

Durability Group Name: HCEXDPDNNC01

For a complete description of the Durability Group Description please see:  
"Common Section Book - Section 2. Durability Group Description"

Section 3 Evaporative/Refueling Family Description

Not Applicable



Cummins Incorporated

Section 4 Durability Procedure Description

Durability Group: HCEXDPDNNC01

Durability Provision Statement:

Based on Cummins Inc.'s good engineering judgement, all the vehicles described in this Application for Certification comply with all applicable full useful life standards.

For a complete description of the Durability Procedure please see:

"Common Section Book - Section 16. Durability Procedure Description"

Indicate if aged components were used.

No  
Yes

Indicate whether additive or multiplicative DF's were used.

See attached CSI for DFs and test results.  
CARB - Reference Cert Review Sheet

List all DF's calculated at both full and intermediate useful life and applicable standards (test results and vehicle description).

Evaporative/Refueling Family:  
Not Applicable

Section 5 Test Group Description

Test Group Name:

HCEXD06.78VV

Engine displacements covered:

6.7 Liter

Arrangement and number of cylinders:

I-6

Vehicle classes covered:

HDV (8,501 - 10,000 lbs GVWR)

Emission standards class:

HDV1

AB71 Qualified Vehicles:

No



## Cummins Incorporated

### Section 8 Emission testing Waiver Statements

Below is a list clearly identifying the standards applicable to this Test Group for which emission testing was not performed. All Cummins vehicles will conform with the emission standards which emission data is not being provided, as allowed under 40 CFR §86.1829-01 or §86.1810-01.

Formaldehyde - HCHO

### Section 9 OBD Description

For a complete description of the OBD Description please see: "Common Part 1 Section 16. OBD Description"

For OBD Agency Approvals please see: "Common Part 1 Section 16. Agency Approvals"

OBD Demonstration Compliance Statement: This Test Group meets the full intent of both the Clean Air Act as amended in 1990, section 202(m), and the applicable federal OBD regulations contained in 40 CFR §86.005-17 and 40 CFR §86.1806-01, including a reference to those provisions pertaining to deficiencies in the limited instances where an OBD II system that complies with 1968.2 does not comply with all the requirements of section 1968.1.

Not Applicable

### Section 10 Description of Alternate - Fueled Vehicles

## FCA US LLC

## Test Group - HCEXD06.78VV

EPA COMP CODE	AA-100	AA-200	AA-300	AA-400	AM-100	AM-200
E10:Powertrain Control Module						
E33:Flange Control Module						
F18:Fuel Pump - High Pressure						
F42:Air/Fuel Throttle Valve						
F50:Fuel Injector						
F81:Fuel Rail Pressure Sensor						
H06:Selective Catalytic Reduction Catalyst Assembly						
H07:Oxidation Catalyst/Particulate Filter Assembly						
H31:Sensor - Differential Pressure						
H32:Sensor - After Treatment, Temperature						
H33:Sensor - Exhaust Pressure						
H34:Sensor - Temperature/Barometric Pressure						
H36:Urea Tank Assembly						
H37:Diesel Exhaust Fluid Injector						
H38:Diesel Exhaust Fluid Flange Module						
L03:Nitrous Oxide Sensor						
L16:Crankshaft Position Sensor						

<b>EPA COMP CODE</b>	<b>AA-100</b>	<b>AA-200</b>	<b>AA-300</b>	<b>AA-400</b>	<b>AM-100</b>	<b>AM-200</b>
M01:Engine Coolant Temp. Sensor						
N10:Camshaft						
N30:Turbocharger						
N31:Charge Air Cooler						
N35:Intake Manifold						
N36:Exhaust Manifold / Single						
N50:Engine Thermostat						
N56:EGR Valve						
N57:EGR Cooler						
N58:EGR By-Pass Valve						
V01:PCV Valve						
V07:Mass Airflow Sensor						
V08:TMAP Sensor						
V71:Crankcase Pressure Sensor						
Z01:VECI Label						

## Section 1-100 Engine Parts List

## FCA US LLC

**Test Group :** HCEXD06.78VV

**Durability Group:** HCEXDPDNNC01 **Standard Fed:** HDV1 **Cal:** L3ULEV340

Trans. Code	Sales Code	Transfer Case Sales Code/Drive Code	No. of Gears	Over Drive Gear Ratio	Drive Gear Ratio	Engine Sales Code	Torque Code	Torque Size	Conv Clutch Control Type Calib/Special Features
L6	DG7	2R	6	0.63	3.23,1.84,1.41,1.00,0.83,0.63	ETK	WC	310 MM	Electronically shifted data on file
L6	DG7	DK1 / 4P DK3 / 4P	6	0.63	3.23,1.84,1.41,1.00,0.83,0.63	ETK	WC	310 MM	Electronically shifted data on file
M6	DEG	2R	6	0.74	5.94,3.28,1.98,1.31,1.00,0.74	ETK			
M6	DEG	DK1 / 4P DK3 / 4P	6	0.74	5.94,3.28,1.98,1.31,1.00,0.74	ETK			

Section12-200 Transmission

FCA US LLC

HCEXD06.78WV

Durability Group: HCEXDPDNNC01 Standard Fed: HDV2 Cal: L3ULEV570

Asterisk (\*) Indicates Manufacturer has elected to certify at this higher test weight class as allowed by CFR 86.1831-01

Engine Code AA-100 Eng Displ: 6.7L (ETK) Evap Family - Evap Code:

Table with columns: Model, Carline Name, Model Qualifier, Opt, Trans./Tr. Case, Torq. Conv./Catalyst Identifier, GVW, LVW TWC, ALVW TWC, Axle / OTGR, N/V, Tire, Tire Mfr., Tire Constr. Cd., Elec Dyno Q.C., Elec Dyno RLHP, Dyno Coeff 70A, Dyno Coeff 70B, Dyno Coeff 70C, Dyno Coeff 20A, Dyno Coeff 20B, Dyno Coeff 20C. Rows include models D23A62, D23A91, D23A81, D23A92, D23A62, D23A81, D23A92.

Engine Code AA-200 Eng Displ: 6.7L (ETK) Evap Family - Evap Code:

Table with columns: Model, Carline Name, Model Qualifier, Opt, Trans./Tr. Case, Torq. Conv./Catalyst Identifier, GVW, LVW TWC, ALVW TWC, Axle / OTGR, N/V, Tire, Tire Mfr., Tire Constr. Cd., Elec Dyno Q.C., Elec Dyno RLHP, Dyno Coeff 70A, Dyno Coeff 70B, Dyno Coeff 70C, Dyno Coeff 20A, Dyno Coeff 20B, Dyno Coeff 20C. Rows include models D28A62, D28A91, D28A81.

Table with columns for Model, Cummins, L6-4WD WC, Trans., Torq., GVW, LRV, ALRV, Axle, N/V, Tire, Elec, Dyno, etc. Includes entries for D28A92 RAM, D28A62 RAM, and D28A81 RAM.

Engine Code AA-300 Eng Displ: 6.7L (ETK) Evap Family - Evap Code:

Main table with columns: Model, Carline Name, Model Qualifier, Opt, Trans./Tr. Case, Torq. Conv./Catalyst Identifier, GVW, LRV, ALRV, Axle, N/V, Tire, Elec, Dyno, etc. Lists various engine configurations for models like D23A62, D23A91, D23A98, D23A81, D23A92, and D23A98.

Model	Carline Name	Model Qualifier	Opt	Trans. / Tr. Case	Torq. Conv./ Catalyst Identifier	GVW	LTVW Drive	ALVW Drive	AXLE / CURB	N/V	Tire	Tire Mfr.	Tire Constr. Cd.	Elec Dyno Q.C.	Elec Dyno RLHP	Dyno Coeff 70A	Dyno Coeff 70B	Dyno Coeff 70C	Dyno Coeff 20A	Dyno Coeff 20B	Dyno Coeff 20C											
D23A62 RAM-Cummins: 3500 4X2			L6 - RWD DF2			14000	7500	10500	3.42	23.3	LT235/80R17E TV2	TZN	17NCRDDA2G 20.88	31.1	58.12000	2.331800	0.023410	63.93000	2.565000	0.025750	61.14000	2.535000	0.022110	67.25000	2.788500	0.024320						
							3023	5969	3.42	23.3	LT235/80R17E TV3	TZN	17NCRDDA2G 20.03	32.4	58.12000	2.331800	0.023410	63.93000	2.565000	0.025750	61.14000	2.535000	0.022110	67.25000	2.788500	0.024320						
							7318	10659	3.73	23.3	LT235/80R17E TV2	TZN	17NCRDDA2G 20.88	31.1	58.12000	2.331800	0.023410	63.93000	2.565000	0.025750	61.14000	2.535000	0.022110	67.25000	2.788500	0.024320						
									3.73	23.3	LT235/80R17E TV3	TZN	17NCRDDA2G 20.03	32.4	58.12000	2.331800	0.023410	63.93000	2.565000	0.025750	61.14000	2.535000	0.022110	67.25000	2.788500	0.024320						
									4.10	23.3	LT235/80R17E TV2	TZN	17NCRDDA2G 20.88	31.1	58.12000	2.331800	0.023410	63.93000	2.565000	0.025750	61.14000	2.535000	0.022110	67.25000	2.788500	0.024320						
									4.10	23.3	LT235/80R17E TV3	TZN	17NCRDDA2G 20.03	32.4	58.12000	2.331800	0.023410	63.93000	2.565000	0.025750	61.14000	2.535000	0.022110	67.25000	2.788500	0.024320						
									4.10	23.3	LT235/80R17E TV2	TZN	17NCRDDA2G 20.88	31.1	56.73000	2.235900	0.023020	62.40000	2.459500	0.025320	64.25000	1.975500	0.028790	70.68000	2.173100	0.031670	64.25000	2.235900	0.023020	62.40000	2.459500	0.025320
									3.73	23.3	LT235/80R17E TV3	TZN	17NCRDDA2G 21.71	31.3	56.73000	2.235900	0.023020	62.40000	2.459500	0.025320	64.25000	1.975500	0.028790	70.68000	2.173100	0.031670	64.25000	2.235900	0.023020	62.40000	2.459500	0.025320
									4.10	23.3	LT235/80R17E TV2	TZN	17NCRDDA2G 22.57	30.1	56.73000	2.235900	0.023020	62.40000	2.459500	0.025320	64.25000	1.975500	0.028790	70.68000	2.173100	0.031670	64.25000	2.235900	0.023020	62.40000	2.459500	0.025320
									4.10	23.3	LT235/80R17E TV3	TZN	17NCRDDA2G 21.71	31.3	56.73000	2.235900	0.023020	62.40000	2.459500	0.025320	64.25000	1.975500	0.028790	70.68000	2.173100	0.031670	64.25000	2.235900	0.023020	62.40000	2.459500	0.025320

Engine Code AA-400 Eng Displ: 6.7L (ETK) Evap Family - Evap Code:

Model	Carline Name	Model Qualifier	Opt	Trans. / Tr. Case	Torq. Conv./ Catalyst Identifier	GVW	LTVW Drive	ALVW Drive	AXLE / CURB	N/V	Tire	Tire Mfr.	Tire Constr. Cd.	Elec Dyno Q.C.	Elec Dyno RLHP	Dyno Coeff 70A	Dyno Coeff 70B	Dyno Coeff 70C	Dyno Coeff 20A	Dyno Coeff 20B	Dyno Coeff 20C								
D28A62 RAM-Cummins: 3500 4X4			L6 - 4WD DF2 / DK1-4P DK3-4P			11500	7500	9500	3.42	22.6	LT275/70R18E TCP	ZFJ	EJ496Q	18.60	31.6	57.26000	2.763500	0.016580	62.99000	3.039900	0.018240	18.58	31.6	58.44000	2.704600	0.017390	64.28000	2.975100	0.019130
							3023	4528	3.42	22.6	LT285/60R20E TEA	ZFJ	EJ642Q	17.86	32.9	66.59000	2.733700	0.017340	73.25000	3.007100	0.019070	18.60	31.6	57.26000	2.763500	0.016580	62.99000	3.039900	0.018240
							7346	9423	3.42	22.6	LT275/70R18E TCP	ZFJ	EJ496Q	18.60	31.6	57.26000	2.763500	0.016580	62.99000	3.039900	0.018240	18.58	31.6	58.44000	2.704600	0.017390	64.28000	2.975100	0.019130
									3.73	24.7	LT275/70R18E TCP	ZFJ	EJ496Q	17.86	32.9	66.59000	2.733700	0.017340	73.25000	3.007100	0.019070	18.60	31.6	57.26000	2.763500	0.016580	62.99000	3.039900	0.018240
									3.73	24.5	LT285/60R20E TEA	ZFJ	EJ642Q	18.58	31.6	58.44000	2.704600	0.017390	64.28000	2.975100	0.019130	17.86	32.9	66.59000	2.733700	0.017340	73.25000	3.007100	0.019070
									3.73	24.7	LT275/70R18E TCP	ZFJ	EJ496Q	17.86	32.9	66.59000	2.733700	0.017340	73.25000	3.007100	0.019070	18.60	31.6	57.26000	2.763500	0.016580	62.99000	3.039900	0.018240
									4.10	27.1	LT275/70R18E TCP	ZFJ	EJ496Q	18.60	31.6	57.26000	2.763500	0.016580	62.99000	3.039900	0.018240	18.58	31.6	58.44000	2.704600	0.017390	64.28000	2.975100	0.019130
									4.10	26.9	LT285/60R20E TEA	ZFJ	EJ642Q	18.58	31.6	58.44000	2.704600	0.017390	64.28000	2.975100	0.019130	17.86	32.9	66.59000	2.733700	0.017340	73.25000	3.007100	0.019070
									4.10	27.1	LT275/70R18E TCP	ZFJ	EJ496Q	18.60	31.6	57.26000	2.763500	0.016580	62.99000	3.039900	0.018240	18.58	31.6	58.44000	2.704600	0.017390	64.28000	2.975100	0.019130
									4.10	27.1	LT275/70R18E TCP	ZFJ	EJ496Q	18.60	31.6	57.26000	2.763500	0.016580	62.99000	3.039900	0.018240	18.58	31.6	58.44000	2.704600	0.017390	64.28000	2.975100	0.019130

Table with columns for Model, Ram, Cummins, L6-4WD, 14000, 8000, 11000, 3.42, 23.3, LT275/70R18E, TCN, TZF, EJ487Q, 19.22, 32.2, 66.65000, 2.611300, 0.017610, 73.32000, 2.872400, 0.019370, etc.

Engine Code AM-100 Eng Displ: 6.7L (ETK) Evap Family - Evap Code:

Table with columns for Model, Carline Name, Model Qualifier, Opt, Trans./Tr. Case, Torq. Conv./Catalyst Identifier, LVW, ALVW, TWC Drive, TWC Drive, Axle / OTGR, N/V, Tire, Tire Mfr., Tire Constr. Cd., Elec Dyno, Elec Dyno, Dyno Coeff, Dyno Coeff, Dyno Coeff, Dyno Coeff, Dyno Coeff, Dyno Coeff.

Engine Code AM-200 Eng Displ: 6.7L (ETK) Evap Family - Evap Code:

Table with columns for Model, Carline Name, Model Qualifier, Opt, Trans./Tr. Case, Torq. Conv./Catalyst Identifier, LVW, ALVW, TWC Drive, TWC Drive, Axle / OTGR, N/V, Tire, Tire Mfr., Tire Constr. Cd., Elec Dyno, Elec Dyno, Dyno Coeff, Dyno Coeff, Dyno Coeff, Dyno Coeff, Dyno Coeff, Dyno Coeff.

	DK1-4P			3.73	29	LT275/70R18E TCN TZF	EJ487Q	20.72	29.8	73.18000	1.345500	0.033350	80.50000	1.480100	0.036690	
	DK3-4P			3.73	29	LT275/70R18E TCP TZF	EJ496Q	20.51	30.1	74.87000	1.348200	0.033530	82.36000	1.483000	0.036880	
				3.73	28.8	LT285/60R20E TEA TZF	EJ642Q	20.47	30.2	76.25000	1.285800	0.034390	83.88000	1.414400	0.037830	
D28A62 RAM-	M6 - 4WD	14000	8000	11000	3.42	27.4	LT235/80R17E TV2 TZN	17NCRDDA2G	21.63	31.5	68.58000	1.429800	0.038370	75.44000	1.572800	0.042210
Cummins:	DEG /		3128	5878	3.42	27.4	LT235/80R17E TV3 TZN	17NCRDDA2G	20.71	32.9	73.25000	1.396300	0.041330	80.58000	1.535900	0.045460
3500 4X4	DK1-4P		7731	10866	3.73	29.9	LT235/80R17E TV2 TZN	17NCRDDA2G	21.63	31.5	68.58000	1.429800	0.038370	75.44000	1.572800	0.042210
	DK3-4P				3.73	29.9	LT235/80R17E TV3 TZN	17NCRDDA2G	20.71	32.9	73.25000	1.396300	0.041330	80.58000	1.535900	0.045460
D28A81 RAM-	M6 - 4WD	14000	9000	11500	3.42	27.4	LT235/80R17E TV2 TZN	17NCRDDA2G	21.68	32.8	74.50000	1.110900	0.046460	81.95000	1.222000	0.051110
Cummins:	DEG /		3595	6011	3.42	27.4	LT235/80R17E TV3 TZN	17NCRDDA2G	20.82	34.2	80.77000	1.220600	0.045810	88.85000	1.342700	0.050390
3500 4X4	DK1-4P		8584	11292	3.73	29.9	LT235/80R17E TV2 TZN	17NCRDDA2G	21.68	32.8	74.50000	1.110900	0.046460	81.95000	1.222000	0.051110
	DK3-4P				3.73	29.9	LT235/80R17E TV3 TZN	17NCRDDA2G	20.82	34.2	80.77000	1.220600	0.045810	88.85000	1.342700	0.050390
D28A92 RAM-	M6 - 4WD	14000	8500	11000	3.42	27.4	LT235/80R17E TV2 TZN	17NCRDDA2G	21.64	31.4	71.55000	1.143700	0.042840	78.71000	1.258100	0.047120
Cummins:	DEG /		3392	5866	3.42	27.4	LT235/80R17E TV3 TZN	17NCRDDA2G	20.74	32.8	83.13000	0.850600	0.048150	91.44000	0.935700	0.052970
3500 4X4	DK1-4P		8332	11166	3.73	29.9	LT235/80R17E TV2 TZN	17NCRDDA2G	21.64	31.4	71.55000	1.143700	0.042840	78.71000	1.258100	0.047120
	DK3-4P				3.73	29.9	LT235/80R17E TV3 TZN	17NCRDDA2G	20.74	32.8	83.13000	0.850600	0.048150	91.44000	0.935700	0.052970

Section12-300 Vehicle

FCA US LLC

Test Group: HCEXD06.78VV - Engine Code Index

Durability Group: HCEXDPDNNC01 Standard : HDV1 / L3ULEV340 Vehicle Class: HDV1 (8501-10000 GVW) / M6-MDV1 (GVW 8501-10000)

Engine Code: AA-100 - RAM 2500 Pickup 2WD AUTO

Engine Code	RC #	Date	Engine	Carline	Price Class	Trans. Configuration	GVW Min.	GVW Max.	Test Wt. Min.	Test Wt. Max.	Drive Code	Sales Areas
AA-100	Original		6.7L/ETK	DJ		L6 / Automatic L6 - Lockup/Automatic/6-speed	10000	9900	7500	8000	RWD	NAS

Engine Code: AA-200 - Ram 2500 4wd Pickup AUTO

Engine Code	RC #	Date	Engine	Carline	Price Class	Trans. Configuration	GVW Min.	GVW Max.	Test Wt. Min.	Test Wt. Max.	Drive Code	Sales Areas
AA-200	Original		6.7L/ETK	DJ		L6 / Automatic L6 - Lockup/Automatic/6-speed	10000	9900	7500	8500	4WD 4X4	NAS

Engine Code: AA-300 - Ram 3500 2wd Pickup AUTO

Engine Code	RC #	Date	Engine	Carline	Price Class	Trans. Configuration	GVW Min.	GVW Max.	Test Wt. Min.	Test Wt. Max.	Drive Code	Sales Areas
AA-300	Original		6.7L/ETK	DJ		L6 / Automatic L6 - Lockup/Automatic/6-speed	9900	9900	8000	8000	RWD	NAS

Engine Code: AA-400 - Ram 3500 Pickup 4WD AUTO

Engine Code	RC #	Date	Engine	Carline	Price Class	Trans. Configuration	GVW Min.	GVW Max.	Test Wt. Min.	Test Wt. Max.	Drive Code	Sales Areas
AA-400	Original		6.7L/ETK	DJ		L6 / Automatic L6 - Lockup/Automatic/6-speed	9900	9900	8500	8500	RWD	NAS

Engine Code: AM-100 - Ram 2500 Pickup 2WD MANUAL

Engine Code	RC #	Date	Engine	Carline	Price Class	Trans. Configuration	GVW Min.	GVW Max.	Test Wt. Min.	Test Wt. Max.	Drive Code	Sales Areas
AM-100	Original		6.7L/ETK	DJ		M6 / Manual 6-speed M6 - Manual 6-speed	10000	9900	7500	8000	RWD	NAS

Engine Code: AM-200 - Ram 2500 Pickup 4wd MANUAL

Engine Code	RC #	Date	Engine	Carline	Price Class	Trans. Configuration	GVW Min.	GVW Max.	Test Wt. Min.	Test Wt. Max.	Drive Code	Sales Areas
AM-200	Original		6.7L/ETK	DJ		M6 / Manual 6-speed M6 - Manual 6-speed	10000	9900	7500	8500	4WD 4X4 RWD	NAS

**Test Group: HCEXD06.78VV - No Engine Code Changes**

**Durability Group: HCEXDPDNNC01 Standard Fed: HDV1 Cal: L3ULEV340**

RC #	Submission Date	Description
No Results Found		

Section12-500 Engine Code Index



Cummins Incorporated

Section 12 - Vehicle and Test Parameters

Vehicle Parameters

Valves per cylinder  
Engine  
All 6.7L - 4

Test Parameters

SIL usage: See shift schedule table

Cooling fan configuration: Models  
All - One fan center front

Additional Cooling: Models  
All - None

Evaporative Testing Parameters: Models  
Not Applicable

Fuel temperature Profile: Models  
Not Applicable

Special Test Procedure: Models  
All - none



December 07, 2015

Ms. Annette Hebert  
New Vehicle/Engine Programs Branch  
Haagen-Smit Laboratory  
P.O Box 8001  
9528 Telstar Avenue  
El Monte, California 91734-8001

Dear Ms. Hebert:

**Sub: 2017 Model Year MDV (8,501 – 10,000 lbs GVWR) Executive Order Request**

Cummins Inc requests a 2017 Executive Order for the 6.7L 50 State test group HCEXD06.78VV / Durability Group HCEXDPDNNC01. This test group is being certified to 50-State HDV standards and California LEV<sub>III</sub> ULEV340 emissions standard. Cummins Inc. agrees that the exhaust and evaporative emission standards listed below and in the application for certification apply to both certification and in-use vehicles according to the provisions of 40 CFR, Parts 86, as applicable. The FTP emission standards (g/mile) for this test group are as follows:

<u>Emission Standards</u>	<u>Useful Life</u>	<u>NO<sub>x</sub>+NMOG</u>	<u>CO</u>	<u>HCHO</u>	<u>PM</u>
LEV <sub>III</sub> ULEV340 (California)	150K	0.340	6.4	0.006	0.06

If there are any questions regarding this submission, please contact me at (631) 455-7583 or Ravinder D Singh at (248) 576-5504 or Matt Psota at (812) 377-7899.

Sincerely,

*Bhushan Pawar*

Bhushan P. Pawar  
Certification Engineer  
Cummins Inc.

bhushan.pawar@cummins.com

cc: Lucky Benedict



December 07, 2015

Mr. Joel Dalton,  
Vehicle Programs Group  
Certification and Compliance Division  
U.S. Environmental Protection Agency  
2000 Traverwood Drive  
Ann Arbor, Michigan 48105

Dear Mr. Dalton:

**Sub: 2017 Model Year HDV (8,501 – 10,000 lbs GVWR) Certificate of Conformity Request**

Cummins Inc requests a 2016 Certificate of Conformity for the 6.7L 50 State test group hCEXD06.78VV / Durability Group HCEXDPDNNC01. This test group is being certified to 50-State HDV standards and California LEVIII ULEV340 emissions. Cummins Inc. agrees that the exhaust and evaporative emission standards listed below and in the application for certification apply to both certification and in-use vehicles according to the provisions of 40 CFR, Parts 86, as applicable. The FTP emission standards (g/mile) for this HDV1 test group are as follows:

<u>Emission Standards</u>	<u>Useful Life</u>	<u>NMOG</u>	<u>CO</u>	<u>NOX</u>	<u>HCHO</u>	<u>PM</u>
HDV1 (Federal)	120K	0.195	7.3	0.2	0.032	0.02
LEVIII ULEV340 (California)	150K	0.340 <sup>1</sup>	6.4	-	0.006	0.06

<sup>1</sup>ARB NOx + NMOG standard is 0.340 g/mile.

Models are as follows:

<u>Division</u>	<u>Model</u>
Ram	Ram 2500 Pickup 2WD/4WD
Ram	Ram 3500 Pickup 2WD/4WD

If there are any questions regarding this submission, please contact me at (631) 455-7583 or Ravinder D Singh at (248) 576-5504 or Matt Psota at (812) 377-7899.

Sincerely,

*Bhushan Pawar*

Bhushan P. Pawar  
Certification Engineer  
Cummins Inc.

bhushan.pawar@cummins.com

General Information

Date:

Process Code:

Manufacturer Code:

Manufacturer Name:

Manufacturer Contact

Name:

Email Address:

Phone:

Calendar Year complete application submitted to EPA:

Engine Family / Evaporative Family / Test Group:

Certificate Request Type (Industry Sector Code)

- On-Highway LDV, LTD, MDVPV, HDV Chassis Cert (Federal) (A, B, D, J, T, V)
- On-Highway HDE Dyno Cert (Federal) (E, H)
- On-Highway LD ICI, MDPV ICI, HDV ICI (A, B, D, J, T, V)
- On-Highway Motorcycle (C)
- On-Highway HDV Evap (F)
- On-Highway LDV, LTD, MDVPV, HDV Chassis Cert (California-Only) (A, B, D, J, T, V)
- On-Highway HDE Dyno Cert (California-Only) (E, H)
- Nonroad CI (L)
- Nonroad SI (B, S)
- Locomotive (G, K)
- All Nonroad Recreational, excluding Marine engines (X, Y)
- All Marine (Including IMO) (M, N, W)
- Component Certification for Evaporative Emissions (P)

IMO Name (Required for dual US/IMO Marine Only):

ICI VIN Number (Required for ICIs Only):

Do you qualify for a Reduced Fee (RF)?

What is the total number of vehicles, engines, or units covered?:

What is the aggregate total retail value of the vehicles, engines or units covered?:

Payment Information

Amount Owed:

Payment Type:

Comments:

**FCA US LLC**

**VEHICLE EMISSION CONTROL INFORMATION**

CONFORMS TO REGULATIONS:  
2017 MY

U.S. EPA: HDV OBD: CA OBD II FUEL: DIESEL

CALIFORNIA: LEV III ULEV 340 MDV OBD: CA OBD II FUEL: DIESEL

THIS VEHICLE IS CERTIFIED BY CUMMINS INC. FOR FCA US LLC

NO ADJUSTMENTS NEEDED

GROUP: HCEXD06.78VV ENGINE: 6.7L

**47480 909AA**

TC / DFI / CAC / DPF  
OC / EGR / EGRC  
SCRC / NH3OC / RDQS / NOXS



**Certification Summary Information Report**

<b>Manufacturer</b>	Cummins Inc.	<b>Manufacturer Code</b>	CEX
<b>Test Group</b>	HCEXD06.78VV	<b>Evaporative/Refueling Family</b>	--
<b>Certificate Number</b>	--	<b>CARB Executive Order #</b>	--
<b>Certificate Issue Date</b>	--	<b>Certificate Revision Date</b>	--
<b>Certificate Effective Date</b>	--	<b>Conditional Certificate</b>	--
<b>CSI Revision #</b>	--	<b>CSI Submission/Revision Date</b>	12/08/2015 06:11:12 PM
<b>Model Year</b>	2017		
<b>Test Group Information</b>			
<b>CSI Type</b>	New	<b>Running Change Reference Number</b>	--
<b>GHG Exempt Status</b>	Not Exempt		
<b>Drive Sources and Fuel(s)</b>			
<b>Drive Source #1:</b>	Combustion Engine		
	<b>Fuel</b>	<b>Basic Fuel Metering System</b>	<b>Lean Burn Strategy Indicator</b>
	Diesel	Common Rail Direct Diesel Injection	--
<b>Hybrid Indicator</b>	No		
<b>Multiple Fuel Storage</b>	--	<b>Rechargeable Energy Storage System Indicator</b>	--
<b>Multiple Fuel Combustion</b>	--	<b>Off-board Charge Capable Indicator</b>	--
<b>Fuel Cell Indicator</b>	--	<b>EPA Vehicle Class</b>	M6, HDV1
<b>Federal Clean Fuel Vehicle</b>	No	<b>Federal Clean Fuel Vehicle Standard</b>	--
<b>Federal Clean Fuel Vehicle ILEV</b>	No	<b>California Partial Zero Emissions Vehicle Indicator</b>	--
<b>Durability Group Name</b>	GCEXDPDNNC01	<b>Durability Group Equivalency Factor</b>	1.0
<b>Reduced Fee Test Group</b>	No	<b>Certification Region Code(s)</b>	FA, CA
<b>Complies with HD GHG 2b/3 regulations?</b>	Yes		
<b>Introduction into Commerce Date</b>	--	<b>CAP2000 Conditional Certificate?</b>	N/A
<b>Independent Commercial Importer?</b>	--	<b>Alternative Fuel Converter Certificate?</b>	--
<b>SFTP Federal Composite Compliance Identifier</b>	Not Applicable	<b>SFTP Tier 2 Composite CO Option</b>	--
<b>SFTP LEV-III Composite Compliance Indicator</b>	No		
<b>OBD Compliance Type</b>	CARB	<b>OBD Demonstration Vehicle Test Group</b>	HCEXD06.78VV
<b>Test Group OBD Compliance Level</b>	Partial - with deficiencies and penalty	<b>Number of Test Group OBD Deficiencies</b>	1
<b>OBD Deficiencies Comments</b>	--		
<b>Mfr Test Group Comments</b>	Carryover from MY2016. Weighted CH4 result = 0.009 g/mi vs. 0.05 g/mi std. Weighted N2O result = 0.028 g/mi vs. 0.05 g/mi FEL. Weighted CO2 result is 596 g/mi.		
<b>Mfr Exhaust / Evap Standards Comments</b>	--		

Test Group		HCEXD06.78VV		Evaporative/Refueling Family		--	
Models Covered by this Certificate							
Carline Manufacturer	Division	Carline	Certification Region Code(s)	Drive System	Trans - Type	- # of Gears	Trans - Lockup
Cummins Inc.	2 - Ram	935 - 2500 4X4	Federal	4-Wheel Drive	Manual	6	No
Cummins Inc.	2 - Ram	935 - 2500 4X4	California + CAA Section 177 states	4-Wheel Drive	Automatic	6	Yes
Cummins Inc.	2 - Ram	930 - 2500 4X2	Federal	2-Wheel Drive, Rear	Manual	6	No
Cummins Inc.	2 - Ram	950 - 3500 4X2	Federal	2-Wheel Drive, Rear	Automatic	6	Yes
Cummins Inc.	2 - Ram	935 - 2500 4X4	Federal	4-Wheel Drive	Automatic	6	Yes
Cummins Inc.	2 - Ram	950 - 3500 4X2	California + CAA Section 177 states	2-Wheel Drive, Rear	Automatic	6	Yes
Cummins Inc.	2 - Ram	955 - 3500 4X4	California + CAA Section 177 states	4-Wheel Drive	Automatic	6	Yes
Cummins Inc.	2 - Ram	930 - 2500 4X2	California + CAA Section 177 states	2-Wheel Drive, Rear	Automatic	6	Yes
Cummins Inc.	2 - Ram	955 - 3500 4X4	Federal	4-Wheel Drive	Automatic	6	Yes
Cummins Inc.	2 - Ram	930 - 2500 4X2	California + CAA Section 177 states	2-Wheel Drive, Rear	Manual	6	No
Cummins Inc.	2 - Ram	935 - 2500 4X4	California + CAA Section 177 states	4-Wheel Drive	Manual	6	No
Cummins Inc.	2 - Ram	930 - 2500 4X2	Federal	2-Wheel Drive, Rear	Automatic	6	Yes

Engine Description		36	
Hybrid Type	Hybrid Description	Engine Type	Engine Description
--	--	4-Stroke Compression Ignition	6.7L Diesel
Inline	Inline	Mfr Engine Block Arrangement	--
No	No	Oil Viscosity/Classification	SAE 5W-20
6	6		

After Treatment Device(s) (ATD)			
ATD Number	ATD Type	ATD Precious Metal	Substrate Material
1	Oxidation catalyst	Platinum + Palladium	Ceramic
2	Diesel Particulate Filter	Platinum	Ceramic
3	Selective Catalytic Reduction	Copper-Zeolite	Ceramic
4	Other	Platinum	Ceramic

Mfr After Treatment Device (ATD) Comments	
--	--
Direct Ozone Reduction (DOR) Device	
--	Not Equipped
Mfr Emission Control Device Comments	
--	--

Test Group	HCEXD06.78VV	Evaporative/Refueling Family
<b>Engine Configuration Number 1</b>		
Engine Displacement (liters)	6.7	Engine Rated Horsepower 370
Number of Inlet Valves Per Cylinder	2	Number of Exhaust Valves Per Cylinder 2
Air Aspiration Method	Turbocharged	Number of Air Aspiration Devices 1
Air Aspiration Device Configuration	Single	Charge Air Cooler Type Air
Cylinder Deactivation	No	
Cylinder Deactivation Description	--	
Variable Valve Timing	No	
Variable Valve Timing System Description	--	
Variable Valve Lift?	No	
Variable Valve Lift System Description	--	
Number of Knock Sensors	0	Number of Air/Fuel Sensors 2
Air/Fuel Sensor # 1 Type	Nitrogen oxide	Air/Fuel Sensor # 1 Description
Air/Fuel Sensor # 2 Type	Nitrogen oxide	Air/Fuel Sensor # 2 Description
Mfr Air/Fuel Sensor Comments	--	
Exhaust Gas Recirculation	Yes	Cooled Exhaust Gas Recirculation Yes
EGR Type	Electronic/Electric	Exhaust Gas Recirculation Description if 'Other'
Closed Loop Air Injection System	No	
Air Injection Type	--	Air Injection Type if 'Other'
Mfr Engine Configuration Comments	370 HP@2800 RPM/800 ft-lb@1600 RPM for Auto transmission	

Test Group	HCEXD06.78VV	Evaporative/Refueling Family	--
<b>Engine Configuration Number 2</b>			
Engine Displacement (liters)	6.7	Engine Rated Horsepower	350
Number of Inlet Valves Per Cylinder	2	Number of Exhaust Valves Per Cylinder	2
Air Aspiration Method	Turbocharged	Number of Air Aspiration Devices	1
Air Aspiration Device Configuration	Single	Charge Air Cooler Type	Air
Cylinder Deactivation	No		
Cylinder Deactivation Description	--		
Variable Valve Timing	No		
Variable Valve Timing System Description	--		
Variable Valve Lift?	No		
Variable Valve Lift System Description	--		
Number of Knock Sensors	0	Number of Air/Fuel Sensors	2
Air/Fuel Sensor # 1 Type	Nitrogen oxide	Air/Fuel Sensor # 1 Description	--
Air/Fuel Sensor # 2 Type	Nitrogen oxide	Air/Fuel Sensor # 2 Description	--
Mfr Air/Fuel Sensor Comments	--		
Exhaust Gas Recirculation	Yes	Cooled Exhaust Gas Recirculation	Yes
EGR Type	Electronic/Electric	Exhaust Gas Recirculation Description if 'Other'	--
Closed Loop Air Injection System	No		
Air Injection Type	--	Air Injection Type if 'Other'	--
Mfr Engine Configuration Comments	350 HP@2800 RPM/660 ft-lb@1400 RPM for Manual transmission		
<b>Official Test Numbers</b>			
Test Group	FTP	US06	SC03
Fuel	GCEX10036623		
Diesel	GCEX10036624	Cold CO	Highway
		--	GCEX10036624
		EPA City Litmus Value	EPA City Litmus Threshold
		--	11.3
		EPA Highway Litmus Value	EPA Highway Litmus Threshold
		--	15.4
			CREE Weighting Factor
			--

**Certification Summary Information Report**

<b>Test Group</b>	HCEXD06.78VV		Evaporative/Refueling Family	--
<b>Emission Data Vehicle Information</b>				
Vehicle ID / Configuration	V4DJ75651 / 2	Manufacturer Vehicle Configuration Number	2	
Original Test Group Name	GCEXD06.78VV	Original Evaporative/Refueling Family	--	
Original Test Vehicle Model Year	2016			
<b>Vehicle Model</b>		<b>Represented Test Vehicle Model</b>	RAM 2500	
<b>Leak Family Details</b>		<b>Leak Family Name</b>	--	
<b>Drive Sources and Fuel System Details</b>				
<b>Drive Source and Fuel#</b>		<b>Drive Source</b>	<b>Fuel</b>	
1		Combustion Engine	Diesel	
<b>Hybrid Indicator</b>	No	<b>Multiple Fuel Combustion</b>	--	
<b>Multiple Fuel Storage</b>	--	<b>Rechargeable Energy Storage System Indicator</b>	--	
<b>Fuel Cell Indicator</b>	--	<b>Rechargeable Energy Storage System, if 'Other'</b>	--	
<b>Rechargeable Energy Storage System</b>		<b>Odometer Correction Factor</b>	1	
<b>Off-board charge Capable Indicator</b>	--			
<b>Odometer Correction -- Initial</b>	7746			
<b>Odometer Correction Sign</b>	-			
<b>Odometer Correction Units</b>	Miles			
<b>Engine Code</b>	AA-200	<b>Rated Horsepower</b>	370	
<b>Displacement (liters)</b>	6.7	<b>Air Aspiration Method, if 'Other'</b>	Single	
<b>Air Aspiration Method</b>	Turbocharged	<b>Air Aspiration Device Configuration</b>	2-Wheel Drive, Rear	
<b>Number of Air Aspiration Devices</b>	1	<b>Drive Mode While Testing</b>	4,000 (mi)	
<b>Charge Air Cooler Type</b>	Air	<b>Aged Emission Components</b>	9000	
<b>Shift Indicator Light Usage</b>	Not equipped	<b>Equivalent Test Weight (pounds)</b>	22.6	
<b>Curb Weight (lbs)</b>	7941	<b>N/V Ratio</b>		
<b>GVWR (lbs)</b>	10000	<b># of Transmission Gears</b>	6	
<b>Axle Ratio</b>	3.42	<b>Creep Gear</b>	No	
<b>Transmission Type</b>	Automatic			
<b>Transmission Lockup</b>	No			
<b>Dynamometer Coefficients:</b>				
<b>Target Coefficients</b>		<b>Set Coefficients</b>		
<b>Coefficient Category</b>	<b>A (lbf)</b>	<b>B (lbf/mph)**2</b>	<b>C (lbf/mph**2)</b>	<b>EPA Calculated Total Road Load Horse Power for City/Highway/Evap Coefficients</b>
City/Highway/Evap	58.74	2.7067	0.01654	31.4
			0.7863	
			0.03631	
<b>Emission Control Device Comments</b>				
OC+DPF+SCR+AMOX				

**Certification Summary Information Report**

Date: 12/08/2015 06:29:51 PM

Test Group	HCEXD06.78VV	Evaporative/Refueling Family	--
Manufacturer Test Vehicle Comments	--		

**Certification Summary Information Report**

<b>Test Group</b>	HCEXD06.78VV	<b>Evaporative/Refueling Family</b>	--
<b>Test #</b>	<b>GCEX10036623</b>	<b>Test Procedure</b>	<b>2 - CVS 75 and later (w/o can. load)</b>
<b>Exhaust Test # for this Evap Test</b>	--	<b>Test Fuel Type</b>	19 - Federal Cert Diesel 7-15 PPM Sulfur
<b>Test Date</b>	05/05/2015	<b>Fuel</b>	Diesel
<b>Fuel Batch ID</b>	9942	<b>Fuel Calibration Number</b>	2
<b>Vehicle Class</b>	HDV1 (Federal HD chassis Class 2b GVW 8501-10000), MDV 6 (Cal. LEV 2/3 MDV GVW 8501-10000)	<b>DF Type</b>	Mfr. Determined
<b>Verify Test Lab ID</b>	CTC	<b>Odometer Units</b>	M
<b>E10 Evaporative Test Measurement Method</b>	--	<b>Diesel Adjustment Factor Usage</b>	U
<b>Test Start Odometer Reading</b>	12247	<b>Road Speed Fan Usage</b>	No
<b>4WD Test Dyno</b>	No		
<b>State of Charge Delta</b>	No		
<b>Drive Cycle Speed Tolerance Criteria</b>	Used Part 86 (+/- 2 mph, +/- 1 sec)		
<b>Test Results</b>			
<b>Test Result Name</b>	<b>Unrounded Test Result</b>	<b>Verify Calculated FE Equivalent Value (miles per gallon)</b>	
METHANE (CH4 - Methane)	0.01423	--	
CO (Carbon Monoxide)	0.09449	--	
DT-ASCR (Drive Trace Absolute Speed Change Rating)	-0.823	--	
DT-EER (Drive Trace Energy Economy Rating)	-0.426	--	
DT-IWRR (Drive Trace Inertia Work Ratio Rating)	0	--	
MFR FE (Manufacturer Fuel Economy)	14.3891	14.3891	
NOX (Nitrogen Oxide)	0.12049	--	
N2O (Nitrous Oxide)	0.034	--	
HC-NM (Non-methane Hydrocarbon)	0.00449	--	
NMOG (Non-methane organic gas (California))	0.00449	--	
PM (Particulate Matter)	0.000086	--	
HC-TOTAL (Total Hydrocarbon)	0.01887	--	
<b>Test Result Name</b>	<b>Unrounded Test Result</b>	<b>Verify Calculated CREE/OPT-CREE</b>	
Carbon-Related Exhaust Emissions	707	707	
<b>Test Result Name</b>	<b>Unrounded Test Result</b>	<b>Verify Calculated CO2</b>	
Carbon dioxide	706.8	--	
<b>Manufacturer Test Comments</b>	DT-IWRR is currently not calculated by the test lab		

Certification Summary Information Report

Test Group		Evaporative/Refueling Family										
Certification Region	Useful Life	Standard Level	Emission Name	Rounded Result	RAF	NMOG/NM HC Ratio	Diesel Adjustment Factor	Add DF	Mult DF	Certification Level	Standard	Pass/Fail
Fed	120,000 miles	HDV1 (Federal HD chassis Class 2b GVW 8501-10000)	CO	0.09	--	--	0.0013 UP	0.0536	--	0.1	7.3	Pass
Fed	120,000 miles	HDV1 (Federal HD chassis Class 2b GVW 8501-10000)	CO2	707	--	--	0 UP	0	--	707	--	--
Fed	120,000 miles	HDV1 (Federal HD chassis Class 2b GVW 8501-10000)	HC-NM	0.0045	--	--	0.0005 UP	0.0012	--	0.006	0.195	Pass
Fed	120,000 miles	HDV1 (Federal HD chassis Class 2b GVW 8501-10000)	NOX	0.12	--	--	0.0118 UP	0	--	0.1	0.2	Pass
Fed	120,000 miles	HDV1 (Federal HD chassis Class 2b GVW 8501-10000)	PM	0	--	--	0 UP	0	--	0	0.02	Pass
CA	150,000 miles	California LEV-III ULEV340	CO	0.09	--	--	0.0013 UP	0.0675	--	0.2	6.4	Pass
CA	150,000 miles	California LEV-III ULEV340	NMOG	0.0045	--	--	0 UP	0	--	0.004	999.999	Pass
CA	150,000 miles	California LEV-III ULEV340	NMOG+NOX	0.125	--	--	0.0123 UP	--	--	0.125	0.340	Pass
CA	150,000 miles	California LEV-III ULEV340	NOX	0.1205	--	--	0 UP	0	--	0.12	999.999	Pass
CA	150,000 miles	California LEV-III ULEV340	PM	0	--	--	0 UP	0	--	0	0.06	Pass

NOTE: For Non-charge depleting tests, the Rounded Result for CO2 Emission name is a Verify-calculated value.

**Certification Summary Information Report**

Test Group	HCEXD06.78VV	Evaporative/Refueling Family	--
<b>Test #</b>	<b>GCEX10036624</b>	<b>Test Procedure</b>	<b>3 - HWFE</b>
<b>Exhaust Test # for this Evap Test</b>	--	<b>Test Fuel Type</b>	19 - Federal Cert Diesel 7-15 PPM
<b>Test Date</b>	05/05/2015	<b>Fuel</b>	Sulfur Diesel
<b>Fuel Batch ID</b>	9942	<b>Fuel Calibration Number</b>	2
<b>Vehicle Class</b>	MDV6 (Cal. LEV 2/3 MDV GVV 8501-10000)	<b>DF Type</b>	Mfr. Determined
<b>Verify Test Lab ID</b>	CTC		
<b>E10 Evaporative Test Measurement Method</b>	--	<b>Odometer Units</b>	M
<b>Test Start Odometer Reading</b>	12258	<b>Diesel Adjustment Factor Usage</b>	U
<b>4WD Test Dyno</b>	No		
<b>State of Charge Delta</b>	--	<b>Road Speed Fan Usage</b>	No
<b>Drive Cycle Speed Tolerance Criteria</b>	Used Part 86 (+/- 2 mph, +/- 1 sec)		
<b>Test Results</b>			
<b>Test Result Name</b>	<b>Unrounded Test Result</b>	<b>Verify Calculated FE Equivalent Value (miles per gallon)</b>	
METHANE (CH4 - Methane)	0.0032	--	
CO (Carbon Monoxide)	0.0085	--	
DT-ASCR (Drive Trace Absolute Speed Change Rating)	0.66	--	
DT-EER (Drive Trace Energy Economy Rating)	0.383	--	
DT-IWRR (Drive Trace Inertia Work Ratio Rating)	0	--	
MFR FE (Manufacturer Fuel Economy)	22.1203	22.1203	
NOX (Nitrogen Oxide)	0.00347	--	
N2O (Nitrous Oxide)	0.021	--	
HC-NM (Non-methane Hydrocarbon)	0	--	
NMOG (Non-methane organic gas (California))	0	--	
HC-TOTAL (Total Hydrocarbon)	0.0031	--	
<b>Test Result Name</b>	<b>Unrounded Test Result</b>	<b>Verify Calculated CREE/OPT-CREE</b>	
Carbon-Related Exhaust Emissions	460	460	
<b>Test Result Name</b>	<b>Unrounded Test Result</b>	<b>Verify Calculated CO2</b>	
Carbon dioxide	459.9	--	
<b>Manufacturer Test Comments</b>	DT-IWRR is currently not calculated by test lab		

**Certification Summary Information Report**

Test Group		Evaporative/Refueling Family										
HCEXD06.78VV		--										
Certification Region	Useful Life	Standard Level	Emission Name	Rounded Result	RAF	NMOG/NM HC Ratio	Diesel Adjustment Factor	Add DF	Mult DF	Certification Level	Standard	Pass/Fail
CA	150,000 miles	California LEV-III ULEV340	CO2	460	--	--	0 UP	0	--	460	--	--
CA	150,000 miles	California LEV-III ULEV340	NMOG	0	--	--	0 UP	0	--	0	999.999	Pass
CA	150,000 miles	California LEV-III ULEV340	NMOG+NOX	0.0035	--	--	0.0038 UP	--	--	0.004	0.340	Pass
CA	150,000 miles	California LEV-III ULEV340	NOX	0.0035	--	--	0 UP	0	--	0.004	999.999	Pass

**NOTE: For Non-charge depleting tests, the Rounded Result for CO2 Emission name is a Verify-calculated value.**

Fuel Properties		Fuel Calibration Number	
<b>Fuel Batch ID</b>	9942	<b>Fuel Calibration Number</b>	2
<b>Test Fuel Type</b>	19 - Federal Cert Diesel 7-15 PPM Sulfur	<b>Fuel Batch Calibration Date</b>	12/05/2013
<b>Fuel Batch Calibration Effective Date</b>	12/05/2013	<b>Fuel Batch Calibration Ineffective Date</b>	--
<b>Carbon Weight Fraction NMHC</b>	--	<b>Carbon Weight Fraction HC</b>	--
<b>Exhaust Carbon Weight Fraction</b>	--	<b>Fuel Methanol Volume Fraction</b>	--
<b>Fuel Density (grams/cubic ft)</b>	--	<b>Fuel Specific Gravity</b>	--
<b>Fuel Net Heating Value (BTU / lb)</b>	--	<b>Fuel Blend Carbon Weight Fraction</b>	--
<b>Weight Fraction CO2</b>	--		

Test Group		Evaporative/Refueling Family									
Consolidated List of Standards											
Exhaust Standards											
Cert Region	Vehicle Class	Fuel	California + CAA Section 177 states	MDV6 (Cal. LEV 2/3 MDV GVV 8501-10000)	Diesel	Cert/In-Use Code	Standard Level	Test Procedure	California LEV-III ULEV340	CVS 75 and later (w/o can. load)	
Useful Life	Emission Name	Rounded Result	RAF	NMOG / NMHC	Upward Diesel Adjustment Factor	Downward Diesel Adjustment Factor	Mult DF	Add DF	Std		
150,000 miles	CO	--	--	--	0.0013	0	--	0.0675	6.4		
150,000 miles	HCHO	--	--	--	0	0	--	0	0.006		
150,000 miles	NMOG	--	--	--	0	0	--	0	999.999		
150,000 miles	NMOG+NOX	--	--	--	0.0123	0	--	0.0015	0.340		
150,000 miles	NOX	--	--	--	0	0	--	0	999.999		
150,000 miles	PM	--	--	--	0	0	--	0	0.06		
36											
Cert Region	Vehicle Class	Fuel	California + CAA Section 177 states	MDV6 (Cal. LEV 2/3 MDV GVV 8501-10000)	Diesel	Cert/In-Use Code	Standard Level	Test Procedure	California LEV-III ULEV340	HWFE	
Useful Life	Emission Name	Rounded Result	RAF	NMOG / NMHC	Upward Diesel Adjustment Factor	Downward Diesel Adjustment Factor	Mult DF	Add DF	Std		
150,000 miles	CO2	--	--	--	0	0	--	0	999.999		
150,000 miles	NMOG	--	--	--	0	0	--	0	999.999		
150,000 miles	NMOG+NOX	--	--	--	0.0038	0	--	0.0015	0.340		
150,000 miles	NOX	--	--	--	0	0	--	0	999.999		
Cert Region	Vehicle Class	Fuel	Federal	HDV1 (Federal HD chassis Class 2b GVV 8501-10000)	Diesel	Cert/In-Use Code	Standard Level	Test Procedure	Cert	HDV1 (Federal HD chassis Class 2b GVV 8501-10000)	CVS 75 and later (w/o can. load)
Useful Life	Emission Name	Rounded Result	RAF	NMOG / NMHC	Upward Diesel Adjustment Factor	Downward Diesel Adjustment Factor	Mult DF	Add DF	Std		
120,000 miles	CO	--	--	--	0.0013	0	--	0.0536	7.3		
120,000 miles	CO2	--	--	--	0	0	--	0	999.999		
120,000 miles	HC-NM	--	--	--	0.0005	0	--	0.0012	0.195		
120,000 miles	NOX	--	--	--	0.0118	0	--	0	0.2		
120,000 miles	PM	--	--	--	0	0	--	0	0.02		

**Certification Summary Information Report**

Date: 12/08/2015 06:29:51 PM

<b>Test Group</b>	HCEXD06.78VV	<b>Evaporative/Refueling Family</b>	--
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Test Group	HCEXD06.78VV	Evaporative/Refueling Family	--
<b>Glossary</b>			
<b>Useful Life</b>			
4	4,000 miles	120	120,000 miles
50	50,000 miles	150	150,000 miles
100	100,000 miles		
<b>Emission Name</b>			
HC-TOTAL	Total Hydrocarbon	METHANOL	CH3OH - Methanol
CO	Carbon Monoxide	N2O	Nitrous Oxide
CO2	Carbon dioxide	SPITBACK	Spitback Hydrocarbon in grams
CREE	Carbon-Related Exhaust Emissions	AMP-HRS	Integrated Amp-hours
OPT-CREE	Optional Carbon-Related Exhaust Emissions	START-SOC	System Start State of Charge Watt-hours
NOX	Nitrogen Oxide	END-SOC	System End State of Charge Watt-hours
PM	Particulate Matter	ACT-DISTANCE	Actual Distance Driven (miles)
PM-COMP	SFTP Composite Particulate Matter	AS-VOLT	Average System Voltage
HC-NM	Non-methane Hydrocarbon	CO2 BAG 1	Bag 1 Carbon Dioxide
OMHCE	Organic material Hydrocarbon Equivalent	CO2 BAG 2	Bag 2 Carbon Dioxide
OMNMHCE	Organic material non-methane HC equivalent	CO2 BAG 3	Bag 3 Carbon Dioxide
NMOG	Non-methane organic gas (California)	CO2 BAG 4	Bag 4 Carbon Dioxide
HCHO	Formaldehyde	NMOG+NOX	Non-methane organic gases plus Nitrogen Oxides
H3C2HO	Acetaldehyde	NMOG+NOX-COMP	SFTP Composite Non-methane Organic Gases + Nitrogen Oxides
HC-NM+NOX	SFTP Non-methane Hydrocarbon + Nitrogen Oxides for US06 or SC03	DT-IWRR	Drive Trace Inertia Work Ratio Rating
HC-NM+NOX-COMP	SFTP Composite Non-methane Hydrocarbon + Nitrogen Oxides	DT-ASCR	Drive Trace Absolute Speed Change Rating
CO-COMP	SFTP Composite Carbon Monoxide	DT-EER	Drive Trace Energy Economy Rating
ETHANOL	C2H5OH - Ethanol	COMB-CREE	Combined Carbon-Related Exhaust Emissions
FE BAG 1	Bag 1 Fuel Economy	COMB-OPT-CREE	Combined Optional Carbon-Related Exhaust Emissions
FE BAG 2	Bag 2 Fuel Economy	HC-TOTAL-EQUIV	Total Hydrocarbon equivalent - Evap only
FE BAG 3	Bag 3 Fuel Economy	METHANE-COMB	Combined CH4 for HD 2b/3 vehicles only
FE BAG 4	Bag 4 Fuel Economy	N2O-COMB	Combined Nitrous Oxide for HD 2b/3 vehicles only
MFR FE	Manufacturer Fuel Economy	LEAK-DIA	Effective Leak Diameter (inches)
HC	Hydrocarbon for Running Loss and ORVR	LEAK-GAS CAP	Gas Cap Leakage (cc/min)
METHANE	CH4 - Methane		
<b>Certification Region</b>			
CA	California + CAA Section 177 states	FA	Federal
<b>Exhaust Emission Standard Level</b>			
B1	Federal Tier 2 Bin 1	L3ULEV340	California LEV-III ULEV340
B2	Federal Tier 2 Bin 2	L3ULEV250	California LEV-III ULEV250
B3	Federal Tier 2 Bin 3	L3ULEV200	California LEV-III ULEV200
B4	Federal Tier 2 Bin 4	L3SULEV170	California LEV-III SULEV170
B5	Federal Tier 2 Bin 5	L3SULEV150	California LEV-III SULEV150

**Certification Summary Information Report**

Test Group	HCEXD06.78VV	Evaporative/Refueling Family	--
B6	Federal Tier 2 Bin 6	L3LEV630	California LEV-III LEV630
B7	Federal Tier 2 Bin 7	L3ULEV570	California LEV-III ULEV570
B8	Federal Tier 2 Bin 8	L3ULEV400	California LEV-III ULEV400
B9	Federal Tier 2 Bin 9	L3ULEV270	California LEV-III ULEV270
B10	Federal Tier 2 Bin 10	L3SULEV230	California LEV-III SULEV230
B11	Federal Tier 2 Bin 11	L3SULEV200	California LEV-III SULEV200
HDV1	HDV1 (Federal HD chassis Class 2b GVW 8501-10000)	T3B160	Federal Tier 3 Bin 160
HDV2	HDV2 (Federal HD chassis Class 3 GVW 10001-14000)	T3B125	Federal Tier 3 Bin 125
L2	California LEV-II LEV	T3B110	Federal Tier 3 Transitional Bin 110
L2OP	California LEV-II LEV Optional	T3B85	Federal Tier 3 Transitional Bin 85
U2	California LEV-II ULEV	T3SULEV30	Federal Tier 3 Transitional LEV-II SULEV30 Carryover
S2	California LEV-II SULEV	T3B70	Federal Tier 3 Bin 70
ZEV	California ZEV	T3B50	Federal Tier 3 Bin 50
OT	Other	T3B30	Federal Tier 3 Bin 30
T1	Federal Tier 1	T3B20	Federal Tier 3 Bin 20
PZEV	California PZEV	T3B0	Federal Tier 3 Bin 0
L2LEV160	California LEV-II LEV160	HDV2B395	Federal Tier 3 HD Class 2b Transitional Bin 395
L2ULEV125	California LEV-II ULEV125	HDV2B340	Federal Tier 3 HD Class 2b Transitional Bin 340
L2SULEV30	California LEV-II SULEV30	HDV2B250	Federal Tier 3 HD Class 2b Bin 250
L2LEV395	California LEV-II LEV395	HDV2B200	Federal Tier 3 HD Class 2b Bin 200
L2ULEV340	California LEV-II ULEV340	HDV2B170	Federal Tier 3 HD Class 2b Bin 170
L2LEV630	California LEV-II LEV630	HDV2B150	Federal Tier 3 HD Class 2b Bin 150
L2ULEV570	California LEV-II ULEV570	HDV2B0	Federal Tier 3 HD Class 2b Bin 0
L3LEV160	California LEV-III LEV160	HDV3B630	Federal Tier 3 HD Class 3 Transitional Bin 630
L3ULEV125	California LEV-III ULEV125	HDV3B570	Federal Tier 3 HD Class 3 Transitional Bin 570
L3ULEV70	California LEV-III ULEV70	HDV3B400	Federal Tier 3 HD Class 3 Bin 400
L3ULEV50	California LEV-III ULEV50	HDV3B270	Federal Tier 3 HD Class 3 Bin 270
L3SULEV30	California LEV-III SULEV30	HDV3B230	Federal Tier 3 HD Class 3 Bin 230
L3SULEV20	California LEV-III SULEV20	HDV3B200	Federal Tier 3 HD Class 3 Bin 200
L3LEV395	California LEV-III LEV395	HDV3B0	Federal Tier 3 HD Class 3 Bin 0
<b>Transmission Type Code</b>			
AMS	Automated Manual-Selectable (e.g. Automated Manual with paddles)	M	Manual
A	Automatic	OT	Other
AM	Automated Manual	SA	Semi-Automatic
CVT	Continuously Variable	SCV	Selectable Continuously Variable (e.g. CVT with paddles)
<b>Drive System Code</b>			
4	4-Wheel Drive	P	Part-time 4-Wheel Drive
F	2-Wheel Drive, Front	A	All Wheel Drive
R	2-Wheel Drive, Rear		

**Certification Summary Information Report**

Test Group	HCEXD06.78VV	Evaporative/Refueling Family	--
<b>Additional Terms and Acronyms</b>			
AFC	Alternative Fuel Converter	ICI	Independent Commercial Importer
CSI	Certificate Summary Information	ORVR	Onboard Refueling Vapor Recovery
DF	Deterioration Factor	SIL	Shift Indicator Light
Evap	Evaporation, Evaporative	Trans	Transmission

# Exhibit 50



# Cummins Incorporated

Application for Certification  
Part 1

2017 Model Year

Durability Group: HCEXDPDNNC01  
Evaporative Families: Not Applicable

Test Group: HCEXD06.78WV

EPA Summary Sheet ID #: CSI-HCEXD0.678WV  
Four Stroke, Diesel Cycle, Diesel Fueled, Direct Injection

6.7 Liter I-6

HDV (10,001 - 14,000 lbs GVWR)

Applicable Standards:

50 State: - FEDERAL HDV2, California LEVIII ULEV570

Vehicles Covered:

Ram 3500 Pickup 2WD/4WD

Vehicles Run:

Vehicle ID 6292

For questions, Ravinder D Singh 248-576-5504      Bhusan P Pawar (631) 455-7583



Cummins Incorporated  
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Cummins Incorporated

Section 1 Correspondence and Communication

For questions dealing with the Part I application for this Test Group contact:

Name	Title	Responsibility	Phone	E-mail	Fax
Bhushan P Pawar	Certification Engineer	Application Submission	631-455-7583	bhushan.pawar@cummins.com	248.576.7928
Ravinder D Singh	Manager - Certification Team	Application Submission	248-576-5504	ravinder.d.singh@cummins.com	248.576.7928
Steve Mazure	Manager - Certification Team	Certification Programs	248.576.5471	srm2@chrysler.com	248.576.7928
Matt Psota	Manager -Certification Team	Certification Programs	812.377.7899	matt.psota@cummins.com	812.377.8739

Section 2 Durability Group Description

Durability Group Name: HCEXDPDNNC01

For a complete description of the Durability Group Description please see:  
"Common Section Book - Section 2. Durability Group Description"

Section 3 Evaporative/Refueling Family Description

Not Applicable



Cummins Incorporated

Section 4 Durability Procedure Description

Durability Group: HCEXDPDNNC01

Durability Provision Statement:

Based on Cummins Inc.'s good engineering judgement, all the vehicles described in this Application for Certification comply with all applicable full useful life standards.

For a complete description of the Durability Procedure please see:

"Common Section Book - Section 16. Durability Procedure Description"

Indicate if aged components were used.

Yes

Indicate whether additive or multiplicative DF's were used.

Not Applicable

List all DF's calculated at both full and intermediate useful life and applicable standards (test results and vehicle description).

See attached CSI for DFs and test results  
CARB - Reference Cert Review Sheet

Evaporative/Refueling Family:

Not Applicable

Section 5 Test Group Description

Test Group Name:

HCEXD06.78WW

Engine displacements covered:

6.7 Liter

Arrangement and number of cylinders:

I-6

Vehicle classes covered:

HDV (10,001 - 14,000 lbs GVWR)

Emission standards class:

HDV2

AB71 Qualified Vehicles:

No



Cummins Incorporated

Section 6 Test Vehicle(s) Description Summary

The test vehicle configuration is as follows,

Test Weight	11,500 lbs Adjusted Loaded Vehicle Weight (ALVW)
Road Load Horsepower	36.4 @ 50 miles per hour
Coastdown time	19.53 seconds
Axle	4.10 single rear wheel
Transmission	6-speed Automatic
Tires	LT235/80R17E



**Cummins Incorporated**

Section 8 Emission testing Waiver Statements

Below is a list clearly identifying the standards applicable to this Test Group for which emission testing was not performed. All Cummins applicable vehicles will conform with the emission standards which emission data is not being provided, as allowed under 40 CFR §86.1829-01 or §86.1810-01.

HCHO

Section 9 OBD Description

For a complete description of the OBD Description please see: "Common Part 1 Section 16. OBD Description"

For OBD Agency Approvals please see: "Common Part 1 Section 16. Agency Approvals"

OBD Demonstration Compliance Statement: This Test Group meets the full intent of both the Clean Air Act as amended in 1990, section 202(m), and the applicable federal OBD regulations contained in 40 CFR §86.005-17 and 40 CFR §86.1806-01, including a reference to those provisions pertaining to deficiencies in the limited instances where an OBD II system that complies with 1968.2 does not comply with all the requirements of section 1968.1.

Section 10 Description of Alternate - Fueled Vehicles

Not Applicable

## FCA US LLC

## Test Group - HCEXD06.78WV

EPA COMP CODE	AA-100	AA-200	AA-300	AA-400	AM-100	AM-200
E10:Powertrain Control Module						
E33:Flange Control Module						
F42:Air/Fuel Throttle Valve						
F50:Fuel Injector						
F81:Fuel Rail Pressure Sensor						
H06:Selective Catalytic Reduction Catalyst Assembly						
H07:Oxidation Catalyst/Particulate Filter Assembly						
H31:Sensor - Differential Pressure						
H32:Sensor - After Treatment, Temperature						
H33:Sensor - Exhaust Pressure						
H34:Sensor - Temperature/Barometric Pressure						
H36:Urea Tank Assembly						
H37:Diesel Exhaust Fluid Injector						
H38:Diesel Exhaust Fluid Flange Module						
L03:Nitrous Oxide Sensor						
L16:Crankshaft Position Sensor						
M01:Engine Coolant Temp. Sensor						

<b>EPA COMP CODE</b>	<b>AA-100</b>	<b>AA-200</b>	<b>AA-300</b>	<b>AA-400</b>	<b>AM-100</b>	<b>AM-200</b>
N10:Camshaft						
N30:Turbocharger						
N31:Charge Air Cooler						
N35:Intake Manifold						
N50:Engine Thermostat						
N56:EGR Valve						
N57:EGR Cooler						
N58:EGR By-Pass Valve						
V01:PCV Valve						
V07:Mass Airflow Sensor						
V08:TMAP Sensor						
V71:Crankcase Pressure Sensor						
Z01:VECI Label						

## Section 11-100 Engine Parts List

## FCA US LLC

**Test Group :** HCEXD06.78WV

**Durability Group:** HCEXDPDNNC01 **Standard Fed:** HDV2 **Cal:** L3ULEV570

Trans. Code	Sales Code	Transfer Case Sales Code/Drive Code	No. of Gears	Over Drive Gear Ratio	Drive Gear Ratio	Engine Sales Code	Torque Code	Torque Size	Conv Clutch Control Type Calib/Special Features
L6	DG7	2R	6	0.63	3.23,1.84,1.41,1.00,0.83,0.63	ETK	WC	310 MM	Electronically shifted data on file
L6	DG7	DK1 / 4P DK3 / 4P	6	0.63	3.23,1.84,1.41,1.00,0.83,0.63	ETK	WC	310 MM	Electronically shifted data on file
L6	DG7	DK1 / 4P DK3 / 4P	6	0.63	3.23,1.84,1.41,1.00,0.83,0.63	ETK	N/A		Electronically shifted data on file
M6	DEG	2R	6	0.74	5.94,3.28,1.98,1.31,1.00,0.74	ETK			
M6	DEG	DK1 / 4P DK3 / 4P	6	0.74	5.94,3.28,1.98,1.31,1.00,0.74	ETK			
L6	DF2	2R	6	0.63	3.75,2.00,1.34,1.00,0.77,0.63	ETK	N/A		Electronically shifted data on file
L6	DF2	DK1 / 4P DK3 / 4P	6	0.63	3.75,2.00,1.34,1.00,0.77,0.63	ETK	N/A		Electronically shifted data on file

Section12-200 Transmission

FCA US LLC

HCEXD06.78VV

Durability Group: HCEXDPDNNC01 Standard Fed: HDV1 Cal: L3ULEV340

Asterisk (\*) Indicates Manufacturer has elected to certify at this higher test weight class as allowed by CFR 86.1831-01

Engine Code AA-100 Eng Displ: 6.7L (ETK) Evap Family - Evap Code:

Model	Carline Name	Model Qualifier	Opt	Trans. / Tr. Case	Torq. Conv./ Catalyst Identifier	GVW	L VW	AL VW	Axle / OTGR	N/V	Tire	Tire Mfr.	Tire Constr. Cd.	Elec	Elec	Dyno	Dyno	Dyno	Dyno	Dyno	Dyno
							Drive	Drive						Q.C.	RLHP	70A	70 B	70C	20A	20B	20C
DJ2A62	RAM-Cummins: 2500 4X2			L6 - RWD WC DG7		10000	7500	8500 3.42	24.3	LT245/70R17E	TWD	TZF	02071T	20.77	25.3	49.28000	1.812700	0.019980	54.21000	1.994000	0.021980
							2719	3979 3.42	22.6	LT275/70R18E	TCN	TZF	EJ487Q	20.22	26.0	44.83000	2.060700	0.018840	49.31000	2.266800	0.020720
							6999	8499 3.42	22.6	LT275/70R18E	TCP	TZF	EJ496Q	19.66	26.7	47.40000	2.098600	0.019310	52.14000	2.308500	0.021240
DJ2A81	RAM-Cummins: 2500 4X2			L6 - RWD WC DG7		10000	8000	9000 3.42	22.6	LT275/70R18E	TCN	TZF	EJ487Q	21.37	26.0	50.79000	2.405900	0.009660	55.87000	2.646500	0.010630
							3160	3936 3.42	22.6	LT275/70R18E	TCP	TZF	EJ496Q	20.78	26.8	50.71000	2.354900	0.012940	55.78000	2.590400	0.014230
							7800	8900 3.42	22.5	LT285/60R20E	TEA	TZF	EJ642Q	20.78	26.8	51.70000	2.298100	0.013710	56.87000	2.527900	0.015080
DJ2A91	RAM-Cummins: 2500 4X2			L6 - RWD WC DG7		10000	7500	8500 3.42	24.3	LT245/70R17E	TWD	TZF	02071T	21.09	24.9	50.95000	1.847500	0.017440	56.05000	2.032300	0.019180
							2888	3939 3.42	22.6	LT275/70R18E	TCP	TZF	EJ496Q	20.90	25.1	48.54000	1.739600	0.021240	53.39000	1.913600	0.023360
							7346	8673 3.42	22.5	LT285/60R20E	TEA	TZF	EJ642Q	20.90	25.2	49.47000	1.684000	0.021990	54.42000	1.852400	0.024190
DJ2A92	RAM-Cummins: 2500 4X2			L6 - RWD WC DG7		10000	8000	9000* 3.42	24.3	LT245/70R17E	TWD	TZF	02071T	21.21	26.2	52.76000	2.127200	0.015050	58.04000	2.339900	0.016560
							2898	3803 3.42	22.6	LT275/70R18E	TCN	TZF	EJ487Q	20.76	26.8	49.68000	2.051300	0.019550	54.85000	2.256400	0.021510
							7479	8740 3.42	22.6	LT275/70R18E	TCP	TZF	EJ496Q	20.10	27.7	52.76000	2.221800	0.017540	58.04000	2.444000	0.019290
DJ2A62	RAM-Cummins: 2500 4X2			L6 - RWD WC DG7		9900	7500	8500 3.42	24.3	LT245/70R17E	TWD	TZF	02071T	20.77	25.3	49.28000	1.812700	0.019980	54.21000	1.994000	0.021980
							2722	3933 3.42	22.6	LT275/70R18E	TCN	TZF	EJ487Q	20.22	26.0	44.83000	2.060700	0.018840	49.31000	2.266800	0.020720
							7001	8450 3.42	22.6	LT275/70R18E	TCP	TZF	EJ496Q	19.66	26.7	47.40000	2.098600	0.019310	52.14000	2.308500	0.021240
DJ2A81	RAM-Cummins: 2500 4X2			L6 - RWD WC DG7		9900	8000	9000 3.42	22.6	LT275/70R18E	TCN	TZF	EJ487Q	21.37	26.0	50.79000	2.405900	0.009660	55.87000	2.646500	0.010630
							3150	3880 3.42	22.6	LT275/70R18E	TCP	TZF	EJ496Q	20.78	26.8	50.71000	2.354900	0.012940	55.78000	2.590400	0.014230
							7758	8829 3.42	22.5	LT285/60R20E	TEA	TZF	EJ642Q	20.78	26.8	51.70000	2.298100	0.013710	56.87000	2.527900	0.015080
DJ2A91	RAM-Cummins: 2500 4X2			L6 - RWD WC DG7		9900	7500	8500 3.42	24.3	LT245/70R17E	TWD	TZF	02071T	21.09	24.9	50.95000	1.847500	0.017440	56.05000	2.032300	0.019180
							2875	3882 3.42	22.6	LT275/70R18E	TCP	TZF	EJ496Q	20.90	25.1	48.54000	1.739600	0.021240	53.39000	1.913600	0.023360
							7313	8607 3.42	22.5	LT285/60R20E	TEA	TZF	EJ642Q	20.90	25.2	49.47000	1.684000	0.021990	54.42000	1.852400	0.024190
DJ2A92	RAM-Cummins: 2500 4X2			L6 - RWD WC DG7		9900	8000	9000 3.42	24.3	LT245/70R17E	TWD	TZF	02071T	21.21	26.2	52.76000	2.127200	0.015050	58.04000	2.339900	0.016560
							3004	3759 3.42	22.6	LT275/70R18E	TCN	TZF	EJ487Q	20.76	26.8	49.68000	2.051300	0.019550	54.85000	2.256400	0.021510
							7686	8793 3.42	22.6	LT275/70R18E	TCP	TZF	EJ496Q	20.10	27.7	52.76000	2.221800	0.017540	58.04000	2.444000	0.019290
								3.42	22.5	LT285/60R20E	TEA	TZF	EJ642Q	20.09	27.7	53.77000	2.164800	0.018310	59.15000	2.381300	0.020140

Engine Code AA-200 Eng Displ: 6.7L (ETK) Evap Family - Evap Code:

Model	Carline Name	Model Qualifier	Opt	Trans. / Tr. Case	Torq. Conv./ Catalyst Identifier	GVW	L VW	AL VW	Axle / OTGR	N/V	Tire	Tire Mfr.	Tire Constr. Cd.	Elec	Elec	Dyno	Dyno	Dyno	Dyno	Dyno	Dyno
							Drive	Drive						Q.C.	RLHP	70A	70 B	70C	20A	20B	20C
DJ7A62	RAM-Cummins: 2500 4X4			L6 - 4WD WC DG7 / DK1-4P DK3-4P		10000	7500	8500 3.42	24.3	LT245/70R17E	TWD	TZF	02071T	17.52	30.0	57.46000	2.346200	0.020110	63.21000	2.580800	0.022120
							2746	3828 3.42	22.6	LT275/70R18E	TCN	TZF	EJ487Q	17.17	30.6	48.29000	2.802900	0.016500	53.12000	3.083200	0.018150
							7372	8686 3.42	22.6	LT275/70R18E	TCP	TZF	EJ496Q	16.49	31.9	49.55000	2.968000	0.016480	54.51000	3.264800	0.018130
DJ7A81	RAM-Cummins: 2500 4X4			L6 - 4WD WC DG7 / DK1-4P DK3-4P		10000	8500	9000 3.42	22.6	LT275/70R18E	TCN	TZF	EJ487Q	18.23	30.5	55.30000	2.327400	0.022950	60.83000	2.560100	0.025250
							3190	3795 3.42	22.6	LT275/70R18E	TCP	TZF	EJ496Q	18.06	30.8	56.93000	2.330100	0.023110	62.62000	2.563100	0.025420
							8162	9081 3.42	22.5	LT285/60R20E	TEA	TZF	EJ642Q	18.05	30.8	57.97000	2.272200	0.023890	63.77000	2.499400	0.026280
DJ7A91	RAM-Cummins: 2500 4X4			L6 - 4WD WC DG7 / DK1-4P DK3-4P		10000	8000	9000 3.42	24.3	LT245/70R17E	TWD	TZF	02071T	18.55	30.0	51.56000	2.543400	0.018540	56.72000	2.797700	0.020390
							3029	3806 3.42	22.6	LT275/70R18E	TCP	TZF	EJ496Q	18.03	30.9	50.60000	2.736500	0.017670	55.66000	3.010200	0.019440
							7823	8912 3.42	22.5	LT285/60R20E	TEA	TZF	EJ642Q	18.02	30.9	51.57000	2.679900	0.018430	56.73000	2.947900	0.020270
DJ7A92	RAM-Cummins: 2500 4X4			L6 - 4WD WC DG7 / DK1-4P DK3-4P		10000	8000	9000 3.42	24.3	LT245/70R17E	TWD	TZF	02071T	18.24	30.5	55.76000	2.929000	0.010650	61.34000	3.221900	0.011720
							2965	3694 3.42	22.6	LT275/70R18E	TCN	TZF	EJ487Q	18.26	30.5	48.73000	3.026300	0.011430	53.80000	3.328900	0.012570
							7859	8929 3.42	22.6	LT275/70R18E	TCP	TZF	EJ496Q	17.73	31.4	58.74000	2.706700	0.016540	64.61000	2.977400	0.018190
DJ7A62	RAM-Cummins: 2500 4X4			L6 - 4X4 WC DG7 / DK1-4P DK3-4P		9900	7500	8500 3.42	24.3	LT245/70R17E	TWD	TZF	02071T	17.52	30.0	57.46000	2.346200	0.020110	63.21000	2.580800	0.022120
							2787	3776 3.42	22.6	LT275/70R18E	TCN	TZF	EJ487Q	17.17	30.6	48.29000	2.802900	0.016500	53.12000	3.083200	0.018150
							7420	8660 3.42	22.6	LT275/70R18E	TCP	TZF	EJ496Q	16.49	31.9	49.55000	2.968000	0.016480	54.51000	3.264800	0.018130
DJ7A81	RAM-Cummins: 2500 4X4			L6 - 4X4 WC DG7 / DK1-4P DK3-4P		9900	8500	9000 3.42	22.6	LT275/70R18E	TCN	TZF	EJ487Q	18.23	30.5	55.30000	2.327400	0.022950	60.83000	2.560100	0.025250
							3216	3758 3.42	22.6	LT275/70R18E	TCP	TZF	EJ496Q	18.06	30.8	56.93000	2.330100	0.023110	62.62000	2.563100	0.025420
							8201	9050 3.42	22.5	LT285/60R20E	TEA	TZF	EJ642Q	18.05	30.8	57.97000	2.272200	0.023890	63.77000	2.499400	0.026280
DJ7A91	RAM-Cummins: 2500 4X4			L6 - 4X4 WC DG7 / DK1-4P DK3-4P		9900	8000	9000 3.42	24.3	LT245/70R17E	TWD	TZF	02071T	18.55	30.0	51.56000	2.543400	0.018540	56.72000	2.797700	0.020390
							3014	3755 3.42	22.6	LT275/70R18E	TCP	TZF	EJ496Q	18.03	30.9	50.60000	2.736500	0.017670	55.66000	3.010200	0.019440
							7793	8847 3.42	22.5	LT285/60R20E	TEA	TZF	EJ642Q	18.02	30.9	51.57000	2.679900	0.018430	56.73000	2.947900	0.020270
DJ7A92	RAM-Cummins: 2500 4X4			L6 - 4X4 WC DG7 / DK1-4P DK3-4P		9900	8500	9000 3.42	24.3	LT245/70R17E	TWD	TZF	02071T	18.24	30.5	55.76000	2.929000	0.010650	61.34000	3.221900	0.011720
							3049	3638 3.42	22.6	LT275/70R18E	TCN	TZF	EJ487Q	18.26	30.5	48.73000	3.026300	0.011430	53.80000	3.328900	0.012570
							8035	8967 3.42	22.6	LT275/70R18E	TCP	TZF	EJ496Q	17.73	31.4	58.74000	2.706700	0.016540	64.61000	2.977400	0.018190
								3.42	22.5	LT285/60R20E	TEA	TZF	EJ642Q	17.72	31.4	59.74000	2.649600	0.017310	65.71000	2.914600	0.019040

Engine Code AA-400 Eng Displ: 6.7L (ETK) Evap Family - Evap Code:

Model	Carline Name	Model Qualifier	Opt	Trans. / Tr. Case	Torq. Conv./ Catalyst Identifier	GVW	LVW Drive	ALVW Drive	Axle / OTGR	N/V	Tire	Tire Mfr.	Tire Constr.Cd.	Elec Dyno Q.C.	Elec Dyno RLHP	Dyno Coeff 70A	Dyno Coeff 70B	Dyno Coeff 70C	Dyno Coeff 20A	Dyno Coeff 20B	Dyno Coeff 20C	
DJ7A93				L6 - RWD WC		9900	8500*	9000	3.42	24.3	LT245/70R17E	TWD	TZF	02071T	18.24	30.5	55.76000	2.929000	0.010650	61.34000	3.221900	0.011720
							3015	3650	3.42	22.6	LT275/70R18E	TCN	TZF	EJ487Q	18.26	30.5	48.73000	3.026300	0.011430	53.60000	3.328900	0.012570
							7917	8908	3.42	22.6	LT275/70R18E	TCP	TZF	EJ496Q	17.73	31.4	58.74000	2.706700	0.016340	64.61000	2.977400	0.018190
									3.42	22.5	LT285/60R20E	TEA	TZF	EJ642Q	17.72	31.4	59.74000	2.649600	0.017310	65.71000	2.914600	0.019040

Engine Code AM-100 Eng Displ: 6.7L (ETK) Evap Family - Evap Code:

Model	Carline Name	Model Qualifier	Opt	Trans. / Tr. Case	Torq. Conv./ Catalyst Identifier	GVW	LVW Drive	ALVW Drive	Axle / OTGR	N/V	Tire	Tire Mfr.	Tire Constr.Cd.	Elec Dyno Q.C.	Elec Dyno RLHP	Dyno Coeff 70A	Dyno Coeff 70B	Dyno Coeff 70C	Dyno Coeff 20A	Dyno Coeff 20B	Dyno Coeff 20C	
DJ2A62	RAM-Cummins: 2500 4X2			M6 - RWD DEG		10000	7500	8500	3.42	28.6	LT245/70R17E	TWD	TZF	02071T	22.58	23.3	55.83000	0.546000	0.036640	61.41000	0.600600	0.040300
							2719	3979	3.42	28.6	LT275/70R18E	TCN	TZF	EJ487Q	21.94	24.0	51.37000	0.794500	0.035500	56.51000	0.874000	0.039050
							6999	8499	3.42	28.6	LT275/70R18E	TCP	TZF	EJ496Q	21.27	24.7	53.95000	0.832400	0.035970	59.35000	0.915600	0.039570
DJ2A81	RAM-Cummins: 2500 4X2			M6 - RWD DEG		10000	8000	9000	3.42	28.6	LT275/70R18E	TCN	TZF	EJ487Q	23.19	24.0	57.24000	1.139500	0.026320	62.96000	1.253500	0.028950
							3160	3936	3.42	28.6	LT275/70R18E	TCP	TZF	EJ496Q	22.50	24.7	57.17000	1.088400	0.029600	62.89000	1.197200	0.032560
							7800	8900	3.42	28.4	LT285/60R20E	TEA	TZF	EJ642Q	22.49	24.8	58.16000	1.031500	0.030370	63.98000	1.134700	0.033410
DJ2A91	RAM-Cummins: 2500 4X2			M6 - RWD DEG		10000	7500	8500	3.42	28.6	LT245/70R17E	TWD	TZF	02071T	22.97	22.9	57.39000	0.580600	0.034100	63.13000	0.638700	0.037510
							2888	3939	3.42	28.6	LT275/70R18E	TCP	TZF	EJ496Q	22.76	23.1	54.98000	0.473100	0.037900	60.48000	0.520400	0.041690
							7346	8673	3.42	28.4	LT285/60R20E	TEA	TZF	EJ642Q	22.75	23.1	55.92000	0.417400	0.038650	61.51000	0.459100	0.042520
DJ2A92	RAM-Cummins: 2500 4X2			M6 - RWD DEG		10000	8000	9000*	3.42	28.6	LT245/70R17E	TWD	TZF	02071T	23.15	24.0	58.20000	0.859100	0.031680	64.02000	0.945000	0.034850
							2898	3803	3.42	28.6	LT275/70R18E	TCN	TZF	EJ487Q	22.62	24.6	55.13000	0.781700	0.036190	60.64000	0.859900	0.039810
							7479	8740	3.42	28.6	LT275/70R18E	TCP	TZF	EJ496Q	21.83	25.5	58.21000	0.952300	0.034190	64.03000	1.047500	0.037610
DJ2A62	RAM-Cummins: 2500 4X2			M6 - RWD DEG		9900	7500	8500	3.42	28.6	LT245/70R17E	TWD	TZF	02071T	22.58	23.3	55.83000	0.546000	0.036640	61.41000	0.600600	0.040300
							2722	3933	3.42	28.6	LT275/70R18E	TCN	TZF	EJ487Q	21.94	24.0	51.37000	0.794500	0.035500	56.51000	0.874000	0.039050
							7001	8450	3.42	28.6	LT275/70R18E	TCP	TZF	EJ496Q	21.27	24.7	53.95000	0.832400	0.035970	59.35000	0.915600	0.039570
DJ2A81	RAM-Cummins: 2500 4X2			M6 - RWD DEG		9900	8000	9000	3.42	28.6	LT275/70R18E	TCN	TZF	EJ487Q	23.19	24.0	57.24000	1.139500	0.026320	62.96000	1.253500	0.028950
							3150	3880	3.42	28.6	LT275/70R18E	TCP	TZF	EJ496Q	22.50	24.7	57.17000	1.088400	0.029600	62.89000	1.197200	0.032560
							7758	8829	3.42	28.4	LT285/60R20E	TEA	TZF	EJ642Q	22.49	24.8	58.16000	1.031500	0.030370	63.98000	1.134700	0.033410
DJ2A91	RAM-Cummins: 2500 4X2			M6 - RWD DEG		9900	7500	8500	3.42	28.6	LT245/70R17E	TWD	TZF	02071T	22.97	22.9	57.39000	0.580600	0.034100	63.13000	0.638700	0.037510
							2875	3882	3.42	28.6	LT275/70R18E	TCP	TZF	EJ496Q	22.76	23.1	54.98000	0.473100	0.037900	60.48000	0.520400	0.041690
							7313	8607	3.42	28.4	LT285/60R20E	TEA	TZF	EJ642Q	22.75	23.1	55.92000	0.417400	0.038650	61.51000	0.459100	0.042520
DJ2A92	RAM-Cummins: 2500 4X2			M6 - RWD DEG		9900	8000	9000	3.42	28.6	LT245/70R17E	TWD	TZF	02071T	23.15	24.0	58.20000	0.859100	0.031680	64.02000	0.945000	0.034850
							3004	3759	3.42	28.6	LT275/70R18E	TCN	TZF	EJ487Q	22.62	24.6	55.13000	0.781700	0.036190	60.64000	0.859900	0.039810
							7686	8793	3.42	28.6	LT275/70R18E	TCP	TZF	EJ496Q	21.83	25.5	58.21000	0.952300	0.034190	64.03000	1.047500	0.037610
			3.42	28.4	LT285/60R20E	TEA	TZF	EJ642Q	21.83	25.5	59.17000	0.895800	0.034950	65.09000	0.985400	0.038450						

Engine Code AM-200 Eng Displ: 6.7L (ETK) Evap Family - Evap Code:

Model	Carline Name	Model Qualifier	Opt	Trans. / Tr. Case	Torq. Conv./ Catalyst Identifier	GVW	LVW Drive	ALVW Drive	Axle / OTGR	N/V	Tire	Tire Mfr.	Tire Constr.Cd.	Elec Dyno Q.C.	Elec Dyno RLHP	Dyno Coeff 70A	Dyno Coeff 70B	Dyno Coeff 70C	Dyno Coeff 20A	Dyno Coeff 20B	Dyno Coeff 20C	
DJ7A62	RAM-Cummins: 2500 4X4			M6 - 4WD DEG / DK1-4P DK3-4P		10000	7500	8500	3.42	28.6	LT245/70R17E	TWD	TZF	02071T	18.89	27.8	64.93000	1.083300	0.035860	71.42000	1.191600	0.039450
							2746	3828	3.42	28.6	LT275/70R18E	TCN	TZF	EJ487Q	18.48	28.5	55.76000	1.540100	0.032250	61.34000	1.694100	0.035480
							7372	8686	3.42	28.6	LT275/70R18E	TCP	TZF	EJ496Q	17.70	29.7	57.02000	1.705200	0.032230	62.72000	1.875700	0.035450
									3.42	28.4	LT285/60R20E	TEA	TZF	EJ642Q	17.70	29.7	57.95000	1.649600	0.032980	63.75000	1.814600	0.036280
DJ7A81	RAM-Cummins: 2500 4X4			M6 - 4WD DEG / DK1-4P DK3-4P		10000	8500	9000	3.42	28.6	LT275/70R18E	TCN	TZF	EJ487Q	19.62	28.4	62.91000	1.065100	0.038700	69.20000	1.171600	0.042570
							3190	3795	3.42	28.6	LT275/70R18E	TCP	TZF	EJ496Q	19.42	28.7	64.48000	1.067600	0.038860	70.93000	1.174400	0.042750
							8162	9081	3.42	28.4	LT285/60R20E	TEA	TZF	EJ642Q	19.41	28.7	65.57000	1.009700	0.039650	72.13000	1.110700	0.043620
									3.42	28.6	LT245/70R17E	TWD	TZF	02071T	19.99	27.9	59.13000	1.280600	0.034290	65.04000	1.408700	0.037720
DJ7A91	RAM-Cummins: 2500 4X4			M6 - 4WD DEG / DK1-4P DK3-4P		10000	8000	9000	3.42	28.6	LT275/70R18E	TCN	TZF	EJ487Q	19.40	28.7	58.04000	1.473600	0.033420	63.84000	1.621000	0.036760
							3029	3806	3.42	28.6	LT275/70R18E	TCP	TZF	EJ496Q	19.39	28.7	59.10000	1.417100	0.034180	65.01000	1.558800	0.037600
							7823	8912	3.42	28.4	LT285/60R20E	TEA	TZF	EJ642Q	19.29	28.9	60.78000	1.558300	0.031090	66.86000	1.714100	0.034200
									3.42	28.6	LT275/70R18E	TCN	TZF	EJ487Q	19.29	28.9	60.78000	1.558300	0.031090	66.86000	1.714100	0.034200
DJ7A92	RAM-Cummins: 2500 4X4			M6 - 4WD DEG / DK1-4P DK3-4P		10000	8000	9000	3.42	28.6	LT275/70R18E	TCN	TZF	EJ487Q	19.65	28.3	56.35000	1.763900	0.027180	61.99000	1.940300	0.029900
							2965	3694	3.42	28.6	LT245/70R17E	TWD	TZF	02071T	19.62	28.4	63.38000	1.666200	0.026410	69.72000	1.832800	0.029050
							7859	8929	3.42	28.6	LT275/70R18E	TCP	TZF	EJ496Q	19.05	29.2	66.28000	1.444100	0.032290	72.91000	1.588500	0.035520
									3.42	28.4	LT285/60R20E	TEA	TZF	EJ642Q	19.03	29.2	67.34000	1.387000	0.033070	74.07000	1.525700	0.036380
DJ7A62	RAM-Cummins: 2500 4X4			M6 - 4X4 DEG / DK1-4P DK3-4P		9900	7500	8500	3.42	28.6	LT245/70R17E	TWD	TZF	02071T	18.89	27.8	64.93000	1.083300	0.035860	71.42000	1.191600	0.039450
							2787	3776	3.42	28.6	LT275/70R18E	TCN	TZF	EJ487Q	18.48	28.5	55.76000	1.540100	0.032250	61.34000	1.694100	0.035480
							7420	8660	3.42	28.6	LT275/70R18E	TCP	TZF	EJ496Q	17.70	29.7	57.02000	1.705200	0.032230	62.72000	1.875700	0.035450
						</																

FCA US LLC

Test Group: HCEXD06.78WV - Engine Code Index

Durability Group: Standard : HDV2 / L3ULEV570 Vehicle Class: HDV2 (10001-14000 GVW) / M7-MDV2 (GVW HCEXD06.78WV) 10001-14000

Engine Code: AA-100 - Ram 3500 RWD Pickup AUTO

Engine Code	RC #	Date	Engine	Carline	Price Class	Trans. Configuration	GVW Min.	GVW Max.	Test Wt. Min.	Test Wt. Max.	Drive Code	Sales Areas
AA-100	Original		6.7L/ETK	D2		L6 / Automatic L6 - Lockup/Automatic/6-speed	11100	14000	7500	8500	RWD	NAS

Engine Code: AA-200 - Ram 3500 4wd Pickup AUTO

Engine Code	RC #	Date	Engine	Carline	Price Class	Trans. Configuration	GVW Min.	GVW Max.	Test Wt. Min.	Test Wt. Max.	Drive Code	Sales Areas
AA-200	Original		6.7L/ETK	D2		L6 / Automatic L6 - Lockup/Automatic/6-speed	11500	14000	7500	9000	4WD	NAS

Engine Code: AA-300 - Ram 3500 Pickup 2WD AISIN

Engine Code	RC #	Date	Engine	Carline	Price Class	Trans. Configuration	GVW Min.	GVW Max.	Test Wt. Min.	Test Wt. Max.	Drive Code	Sales Areas
AA-300	Original		6.7L/ETK	D2		L6 / Automatic L6 - Lockup/Automatic/6-speed	11100	14000	7500	8500	RWD	NAS

Engine Code: AA-400 - Ram 3500 Pickup 4wd AISIN

Engine Code	RC #	Date	Engine	Carline	Price Class	Trans. Configuration	GVW Min.	GVW Max.	Test Wt. Min.	Test Wt. Max.	Drive Code	Sales Areas
AA-400	Original		6.7L/ETK	D2		L6 / Automatic L6 - Lockup/Automatic/6-speed	11500	14000	7500	9000	4WD	NAS

Engine Code: AM-100 - Ram 3500 Pickup 2wd MANUAL

Engine Code	RC #	Date	Engine	Carline	Price Class	Trans. Configuration	GVW Min.	GVW Max.	Test Wt. Min.	Test Wt. Max.	Drive Code	Sales Areas
AM-100	Original		6.7L/ETK	D2		M6/ Manual 6-speed M6 - Manual 6-speed	11100	14000	7500	8500	RWD	NAS

Engine Code: AM-200 - Ram 3500 Pickup 4wd MANUAL

Engine Code	RC #	Date	Engine	Carline	Price Class	Trans. Configuration	GVW Min.	GVW Max.	Test Wt. Min.	Test Wt. Max.	Drive Code	Sales Areas
AM-200	Original		6.7L/ETK	D2		M6/ Manual 6-speed M6 - Manual 6-speed	11500	14000	7500	9000	4WD	NAS

**Test Group: HCEXD06.78WV - No Engine Code Changes**

**Durability Group: HCEXDPDNNC01 Standard Fed: HDV2 Cal: L3ULEV570**

RC #	Submission Date	Description
No Results Found		

Section12-500 Engine Code Index



Cummins Incorporated

Section 12 - Vehicle and Test Parameters

Vehicle Parameters

Valves per cylinder

Engine  
All 6.7L - 4

Test Parameters

SIL usage:

See shift schedule table

Cooling fan configuration:

Models  
All - One fan center front

Addition Cooling:

Models  
All - None

Evaporative Testing Parameters:

Models  
Not Applicable

Fuel temperature Profile:

Models  
Not Applicable

Special Test Procedure:

Models  
All - none



December 07, 2015

Ms. Annette Hebert  
New Vehicle/Engine Programs Branch  
Haagen-Smit Laboratory  
P.O Box 8001  
9528 Telstar Avenue  
El Monte, California 91734-8001

Dear Ms. Hebert:

**Sub: 2017 Model Year MDV (10,001 – 14,000 lbs GVWR) Executive Order Request**

Cummins Inc requests a 2017 Certificate of Conformity for the 6.7L 50 State test group HCEXD06.78WV / Durability Group HCEXDPDNNC01. This test group is being certified to 50-State HDV standards and California LEV III ULEV570 emissions standard. Cummins Inc agrees that the exhaust emission standards listed below and in the application for certification apply to both certification and in-use vehicles according to the provisions of 40 CFR, Parts 86, as applicable. The FTP emission standards for this test group are as follows:

<u>Emission Standards</u>	<u>Useful Life</u>	<u>NMOG+NOX</u>	<u>CO</u>	<u>HCHO</u>	<u>PM</u>
LEVIII ULEV570	150K	0.570	7.3	0.006	0.06

If there are any questions regarding this submission, please contact me at (631) 455-7583 or Ravinder D Singh at (248) 576-5504 or Matt Psota at (812) 377-7899.

Sincerely,

*Bhushan Pawar*

Bhushan P Pawar  
Certification Engineer  
Cummins Inc.

bhushan.pawar@cummins.com

cc: Lucky Benedict



December 07, 2015

Mr. Joel Dalton  
Vehicle Programs Group  
Certification and Compliance Division  
U.S. Environmental Protection Agency  
2000 Traverwood Drive  
Ann Arbor, Michigan 48105

Dear Mr. Dalton:

**Sub: 2017 Model Year HDV (10,001 – 14,000 lbs GVWR) Certificate of Conformity Request**

Cummins Inc requests a 2017 Certificate of Conformity for the 6.7L 50 State test group HCEXD06.78WV / Durability Group HCEXDPDNNC01. This test group is being certified to 50-State HDV standards and California LEV III ULEV570 emissions. Cummins Inc. agrees that the exhaust emission standards listed below and in the application for certification apply to both certification and in-use vehicles according to the provisions of 40 CFR, Parts 86, as applicable. The FTP emission standards (g/mile) for this HDV2 test group are as follows:

<u>Emission Standards</u>	<u>Useful Life</u>	<u>NMOG</u>	<u>CO</u>	<u>NOX</u>	<u>HCHO</u>	<u>PM</u>
HDV2 (Federal)	120K	0.230	8.1	0.4	0.040	0.02
LEVIII ULEV570	150K	0.570 <sup>1</sup>	7.3	-	0.006	0.06

<sup>1</sup>ARB NOx + NMOG standard is 0.570 g/mile

Models are as follows:

<u>Division</u>	<u>Model</u>
Ram	3500 Pickup 2WD
Ram	3500 Pickup 4WD

If there are any questions regarding this submission, please contact me at (631) 455-7583 or Ravinder D Singh at (248) 576-5504 or Matt Psota at (812) 377-7899.

Sincerely,

*Bhushan Pawar*

Bhushan P Pawar  
Certification Engineer  
Cummins Inc.

bhushan.pawar@cummins.com

General Information

Date:

Process Code:

Manufacturer Code:

Manufacturer Name:

Manufacturer Contact

Name:

Email Address:

Phone:

Calendar Year complete application submitted to EPA:

Engine Family / Evaporative Family / Test Group:

Certificate Request Type (Industry Sector Code)

- On-Highway LDV, LTD, MDVPV, HDV Chassis Cert (Federal) (A, B, D, J, T, V)
- On-Highway HDE Dyno Cert (Federal) (E, H)
- On-Highway LD ICI, MDPV ICI, HDV ICI (A, B, D, J, T, V)
- On-Highway Motorcycle (C)
- On-Highway HDV Evap (F)
- On-Highway LDV, LTD, MDVPV, HDV Chassis Cert (California-Only) (A, B, D, J, T, V)
- On-Highway HDE Dyno Cert (California-Only) (E, H)
- Nonroad CI (L)
- Nonroad SI (B, S)
- Locomotive (G, K)
- All Nonroad Recreational, excluding Marine engines (X, Y)
- All Marine (Including IMO) (M, N, W)
- Component Certification for Evaporative Emissions (P)

IMO Name (Required for dual US/IMO Marine Only):

ICI VIN Number (Required for ICIs Only):

Do you qualify for a Reduced Fee (RF)?

What is the total number of vehicles, engines, or units covered?:

What is the aggregate total retail value of the vehicles, engines or units covered?:

Payment Information

Amount Owed:

Payment Type:

Comments:

**FCA US LLC**

**VEHICLE EMISSION CONTROL INFORMATION**

CONFORMS TO REGULATIONS:  
2017 MY

U.S. EPA: HDV OBD: CA OBD II FUEL: DIESEL

CALIFORNIA: LEV III ULEV 570 MDV OBD: CA OBD II FUEL: DIESEL

THIS VEHICLE IS CERTIFIED BY CUMMINS INC. FOR FCA US LLC

NO ADJUSTMENTS NEEDED

**47480 908AA**

GROUP: HCEXD06.78WV ENGINE: 6.7L

TC / DFI / CAC / DPF  
OC / EGR / EGRC  
SCRC / NH30C / RDQS / NOXS



**Certification Summary Information Report**

Date: 12/08/2015 06:41:27 PM

<b>Manufacturer</b>	Cummins Inc.	<b>Manufacturer Code</b>	CEX
<b>Test Group</b>	HCEXD06.78WV	<b>Evaporative/Refueling Family</b>	--
<b>Certificate Number</b>	--	<b>CARB Executive Order #</b>	--
<b>Certificate Issue Date</b>	--	<b>Certificate Revision Date</b>	--
<b>Certificate Effective Date</b>	--	<b>Conditional Certificate</b>	--
<b>CSI Revision #</b>	--	<b>CSI Submission/Revision Date</b>	12/08/2015 06:28:44 PM
<b>Model Year</b>	2017		

**Test Group Information**

<b>CSI Type</b>	New	<b>Running Change Reference Number</b>	--
<b>GHG Exempt Status</b>	Not Exempt		

**Drive Sources and Fuel(s)**

**Drive Source #1:** Combustion Engine

<b>Fuel</b>	<b>Basic Fuel Metering System</b>	<b>Lean Burn Strategy Indicator</b>
Diesel	Common Rail Direct Diesel Injection	--

**Hybrid Indicator**

Multiple Fuel Storage	No	Rechargeable Energy Storage System Indicator	--
Multiple Fuel Combustion	--	Off-board Charge Capable Indicator	--
Fuel Cell Indicator	--	EPA Vehicle Class	HDV2, M7
Federal Clean Fuel Vehicle	No	Federal Clean Fuel Vehicle Standard	--
Federal Clean Fuel Vehicle ILEV	No	California Partial Zero Emissions Vehicle Indicator	--
Durability Group Name	HCEXDPDNNC01	Durability Group Equivalency Factor	1.0
Reduced Fee Test Group	No	Certification Region Code(s)	FA, CA
Complies with HD GHG 2b/3 regulations?	Yes	CAP2000 Conditional Certificate?	N/A
Introduction into Commerce Date	--	Alternative Fuel Converter Certificate?	--
Independent Commercial Importer?	--	SFTP Tier 2 Composite CO Option	--
SFTP Federal Composite Compliance Identifier	Not Applicable		
SFTP LEV-III Composite Compliance Indicator	No		
OBD Compliance Type	CARB	OBD Demonstration Vehicle Test Group	HCEXD06.78WV
Test Group OBD Compliance Level	Partial - with deficiencies and penalty	Number of Test Group OBD Deficiencies	1
OBD Deficiencies Comments	--		
Mfr Test Group Comments	Carryover from MY2016. Weighted CH4 result = 0.010 g/mi vs. 0.05 g/mi std. Weighted N2O result = 0.036 g/mi vs. 0.05 g/mi FEL. Weighted CO2 result is 714 g/mi.		
Mfr Exhaust / Evap Standards Comments	--		

Test Group		HCEXD06.78WV		Evaporative/Refueling Family		--	
Models Covered by this Certificate							
Carline Manufacturer	Division	Carline	Certification Region Code(s)	Drive System	Trans - Type	- # of Gears	Trans - Lockup
Cummins Inc.	2 - Ram	955 - 3500 4X4	Federal	4-Wheel Drive	Automatic	6	Yes
Cummins Inc.	2 - Ram	955 - 3500 4X4	Federal	4-Wheel Drive	Manual	6	No
Cummins Inc.	2 - Ram	955 - 3500 4X4	California + CAA Section 177 states	4-Wheel Drive	Manual	6	No
Cummins Inc.	2 - Ram	950 - 3500 4X2	California + CAA Section 177 states	2-Wheel Drive, Rear	Manual	6	No
Cummins Inc.	2 - Ram	955 - 3500 4X4	California + CAA Section 177 states	4-Wheel Drive	Automatic	6	Yes
Cummins Inc.	2 - Ram	950 - 3500 4X2	Federal	2-Wheel Drive, Rear	Automatic	6	Yes
Cummins Inc.	2 - Ram	950 - 3500 4X2	California + CAA Section 177 states	2-Wheel Drive, Rear	Automatic	6	Yes
Cummins Inc.	2 - Ram	950 - 3500 4X2	Federal	2-Wheel Drive, Rear	Manual	6	No
<b>Engine Description</b>							
Hybrid Type	--			<b>Hybrid Description</b>		--	
Engine Type	4-Stroke Compression Ignition			<b>Mfr Engine Description</b>		6.7L Diesel	
Engine Block Arrangement	Inline			<b>Mfr Engine Block Arrangement Description</b>		--	
Camless Valvetrain Indicator	No			<b>Oil Viscosity/Classification</b>		SAE 5W-20	
Number of Cylinders/Rotors	6						
<b>After Treatment Device(s) (ATD)</b>							
ATD Number	ATD Type	ATD Precious Metal	Substrate Material	Substrate Construction			
1	Oxidation catalyst	Platinum + Paladium	Ceramic	Other			
2	Diesel Particulate Filter	Platinum	Ceramic	Other			
3	Selective Catalytic Reduction	Copper-Zeolite	Ceramic	Other			
4	Other	Platinum	Ceramic	Other			
<b>Mfr After Treatment Device (ATD) Comments</b>							
--							
<b>Direct Ozone Reduction (DOR) Device</b>							
Not Equipped							
<b>Mfr Emission Control Device Comments</b>							
--							

Test Group	HCEXD06.78WV	Evaporative/Refueling Family
<b>Engine Configuration Number 1</b>		
Engine Displacement (liters)	6.7	Engine Rated Horsepower 370
Number of Inlet Valves Per Cylinder	2	Number of Exhaust Valves Per Cylinder 2
Air Aspiration Method	Turbocharged	Number of Air Aspiration Devices 1
Air Aspiration Device Configuration	Single	Charge Air Cooler Type Air
Cylinder Deactivation	No	
Cylinder Deactivation Description	--	
Variable Valve Timing	No	
Variable Valve Timing System Description	--	
Variable Valve Lift?	No	
Variable Valve Lift System Description	--	
Number of Knock Sensors	0	Number of Air/Fuel Sensors 2
Air/Fuel Sensor # 1 Type	Nitrogen oxide	Air/Fuel Sensor # 1 Description
Air/Fuel Sensor # 2 Type	Nitrogen oxide	Air/Fuel Sensor # 2 Description
Mfr Air/Fuel Sensor Comments	--	
Exhaust Gas Recirculation	Yes	Cooled Exhaust Gas Recirculation Yes
EGR Type	Electronic/Electric	Exhaust Gas Recirculation Description if 'Other'
Closed Loop Air Injection System	No	
Air Injection Type	--	Air Injection Type if 'Other'
Mfr Engine Configuration Comments	370HP@2800 RPM/800 ft-lb@1600 RPM for Auto transmission	

Test Group	HCEXD06.78WV	Evaporative/Refueling Family
<b>Engine Configuration Number 2</b>		
Engine Displacement (liters)	6.7	Engine Rated Horsepower 350
Number of Inlet Valves Per Cylinder	2	Number of Exhaust Valves Per Cylinder 2
Air Aspiration Method	Turbocharged	Number of Air Aspiration Devices 1
Air Aspiration Device Configuration	Single	Charge Air Cooler Type Air
Cylinder Deactivation	No	
Cylinder Deactivation Description	--	
Variable Valve Timing	No	
Variable Valve Timing System Description	--	
Variable Valve Lift?	No	
Variable Valve Lift System Description	--	
Number of Knock Sensors	0	Number of Air/Fuel Sensors 2
Air/Fuel Sensor # 1 Type	Nitrogen oxide	Air/Fuel Sensor # 1 Description
Air/Fuel Sensor # 2 Type	Nitrogen oxide	Air/Fuel Sensor # 2 Description
Mfr. Air/Fuel Sensor Comments	--	
Exhaust Gas Recirculation	Yes	Cooled Exhaust Gas Recirculation Yes
EGR Type	Electronic/Electric	Exhaust Gas Recirculation Description if 'Other' --
Closed Loop Air Injection System	--	
Air Injection Type	--	Air Injection Type if 'Other' --
Mfr. Engine Configuration Comments	350HP@2800 RPM/660 ft-lb@1400 RPM for Manual transmission	

<b>Test Group</b>	HCEXD06.78WV	Evaporative/Refueling Family	--
<b>Engine Configuration Number 3</b>			
Engine Displacement (liters)	6.7	Engine Rated Horsepower	385
Number of Inlet Valves Per Cylinder	2	Number of Exhaust Valves Per Cylinder	2
Air Aspiration Method	Turbocharged	Number of Air Aspiration Devices	1
Air Aspiration Device Configuration	Single	Charge Air Cooler Type	Air
Cylinder Deactivation	No		
Cylinder Deactivation Description	--		
Variable Valve Timing	No		
Variable Valve Timing System Description	--		
Variable Valve Lift?	No		
Variable Valve Lift System Description	--		
Number of Knock Sensors	0	Number of Air/Fuel Sensors	2
Air/Fuel Sensor # 1 Type	Nitrogen oxide	Air/Fuel Sensor # 1 Description	--
Air/Fuel Sensor # 2 Type	Nitrogen oxide	Air/Fuel Sensor # 2 Description	--
Mfr Air/Fuel Sensor Comments	--		
Exhaust Gas Recirculation	Yes	Cooled Exhaust Gas Recirculation	Yes
EGR Type	Electronic/Electric	Exhaust Gas Recirculation Description if 'Other'	--
Closed Loop Air Injection System	No		
Air Injection Type	Not Applicable	Air Injection Type if 'Other'	--
Mfr Engine Configuration Comments	385 HP@2800 RPM/850 ft-lb@1700 RPM for Auto transmission		

**Official Test Numbers**

Test Group Fuel	FTP	US06	SC03	Cold CO	Highway	EPA City Litmus Value	EPA City Litmus Threshold	EPA Highway Litmus Value	EPA Highway Litmus Threshold	CREE Weighting Factor
Diesel	GCEX10036625	--	--	--	GCEX10036626	--	9.5	--	13.1	--

**Official Charge Depleting Test Numbers**

Test Group Fuel	UDDS	Highway
Diesel	--	--

**Certification Summary Information Report**

<b>Test Group</b>	HCEXD06.78WV		Evaporative/Refueling Family		--
<b>Emission Data Vehicle Information</b>					
Vehicle ID / Configuration	6292 / 2	Manufacturer Vehicle Configuration Number		0	
Original Test Group Name	GCEXD06.78WV	Original Evaporative/Refueling Family		--	
Original Test Vehicle Model Year	2016				
<b>Vehicle Model</b>					
Represented Test Vehicle Make	RAM	Represented Test Vehicle Model		RAM 3500	
<b>Leak Family Details</b>					
Leak Family Identifier	--	Leak Family Name		--	
<b>Drive Sources and Fuel System Details</b>					
<b>Drive Source and Fuel#</b>		<b>Drive Source</b>		<b>Fuel</b>	
1		Combustion Engine		Diesel	
Hybrid Indicator	No				
Multiple Fuel Storage	--	Multiple Fuel Combustion		--	
Fuel Cell Indicator	--	Rechargeable Energy Storage System Indicator		--	
Rechargeable Energy Storage System	--	Rechargeable Energy Storage System, if 'Other'		--	
Off-board charge Capable Indicator	--				
Odometer Correction -- Initial	28808	Odometer Correction Factor		1	
Odometer Correction Sign	-	- = System Miles is equal to (Test odometer reading - Initial system miles) * Correction factor			
Odometer Correction Units	Miles				
Engine Code	AA-400	Rated Horsepower		385	
Displacement (liters)	6.7				
Air Aspiration Method	Turbocharged	Air Aspiration Method, if 'Other'		Single	
Number of Air Aspiration Devices	1	Air Aspiration Device Configuration		2-Wheel Drive, Rear	
Charge Air Cooler Type	Air	Drive Mode While Testing		4,000 (mi)	
Shift Indicator Light Usage	Not equipped	Aged Emission Components		11500	
Curb Weight (lbs)	8739	Equivalent Test Weight (pounds)		27.9	
GVWR (lbs)	14000	N/V Ratio			
Axle Ratio	4.1	# of Transmission Gears		6	
Transmission Type	Automatic	Creep Gear		No	
Transmission Lockup	No				
<b>Dynamometer Coefficients:</b>					
<b>Target Coefficients</b>			<b>Set Coefficients</b>		
Coefficient Category	A (lbf)	B (lbf/mph)**2	C (lbf/mph**2)	A (lbf)	B (lbf/mph)
City/Highway/Evap	73.71	2.4846	0.003006	13.3	2.52
					0.02764
					27.4
<b>Emission Control Device Comments</b>					
OC+DPF+SCR+AMOX					

**Certification Summary Information Report**

Date: 12/08/2015 06:41:27 PM

Test Group	HCEXD06.78WV	Evaporative/Refueling Family	--
Manufacturer Test Vehicle Comments	--		

**Certification Summary Information Report**

<b>Test Group</b>	HCEXD06.78WV	<b>Evaporative/Refueling Family</b>	--
<b>Test #</b>	<b>GCEX10036625</b>	<b>Test Procedure</b>	<b>2 - CVS 75 and later (w/o can. load)</b>
<b>Exhaust Test # for this Evap Test</b>	--	<b>Test Fuel Type</b>	19 - Federal Cert Diesel 7-15 PPM Sulfur
<b>Test Date</b>	04/30/2015	<b>Fuel</b>	Diesel
<b>Fuel Batch ID</b>	9942	<b>Fuel Calibration Number</b>	2
<b>Vehicle Class</b>	HDV2 (Federal HD chassis Class 3 GVW 10001-14000), MDV7 (Cal. LEV 2/3 MDV GVW 10001-14000)	<b>DF Type</b>	Mfr. Determined
<b>Verify Test Lab ID</b>	CTC	<b>Odometer Units</b>	M
<b>E10 Evaporative Test Measurement Method</b>	--	<b>Diesel Adjustment Factor Usage</b>	U
<b>Test Start Odometer Reading</b>	28887	<b>Road Speed Fan Usage</b>	No
<b>4WD Test Dyno</b>	No		
<b>State of Charge Delta</b>	No		
<b>Drive Cycle Speed Tolerance Criteria</b>	Used Part 86 (+/- 2 mph, +/- 1 sec)		
<b>Test Results</b>			
<b>Test Result Name</b>	<b>Unrounded Test Result</b>	<b>Verify Calculated FE Equivalent Value (miles per gallon)</b>	
METHANE (CH4 - Methane)	0.0152	--	
CO (Carbon Monoxide)	0.04116	--	
DT-ASCR (Drive Trace Absolute Speed Change Rating)	-0.643	--	
DT-EER (Drive Trace Energy Economy Rating)	-0.528	--	
DT-IWRR (Drive Trace Inertia Work Ratio Rating)	0	--	
MFR FE (Manufacturer Fuel Economy)	11.9559	11.9559	
NOX (Nitrogen Oxide)	0.15043	--	
N2O (Nitrous Oxide)	0.046	--	
HC-NM (Non-methane Hydrocarbon)	0.00232	--	
NMIOG (Non-methane organic gas (California))	0.00232	--	
PM (Particulate Matter)	0.00024	--	
HC-TOTAL (Total Hydrocarbon)	0.01795	--	
<b>Test Result Name</b>	<b>Unrounded Test Result</b>	<b>Verify Calculated CREE/OPT-CREE</b>	
<b>Carbon-Related Exhaust Emissions</b>	851	851	
<b>Test Result Name</b>	<b>Unrounded Test Result</b>	<b>Verify Calculated CO2</b>	
<b>Carbon dioxide</b>	850.6	--	
<b>Manufacturer Test Comments</b>	DT-IWRR is currently not calculated by the test lab		

Certification Summary Information Report

Test Group		Evaporative/Refueling Family										
Certification Region	Useful Life	Standard Level	Emission Name	Rounded Result	RAF	NMOG/NM HC Ratio	Diesel Adjustment Factor	Add DF	Mult DF	Certification Level	Standard	Pass/Fail
Fed	120,000 miles	HDV2 (Federal HD chassis Class 3 GVW 10001-14000)	CO	0.04	--	--	0.0013 UP	0.0536	--	0.1	8.1	Pass
Fed	120,000 miles	HDV2 (Federal HD chassis Class 3 GVW 10001-14000)	CO2	851	--	--	0 UP	0	--	851	--	--
Fed	120,000 miles	HDV2 (Federal HD chassis Class 3 GVW 10001-14000)	HC-NM	0.0023	--	--	0.0005 UP	0.0012	--	0.004	0.230	Pass
Fed	120,000 miles	HDV2 (Federal HD chassis Class 3 GVW 10001-14000)	NOX	0.15	--	--	0.0118 UP	0	--	0.2	0.4	Pass
Fed	120,000 miles	HDV2 (Federal HD chassis Class 3 GVW 10001-14000)	PM	0	--	--	0 UP	0	--	0	0.02	Pass
CA	150,000 miles	California LEV-III ULEV570	CO	0.04	--	--	0.0013 UP	0.0675	--	0.1	7.3	Pass
CA	150,000 miles	California LEV-III ULEV570	NMOG	0.0023	--	--	0 UP	0	--	0.002	999.999	Pass
CA	150,000 miles	California LEV-III ULEV570	NMOG+NOX	0.1527	--	--	0.0123 UP	--	--	0.153	0.570	Pass
CA	150,000 miles	California LEV-III ULEV570	NOX	0.1504	--	--	0 UP	0	--	0.15	999.999	Pass
CA	150,000 miles	California LEV-III ULEV570	PM	0	--	--	0 UP	0	--	0	0.06	Pass

NOTE: For Non-charge depleting tests, the Rounded Result for CO2 Emission name is a Verify-calculated value.

**Certification Summary Information Report**

<b>Test Group</b>	HCEXD06.78WV		Evaporative/Refueling Family	--
<b>Test #</b>	<b>GCEX10036626</b>		<b>Test Procedure</b>	<b>3 - HWFE</b>
<b>Exhaust Test # for this Evap Test</b>	--		<b>Test Fuel Type</b>	19 - Federal Cert Diesel 7-15 PPM Sulfur
<b>Test Date</b>	04/30/2015		<b>Fuel</b>	Diesel
<b>Fuel Batch ID</b>	9942		<b>Fuel Calibration Number</b>	2
<b>Vehicle Class</b>	MDV7 (Cal. LEV 2/3 MDV GVW 10001-14000)		<b>DF Type</b>	Mfr. Determined
<b>Verify Test Lab ID</b>	CTC			
<b>E10 Evaporative Test Measurement Method</b>	--		<b>Odometer Units</b>	M
<b>Test Start Odometer Reading</b>	28898		<b>Diesel Adjustment Factor Usage</b>	U
<b>4WD Test Dyno</b>	No			
<b>State of Charge Delta</b>	--		<b>Road Speed Fan Usage</b>	No
<b>Drive Cycle Speed Tolerance Criteria</b>	Used Part 86 (+/- 2 mph, +/- 1 sec)			
<b>Test Results</b>				
<b>Test Result Name</b>	<b>Unrounded Test Result</b>	<b>Verify Calculated FE Equivalent Value (miles per gallon)</b>		
METHANE (CH4 - Methane)	0.00379	--		
CO (Carbon Monoxide)	0.00598	--		
DT-ASCR (Drive Trace Absolute Speed Change Rating)	-3.671	--		
DT-EER (Drive Trace Energy Economy Rating)	-0.209	--		
DT-IWRR (Drive Trace Inertia Work Ratio Rating)	0	--		
MFR FE (Manufacturer Fuel Economy)	18.6021	18.6021		
NOX (Nitrogen Oxide)	0.00413	--		
N2O (Nitrous Oxide)	0.023	--		
HC-NM (Non-methane Hydrocarbon)	0	--		
NMOG (Non-methane organic gas (California))	0	--		
HC-TOTAL (Total Hydrocarbon)	0.00432	--		
<b>Test Result Name</b>	<b>Unrounded Test Result</b>	<b>Verify Calculated CREE/OPT-CREE</b>		
Carbon-Related Exhaust Emissions	548	547		
<b>Test Result Name</b>	<b>Unrounded Test Result</b>	<b>Verify Calculated CO2</b>		
Carbon dioxide	547	--		
<b>Manufacturer Test Comments</b>	DT-IWRR is currently not calculated by test lab			

**Certification Summary Information Report**

Test Group		Evaporative/Refueling Family										
HCEXD06.78WV		--										
Certification Region	Useful Life	Standard Level	Emission Name	Rounded Result	RAF	NMOG/NM HC Ratio	Diesel Adjustment Factor	Add DF	Mult DF	Certification Level	Standard	Pass/Fail
CA	150,000 miles	California LEV-III ULEV570	CO2	547	--	--	0 UP	0	--	547	--	--
CA	150,000 miles	California LEV-III ULEV570	NMOG	0	--	--	0 UP	0	--	0	999.999	Pass
CA	150,000 miles	California LEV-III ULEV570	NMOG+NOX	0.0041	--	--	0.0038 UP	--	--	0.004	0.570	Pass
CA	150,000 miles	California LEV-III ULEV570	NOX	0.0041	--	--	0 UP	0	--	0.004	999.999	Pass

**NOTE: For Non-charge depleting tests, the Rounded Result for CO2 Emission name is a Verify-calculated value.**

**Fuel Properties**

<b>Fuel Batch ID</b>	<b>9942</b>	<b>Fuel Calibration Number</b>	<b>2</b>
<b>Test Fuel Type</b>	19 - Federal Cert Diesel 7-15 PPM Sulfur	<b>Fuel Batch Calibration Date</b>	12/05/2013
<b>Fuel Batch Calibration Effective Date</b>	12/05/2013	<b>Fuel Batch Calibration Ineffective Date</b>	--
<b>Carbon Weight Fraction NMHC</b>	--	<b>Carbon Weight Fraction HC</b>	--
<b>Exhaust Carbon Weight Fraction</b>	--	<b>Fuel Methanol Volume Fraction</b>	--
<b>Fuel Density (grams/cubic ft)</b>	--	<b>Fuel Specific Gravity</b>	--
<b>Fuel Net Heating Value (BTU / lb)</b>	--	<b>Fuel Blend Carbon Weight Fraction</b>	--
<b>Weight Fraction CO2</b>	--		

Test Group		Evaporative/Refueling Family										
HCEXD06.78WV		--										
Exhaust Standards												
Cert Region	Vehicle Class	Fuel	Useful Life	Emission Name	Rounded Result	RAF	NMOG / NMHC	Upward Diesel Adjustment Factor	Downward Diesel Adjustment Factor	Mult DF	Std	
California + CAA Section 177 states	MDV7 (Cal. LEV 2/3 MDV GVW 10001-14000)	Diesel	150,000 miles	CO	--	--	--	0.0013	0	--	0.0675	7.3
			150,000 miles	HCHO	--	--	--	0	0	--	0	0.006
			150,000 miles	NMOG	--	--	--	0	0	--	0	999.999
			150,000 miles	NMOG+NOX	--	--	--	0.0123	0	--	0.0015	0.570
			150,000 miles	NOX	--	--	--	0	0	--	0	999.999
			150,000 miles	PM	--	--	--	0	0	--	0	0.06
California + CAA Section 177 states												
Cert Region	Vehicle Class	Fuel	Useful Life	Emission Name	Rounded Result	RAF	NMOG / NMHC <td>Upward Diesel Adjustment Factor</td> <td>Downward Diesel Adjustment Factor</td> <td>Mult DF</td> <td>Std</td>	Upward Diesel Adjustment Factor	Downward Diesel Adjustment Factor	Mult DF	Std	
California + CAA Section 177 states	MDV7 (Cal. LEV 2/3 MDV GVW 10001-14000)	Diesel	150,000 miles	CO2	--	--	--	0	0	--	0	999.999
			150,000 miles	NMOG	--	--	--	0	0	--	0	999.999
			150,000 miles	NMOG+NOX	--	--	--	0.0038	0	--	0.0015	0.570
			150,000 miles	NOX	--	--	--	0	0	--	0	999.999
California LEV-III ULEV570 HWFE												

**Certification Summary Information Report**

Test Group		Evaporative/Refueling Family									
Cert Region		Federal		HCEXD06.78WV		Cert/In-Use Code		Cert		--	
Vehicle Class		HDV2 (Federal HD chassis Class 3 10001-14000)		HDV2 (Federal HD chassis Class 3 GVV 10001-14000)		Standard Level		HDV2 (Federal HD chassis Class 3 GVV 10001-14000)		--	
Fuel		Diesel		Diesel		Test Procedure		CVS 75 and later (w/o can. load)		--	
Useful Life	Emission Name	Rounded Result	RAF	NMOG/ NMHC	Upward Diesel Adjustment Factor	Downward Diesel Adjustment Factor	Mult DF	Add DF	Std		
120,000 miles	CO	--	--	--	0.0013	0	--	0.0536	8.1		
120,000 miles	CO2	--	--	--	0	0	--	0	999.999		
120,000 miles	HC-NM	--	--	--	0.0005	0	--	0.0012	0.230		
120,000 miles	NOX	--	--	--	0.0118	0	--	0	0.4		
120,000 miles	PM	--	--	--	0	0	--	0	0.02		

Test Group	HCEXD06.78WV	Evaporative/Refueling Family	--
<b>Glossary</b>			
<b>Useful Life</b>			
4	4,000 miles	120	120,000 miles
50	50,000 miles	150	150,000 miles
100	100,000 miles		
<b>Emission Name</b>			
HC-TOTAL	Total Hydrocarbon	METHANOL	CH3OH - Methanol
CO	Carbon Monoxide	N2O	Nitrous Oxide
CO2	Carbon dioxide	SPITBACK	Spitback Hydrocarbon in grams
CREE	Carbon-Related Exhaust Emissions	AMP-HRS	Integrated Amp-hours
OPT-CREE	Optional Carbon-Related Exhaust Emissions	START-SOC	System Start State of Charge Watt-hours
NOX	Nitrogen Oxide	END-SOC	System End State of Charge Watt-hours
PM	Particulate Matter	ACT-DISTANCE	Actual Distance Driven (miles)
PM-COMP	SFTP Composite Particulate Matter	AS-VOLT	Average System Voltage
HC-NM	Non-methane Hydrocarbon	CO2 BAG 1	Bag 1 Carbon Dioxide
OMHCE	Organic material Hydrocarbon Equivalent	CO2 BAG 2	Bag 2 Carbon Dioxide
OMNMHCE	Organic material non-methane HC equivalent	CO2 BAG 3	Bag 3 Carbon Dioxide
NMOG	Non-methane organic gas (California)	CO2 BAG 4	Bag 4 Carbon Dioxide
HCHO	Formaldehyde	NMOG+NOX	Non-methane organic gases plus Nitrogen Oxides
H3C2HO	Acetaldehyde	NMOG+NOX-COMP	SFTP Composite Non-methane Organic Gases + Nitrogen Oxides
HC-NM+NOX	SFTP Non-methane Hydrocarbon + Nitrogen Oxides for US06 or SC03	DT-IWRR	Drive Trace Inertia Work Ratio Rating
HC-NM+NOX-COMP	SFTP Composite Non-methane Hydrocarbon + Nitrogen Oxides	DT-ASCR	Drive Trace Absolute Speed Change Rating
CO-COMP	SFTP Composite Carbon Monoxide	DT-EER	Drive Trace Energy Economy Rating
ETHANOL	C2H5OH - Ethanol	COMB-CREE	Combined Carbon-Related Exhaust Emissions
FE BAG 1	Bag 1 Fuel Economy	COMB-OPT-CREE	Combined Optional Carbon-Related Exhaust Emissions
FE BAG 2	Bag 2 Fuel Economy	HC-TOTAL-EQUIV	Total Hydrocarbon equivalent - Evap only
FE BAG 3	Bag 3 Fuel Economy	METHANE-COMB	Combined CH4 for HD 2b/3 vehicles only
FE BAG 4	Bag 4 Fuel Economy	N2O-COMB	Combined Nitrous Oxide for HD 2b/3 vehicles only
MFR FE	Manufacturer Fuel Economy	LEAK-DIA	Effective Leak Diameter (inches)
HC	Hydrocarbon for Running Loss and ORVR	LEAK-GAS CAP	Gas Cap Leakage (cc/min)
METHANE	CH4 - Methane		
<b>Certification Region</b>			
CA	California + CAA Section 177 states	FA	Federal
<b>Exhaust Emission Standard Level</b>			
B1	Federal Tier 2 Bin 1	L3ULEV340	California LEV-III ULEV340
B2	Federal Tier 2 Bin 2	L3ULEV250	California LEV-III ULEV250
B3	Federal Tier 2 Bin 3	L3ULEV200	California LEV-III ULEV200
B4	Federal Tier 2 Bin 4	L3SULEV170	California LEV-III SULEV170
B5	Federal Tier 2 Bin 5	L3SULEV150	California LEV-III SULEV150

**Certification Summary Information Report**

Test Group	HCEXD06.78WV	Evaporative/Refueling Family	--
B6	Federal Tier 2 Bin 6	L3LEV630	California LEV-III LEV630
B7	Federal Tier 2 Bin 7	L3ULEV570	California LEV-III ULEV570
B8	Federal Tier 2 Bin 8	L3ULEV400	California LEV-III ULEV400
B9	Federal Tier 2 Bin 9	L3ULEV270	California LEV-III ULEV270
B10	Federal Tier 2 Bin 10	L3SULEV230	California LEV-III SULEV230
B11	Federal Tier 2 Bin 11	L3SULEV200	California LEV-III SULEV200
HDV1	HDV1 (Federal HD chassis Class 2b GVW 8501-10000)	T3B160	Federal Tier 3 Bin 160
HDV2	HDV2 (Federal HD chassis Class 3 GVW 10001-14000)	T3B125	Federal Tier 3 Bin 125
L2	California LEV-II LEV	T3B110	Federal Tier 3 Transitional Bin 110
L2OP	California LEV-II LEV Optional	T3B85	Federal Tier 3 Transitional Bin 85
U2	California LEV-II ULEV	T3SULEV30	Federal Tier 3 Transitional LEV-II SULEV30 Carryover
S2	California LEV-II SULEV	T3B70	Federal Tier 3 Bin 70
ZEV	California ZEV	T3B50	Federal Tier 3 Bin 50
OT	Other	T3B30	Federal Tier 3 Bin 30
T1	Federal Tier 1	T3B20	Federal Tier 3 Bin 20
PZEV	California PZEV	T3B0	Federal Tier 3 Bin 0
L2LEV160	California LEV-II LEV160	HDV2B395	Federal Tier 3 HD Class 2b Transitional Bin 395
L2ULEV125	California LEV-II ULEV125	HDV2B340	Federal Tier 3 HD Class 2b Transitional Bin 340
L2SULEV30	California LEV-II SULEV30	HDV2B250	Federal Tier 3 HD Class 2b Bin 250
L2LEV395	California LEV-II LEV395	HDV2B200	Federal Tier 3 HD Class 2b Bin 200
L2ULEV340	California LEV-II ULEV340	HDV2B170	Federal Tier 3 HD Class 2b Bin 170
L2LEV630	California LEV-II LEV630	HDV2B150	Federal Tier 3 HD Class 2b Bin 150
L2ULEV570	California LEV-II ULEV570	HDV2B0	Federal Tier 3 HD Class 2b Bin 0
L3LEV160	California LEV-III LEV160	HDV3B630	Federal Tier 3 HD Class 3 Transitional Bin 630
L3ULEV125	California LEV-III ULEV125	HDV3B570	Federal Tier 3 HD Class 3 Transitional Bin 570
L3ULEV70	California LEV-III ULEV70	HDV3B400	Federal Tier 3 HD Class 3 Bin 400
L3ULEV50	California LEV-III ULEV50	HDV3B270	Federal Tier 3 HD Class 3 Bin 270
L3SULEV30	California LEV-III SULEV30	HDV3B230	Federal Tier 3 HD Class 3 Bin 230
L3SULEV20	California LEV-III SULEV20	HDV3B200	Federal Tier 3 HD Class 3 Bin 200
L3LEV395	California LEV-III LEV395	HDV3B0	Federal Tier 3 HD Class 3 Bin 0
<b>Transmission Type Code</b>			
AMS	Automated Manual-Selectable (e.g. Automated Manual with paddles)	M	Manual
A	Automatic	OT	Other
AM	Automated Manual	SA	Semi-Automatic
CVT	Continuously Variable	SCV	Selectable Continuously Variable (e.g. CVT with paddles)
<b>Drive System Code</b>			
4	4-Wheel Drive	P	Part-time 4-Wheel Drive
F	2-Wheel Drive, Front	A	All Wheel Drive
R	2-Wheel Drive, Rear		

**Certification Summary Information Report**

Test Group	HCEXD06.78WV	Evaporative/Refueling Family	--
<b>Additional Terms and Acronyms</b>			
AFC	Alternative Fuel Converter	ICI	Independent Commercial Importer
CSI	Certificate Summary Information	ORVR	Onboard Refueling Vapor Recovery
DF	Deterioration Factor	SIL	Shift Indicator Light
Evap	Evaporation, Evaporative	Trans	Transmission

# Exhibit 51

Chrysler Group LLC

Application for Certification  
Part 1

2012 Model Year

Durability Group: CCRXGPGNNF09  
Evaporative Familie(s): CCRXR0145PM0

Test Group: CCRXV03.6VPO

Four Stroke, Otto Cycle, Gasoline Fueled, Ported F I

Ceramic Monolith Pd/Rh Close Coupled Catalyst

3.6 Liter V-6  
PC/LDV

Applicable Standards:  
Federal BIN4

California CCV (counted as ULEVII)

Vehicles Covered:  
Dodge Charger RWD  
Chrysler 300 RWD

Vehicles Run:  
VID1 config., Vehicle ID K1LDD1889 (exh)  
VID2 config., Vehicle ID K1LDD1496 (evap)

For Questions, Ellis D. Jefferson 248.576.5463 Steve R. Mazure 248. 576. 5471

All testing completed – Unconditional Cert request

Chrysler Group LLC

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Chrysler Group LLC

**Section 1 Correspondence and Communication**

For questions dealing with the Part I application for this Test Group contact:

Name	Title	Responsibility	Phone	E-mail	Fax
Ellis D. Jefferson	Certification Engineer	Application Submission	248.576.5463	edj@chrysler.com	248.576.7928
Steve R. Mazure	Manager - Certification Team	Certification Programs	248.576.5471	srm2@chrysler.com	248.576.7928

For a complete listing of all Correspondence and Communication Information for Chrysler Group LLC, please see:  
 "Common Section Book - Section 1 Correspondence and Communication " Page Common Part 1 Section 1.

**Section 2 Durability Group Description**

Durability Group Name: CCRXGPGNINF09

For a complete description of the Durability Group Description please see:  
 "Common Section Book - Section 2. Durability Group Description " Page Common Part 1 Section 2.

**Section 3 Evaporative/Refueling Family Description**

Evaporative/Refueling Family Name(s): CCRXR0145PM0

For a complete description of the Evaporative/Refueling Family Description please see:  
 "Common Section Book - Section 3. Evaporative/Refueling Family Description " Page Common Part 1 Section 3.

For ORVR Agency Review Sign Off please see:  
 "Common Section Book - Section 16. Agency Approvals " Page Common Part 1 Section 16.

Chrysler Group LLC

**Section 4 Durability Procedure Description**

Durability Group: CCRXGPGNMF09

Durability Provision Statement:

Based on Chrysler Group LLC's good engineering judgment, all the vehicles described in this Application for Certification comply with all applicable intermediate and full useful life standards.

For a complete description of the Durability Procedure please see:

"Common Section Book - Section 16. Durability Procedure Description " Common Part 1 Section 16.

Indicate if aged components were used.

Aged Components were used

Indicate whether additive or multiplicative DF's were used.

N/A

List all DF's calculated at both full and intermediate useful life and applicable standards (test results and vehicle description).

EPA - Reference VERIFY (hard copies of all VERIFY Reports retained in-house)  
 CARB - Reference Cert Review Sheet

Evaporative/Refueling Family: CCRXR0145PM0

For a complete description of the Durability Procedure please see:

"Common Section Book - Section 16. Durability Procedure Description " Common Part 1 Section 16.

Indicate if aged components were used.

Yes - Bench Aging Additive

Indicate whether additive or multiplicative DF's were used.  
 List all DF's calculated at both full and intermediate useful life and applicable standards (test results and vehicle description).

EPA - Reference VERIFY (hard copies of all VERIFY Reports retained in-house)  
 CARB - Reference Cert Review Sheet

**Section 5 Test Group Description**

Test Group Name:

CCRXV03.6VP0

Engine displacements covered:

3.6 Liter

Arrangement and number of cylinders:

V-6

Vehicle classes covered:

PC/LDV

Emission standards class:

BIN4 (CCV in California)

AB71 Qualified Vehicles:

No

Chrysler Group LLC

**Section 8 Emission Testing Waiver Statements**

Below is a list clearly identifying the standards applicable to this Test Group for which emission testing was not performed. All Chrysler Group LLC applicable vehicles will conform with the emission standards which emission data is not being provided, as allowed under 40 CFR 86.1829-01 or 86.1810-01.

Particulates	CST
NMOG	CAL I/M
HCHO	ASM

**Section 9 OBD Description**

For a complete description of the OBD Description please see: "Common Part 1 Section 16. OBD Description "

For OBD Agency Approvals please see: "Common Part 1 Section 16. Agency Approvals"

OBD Demonstration Compliance Statement: This Test Group meets the full intent of both the Clean Air Act as amended in 1990, section 202(m), and the applicable federal OBD regulations contained in 40 CFR §86.005-17 and 40 CFR §86.1806-01, including a reference to those provisions pertaining to deficiencies in the limited instances where an OBD II system that complies with 1968.2 does not comply with all the requirements of section 1968.1.

**Section 10 Description of Alternate - Fueled Vehicles**

Not Applicable to this Test Group

**Chrysler Group LLC****Test Group - CCRXV03.6VP0**

EPA COMP CODE	AA-600	AA-700	AA-800
E10:Powertrain Control Module			
E11:Transmission Control Module			
E17:ABS Control Module			
F03:Plastic Fuel Tank (Partial)			
F04:Plastic Fuel Tank Assembly			
F05:Fuel Pump			
F10:Fuel Level Sending Unit			
F21:Fuel Tank Rollover Valve			
F29:Fuel Tank Pressure Sensor			
F40:Throttle Body			
F50:Fuel Injector			
F55:Fuel Pressure Regulator			
F64:Fuel Pump Module			
F70:Evap. Canister Assembly			
F73:ORVR Control Valve			
F79:ESIM (Evaporative System Integrity Monitor)			
H10:Catalytic Converter			

EPA COMP CODE	AA-600	AA-700	AA-800
I05:Spark Plug			
L01:Heated Oxygen Sensor			
L12:Accelerator Pedal Position Sensor			
L15:Camshaft Position Sensor			
L16:Crankshaft Position Sensor			
L20:Knock Sensor			
L25:Vehicle Speed Sensor			
L28:ABS Speed Sensor			
M01:Engine Coolant Temp. Sensor			
M04:Intake Air Temperature Sensor			
M07:Oil Temperature Sensor			
M10:Ambient Temperature Sensor			
N24:Oil Pressure Sensor			
N50:Engine Thermostat			
R11:Transmission Oil Cooler Bypass Valve			
T51:Transmission Input Speed Sensor			
V01:PCV Valve			
V05:MAP Sensor			
V63:Evap. Can. Purge Solenoid			

## Section 11-100 Engine Parts List

## Chrysler Group LLC

**Test Group :**CCR XV03.6VP0

**Durability Group:** CCRXGPGNNF09 **Standard Fed:** Bin4+ **Cal:** N/A

Trans. Code	Sales Code	Transfer Case Sales Code/Drive Code	No. of Gears	Over Drive Gear Ratio	Drive Gear Ratio	Engine Sales Code	Torque Code	Torque Size	Conv Clutch Control Type Calib/Special Features
L5	DGJ	2R	5	0.831	3.595,2.186,1.405,1.0,0.831	ERB	AC	270 MM	Electronically shifted data on file

Section12-200 Transmission

17  
Chrysler Group LLC

CCR XV03.6VP0

Durability Group: Standard Fed: Bin4+ Cal: N/A  
CCR XGPGNNF09

Asterisk (\*) Indicates Manufacturer has elected to certify at this higher test weight class as allowed by CFR 86.1831-01

Engine Code AA-600 Eng Displ: 3.6L (ERB) Evap Family - Evap Code: CCRXR0145PM0-19.4A-1

Model	Carline Name	Price Class	Opt	Trans. / Tr. Case	Torq. Conv./ Catalyst Identifier	GVW	LWV TWC Drive Curb	ALVW TWC Drive Curb	Axle / OTGR	N/V	Tire	Tire Mfr.	Tire Constr. Cd.	Elec Dyno Q.C.	Elec Dyno RLHP	Dyno Coeff 70A	Dyno Coeff 70 B	Dyno Coeff 70C	Dyno Coeff 20A	Dyno Coeff 20B	Dyno Coeff 20C
LDDA48	Dodge: Charger		DHD	L5 - RWD DGJ	AC C3.6e	5500	4500* 1979 4073		2.65	26.8	P225/60R18 TWW	TZA	9X1760B	20.18	13.8	35.99000	0.56240	0.01572	39.59000	0.61860	0.01729
									2.65	26.8	P225/60R18 TWM	TZF	04546P	19.79	14.1	38.95000	0.51700	0.01625	42.85000	0.56870	0.01788

Engine Code AA-700 Eng Displ: 3.6L (ERB) Evap Family - Evap Code: CCRXR0145PM0-19.4A-1

Model	Carline Name	Price Class	Opt	Trans. / Tr. Case	Torq. Conv./ Catalyst Identifier	GVW	LWV TWC Drive Curb	ALVW TWC Drive Curb	Axle / OTGR	N/V	Tire	Tire Mfr.	Tire Constr. Cd.	Elec Dyno Q.C.	Elec Dyno RLHP	Dyno Coeff 70A	Dyno Coeff 70 B	Dyno Coeff 70C	Dyno Coeff 20A	Dyno Coeff 20B	Dyno Coeff 20C
LXCA48	Chrysler: 300		DHD	L5 - RWD DGJ	AC C3.6e	5100	4250 1885 3972		2.65	27.3	P215/65R17 TW1	TZH	135203H	19.27	13.6	29.95000	0.87350	0.01147	32.95000	0.96090	0.01262
									2.65	26.8	P225/60R18 TW9	TZF	EF639P	19.18	13.7	31.60000	0.86140	0.01124	34.76000	0.94750	0.01236
									2.65	26.6	245/45R20 TVJ	TZF	EG145P	17.80	14.8	38.60000	0.88930	0.01105	42.46000	0.97820	0.01216

Engine Code AA-800 Eng Displ: 3.6L (ERB) Evap Family - Evap Code: CCRXR0145PM0-19.4A-1

Model	Carline Name	Price Class	Opt	Trans. / Tr. Case	Torq. Conv./ Catalyst Identifier	GVW	LWV TWC Drive Curb	ALVW TWC Drive Curb	Axle / OTGR	N/V	Tire	Tire Mfr.	Tire Constr. Cd.	Elec Dyno Q.C.	Elec Dyno RLHP	Dyno Coeff 70A	Dyno Coeff 70 B	Dyno Coeff 70C	Dyno Coeff 20A	Dyno Coeff 20B	Dyno Coeff 20C
LDDA48	Dodge: Charger		DHD	L5 - RWD DGJ	AC C3.6e	5500	4250 1979 4073		2.65	27.3	P215/65R17 TW1	TZH	135203H	19.60	13.4	29.92000	0.87330	0.01079	32.91000	0.96060	0.01187
									2.65	26.9	P235/55R18 TWN	TZH	134492E	19.24	13.7	32.84000	0.85970	0.01063	36.12000	0.94570	0.01169
									2.65	26.8	P225/60R18 TWW	TZA	9X1760B	19.06	13.8	35.99000	0.56240	0.01572	39.59000	0.61860	0.01729
									2.65	26.8	P225/60R18 TWM	TZF	04546P	18.69	14.1	38.95000	0.51700	0.01625	42.85000	0.56870	0.01788
									2.65	26.6	245/45R20 TVJ	TZF	EG145P	18.08	14.5	38.58000	0.88910	0.01037	42.44000	0.97800	0.01141

Section12-300 Vehicle

**Chrysler Group LLC**

**Test Group: CCRXV03.6VP0 - Engine Code Index**

**Durability Group:** Standard : Bin4+ / NA Vehicle Class: LDV (0-5750 LVW) / NA  
**CCRXP03.6VP0**

**Engine Code: AA-600 - 3.6L LD A5 RWD POLICE (CCV)**

Engine Code	RC #	Date	Engine	Carline	Price Class	Trans. Configuration	GVW Min.	GVW Max.	Test Wt. Min.	Test Wt. Max.	Drive Code	Sales Areas
AA-600	Original		3.6L/ERB LD			L5 / Automatic L5 - Lockup/Automatic/5-speed	5500	5500	4500	4500	RWD	NAE

**Engine Code: AA-700 - 3.6L LX A5 RWD (CCV)**

Engine Code	RC #	Date	Engine	Carline	Price Class	Trans. Configuration	GVW Min.	GVW Max.	Test Wt. Min.	Test Wt. Max.	Drive Code	Sales Areas
AA-700	Original		3.6L/ERB LX			L5 / Automatic L5 - Lockup/Automatic/5-speed	05100	05100	4250	4250	RWD	NAE

**Engine Code: AA-800 - 3.6L LD A5 RWD (CCV)**

Engine Code	RC #	Date	Engine	Carline	Price Class	Trans. Configuration	GVW Min.	GVW Max.	Test Wt. Min.	Test Wt. Max.	Drive Code	Sales Areas
AA-800	Original		3.6L/ERB LD			L5 / Automatic L5 - Lockup/Automatic/5-speed	5500	5500	4250	4250	RWD	NAE

**Test Group: CCRXV03.6VP0 - No Engine Code Changes**

**Durability Group: CCRXGPGNNF09 Standard Fed: Bin4 Cal: N/A**

RC #	Submission Date	Description
No Results Found		

Section12-500 Engine Code Index

Chrysler Group LLC

**Vehicle Parameters**

Engine  
3.6L - 2

Valves per cylinder

**Test Parameters**

SIL usage: See shift schedule table

Models  
All - One fan center front

Cooling fan configuration:

Models  
All - None

Addition Cooling:

Models  
All - 145 grams

Evaporative Testing Parameters:

Models  
All - eLC1

Fuel temperature Profile:

Models  
All - none

Special Test Procedure:



April 11, 2011

Mr. Steve Healy  
Certification and Compliance Division  
U.S. Environmental Protection Agency  
2000 Traverwood Drive  
Ann Arbor, Michigan 48105

Dear Mr. Healy:

**Re: 2012 Model Year PC/LDV Certificate of Conformity Request**

Chrysler Group LLC requests a 2012 Certificate of Conformity for the 3.6L 50 State Tier 2 BIN 4 and CCV California test group **CCR XV03.6VP0** / Durability Group **CCR XGPGNNF09** combined with evaporative family CCRXR0145PM0. This test group is being certified to Federal Tier 2 BIN 4 and qualifies to be certified by the State of California's "Cleanest Vehicle" requirements and to be counted as ULEV 2 in California, and to useful life per CARB 1961(a)(8). Chrysler Group LLC agrees to meet the Tier 2 BIN 4 and CCV emission standards and the regulations applicable to such vehicles during the full useful lives of the vehicles in test group **CCR XV03.6VP0**. Chrysler Group LLC agrees that the exhaust and evaporative emission standards listed below and in the application for certification apply to both certification and in-use vehicles according to the provisions of 40 CFR, Parts 86 and 88, as applicable. The FTP emission standards for this LDV test group are as follows:

<u>Emission Standards</u>		<u>NMOG</u>	<u>CO</u>	<u>NOX</u>	<u>HCHO</u>
Federal Tier 2 BIN 4	150K	.070	2.1	0.04	.011
<u>Evaporative Standards</u>		<u>3-Day</u>	<u>2-Day</u>	<u>R/L</u>	<u>ORVR</u>
Federal LEV 2	150K	0.50	0.65	0.05	0.20

Initial combined **Gasoline CREE** for **CCR XV03.6VP0** test group is : 345.2 g/m

The California Executive order is A-009-1134 and the model is as follows:  
:

<u>Division</u>	<u>Model</u>
Dodge	Charger RWD
Chrysler	300 RWD

If there are any questions regarding this submission, please contact Ellis D. Jefferson at (248) 576-5463 or Steve R. Mazure at (248) 576-5471.

Sincerely,

Chrysler Group LLC

S. R. Mazure, Manager Certification Team  
Vehicle Certification  
SRM/edj



April 11, 2010

Ms. Annette Hebert, Chief  
New Vehicle / Engine Programs Branch  
Haagen-Smit Laboratory  
P.O. Box 8001  
9528 Telstar Avenue  
El Monte, California 91734-8001

Dear Ms. Hebert:

**Re: 2012 Model Year PC/LDV Executive Order Request (# A-009-1134)**

Chrysler Group LLC requests a 2012 Executive Order for the 3.6L 50-State Test Group **CCR XV03.6VP0**/ Durability Group **CCR XGPGNNF09** combined with evaporative family CCRXR0145PM0. This test group is being certified to Federal Tier 2 BIN 4 emission standards and qualifies to be certified by the State of California's "Cleanest Vehicle" requirements and to be counted as ULEV 2 in California, and to useful life per CARB 1961(a)(8). Chrysler Group LLC agrees to meet the BIN 4 emission standards and the regulations applicable to such vehicles during the full useful lives of the vehicles in test group **CCR XV03.6VP0**. Chrysler Group LLC agrees that the exhaust and evaporative emission standards listed below and in the application for certification apply to both certification and in-use vehicles according to the provisions of 40 CFR, Parts 86 and 88, as applicable. The FTP emission standards for this LDV test group are as follows:

<u>Emission Standards</u>		<u>NMOG</u>	<u>CO</u>	<u>NOX</u>	<u>HCHO</u>
Federal BIN 4	150K	.070	2.1	0.04	.011
<u>Evaporative Standards</u>		<u>3-Day</u>	<u>2-Day</u>	<u>R/L</u>	<u>ORVR</u>
LEV 2	150K	0.50	0.65	0.05	0.20

Initial combined **Gasoline CREE** for **CCR XV03.6VP0** test group is : 345.2 g/m

If there are any questions regarding this submission, please contact Ellis D. Jefferson at (248) 576-5463 or Steve R. Mazure at (248) 576-5471.

Sincerely,

Chrysler Group LLC

S. R. Mazure, Manager Certification Team  
Vehicle Certification

cc: L. Benedict

SRM/edj  
Attachments

Date:03/21/2011

**Manufacturer Contact Information:**

Manufacturer Name: Chrysler Group LLC Fax Number: (248) 576-7928 (optional)  
Contact Name: Kelli Myers Email Address: kkm2@chrysler.com  
Phone Number: (248) 576-5457

Calendar Year: 2011~

Test Group or Engine Family Name: CCRXV03.6VP0

For dual U.S. / IMO Marine only, also give IMO name:

Certification Request Type:  On Highway  Nonroad

**On-Highway Certification Types:**

- LDV** - Light-duty Vehicles (Chassis Certification - Federal Certificate)
- LDT** - Light-duty Trucks (Chassis Certification - Federal Certificate)
- MDPV** - Medium-duty Passenger Vehicles (Chassis Certification - Federal Certificate)
- HDV** - Heavy-duty Vehicles (Chassis Certification - Federal Certificate)
  
- HDE** - Heavy-duty Engine (Engine Dynamometer Certification - Federal Certificate)
  
- LD ICI** - Light-duty Vehicles for Independent Commercial Importers
- MDPV ICI** - Medium-duty Passenger Vehicles for Independent Commercial Importers
- HDV ICI** - Heavy-duty Vehicles for Independent Commercial Importers
  
- MOTORCYCLE** - On-highway Motorcycles
  
- LDV** - Light-duty Vehicles (Chassis Certification -California-Only Certificate)
- LDT** - Light-duty Trucks (Chassis Certification -California-Only Certificate)
- MDPV** - Medium-duty Passenger Vehicles (Chassis Certification -California-Only Certificate)
- HDV** - Heavy-duty Vehicles (Chassis Certification -California-Only Certificate)
  
- HDE CALIF-ONLY** - Heavy-duty Engine California - Only Certification
- HDV EVAP-ONLY** - Heavy-duty Evaporative System Only

**Nonroad Certification Types:**

- NR CI** - Nonroad Engine Compression-Ignition (excludes Locomotives, Marine and Recreational)
- NR SI** - Nonroad Spark-Ignition
- Locomotives** - All Locomotives
- Recreational** - Recreational Vehicles (except marine engines)
- All Marine**

**Fee Payment Information:**

Do you qualify for reduced fee? No  
Are you an Independent Commercial Importer? No  
Make of the model(s) (list all that apply, separated by commas):  
Model name(s) of vehicle or engine under this engine family/test group (list all that apply, separated by commas):  
Year of the vehicle(s) or engine(s) (list all that apply, separated by commas):  
VIN(s) of the model(s) (list all that apply, separated by commas. Enter "TBD" if unknown):  
Has a certificate been issued?  
What is the total number of the vehicles or engines covered?  
What is the aggregate total retail value of the vehicles or engines covered? \$

**Payment Details:**

Amount Owed (U.S. Funds Only): \$ 33,974  
Payment Type: Offline Wire  
Enter the check number:

<b>Chrysler Group LLC</b>		<b>VEHICLE EMISSION CONTROL INFORMATION</b>		CONFORMS TO REGULATIONS: 2012 MY
U.S. EPA: T2 B4 LDV OBD: CA II FUEL: GASOLINE CERTIFIED TO OPTIONAL USEFUL LIFE PER EPA 86.1805-04(b).		CALIFORNIA: OBD: CA II FUEL: GASOLINE CERTIFIED TO OPTIONAL USEFUL LIFE PER CARB 1961 (a) (8). CERTIFIED FOR SALE ULEV II QUALIFIED.		
NO ADJUSTMENTS NEEDED	GROUP: CCRXV03.6VP0 ENGINE: 3.6L EVAP: CCRXR0145PM0	TWC / H02S / SFI		
52014 <b>664AA</b>				

# Exhibit 52

Chrysler Group LLC

Application for Certification  
Part 1

2013 Model Year

Durability Group: DCRXGPGNNF02  
Evaporative Familie(s): DCRXR0116PK0

Test Group: DCRXV02.0UP0

Four Stroke, Otto Cycle, Gasoline Fueled, Ported FI  
Ceramic Monolith Pd, Rh Close Coupled Catalyst

2.0 Liter  
LDV/PC

Applicable Standards:  
50 State - BIN 4 - CCV  
MSAT Compliant

Vehicles Covered:  
Dodge PF (DART)

Vehicle(s) Run:  
VID 1 config., Vehicle ID K2PFD4649 (exh)  
VID2 config., Vehicle ID K2PFD4647 (evap)

For Questions, Rengin Usmen 248. 512.1241 Steve R. Mazure 248. 576. 5471

All testing completed – Unconditional Cert request

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Correspondence & Communication	Section 1
Durability Group Description Summary	Section 2
Evaporative/Refueling Family Description Summary	Section 3
Durability Procedure Description	Section 4
Test Group Description Summary	Section 5
Reserved	Reserved
Emission testing Waiver Statement	Reserved
OBD Description	Section 8
Description of Alternate Fueled Vehicles	Section 9
List of AECDC Used in Test Group	Section 10
List of Certified Vehicles & Complete Test Parameters	Section 11
Total Projected Sales for This Test Group - See Common Section 16	Section 12
Request for Certificate / Cover Letters	Section 14
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Confidential Information for Test Group – See Common Section 16	Section 17
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Data Fleet Test Logs	Section 17.16

## Chrysler Group LLC

### Section 1 Correspondence and Communication

For questions dealing with the Part I application for this Test Group contact:

Name	Title	Responsibility	Phone	E-mail	Fax
Rengin Usmen	Certification	Application Submission	248.512.1241	rkul@Chrysler.com	248.576.7928
Steve R. Mazure	Certification	Certification Programs	248.576.5471	srm2@Chrysler.com	248.576.7928

For a complete listing of all Correspondence and Communication Information for Chrysler Group LLC, please see:  
 "Common Section Book - Section 1 Correspondence and Communication "

### Section 2 Durability Group Description

Durability Group Name: DCRXGPGNNF02

For a complete description of the Durability Group Description please see:  
 "Common Section Book - Section 2. Durability Group Description "

### Section 3 Evaporative/Refueling Family Description

Evaporative/Refueling Family Name(s): DCRXR0116PK0

For a complete description of the Evaporative/Refueling Family Description please see:  
 "Common Section Book - Section 3. Evaporative/Refueling Family Description "

For ORVR Agency Review Sign Off please see:  
 "Common Section Book - Section 16. Agency Approvals "

## Chrysler Group LLC

### Section 4 Durability Procedure Description

Durability Group: DCRXGPGNNF02

Durability Provision Statement:

Based on Chrysler Group LLC's good engineering judgement, all the vehicles described in this Application for Certification comply with all applicable intermediate and full useful life standards.

For a complete description of the Durability Procedure please see:

"Common Section Book - Section 16. Durability Procedure Description "

Indicate if aged components were used.

Aged Components were used

Indicate whether additive or multiplicative DF's were used.

N/A

List all DF's calculated at both full and intermediate useful life and applicable standards (test results and vehicle description).

EPA - Reference VERIFY (hard copies of all VERIFY Reports retained in-house)  
 CARB - Reference Cert Review Sheet

Evaporative/Refueling Family: DCRXR0116PK0

For a complete description of the Durability Procedure please see:

"Common Section Book - Section 16. Durability Procedure Description "

Indicate if aged components were used.

Yes - Bench Aging

Indicate whether additive or multiplicative DF's were used.

Additive

List all DF's calculated at both full and intermediate useful life and applicable standards (test results and vehicle description).

EPA - Reference VERIFY (hard copies of all VERIFY Reports retained in-house)  
 CARB - Reference Cert Review Sheet

### Section 5 Test Group Description

Test Group Name:

DCRXV02.0UP0

Engine displacements covered:

2.0 Liter

Arrangement and number of cylinders:

I-4

Vehicle classes covered:

LDV/PC

Emission standards class:

BIN4 / CCV

AB71 Qualified Vehicles:

No

Chrysler

**Section 8 Emission Testing Waiver Statements**

Below is a list clearly identifying the standards applicable to this Test Group for which emission testing was not performed. All Chrysler Group LLC applicable vehicles will conform with the emission standards which emission data is not being provided, as allowed under 40 CFR 86.1829-01 or 86.1810-01.

Particulates HCHO, CST, ASM, NMOG, IM, N2O

**Section 9 OBD Description**

For a complete description of the OBD Description please see: "Common Part 1 Section 16. OBD Description"

For OBD Agency Approvals please see: "Common Part 1 Section 16. Agency Approvals"

OBD Demonstration Compliance Statement: This Test Group meets the full intent of both the Clean Air Act as amended in 1990, section 202(m), and the applicable federal OBD regulations contained in 40 CFR §86.005-17 and 40 CFR §86.1806-01, including a reference to those provisions pertaining to deficiencies in the limited instances where an OBD II system that complies with 1968.2 does not comply with all the requirements of section 1968.1.

**Section 10 Description of Alternate - Fueled Vehicles**

Not Applicable to this Test Group

## Chrysler Group LLC

## Test Group - DCRXV02.0UP0

EPA COMP CODE	AA-100	AM-100
E10:Powertrain Control Module		
E11:Transmission Control Module		
E17:ABS Control Module		
F03:Plastic Fuel Tank (Partial)		
F05:Fuel Pump		
F10:Fuel Level Sending Unit		
F16:Fuel Tank Filler Cap		
F21:Fuel Tank Rollover Valve		
F40:Throttle Body		
F50:Fuel Injector		
F55:Fuel Pressure Regulator		
F64:Fuel Pump Module		
F70:Evap. Canister Assembly		
F73:ORVR Control Valve		
F79:ESIM (Evaporative System Integrity Monitor)		
H08:Exhaust Manifold Catalytic Converter		
I05:Spark Plug		

EPA COMP CODE	AA-100	AM-100
L01:Heated Oxygen Sensor		
L12:Accelerator Pedal Position Sensor		
L15:Camshaft Position Sensor		
L16:Crankshaft Position Sensor		
L20:Knock Sensor		
L25:Vehicle Speed Sensor		
M01:Engine Coolant Temp. Sensor		
M04:Intake Air Temperature Sensor		
M07:Oil Temperature Sensor		
M10:Ambient Temperature Sensor		
N24:Oil Pressure Sensor		
N50:Engine Thermostat		
T01:Transmission		
T06:DDCT Smart Drive Unit		
V01:PCV Valve		
V05:MAP Sensor		
V63:Evap. Can. Purge Solenoid		
V80:Active Grill Shutter Actuator		

## Section 11-100 Engine Parts List

**Test Group :**DCRXV02.0UP0**Durability Group:** DCRXGPGNNF02 **Standard Fed:** Bin4 **Cal:** N/A

Trans. Code	Sales Code	Transfer Case Sales Code/Drive Code	No. of Gears	Over Drive Gear Ratio	Drive Gear Ratio	Engine Sales Code	Torque Code	Torque Size	Conv Clutch Control Type Calib/Special Features
AM	DA1	2F	6	0.622	4.154,2.269,1.435,0.978,0.755,0.622	ECK	N/A		Electronically shifted data on file
M6	DE1	2F	6	0.622	3.9,2.118,1.361,0.978,0.756,0.622	ECK			

Section12-200 Transmission

**DCRXV02.0UP0**

**Durability Group:** Standard Fed: Bin4 Cal: N/A  
**DCRXGPGNNF02**

Asterisk (\*) Indicates Manufacturer has elected to certify at this higher test weight class as allowed by CFR 86.1831-01

**Engine Code AA-100 Eng Displ: 2.0L (ECK) Evap Family - Evap Code: DCRXR0116PK0-15.8A-1**

Model	Carline Name	Price Class	Opt	Trans. / Tr. Case	Torq. Conv./ Catalyst Identifier	GVW	LVW TWC Drive Curb	ALVW TWC Drive Curb	Axle / OTGR	N/V	Tire	Tire Mfr.	Tire Constr. Cd.	Elec Dyno Q.C.	Elec Dyno RLHP	Dyno Coeff 70A	Dyno Coeff 70 B	Dyno Coeff 70C	Dyno Coeff 20A	Dyno Coeff 20B	Dyno Coeff 20C
PFDA41 Dodge: Dart				AM - FWD DA1	C2.0a	4285	3625*		2.76	38.4	P205/55R16 TP3 TZL	K2D		21.18	10.6	25.27000	0.23560	0.01696	27.80000	0.25920	0.01866
							2035		2.76	38.3	P225/45R17 TXZ TZL	K2C		20.82	10.8	25.67000	0.25570	0.01694	28.24000	0.28130	0.01863
							3255		2.76	38.1	P205/55R16 TP3 TZC	226224		19.96	11.2	30.00000	0.24530	0.01680	33.00000	0.26980	0.01848
									2.76	38.3	P225/45R17 TXZ TZY	N/A		20.05	11.2	29.55000	0.23940	0.01694	32.51000	0.26330	0.01863
									2.76	38.3	P225/45R17 TXZ TZC	225187		19.04	11.8	30.44000	0.24660	0.01822	33.48000	0.27130	0.02004

**Engine Code AM-100 Eng Displ: 2.0L (ECK) Evap Family - Evap Code: DCRXR0116PK0-15.8A-1**

Model	Carline Name	Price Class	Opt	Trans. / Tr. Case	Torq. Conv./ Catalyst Identifier	GVW	LVW TWC Drive Curb	ALVW TWC Drive Curb	Axle / OTGR	N/V	Tire	Tire Mfr.	Tire Constr. Cd.	Elec Dyno Q.C.	Elec Dyno RLHP	Dyno Coeff 70A	Dyno Coeff 70 B	Dyno Coeff 70C	Dyno Coeff 20A	Dyno Coeff 20B	Dyno Coeff 20C
PFDA41 Dodge: Dart				M6 - FWD DE1	C2.0a	4285	3500		2.56	35.6	P205/55R16 TP3 TZL	K2D		19.98	10.8	24.80000	0.27650	0.01707	27.28000	0.30410	0.01878
							1984		2.56	35.5	P225/45R17 TXZ TZL	K2C		19.66	11.0	25.18000	0.29630	0.01705	27.70000	0.32590	0.01876
							3204		2.56	35.5	P225/45R17 TXZ TZC	225187		18.96	11.4	29.01000	0.28020	0.01705	31.91000	0.30820	0.01876
									2.56	35.5	P225/45R17 TXZ TZY	N/A		18.96	11.4	29.01000	0.28020	0.01705	31.91000	0.30820	0.01876
									2.56	35.4	P205/55R16 TP3 TZC	226224		18.87	11.5	29.46000	0.28600	0.01691	32.41000	0.31460	0.01860

Section12-300 Vehicle

17  
Chrysler Group LLC

**Test Group: DCRXV02.0UP0 - Engine Code Index**

**Durability Group:** DCRXGPGNNF02     **Standard :** Bin4 / NA     **Vehicle Class:** LDV (0-5750 LVW) / NA

**Engine Code: AA-100 - 2.0L ECK A6 PF**

Engine Code	RC #	Date	Engine	Carline	Price Class	Trans. Configuration	GVW Min.	GVW Max.	Test Wt. Min.	Test Wt. Max.	Drive Code	Sales Areas
AA-100	Original		2.0L/ECK PF			AM/ Automated Manual 6-speed	4285	4285	3625	3625	FWD	NAS

**Engine Code: AM-100 - 2.0L ECK M6 PF**

Engine Code	RC #	Date	Engine	Carline	Price Class	Trans. Configuration	GVW Min.	GVW Max.	Test Wt. Min.	Test Wt. Max.	Drive Code	Sales Areas
AM-100	Original		2.0L/ECK PF			M6/ Manual 6-speed M6 - Manual 6-speed	4285	4285	3500	3500	FWD	NAS

**Test Group: DCRXV02.0UP0 - No Engine Code Changes**

**Durability Group: DCRXGPGNNF02 Standard Fed: Bin4 Cal: N/A**

RC #	Submission Date	Description
No Results Found		

Section12-500 Engine Code Index

**Chrysler**

**Vehicle Parameters**

Valves per cylinder  
Engine  
2.0L - 4

**Test Parameters**

SIL usage: See shift schedule table

Cooling fan configuration: Models  
All - One fan center front

Addition Cooling: Models  
All - None

Evaporative Testing Parameters: Models  
PF - 116 grams

Fuel temperature Profile: Models  
- ePF

Special Test Procedure: Models  
All - none



January 16, 2012

Mr. Steve Healy  
 Vehicle Programs Group  
 Certification and Compliance Division  
 U.S. Environmental Protection Agency  
 2000 Traverwood Drive Ann Arbor, Michigan 48105

Dear Mr. Healy:

**Re: 2013 Model Year PC/LDV Certificate of Conformity Request**

Chrysler Group LLC requests a 2013 Certificate of Conformity for the 50 State 2.0L test group **DCRXV02.0UP0** with evaporative families CCRXR0116PK0. This test group is being certified to TIER 2, BIN 4 standards and qualifies as ULEV2 under California Cleanest Vehicle (CCV) and MSAT standards. Chrysler Group LLC agrees to meet the emission standards and the regulations applicable to such vehicles during the full useful lives of the vehicles in this test group. Chrysler Group LLC agrees that the exhaust and evaporative emission standards listed below and in the application for certification apply to both certification and in-use vehicles according to the provisions of 40 CFR, Parts 86 and 88, as applicable. **Chrysler Group LLC also elects to follow GHG path 86-1818(f)(1).** The FTP emission standards for this PC/LDV test group are as follows:

<u>Emission Standards</u>		<u>CH4</u>	<u>N2O</u>	<u>NMOG</u>	<u>CO</u>	<u>NOx</u>	<u>HCHO</u>
Federal Tier 2 BIN 4	120K	0.03	0.01	0.070	2.1	0.04	0.011
<u>Evaporative Standards</u>				<u>3-Day</u>	<u>2-Day</u>	<u>R/L</u>	<u>ORVR</u>
Federal Tier 2	120K			0.50	0.65	0.05	0.20

Initial combined **CREE** for **DCRXV02.0UP0** test group is : 265.4 g/m  
 The California Executive Order is A-009-1149 and models are as follows:

<u>Division</u>	<u>Model</u>
Dodge PF	FWD (Dart)

If there are any questions regarding this submission, please contact Rengin K. Usmen at (248) 512-1241 or Steve R. Mazure at (248) 576-5471.

Sincerely,  
 Chrysler Group LLC

Steve R. Mazure, Manager  
 Vehicle Certification  
 srm/rku

cc: C. Nevers

**DCRXV02.0UP0 Part 1 Section 14 - 001 (2013)**



January 16, 2012

Ms. Annette Hebert, Chief  
New Vehicle / Engine Programs Branch  
Haagen-Smit Laboratory  
P.O. Box 8001  
9528 Telstar Avenue  
El Monte, California 91734-8001

Dear Ms. Hebert:

**Re: 2013 Model Year PC/LDV Executive Order Request (#A-009-1149)**

Chrysler Group LLC requests a 2013 Executive Order for the 2.0L 50-State test group **DCRXV02.0UP0** with evaporative families DCRXR0116PK0. This test group is being certified to TIER 2, BIN 4 and MSAT standards and qualifies as ULEV2 under California Cleanest Vehicle (CCV). Chrysler Group LLC agrees to meet these standards and the regulations applicable to such vehicles during the full useful lives of the vehicles in test group. Chrysler Group LLC agrees that the exhaust and evaporative emission standards listed below and in the application for certification apply to both certification and in-use vehicles according to the provisions of 40 CFR, Parts 86 and 88, as applicable. **Chrysler Group LLC also elects to follow GHG path 86-1818(f)(1).** The FTP emission standards for this PC/LDV test group are as follows:

<u>Emission Standards</u>	<u>CH4</u>	<u>N2O</u>	<u>NMOG</u>	<u>CO</u>	<u>NOX</u>	<u>HCHO</u>	<u>ORVR</u>	
BIN 4	120K	0.03	0.01	0.070	2.1	0.04	0.011	0.20
<u>Evaporative Standards</u>	<u>3-Day</u>		<u>2-Day</u>	<u>R/L</u>				
LEVII	150K	0.50	0.65	0.05				

Initial combined **CREE** for **DCRXV02.0UP0** test group is : 265.4 g/m

If there are any questions regarding this submission, please contact Rengin K. Usmen at (248) 512-1241 or Steve R. Mazure at (248) 576-5471.

Sincerely,  
Chrysler Group LLC

Steve R. Mazure, Manager  
Vehicle Certification  
srm/rku

cc: L. Benedict

Motor Vehicle and Engine Compliance Program Fee Filing Form

Date: 10/6/2011

Manufacturer Contact Information:

Manufacturer Name: Chrysler Group LLC Fax Number: (248) 576-7928 (optional)
Contact Name: Kelli Myers Email Address: kkm2@chrysler.com
Phone Number: (248) 576-5457

Calendar Year: 2011~

Test Group or Engine Family Name: DCRXV02.OUP0

For dual U.S. / IMO Marine only, also give IMO name:

Certification Request Type: On Highway Nonroad

On-Highway Certification Types:

- LDV - Light-duty Vehicles (Chassis Certification - Federal Certificate)
LDT - Light-duty Trucks (Chassis Certification - Federal Certificate)
MDPV - Medium-duty Passenger Vehicles (Chassis Certification - Federal Certificate)
HDV - Heavy-duty Vehicles (Chassis Certification - Federal Certificate)
HDE - Heavy-duty Engine (Engine Dynamometer Certification - Federal Certificate)
LD ICI - Light-duty Vehicles for Independent Commercial Importers
MDPV ICI - Medium-duty Passenger Vehicles for Independent Commercial Importers
HDV ICI - Heavy-duty Vehicles for Independent Commercial Importers
MOTORCYCLE - On-highway Motorcycles
LDV - Light-duty Vehicles (Chassis Certification -California-Only Certificate)
LDT - Light-duty Trucks (Chassis Certification -California-Only Certificate)
MDPV - Medium-duty Passenger Vehicles (Chassis Certification -California-Only Certificate)
HDV - Heavy-duty Vehicles (Chassis Certification -California-Only Certificate)
HDE CALIF-ONLY - Heavy-duty Engine California - Only Certification
HDV EVAP-ONLY - Heavy-duty Evaporative System Only

Nonroad Certification Types:

- NR CI - Nonroad Engine Compression-Ignition (excludes Locomotives, Marine and Recreational)
NR SI - Nonroad Spark-Ignition
Locomotives - All Locomotives
Recreational - Recreational Vehicles (except marine engines)
All Marine

Fee Payment Information:

Do you qualify for reduced fee? No
Are you an Independent Commercial Importer? No
Make of the model(s) (list all that apply, separated by commas):
Model name(s) of vehicle or engine under this engine family/test group (list all that apply, separated by commas):
Year of the vehicle(s) or engine(s) (list all that apply, separated by commas):
VIN(s) of the model(s) (list all that apply, separated by commas. Enter "TBD" if unknown):

Has a certificate been issued?
What is the total number of the vehicles or engines covered?
What is the aggregate total retail value of the vehicles or engines covered? \$

Payment Details:

Amount Owed (U.S. Funds Only): \$ 33,974
Payment Type: Offline Wire
Enter the check number:

CHRYSLER GROUP LLC

 <b>Chrysler Group LLC</b>		<b>VEHICLE EMISSION CONTROL INFORMATION</b>		CONFORMS TO REGULATIONS: 2013 MY
U.S. EPA: T2 B4 LDV OBD: CA OBD II FUEL: GASOLINE		CALIFORNIA: OBD: CA OBD II FUEL: GASOLINE CERTIFIED FOR SALE ULEV II QUALIFIED.		
NO ADJUSTMENTS NEEDED	GROUP: DCRXV02.0UP0 ENGINE: 2.0L EVAP: DCRXR0118PK0	TWC / HO2S / SFI		
<b>04722 027AA</b>				

# Exhibit 53

Chrysler Group LLC

Application for Certification  
Part I

2014 Model Year

Durability Group: ECRXGPGNNF27  
Evaporative Familie(s): ECRXR0112PK0

Test Group: ECRXT02.45P0

Four Stroke, Otto Cycle, Gasoline Fueled, Ported FI  
Ceramic Monolith Pd, Rh Close Coupled Catalyst

2.4 Liter  
LDT

Applicable Standards:

50 State - BIN 5 Tier 2 / LEV II  
MSAT Compliant

Vehicles Covered:  
Jeep Compass 4WD  
Jeep Patriot 4WD

Vehicle(s) Run:  
VID 1 config., Vehicle ID L0MKJ1211  
VID2 config., Vehicle ID K6PMD5278

For Questions, Rengin Usmen 248. 512.1241 Steve R. Mazure 248. 576. 5471

All testing completed – Unconditional Cert request

Chrysler Group LLC

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Chrysler Group LLC

**Section 1 Correspondence and Communication**

For questions dealing with the Part I application for this Test Group contact:

Name	Title	Responsibility	Phone	E-mail	Fax
Rengin Usmen	Certification	Application Submission	248.512.1241	rku1@Chrysler.com	248.576.7928
Steve R. Mazure	Certification	Certification Programs	248.576.5471	srm2@Chrysler.com	248.576.7928

For a complete listing of all Correspondence and Communication Information for Chrysler Group LLC, please see:  
 "Common Section Book - Section 1 Correspondence and Communication "

**Section 2 Durability Group Description**

Durability Group Name: ECRXGPGN27

For a complete description of the Durability Group Description please see:  
 "Common Section Book - Section 2. Durability Group Description "

**Section 3 Evaporative/Refueling Family Description**

Evaporative/Refueling Family Name(s): ECRXR0112PK0

For a complete description of the Evaporative/Refueling Family Description please see:  
 "Common Section Book - Section 3. Evaporative/Refueling Family Description "

For ORVR Agency Review Sign Off please see:  
 "Common Section Book - Section 16. Agency Approvals "

Chrysler Group LLC

**Section 4 Durability Procedure Description**

Durability Group: ECRXGPGNNEF27

Durability Provision Statement:

Based on Chrysler Group LLC's good engineering judgement, all the vehicles described in this Application for Certification comply with all applicable intermediate and full useful life standards.

For a complete description of the Durability Procedure please see:

"Common Section Book - Section 16. Durability Procedure Description "

Indicate if aged components were used.

Aged Components were used

Indicate whether additive or multiplicative DF's were used.

N/A

List all DF's calculated at both full and intermediate useful life and applicable standards (test results and vehicle description).

EPA - Reference VERIFY (hard copies of all VERIFY Reports retained in-house)  
 CARB - Reference Cert Review Sheet

Evaporative/Refueling Family: ECRXR0112PK0

For a complete description of the Durability Procedure please see:

"Common Section Book - Section 16. Durability Procedure Description "

Indicate if aged components were used.

Yes - Bench Aging

Indicate whether additive or multiplicative DF's were used.

Additive

List all DF's calculated at both full and intermediate useful life and applicable standards (test results and vehicle description).

EPA - Reference VERIFY (hard copies of all VERIFY Reports retained in-house)  
 CARB - Reference Cert Review Sheet

**Section 5 Test Group Description**

Test Group Name:

ECRXT02.45P0

Engine displacements covered:

2.4 Liter

Arrangement and number of cylinders:

I-4

Vehicle classes covered:

LDT

Emission standards class:

Bin 5/LEV II, MSAT Compliant

AB71 Qualified Vehicles:

No

Chrysler

**Section 8 Emission Testing Waiver Statements**

Below is a list clearly identifying the standards applicable to this Test Group for which emission testing was not performed. All Chrysler Group LLC applicable vehicles will conform with the emission standards which emission data is not being provided, as allowed under 40 CFR 86.1829-01 or 86.1810-01.

Particulates                      HCHO, CST, ASM, NMOG, IM

**Section 9 OBD Description**

For a complete description of the OBD Description please see: "Common Part 1 Section 16. OBD Description"

For OBD Agency Approvals please see: "Common Part 1 Section 16. Agency Approvals"

OBD Demonstration Compliance Statement: This Test Group meets the full intent of both the Clean Air Act as amended in 1990, section 202(m), and the applicable federal OBD regulations contained in 40 CFR §86.005-17 and 40 CFR §86.1806-01, including a reference to those provisions pertaining to deficiencies in the limited instances where an OBD II system that complies with 1968.2 does not comply with all the requirements of section 1968.1.

**Section 10 Description of Alternate - Fueled Vehicles**

Not Applicable to this Test Group

## Chrysler Group LLC

## Test Group - ECRXT02.45P0

EPA COMP CODE	AM-100
E10:Powertrain Control Module	
F03:Plastic Fuel Tank (Partial)	
F04:Plastic Fuel Tank Assembly	
F17:Fuel Tank Check Valve	
F50:Fuel Injector	
F70:Evap. Canister Assembly	
H10:Catalytic Converter	
L01:Heated Oxygen Sensor	
V01:PCV Valve	
V63:Evap. Can. Purge Solenoid	

Section 11-100 Engine Parts List

Test Group :ECRXT02.45P0

Durability Group: ECRXGPGNNF27 Standard Fed: Bin5 Cal: LEV II+

Trans. Code	Sales Code	Transfer Case Sales Code/Drive Code	No. of Gears	Over Drive Gear Ratio	Drive Gear Ratio	Engine Sales Code	Torque Code	Torque Size	Conv Clutch Control Type Calib/Special Features
M5	DD7	4F	5	0.72	3.77,2.16,1.414,1.026,0.72	ED3			

Section12-200 Transmission

**ECRXT02.45P0**

**Durability Group:** Standard Fed: Bin5 Cal: LEV II+  
**ECRXGPGNNF27**

Asterisk (\*) Indicates Manufacturer has elected to certify at this higher test weight class as allowed by CFR 86.1831-01

**Engine Code AM-100 Eng Displ: 2.4L (ED3) Evap Family - Evap Code: ECRXR0112PK0-13.5A-1**

Model	Carline Name	Model Qualifier	Opt	Trans. / Tr. Case	Torq. Conv./ Catalyst Identifier	GVW	LVW TWC Drive Curb	ALVW TWC Drive Curb	Axle / OTGR	N/V	Tire	Tire Mfr.	Tire Constr. Cd.	Elec Dyno Q.C.	Elec Dyno RLHP	Dyno Coeff 70A	Dyno Coeff 70 B	Dyno Coeff 70C	Dyno Coeff 20A	Dyno Coeff 20B	Dyno Coeff 20C
MKJA49	Jeep: Compass	4WD		M5 - 4WD DD7	B2.4d	4575	3625* 1874 3260		2.97	37.8	P205/70R16 TLB	TZA	3X7071C	16.55	13.6	22.33000	0.51310	0.02151	24.56000	0.56440	0.02366
									2.97	38.2	P215/60R17 TTU	TZF	DX411P	16.09	13.9	25.31000	0.53510	0.02101	27.84000	0.58860	0.02311
									2.97	36.8	P215/65R17 TRX	TZA	2X7232A	15.54	14.4	27.09000	0.53720	0.02174	29.80000	0.59090	0.02391
									2.97	37.7	P215/55R18 TT1	TZF	DX651P	14.90	15.1	32.75000	0.57330	0.02059	36.03000	0.63060	0.02265
MKJA74	Jeep: Patriot	4WD		M5 - 4WD DD7	B2.4d	4575	3625 1873 3293		2.97	37.8	P205/70R16 TLB	TZA	3X7071C	15.77	14.2	24.52000	0.56450	0.02161	26.97000	0.62100	0.02377
									2.97	38.2	P215/60R17 TTU	TZF	DX411P	15.74	14.3	25.68000	0.54010	0.02171	28.25000	0.59410	0.02388
									2.97	36.8	P215/65R17 TRX	TZA	2X7232A	15.17	14.8	27.83000	0.53970	0.02247	30.61000	0.59370	0.02472

Section12-300 Vehicle

17  
Chrysler Group LLC

**Test Group: ECRXT02.45P0 - Engine Code Index**

**Durability Group:**  
ECRXGPGNNF27

**Standard :** Bin5 / LEV II+

**Vehicle Class:** LDT1 (LVW 0-3750, GVW 0-6000) / LDT (0-8500 GVW)

**Engine Code: AM-100 - 2.4L AWD MK ED3 M5 DD7**

Engine Code	RC #	Date	Engine	Carline	Price Class	Trans. Configuration	GVW Min.	GVW Max.	Test Wt. Min.	Test Wt. Max	Drive Code	Sales Areas
AM-100	Original		2.4L/ED3	MK		M5/ Manual 5-speed M5 -	4575	4575	3625	3625	4WD	NAS

**Test Group: ECRXT02.45P0 - No Engine Code Changes**

**Durability Group: ECRXGPGNNF27 Standard Fed: Bin5 Cal: LEV II**

RC #	Submission Date	Description
No Results Found		

Section12-500 Engine Code Index

**Chrysler**

**Vehicle Parameters**

Engine  
2.4L - 4

Valves per cylinder

**Test Parameters**

SIL usage: See shift schedule table

Models  
All - One fan center front

Cooling fan configuration:

Models  
All - None

Addition Cooling:

Models  
MK - 112 grams

Evaporative Testing Parameters:

Models  
All - MK Models - ePMI

Fuel temperature Profile:

Models  
All - none

Special Test Procedure:



November 28, 2012

Mr. Joel Dalton  
 Vehicle Programs Group  
 Certification and Compliance Division  
 U.S. Environmental Protection Agency  
 2000 Traverwood Drive Ann Arbor, Michigan 48105

Dear Mr. Dalton:

**Re: 2014 Model Year LDT Certificate of Conformity Request**

Chrysler Group LLC requests a 2014 Certificate of Conformity for the 50 State 2.4L test group **ECRXT02.45P0** with evaporative family ECRXR0112PK0. This test group is being certified to Tier 2 BIN 5 and to LEV II & MSAT standards. Chrysler Group LLC agrees to meet the emission standards and the regulations applicable to such vehicles during the full useful lives of the vehicles in this test group. Chrysler Group LLC agrees that the exhaust and evaporative emission standards listed below and in the application for certification apply to both certification and in-use vehicles according to the provisions of 40 CFR, Parts 86 and 88, as applicable. **Chrysler Group LLC also elects to follow GHG path 86-1818(f)(1).** The FTP emission standards for this LDT test group are as follows:

<u>Emission Standards</u>		<u>NMOG</u>	<u>CO</u>	<u>NOX</u>	<u>HCHO</u>
Federal Tier 2 BIN 5	50K	0.075	3.4	0.05	0.015
	120K	0.090	4.2	0.07	0.018
<u>Evaporative Standards</u>		<u>3-Day</u>	<u>2-Day</u>	<u>R/L</u>	<u>ORVR</u>
Federal Tier 2	120K	0.50	0.65	0.05	0.20

The California Executive Order is A-009-1179 and models are as follows:

<u>Division</u>	<u>Model</u>
Jeep	Compass 4WD Patriot 4WD

Initial combined **CREE** for **ECRXT02.45P0** test group is: 289.3 g/m

If there are any questions regarding this submission, please contact Rengin K. Usmen at (248) 512-1241 or Steve R. Mazure at (248) 576-5471.

Sincerely,  
 Chrysler Group LLC

Steve R. Mazure, Manager  
 Vehicle Certification  
 srm/rku  
 cc: C. Nevers

**ECRXT02.45P0 Part 1 Section 14 - 001 (2014)**



November 28, 2012

Ms. Annette Hebert, Chief  
New Vehicle / Engine Programs Branch  
Haagen-Smit Laboratory  
P.O. Box 8001  
9528 Telstar Avenue  
El Monte, California 91734-8001

Dear Ms. Hebert:

**Re: 2014 Model Year LDT Executive Order Request (#A-009-1179)**

Chrysler Group LLC requests a 2014 Executive Order for the 2.4L 50-State test group **ECRXT02.45P0** with evaporative family ECRXR0112PK0. This test group is being certified to Tier 2 BIN 5 and to LEV II & MSAT standards. Chrysler Group LLC agrees to meet these standards and the regulations applicable to such vehicles during the full useful lives of the vehicles in test group. Chrysler Group LLC agrees that the exhaust and evaporative emission standards listed below and in the application for certification apply to both certification and in-use vehicles according to the provisions of 40 CFR, Parts 86 and 88, as applicable. **Chrysler Group LLC also elects to follow GHG path 86-1818(f)(1).** The FTP emission standards for this LDT test group are as follows:

<u>Emission Standards</u>		<u>NMOG</u>	<u>CO</u>	<u>NOX</u>	<u>HCHO</u>	<u>ORVR</u>
California LEVII	50K	0.075	3.4	0.05	0.015	--
	150K	0.090	4.2	0.07	0.018	0.20
<u>Evaporative Standards</u>		<u>3-Day</u>	<u>2-Day</u>	<u>R/L</u>		
California LEVII	150K	0.50	0.65	0.05		

Initial combined **CREE** for **ECRXT02.45P0** test group is : 289.3 g/m

If there are any questions regarding this submission, please contact Rengin K. Usmen at (248) 512-1241 or Steve R. Mazure at (248) 576-5471.

Sincerely,  
Chrysler Group LLC

Steve R. Mazure, Manager  
Vehicle Certification  
srm/rku

cc: L. Benedict

**MVECP FEES CORRECTION FORM**

Date: 11/15/2012

Manufacturer Name:	Chrysler Group LLC
Family Name:	ECRXT02.45P0
Original Payment Date:	11/15/2012
Original Amount Paid:	\$ 32678.00
Revised Family Name:	ECRXT02.45P0

**Authorized Company Representative:**

Contact Name:	Kelli Myers	Phone:	(248) 576-5457
Email Address:	kkm2@chrysler.com	Fax:	(248) 576-7928 (optional)

**Reason for Correction:**

- Typographical error in original family or test group name.
- Overpayment for original family name, please apply the overpayment to the revised engine family name.  
**Write the overpayment amount in the comments box.**
- Other (explain in comments box):

Comments: Did duplicate submission. Should only have been one submission. Please disregard second submission.

**NOTE:** The Company Representative will be notified if the correction is not approved or has a problem.

**Submit Data**

**Manufacturer Contact Information:**

Manufacturer Name: Chrysler Group LLC Fax Number: (248) 576-7928 (optional)  
Contact Name: Kelli Myers Email Address: kkm2@chrysler.com  
Phone Number: (248) 576-5457

Calendar Year: 2012-2012 Fe

Family Name: ECRXT02.45P0

For dual U.S. / IMO Marine only, also give IMO name: [ ]

Certification Request Type:  On Highway  Nonroad

**On-Highway Certification Types:**

- LDV Light-duty Vehicles (Chassis Certification - Federal Certificate)
- LDT Light-duty Trucks (Chassis Certification - Federal Certificate)
- MDPV Medium-duty Passenger Vehicles (Chassis Certification - Federal Certificate)
- HDV Heavy-duty Vehicles(Chassis Certification - Federal Certificate)
  
- HDE Heavy-duty Engine (Engine Dynamometer Certification - Federal Certificate)
  
- LD ICI Light-duty Vehicles for Independent Commercial Importers
- MDPV ICI Medium-duty Passenger Vehicles for Independent Commercial Importers
- HDV ICI Heavy-duty Vehicles for Independent Commercial Importers
  
- MOTORCYCLE On-highway Motorcycles
  
- LDV Light-duty Vehicles (Chassis Certification - California-Only)
- LDT Light-duty Trucks (Chassis Certification - California-Only)
- MDPV Medium-duty Passenger Vehicles (Chassis Certification - California-Only)
- HDV Heavy-duty Vehicles(Chassis Certification - California-Only)
  
- HDE CALIF-ONLY Heavy-duty Engine California-Only Certification
  
- HDV EVAP Heavy-duty Evaporative System

**Nonroad Certification Types:**

- NR CI Nonroad Engine Compression-Ignition (excludes Locomotives, Marine and Recreational)
- NR SI Nonroad Engine Spark-Ignition
- Locomotives All Locomotives
- Recreational Recreational Vehicles (except marine engines)
- All Marine
- Component Certification for Evaporative Emissions

**Fee Payment Information:**

Do you qualify for reduced fee? No [ ]

Are you an Independent Commercial Importer? No [ ]

Make of the model(s) (list all that apply, separated by commas):

[ ]

Model name(s) of vehicle or engine under this engine family/test group (list all that apply, separated by commas):

[ ]

Year of the vehicle(s) or engine(s) (list all that apply, separated by commas):

[ ]

VIN(s) of the model(s) (list all that apply, separated by commas. Enter "TBD" if unknown):

[ ]

Has a certificate been issued? [ ]

What is the total number of the vehicles, engines or units covered? [ ]

What is the aggregate total retail value of the vehicles, engines or units covered? \$ [ ]

**Payment Details:**

Amount Owed (U.S. Funds Only): \$ 32678.00 [ ]

Payment Type: Offline Wire [ ]

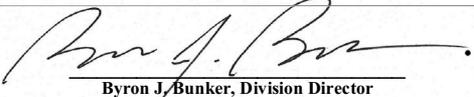
Enter the check number [ ] ECRXT02.45P0 Part 1 Section 15-001 (2014)

**CHRYSLER GROUP LLC**

<b>Chrysler Group LLC</b>		<b>VEHICLE EMISSION CONTROL INFORMATION</b>	
GROUP: ECRXT02.45P0 NO ADJUSTMENTS NEEDED TWC / HO2S / SFI	EVAP: ECRXR0112PK0	CONFORMS TO REGULATIONS: 2014 MY ENGINE: 2.4L	
U.S. EPA: T2 B5 LDT	OBD: CA OBD II	FUEL: GASOLINE	 <b>47480 045AA</b>
CALIFORNIA: LEV II LDT CERTIFIED TO OPTIONAL USEFUL LIFE PER CARB 1961 (a) (8).	OBD: CA OBD II	FUEL: GASOLINE	

# Exhibit 54

	<b>UNITED STATES ENVIRONMENTAL PROTECTION AGENCY</b> <b>2017 MODEL YEAR</b> <b>CERTIFICATE OF CONFORMITY</b> <b>WITH THE CLEAN AIR ACT</b>	<b>OFFICE OF TRANSPORTATION AND AIR QUALITY</b> <b>ANN ARBOR, MICHIGAN 48105</b>
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<b>Certificate Issued To:</b> Cummins Inc. (U.S. Manufacturer or Importer)  <b>Certificate Number:</b> HCEXD06.78VV-001	<b>Effective Date:</b> 07/27/2016  <b>Expiration Date:</b> 12/31/2017	 Byron J. Bunker, Division Director Compliance Division	<b>Issue Date:</b> 07/27/2016  <b>Revision Date:</b> N/A
--	---	---	--

<b>Test Group Name:</b> HCEXD06.78VV <b>Evaporative/Refueling Family Name:</b> <b>Applicable Exhaust Emission Standards:</b> HDV1 (Federal HD chassis Class 2b GVW 8501-10000) <b>Applicable Evaporative/Refueling Standards:</b>	<b>Engine Displacement:</b> 6.7 Liters <b>Exhaust Emission Test Fuel Type:</b> Federal Cert Diesel 7-15 PPM Sulfur <b>Full Useful Life Miles: Exhaust Emissions:</b> 120,000 miles <b>Full Useful Life Miles: Evaporative/Refueling Emissions:</b> N/A
<b>Models Covered:</b> Ram: 2500 4X2, 2500 4X4, 3500 4X2, 3500 4X4	

Pursuant to section 206 of the Clean Air Act (42 U.S.C.7525) and 40 CFR Parts 85, 86, 88, 600, 1037, 1065, and 1066 as applicable, this certificate of conformity is hereby issued with respect to test vehicles which have been found to conform to the requirements of the regulations on Control of Air Pollution from New Motor Vehicles and New Motor Vehicle Engines (40 CFR Parts 85, 86, 88, 600, 1037, 1065, and 1066 as applicable) and which represent the new motor vehicle models listed above by test group and evaporative/refueling emission family, more fully described in the application of the above named manufacturer. Vehicles covered by this certificate have demonstrated compliance with the applicable emission standards as more fully described in the manufacturer's application. This certificate covers the above models, which are designed to meet the applicable emission standards specified in 40 CFR Parts 85, 86, 88, 600, 1037, 1065, and 1066 as applicable at both high and low altitude as applicable.

EPA is issuing this certificate subject to the conditions and provisions of 40 CFR 86.1848(c), and 40 CFR 1037 as applicable.

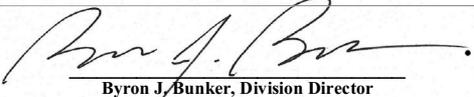
This certificate covers only those new motor vehicles or vehicle engines which conform, in all material respects, to the design specifications that apply to those vehicles or engines described in the documentation required by 40 CFR Parts 85, 86, 88, 600, 1037, 1065, and 1066 as applicable and which are produced during the 2017 model year production period stated on this certificate of the said manufacturer, as defined in 40 CFR Parts 85, 86, 88, 600, 1037, 1065, and 1066 as applicable. The manufacturer shall obtain the approval of the California Air Resources Board (in the form of an executive order issued by the California Air Resources Board) prior to introducing any vehicle covered by this certificate into commerce 1) in the State of California, or 2) in a State that, under the authority of Section 177 of the Clean Air Act, has adopted and placed into effect the California standards to which this test group has been certified.

Catalyst-equipped vehicles designed to be operated on gasoline or flexible fuel are equipped with an emission control device which the Administrator has determined will be significantly impaired by the use of leaded fuel. This certificate is issued subject to the conditions specified in 40 CFR 80.24. Catalyst-equipped vehicles designed to be operated on gasoline or flexible fuel, otherwise covered by this certificate, which are driven outside the United States, Canada, Mexico, Japan, Australia, Taiwan and the Bahama Islands will be presumed to have been operated on leaded fuel resulting in deactivation of the catalysts. If these vehicles are imported or offered for importation without retrofit of the catalyst, they will be considered not to be within the coverage of this certificate unless included in a catalyst control program operated by manufacturer or a United States Government Agency and approved by the Administrator.

In the case of completely assembled vehicles, this certificate of conformity covers only vehicles which are completely manufactured prior to January 1, 2018. Normally incompletely assembled vehicles (such as cab chassis) may be completed after this date, provided that the basic manufacturing (including installation of the emission control system) was completed prior to January 1, 2018. This certificate does not cover vehicles sold, offered for sale, or introduced, or delivered for introduction, into commerce in the U.S. prior to the effective date of the certificate.

# Exhibit 55

	<b>UNITED STATES ENVIRONMENTAL PROTECTION AGENCY</b> <b>2017 MODEL YEAR</b> <b>CERTIFICATE OF CONFORMITY</b> <b>WITH THE CLEAN AIR ACT</b>	<b>OFFICE OF TRANSPORTATION AND AIR QUALITY</b> <b>ANN ARBOR, MICHIGAN 48105</b>
--	---	---

<b>Certificate Issued To:</b> Cummins Inc. (U.S. Manufacturer or Importer)  <b>Certificate Number:</b> HCEXD06.78WV-002	<b>Effective Date:</b> 07/27/2016  <b>Expiration Date:</b> 12/31/2017	 Byron J. Bunker, Division Director Compliance Division	<b>Issue Date:</b> 07/27/2016  <b>Revision Date:</b> N/A
--	---	---	--

<b>Test Group Name:</b> HCEXD06.78WV <b>Evaporative/Refueling Family Name:</b> <b>Applicable Exhaust Emission Standards:</b> HDV2 (Federal HD chassis Class 3 GVW 10001-14000) <b>Applicable Evaporative/Refueling Standards:</b>	<b>Engine Displacement:</b> 6.7 Liters <b>Exhaust Emission Test Fuel Type:</b> Federal Cert Diesel 7-15 PPM Sulfur <b>Full Useful Life Miles: Exhaust Emissions:</b> 120,000 miles <b>Full Useful Life Miles: Evaporative/Refueling Emissions:</b> N/A
<b>Models Covered:</b> Ram: 3500 4X2, 3500 4X4	

Pursuant to section 206 of the Clean Air Act (42 U.S.C.7525) and 40 CFR Parts 85, 86, 88, 600, 1037, 1065, and 1066 as applicable, this certificate of conformity is hereby issued with respect to test vehicles which have been found to conform to the requirements of the regulations on Control of Air Pollution from New Motor Vehicles and New Motor Vehicle Engines (40 CFR Parts 85, 86, 88, 600, 1037, 1065, and 1066 as applicable) and which represent the new motor vehicle models listed above by test group and evaporative/refueling emission family, more fully described in the application of the above named manufacturer. Vehicles covered by this certificate have demonstrated compliance with the applicable emission standards as more fully described in the manufacturer's application. This certificate covers the above models, which are designed to meet the applicable emission standards specified in 40 CFR Parts 85, 86, 88, 600, 1037, 1065, and 1066 as applicable at both high and low altitude as applicable.

EPA is issuing this certificate subject to the conditions and provisions of 40 CFR 86.1848(c), and 40 CFR 1037 as applicable.

This certificate covers only those new motor vehicles or vehicle engines which conform, in all material respects, to the design specifications that apply to those vehicles or engines described in the documentation required by 40 CFR Parts 85, 86, 88, 600, 1037, 1065, and 1066 as applicable and which are produced during the 2017 model year production period stated on this certificate of the said manufacturer, as defined in 40 CFR Parts 85, 86, 88, 600, 1037, 1065, and 1066 as applicable. The manufacturer shall obtain the approval of the California Air Resources Board (in the form of an executive order issued by the California Air Resources Board) prior to introducing any vehicle covered by this certificate into commerce 1) in the State of California, or 2) in a State that, under the authority of Section 177 of the Clean Air Act, has adopted and placed into effect the California standards to which this test group has been certified.

Catalyst-equipped vehicles designed to be operated on gasoline or flexible fuel are equipped with an emission control device which the Administrator has determined will be significantly impaired by the use of leaded fuel. This certificate is issued subject to the conditions specified in 40 CFR 80.24. Catalyst-equipped vehicles designed to be operated on gasoline or flexible fuel, otherwise covered by this certificate, which are driven outside the United States, Canada, Mexico, Japan, Australia, Taiwan and the Bahama Islands will be presumed to have been operated on leaded fuel resulting in deactivation of the catalysts. If these vehicles are imported or offered for importation without retrofit of the catalyst, they will be considered not to be within the coverage of this certificate unless included in a catalyst control program operated by manufacturer or a United States Government Agency and approved by the Administrator.

In the case of completely assembled vehicles, this certificate of conformity covers only vehicles which are completely manufactured prior to January 1, 2018. Normally incompletely assembled vehicles (such as cab chassis) may be completed after this date, provided that the basic manufacturing (including installation of the emission control system) was completed prior to January 1, 2018. This certificate does not cover vehicles sold, offered for sale, or introduced, or delivered for introduction, into commerce in the U.S. prior to the effective date of the certificate.