Continue

The Cummins 6.7 liter ISB is an inline six cylinder diesel engine employed in a diverse pool of vehicles and equipment, including the series of Ram pickup and chassis cab trucks. Ram Trucks (formerly the Dodge truck brand) adopted the 6.7 Cummins during the 2007 model year while simultaneously phasing out Cummins' 5.9 liter turbodiesel engines. PACCAR began offering the 6.7 Cummins in its 2008 model year medium duty trucks under both the Peterbilt and Freightliner brands. Ford Motor Company offered the 6.7 liter Cummins turbodiesel in 2007 to 2015 model year F-650 and F-750 medium duty trucks. International has offered the 6.7 liter in various medium duty truck models since 2014. It is also a common engine in various school bus and motorhome applications. It has a sister engine that is designated for off-highway applications, including equipment commonly found in the construction, commercial, marine, and agricultural markets. Replacement of the 5.9 liter ISB turbodiesel engine was necessitated by more stringent emissions standard in the United States. Additionally, and particularly relevant to its usage in Ram Trucks, the engine has served as a competitive platform with ample room for future growth in the fiercely competitive diesel truck segment. Note that the majority of the information available on this page holds an obvious emphasis on the engine variants used in Ram 2500, 3500, 4500, and 5500 truck models. Engine Features The 6.7 liter Cummins' design is characterized by its I-6 cylinder arrangement and undersquare bore-stroke ratio. An undersquare bore-stroke ratio, where the cylinder bore diameter is less than the length of the piston stroke, is a common feature of heavy duty inline engines and tends to naturally result in an engine that produces excellent low-end torque and good low to mid-range power. Such characteristics are well suited for towing and translate favorably when bringing a heavy trailer up to speed or hauling steep grades. Cummins originally designed the 6.7 liter with a grey cast iron engine block, but switched materials and manufactured the engine blocks from CGI beginning in 2019. Following the 2024 model year production engines, Cummins would revert back to grey cast iron. Evidence suggests that the original switch to CGI was primarily to reduce weight (the engine shed approximately 60 lbs), but grey cast iron provided superior bottom-end rigidity and NVH isolation. Fuel System All 6.7 Cummins turbodiesel engines employ a high pressure common rail injection system. From 2007 to 2018 the Bosch CP3 injection pump (HPFP) was used. Cummins then adopted the Bosch CP4.2 injection pump for 2019, only to retire it and revert back to the CP3 pump beginning in 2021. For 2025, the 6.7 Cummins relies on a Bosch CP8 injection pump; little information is currently know about the new HPFP but it is expected to be considerably more robust. Late in 2021, FCA and Cummins issued a voluntary recall of all 2019 and 2020 model year Ram trucks, retrofitting the engines with CP3 pumps. The Bosch CP4 injection pump has been the source of great controversy in GM and Ford trucks as its reliability has been called into question and is the source of multiple lawsuits seeking compensation for affected vehicle owners under the assumption that manufacturers were aware of the fact that diesel fuel in the United States lacked the minimum lubricity requirements required by the pump. Turbocharger Air is fed to the 6.7 Cummins via a Holset variable geometry turbocharger. 2007 to 2012 engines employed a model HE351VE turbocharger while later engines featured the Holset HE300VG. In both turbochargers, the VGT vanes are electronically controlled and actuated. All Dodge/Ram trucks also utilize a charge-air-cooler (intercooler) to reduce the temperature and increase the density of the intake air charge. Starting Aids Like its predecessors, the 6.7 Cummins used a grid heater (also heater grid, intake heater) as a cold starting aid for 2007 to 2024 model engines before introducing a glow plug system for 2025. The grid heater is a resistive heating element comprised of a matrix of thin conductors. It is mounted in the upper pathway of the intake manifold such that the intake air charge must pass through the device before entering any cylinder's combustion chamber. When cycled on during the wait-to-start period, the heating element draws a relatively large current form the vehicle batteries (on the realm of 200 amps, give-or-take) that rapidly heats the conductor matrix. When the engine is cranked, the cold intake air charge passes through the grid heater, increasing its temperature before it is distributed to each combustion chamber. Under the correct conditions, the grid heater is also used to raise intake air temps for a brief period after start-up. Doing so contributes to more complete combustion for reduced emissions and a lower propensity of cylinder washing, a contributor to fuel dilution, on a cold soaked engine. The transition to glow plugs for the 2025 model engines effectively moves the heating elements inside the actual combustion chamber for more efficient heat transfer and reduced emissions on start-up. Some Ram dealer data for 2025 suggests that the glow plug system reduces engine start time, but this is largely debatable and would depend on a number of variables. Emission Control Technologies All 6.7 Cummins turbodiesels employ a diesel oxidation catalyst and diesel particulate filter. In fact, a major factor in the transition from the 5.9 liter to the 6.7 liter in the 2007 model year was to conform with more stringent Federal emissions regulations that required a diesel particulate filter. For 2007 to 2010 chassis cabs and 2007 to 2012 pickup trucks, a NOx absorption catalyst was also included as part of the exhaust aftertreatment system. Chassis cab trucks adopted SCR in 2011 and pickup trucks began using it in 2013. SCR requires that DEF, a urea based solution, be perpetually injected into the exhaust stream to reduce tailpipe emissions of nitrous oxides. The engines also employ a cooled exhaust gas recirculation system. A small portion of exhaust gases are cooled and returned to the combustion chamber as a method of displacing oxygen and thus cooling the combustion temperature, which reduces the formation of nitrous oxides during the combustion event. Available Transmissions In Ram truck applications, the 6.7 liter Cummins has been available mated to a total of five transmissions: The Chrysler 68RFE six speed automatic in 2007 to 2024 pickup trucks The Mercedes G56 six speed manual transmission in 2007 to 2018 pickup and chassis cab trucks The Aisin AS68RC six speed automatic in 2007 to 2012 chassis cab trucks The Aisin AS69RC six speed automatic in 2013 to 2024 Ram 3500 pickup and all chassis cab trucks The ZF PowerLine eight speed automatic transmission introduced for the 2025 model year in pickup and chassis cab trucks Ram retired the AS68RC transmission in chassis cab trucks and replaced it with the AS69RC for 2013, the same year that they introduced a High Output variant of the 6.7 Cummins that was only available in Ram 3500 models and utilized the same transmission. The 68RFE, which has no PTO provisions, was never available in chassis cab trucks. The G56 manual transmission was offered through the 2018 model year and did not return for 2019. Trucks equipped with the G56 required a significantly de-rated engine calibration, thus the Cummins' horsepower and torque growth through the years was not realized in manual transmission equipped trucks. In 2018, for example, trucks with the G56 gearbox were rated at a peak 660 lb-ft of torque to the 800 lb-ft produced by 68RFE trucks and the whopping 930 lb-ft that H.O. engines mated to the AS69RC were rated at. For 2025, Ram introduced the ZF built PowerLine 8 eight speed automatic transmission. The transmission is standard on all pickup and chassis cab trucks and there are no alternative offerings, simplifying the powertrain structure between models. Ram also standardized the H.O. engine for 2500 models and there is no longer a standard output engine available. 6.7 Cummins Chronology of Changes The diesel segment has grown increasingly competitive, and Cummins has ensured that the 6.7 Turbodiesel has evolved accordingly. Many of the engine's changes through time were necessitated by significant increases in its performance, requiring structural improvements to support greater stresses. Other changes represent cleaner emissions, improved fuel economy, greater reliability, or even a combination of all these factors. The most comprehensive engine changes occurred for the 2013, 2019, and 2025 model years. 2009 Access port integrated into the turbocharger turbine housing to permit cleaning of the VGT vanes without removing the turbocharger from the engine; increased serviceability Updated fuel filter housing, fuel filter element with improved filtration Revised water pump inlet housing design Revised exhaust gas recirculation coolant hoses and fittings 2010 Transitioned to a single, engine mounted ECU (PCM) that controls engine and transmission functions; previous engines employed separate, standalone units for the engine and transmission Revised fuel filter housing, added a quarter turn drain valve to the side of the housing Revised thermostat with a slightly higher 200 F opening temperature, providing a marginal increase in designed engine operating temperature; new thermostat not interchangeable with earlier engines 2011 2011 model year pickup trucks with the 68RFE automatic transmission received a substantial 150 lb-ft increase in peak torque. Power ratings remained the same in all applications, and G56 equipped trucks did not see any changes in engine performance for 2011. Selective catalytic reduction was added to the exhaust aftertreatment system of chassis cab trucks for 2011, requiring the use of DEF. 2013 The 2013 model year saw horsepower and torque increases across the board. Chassis cab trucks with the G56 manual transmission gained 15 horsepower and 40 lb-ft while automatic trucks saw an increase of 20 horsepower and 140 lb-ft of torque. Pickup trucks with the G56 gained 50 lb-ft of torque, although horsepower remained the same. Standard output engines gained 20 horsepower, but carried over the 800 lb-ft torque figure from the previous model year. A High Output variant of the 6.7 Cummins is introduced for Ram 3500 models (single and dual rear wheel) and is rated with 15 more horsepower and 50 lb-ft of torque more than the standard output engine. Selective catalytic reduction becomes standard on all 6.7 Cummins equipped pickup trucks, requiring the use of DEF New camshaft design introduced for chassis cab trucks only; revised intake duration and lift New piston design Coating added to skirt area to reduce wear on cylinder walls, dampen piston slap during cold start Piston bowl was redesigned for reduced exhaust emissions New piston cooling jet design New vibration damper, addressing the demands of the more powerful engine lineup Revised bed-plate New Holset model HE300VG turbocharger New ECU with two 96 pin connectors (versus prior two 76 pin connectors) providing additional data input processing for the SCR system New, larger EGR cooler Reduced water pump/fan drive pulley diameter to increase their rotational speeds at a given engine RPM AS68RC transmission no longer available in chassis cab trucks, replaced by AS69RC 2016 High Output engines receive a new calibration that adds 35 lb-ft of torque, brining total output on the H.O. 6.7 Cummins to 900 lb-ft. There are no output adjustments to standard production engines nor any powertrain configuration offered in chassis cab trucks. 2018 Torque on High Output engines is increased from 900 to 930 lb-ft of torque via a new engine calibration. There are once again no changes for standard output engines or chassis cab trucks. 2018 marks the final year that the G56 manual transmission is offered in a Ram Truck. 2019 Cummins provided torque improvements across the board for pickup truck engines. Torque is increased from 930 to 1,000 lb-ft for H.O. engines and from 800 to 850 lb-ft for the standard output option. Power is also increased, from 385 to 400 horsepower, in H.O. engines. The 6.7 Cummins becomes the first pickup truck engine to reach the 1,000 lb-ft mark. There is no change in the output of engines in chassis cab trucks and their calibration is carried over from the prior model year. New piston design with a larger connecting rod pin bore (accepts larger wrist pin), slightly altered bowl geometry for improved swirl, low friction piston rings; compression ratio decreased to 16.2 to 1 for high output engines and increased to 19.0 to 1 for standard output engines. New high strength forged connecting rods New high strength crankshaft New deep skirt engine block cast from compacted graphite iron (previously grey cast iron); reduced weight, significant improvements in strength and rigidity Revised cylinder head design with new springs, exhaust valves, and rocker arms; cylinder head bolt diameter increased Hollow camshaft design adopted for reduced weight, camshaft profile revised Maintenance-free hydraulic lifters replace prior solid lifter design; no adjustment necessary, reduced engine noise Revised rocker arms Revised Holset turbocharger calibrated to provide up to 33 psig of manifold pressure Exhaust manifold revised with elongated mounting holes to prevent cracks resulting from thermal expansion, turbocharger mounting position moved to between cylinder 4 and 5 exhaust manifold runners (previously located centrally between cylinders 3 and 4) Bosch CP4.2 fuel injection pump replaces long-running CP3 unit, maximum injection pressure increased from 26,000 to 29,000 psi Revised fuel injectors Increased cooling system capacity High volume lube oil pump Water and oil pumps redesigned into aluminum housings (previously cast iron) 2020 A new engine calibration for chassis cab trucks increases power from 325 to 360 horsepower (+35) and torque from 750 to 800 lb-ft (+50). There are no changes for pickup truck engines. 2021 For 2021, the 6.7 Cummins reverted back to a Bosch CP3 injection pump, ditching the controversial CP4 pump. Additionally, a recall is opened on all 2019 and 2020 model year vehicles employing the CP4 injection pump to have them retrofitted to the CP3. High Output engines see a 75 lb-ft and 20 horsepower increase in torque and power via a new ECU calibration. Power and torque for standard output engines is unchanged, as is that for chassis cab trucks. 2025 Ram introduced a simplified powertrain structure for the 2025 model year, offering a single diesel option in all Ram chassis cab and pickup trucks; the High Output 6.7 Cummins mated to the ZF PowerLine 8 (TorqueFlite HD 8) eight speed automatic transmission. Although all applications employ the same engine, note that chassis cab trucks continue to operate on an alternative ECU calibration at lower power and torque levels than pickup truck engines, which gained an additional 10 horsepower for the 2025 model year. Bosch CP8 fuel injection pump capable of 32,000 psi replaces CP3 pump Traditional glow plug system replaces the grid heater; primarily benefit is believed to be reduced emissions at engine start-up New cartridge style engine oil filter; replaces spin-on type filter Revised turbocharger Engine mounted DOC; improved DOC efficiency and "light-off" by moving it closer to the engine Revised exhaust gas recirculation system New cylinder head design with externally mounted fuel injectors for improved serviceability New intake manifold with optimized flow path for improved cylinder distribution New grey cast iron engine block (no longer CGI) New piston design, compression ratio lowered to 16.0 to 1 ZF PowerLine 8 transmission becomes standard on all models 6.7 Cummins Engine Specs Engine 6.7 Cummins ISB (6.7ISB, ISB6.7, 6.7 Cummins Turbodiesel, PACCAR PX-7) Manufacturer Cummins Inc. Applications/Production Years 2007.5 - 2010 Dodge Ram 2500, 3500, 4500, 5500 2011 - 2025 Ram Trucks Ram 2500, Ram 3500 pickup trucks 2011 - 2025 Ram Trucks Ram 3500, Ram 4500, Ram 5500 chassis cab trucks 2007 - 2015 Ford F-650, F-750 2008 - 2025 Peterbilt & Kenworth medium duty trucks/chassis (badged PACCAR PX-7) 2014 - 2025 International medium duty trucks/chassis 2008 Sterling Bullet 207 - 2025 Blue Bird school buses Advertised Displacement 408 cubic inches, 6.7 liters Calculated Displacement: 407.58 cubic inches, 6.69 liters Configuration Inline 6 cylinder (I-6) B10 Life 250,000 miles (~400,000 km) B50 Life 350,000 miles (~560,000 km) Bore 4.21 inches (107.0 mm) Stroke 4.88 inches (124.0 mm) Bore/Stroke Ratio 0.86 (undersquare) Compression Ratio 2007 - 2018 17.3:1 2019 - 2024 Standard Output 19.0:1 2025 Standard Output 18.3:1 [1] 2019 - 2024 High Output 16.2:1 2025 High Output 16.0:1 Firing Order 1-5-3-6-2-4 Cylinder Numbers Engine Block Material 2007 - 2018 Grey cast iron 2019 - 2024 Compacted graphite iron (CGI) 2025 Grey cast iron Cylinder Head Material Cast iron Injection System 2007 - 2018 Direct injection, electronically controlled Bosch CP3 HPFP, common rail, 26,000 psi max injection pressure 2019 - 2020 Direct injection, electronically controlled Bosch CP4.2 HPFP, common rail, 29,000 psi max injection pressure 2021 - 2024 Direct injection, electronically controlled Bosch CP3 HPFP, common rail 2025+ Direct injection, electronically controlled Bosch CP8 HPFP, common rail, 32,000 psi max injection pressure Aspiration 2007 - 2012 Holset HE351VE variable geometry turbocharger 2013 - 2024 Holset HE300VG variable geometry turbocharger Reciprocating Assembly 2007 - 2018 Cast aluminum pistons, powdered metal connecting rods 2019+ Cast aluminum pistons, forged alloy steel connecting rods Valvetrain 2007 - 2018 OHV, 4 valves per cylinder, solid roller lifters, cam-in-block 2019+ OHV, 4 valves per cylinder, hydraulic lifters, cam-in-block Valve Lash (Clearance) Exhaust valves 0.020 inch (engine cold) Intake valves 0.010 inch (engine cold) Valve lash adjustment not required on 2019+ model years with hydraulic lifters, adjust valves on 2007 - 2018 model years at 150,000 mile intervals Cold Start Aid(s) Grid heater (resistive heating element mounted at inlet of lower intake manifold) Engine Oil Capacity 12.0 U.S. quarts w/ filter change (All Ram pickups and chassis cabs; refer to owners manual to verify oil capacity in alternative applications) Engine Oil Spec See viscosity chart at: 6.7L Cummins service guide Fuel ULSD; 2007 - 2013 models are B5 Biodiesel compatible, 2013.5+ models are B20 biodiesel compatible. Exceeding biodiesel blends in excess of B20 not advised. Horsepower 350 - 430 horsepower, see chart below Torque 610 - 1,075 lb-ft, see chart below Governed Speed ~ 3,200 rpm for Ram 2500/3500 pickups Emissions Equipment 2007 - 2012 EGR, DOC, NAC, DPF (DEF not required 2007 to 2012 model year Ram pickups) 2013 - 2024 EGR, DOC, DPF, SCR (DEF required in 2013+ model year Ram pickups) Engine Weight 2007 - 2018 Approximately 1,120 lbs, dry 2019 - 2024 Approximately 1,060 lbs dry [2] 2025 Approximately 1,070 lbs, dry [2] Engine Dimensions Length 41.7 inches Width 28.6 inches Height 37.8 inches [1] - chassis cab trucks only [2] - initial engine weight reduction resulted primarily from the adoption of a CGI engine block; Cummins adopted a grey cast iron engine block in 2025 6.7 Cummins Horsepower & Torque Ratings Ram 2500 & 3500 HD Pickup Trucks Model Year(s) Horsepower (hp @ rpm) Torque (lb-ft @ rpm) Notes 2007.5 - 2010 350 @ 3,013 650 @ 1,500 [4] 610 @ 1,500 [5] 2011 - 2012 [3] 350 @ 3,013 800 @ 1,600 [4] 610 @ 1,500 [5] 2013 - 2014 350 @ 2,800 660 @ 1,500 [5] 370 @ 2,800 800 @ 1,700 [4] 385 @ 2,800 850 @ 1,700 [6] 2015 350 @ 2,800 660 @ 1,500 [5] 370 @ 2,800 800 @ 1,700 [4] 385 @ 2,800 865 @ 1,700 [6] 2016 - 2017 350 @ 2,800 660 @ 1,500 [5] 370 @ 2,800 800 @ 1,700 [4] 385 @ 2,800 900 @ 1,700 [6] 2018 350 @ 2,800 660 @ 1,500 [5] 370 @ 2,800 800 @ 1,700 [4] 385 @ 2,800 930 @1,700 [6] 2019 - 2020 370 @ 2,800 850 @ 1,700 [4] 400 @ 2,800 1,000 @ 1,800 [6] 2021 - 2024 370 @ 2,800 850 @ 1,700 [4] 420 @ 2,800 1,075 @ 1,800 [6] 2025 430 @ 2,800 1,075 @ 1,800 --- [3] - Beginning with trucks built February 2011; some earlier builds received 2010 model year engines[4] - With 68RFE six speed automatic transmission[5] - With G56 six speed manual transmission[6] - With Aisin AS69RC six speed automatic transmission; High Output engine, Ram 3500 models only Model Year(s) Horsepower (hp @ rpm) Torque (lb-ft @ rpm) Notes 2007 - 2012 305 @ 2,800 610 @ 1,500 [7],[8] 2013 - 2019 320 @ 2,800 650 @ 1,500 [8] 325 @ 2,800 750 @ 1,700 [9] 2020 - 2025 360 @ 2,800 800 @ 1,700 --- [7] - With Aisin AS68RC six speed automatic transmission[8] - With G56 six speed manual transmission[9] - With Aisin AS69RC six speed automatic transmission Ford Motor Company offered the 6.7 Cummins as an engine option in F-650 and F-750 medium duty truck models beginning the 2007 model year and ending the 2015 model year. During this period, the 6.7 Cummins was offered in the following horsepower and torque rating combinations: Horsepower (hp @ rpm) Torque (lb-ft @ rpm) 200 @ 2,300 520 @ 1,600 220 @ 2,300 520 @ 1,600 240 @ 2,300 560 @ 1,600 250 @ 2,300 660 @ 1,600 260 @ 2,300 660 @ 1,600 280 @ 2,300 660 @ 1,600 300 @ 2,600 660 @ 1,600 325 @ 2,300 750 @ 1,800 340 @ 2,600 660 @ 1,800 360 @ 3,600 800 @ 1,800 Horsepower & Torque Curves 350 hp, 800 lb-ft horsepower & torque curves for pickup trucks Source - Cummins Inc. 305 hp, 610 lb-ft horsepower & torque curves for chassis cab trucks Source - Cummins Inc. Horsepower & torque curves for various medium duty truck applications Source - PACCAR Ram/Cummins Recall CP4 Injection Pump The 6.7 Cummins employed the tried-and-true Bosch CP3 injection pump through the 2018 model year. For 2019, Cummins adopted the Bosch CP4 injection pump, presumably due to its "higher efficiency". However, the Bosch CP4, which GM used in the 6.6 Duramax from 2011 to 2016 and Ford has used since 2011 in the 6.7 Power Stroke, has been the source or major reliability concerns and total fuel system failures. There is much speculation as to what causes the Bosch CP4 "failure event", but the general consensus is that ULSD fuels used in the United States lack the lubricity necessary to keep the roller followers from wearing. The inevitable failure event flushes metal debris throughout the entire fuel system, typically requiring replacement of the fuel injectors, fuel lines, fuel pump, injection pump and necessitating a deep cleaning of the fuel tank and other associated parts. Repairs can cost in excess of $10,000 and are generally not covered under warranty because OE's classify such a failure as "contamination" of the fuel system. As of 2021 several, if not dozens of lawsuits were pending across the U.S. seeking damages for affected GM, Ford, and Ram truck owners. Due to these reliability issues and the growing number of complaints with the CP4 injection pump, Cummins began using the Bosch CP3 injection pump again for the 2021 model year. Additionally, FCA voluntarily recalled all Cummins equipped Ram trucks employing the Bosch CP4 injection pump late in 2021 (NHTSA recall number 21V-88). Additional information on this recall and Bosch CP4 failures can be found here: Bosch CP4 failure information. Fuel Dilution Problems in Early 6.7 Cummins Diesels Fuel dilution of the engine oil became a problem as the result of how the 6.7 Cummins handled regeneration cycles. Specifically, the 6.7 Cummins relies on a post-injection technique to raise the exhaust system and DPF temperatures during active regeneration, which cleans the DPF by burning off particulate matter that has accumulated in the DPF substrate. During a post-injection event, fuel is injected into the combustion chamber during the exhaust stroke. The fuel therefore does not burn in the combustion chamber, but rather is sent into the exhaust system as an atomized mixture. Because raw fuel is injected, but not burned in the cylinder during this process, cylinder washing and fuel dilution can occur at relatively high rates and it was not uncommon for owners to see fuel dilution in excess of 5% between oil change intervals. When SCR was employed on the 6.7 Cummins, these rates dropped significantly and later trucks are much less prone to fuel dilution problems than the 2007 to 2012 model year pickups and 2007 to 2010 model year chassis cabs. Cummins ISB 6.7-liter straight-six turbodiesel engine is the latest and biggest version of the B series. The ISB 6.7 is also the most powerful diesel engine produced by Cummins (350 hp and 650 lb-ft of torque) for light/medium-duty trucks. Its predecessor, the ISB 5.9, has been produced almost ten years. At that moment, it was outdated and depleted the limits of possibilities for improvements in terms of fuel consumption and emissions. The market wanted a new engine for medium-duty trucks and buses, and the ISB 6.7 engine became the answer for that. The 6.7 ISB had an increased cylinder bore (4.21 inches or 106.9 mm) and piston stroke (4.88 inches or 124.0 mm). That increased its displacement to 6.7 liters (408 cubic inches). The engine block is still made from cast iron. On top of the block, there is a 24-valve cast iron cylinder head similar to the ISB 5.9. The difference between ISB 5.9 and 6.7 cylinder head is the ISB6.7 head has holes (Sensor Hole Style head) from the air intake plenum side. There are many changes compared to the last generation B5.9 version, but the overall design remains the same. The 6.7L Cummins engine had a high-pressure Common Rail fuel injection system, electronically controlled fuel injection pump, and new equipment for emissions reduction. The new version was designed guided by stricter requirements on Federal emissions regulations. In 2007, the first year in production, the engine was the first Cummins diesel equipped with a diesel particulate filter (DPF). The DPF filter cleans the exhaust gases from soot by more than 90 percent. A diesel particulate filter has a ceramic matrix, which filters soot particles and regenerates them under high temperature, heated by exhaust gases. Also, the engine had the exhaust gas recirculation system (EGR) with cooling. In the 2010 model year, the engine received an additional DEF (diesel exhaust fluid), SCR (selective catalytic reduction), and EGR cooler. The DEF fluid is injected inside the DPF to help the regeneration process of soot at the lower temperature. So 2 liters of DEF is consumed for every 100 liters of diesel fuel. Holset HE351VE variable geometry turbocharger (VGT) is another interesting new feature of the engine. This turbocharger can block exhaust flow to increase temperatures inside the DPF, which reduces emission levels. The VGT also has an integrated exhaust brake function. It does the engine braking by restricting exhaust flow. All ISB6.7 engines are equipped with an air-to-air intercooler. The improvement process has never been stopped during the last ten years of production, so the 2017 model year engines already produce up to 900 lb-ft of torque. The ISB6.7 also was laid into the basis of the smaller version - ISB4.5 (a 4.5-liter straight four-cylinder turbodiesel engine). Production years 2007- present Cylinder block material Cast Iron Cylinder head material Cast Iron Fuel system Direct injection, electronically controlled Bosch high pressure common rail injection. Bore, mm 4.21 inch, 106.9 mm Stroke, mm 4.88 inch, 124 mm Displacement, cc 408 cubic inches, 6.7 liters Type of internal combustion engine Four-stroke, turbocharged Compression Ratio 17.3 : 1 Power, hp 305-385 hp /2,800-3,000 Torque, lb ft 610-900 lb-ft (827-1220 Nm)/1,500-1,700 Engine weight 1050-1150 lbs, 476-522 kg, dry Engine oil capacity, liter 12 qts (11.4 liters) with filter. Engine oil weight SAE 15W40 diesel oilOil recommendations and capacity may vary depending on the car model, year, and market. Please check the service manual specific to your vehicle! Oil change interval, mile 15,000 (24,000 km) or 6 month (7,500 miles or 6 months for 2007.5 - 2012 model years). Cars with this engine Dodge Ram pickup trucks, buses, medium duty trucks The 6.7 ISB has become the most reliable Cummins B engine to date. In stock form, the failure rates are meager. The common problems are related to emissions equipment and Common Rail Fuel injection. The EGR system is prone to clogging, and that issue is typical to all engines equipped with EGR. The DPF longevity is about 100,000 miles. Some owners prefer to install DPF aftermarket delete kits, which undoubtedly cheaper but less friendly to nature. Also, keep in mind, long idle times are not tolerant for the VGT. ISB6.7 fuel injectors also demand attention at 200k mileage. Owners report that 6.7 injectors are more reliable than injectors used in the 5.9 version. Dodge ISB 6.7 Truck's Transmissions and Power: In 2007 the 6.7 liters engine was introduced in 350 hp and 650 lb-ft version with Chrysler-built six-speed 68RFE automatic transmission, and 350 hp and 610 lb-ft modification attached to the Mercedes G56 6-speed manual transmission. The 2007 and newer 3500 trucks had only 305 hp and have being equipped with the Aisin AS68RC or the Mercedes G56 6-speed manual transmission. The 2008 4500/5500 medium duty trucks received the 350 hp and 610 lb-ft version of the engine, which come with the Aisin AS68RC or the Mercedes G56 manual. Since 2011, the 68RFE automatic transmission offered with 350-370hp and 800 lb-ft version of 6.7 liter engine. Since 2013, the Aisin AS69RC transmission became available for 3500 only with B6.7 engine produced 385 hp and 850-900 lb-ft of torque. Page 2 Cummins EV Powertrain Specifications No e-powertrains yet. The Cummins Inc. is the world leader in developing and manufacturing of diesel engines, an expert on their application and adaptation for many different types of equipment. More than a million Cummins engines rotate wheels of trucks, special vehicles, buses, and marines in anywhere around the world. Each of these engines is the result of the unique experience of developers, their ability to create efficient engines for all variants of exploitation. The headquarters of Cummins Inc. is located in Columbus, Indiana, in the United States. Companies owned by Cummins Inc. are located in 56 countries. Cummins production is organized in China, US, India, Japan, Brazil, Mexico, South Africa, Australia, Russia and other countries. The production activity of the company is concentrated in key areas: diesel engines for trucks and buses, ships, rail transport, agricultural, road building and industrial equipment; diesel-generator sets; spare parts for engines (filters, turbochargers, exhaust systems, etc.). Cummins is 28 thousand employees around the world and more than 5,000 service and dealership centers in 160 countries. Page 3 BMW EV Powertrain Specifications No e-powertrains yet. BMW was founded in 1916 in Munich as a plant of aircraft engines. In 1923, the manufacturer produced its first motorcycle. Five years later, BMW acquired a car plant in Eisenach, and along with it - the license for the production of the small car called as Dixi. This car was designed in Munich, as the same as all following BMW products. Currently, the company BMW, which started from a small aircraft engine plant, manufactures its products in five plants in Germany and twenty-two subsidiaries scattered around the world. When it comes to BMW cars, many people immediately feel positive association in this regard, and BMW engines are not an exception. But the views of many on engines of this brand, what they have a high degree of reliability, are caused by public opinion often rather than the truth. That is why we should consider each engine model separately. Page 4 Ford EV Powertrain Specifications No e-powertrains yet. Ford Motor Company is the largest automotive company in North America. The manufacturer produces a wide range of cars and commercial vehicles under the Ford brand. Today, the company is third in the US market. At different times the company owns different car brands. Currently, Ford has a stake in companies such as Kia Motors Corporation and Mazda Motor Corporation. Therefore, many of these manufacturers use Ford engines, or engines developed together. Ford develops and produces gasoline and diesel engines for cars, trucks and commercial vehicles. Ford engines are very reliable. At the same time, Ford uses the newest technologies in design and production of their engines. Page 5 GM EV Powertrain Specifications No e-powertrains yet. General Motors Company (GM) is an American multinational corporation that desings, produces, and distributes vehicles globaly. General Motors is home to Chevrolet, Buick, GMC and Cadillac. GM's engine line is very diverse. In the history of the brand, there is a list of dozens of models with small 3-cylinder engines and impressive V8 engines. Until the mid-70's, every division of General Motors has developed and produced its engines with a low degree of unification, which led to confusion among customers, made high cost of certification, etc. In the 1980s, concern has focused their engine production on individual lines and markets. So for the European market, almost all engines are created in the division Adam Opel AG (3, 4 and 6-cylinder gasoline and diesel engines). Often, these engines had one designation but produced at other plants located in South Korea. Technology exchange agreements with other manufacturers such as Isuzu and Nissan are aimed at reducing the cost of the final product. The unification of models provides significant savings in their price, which makes GM's vehicles popular around the world. Page 6 Hyundai KIA EV Powertrain Specifications No e-powertrains yet. Hyundai Motor Company is the most significant car manufacturer in South Korea, and the fourth car manufacturer in the world. The company was founded in 1967. It started with the production of several cars and a truck, which were models of Ford Company. Since 1974, the company began to produce their vehicles. Hyundai absorbed Korean car manufacturer Kia Motors in 1998. This way the company became to be the big conglomerate Hyundai Kia Automotive Group. Hyundai-Kia engines break quiet rare, are not sensitive to the quality of fuel, have a reliable and straightforward design. At the same time, they consume not much fuel and are environmentally friendly. Engines are produced both in Korea and in other countries like China. There is a unified system of quality control and uniform standards for the production at all plants. Hyundai designs and produces engines usually for both car brands - Hyundai and KIA. If you are looking for the best oil related information for your Cummins 6.7L, the AMSOILProduct Lookup Guidesare a great place to start.Theproduct lookup guidesallow you to input the year/make/model of vehicle that your 6.7L is installed in to ensure the most accurate information.Here are some of the FAQ's regarding the Cummins 6.7L oil and filters - please consult the Product Lookup Guides to ensure the most up-to-date information as specs and info often change:Cummins 6.7L Oil Type/Viscosity:5W-40 or 15W-40*Depends on installation.See lookup guidesCummins 6.7L Oil Type:Depends on installation.See lookup guidesCummins 6.7L Oil Filter:Depends on installation.See lookup guidesCummins 6.7L Oil Capacity: (How many quarts of oil does a 6.7L Cummins Take)12 Quarts with oil changeWhere to Buy:1. Shop Online and Get Fast, Free DeliveryShop online and get your products in 3 business days or less. With free shipping on orders over $100, and discounts forPreferred Customers(an average 25% savings), shopping online is the fastest way to get AMSOIL products to your doorstep. Becoming a Preferred Customer earns you discounts, points on purchases and more. Simply shop our online store and add a P.C. membership to your cart before checking out. You will receive an immediate discount on products for your Cummins 6.7L2. Buy Wholesale with a Commercial AccountAMSOIL commercial accounts, such as landscapers, trucking companies and taxi fleets, buy AMSOIL products at thelowest possible pricesfor use in their business vehicles and equipment. Plus you automatically earn purchase discounts based on your cumulative order total. Establishing a commercial account is simple and the benefits immense.3. Call Me DirectlyAlthough setting up a Preferred Customer or Commercial Account is my number one recommendation, you can also call me directly and I'll give you a great price, and fast shipping from the nearest warehouse'till next timeRobthe "AMSOIL" guy 777parts.com 2012 2025 The names Case, Cat, Caterpillar, Cummins, Komatsu, Hitachi, John Deere, Tadano, JCB, Volvo, Doosan, Hyundai, Terex, Bobcat or any other original equipment manufacturers are registered trademarks of the respective original equipment manufacturers. All names, descriptions, numbers and symbols are used for reference purposes only. This is Complete Operators Manual for Cummins ISB CM2150 Engine.Your machine has been designed and built to the highest standards of quality. It conforms to all current safety regulations. However, the risk of accidents can never be completely excluded. That is why it is essential to observe elementary safety rules and precautions.Please read this manual carefully, paying particular attention to the instructions concerning safety, operation and maintenance so as to avoid the risk of injury while operating or servicing the machine. Reading operating manual will help you and others avoid personal injury or damage to the machine. The information provided in this manual will provide the operator with the safest and most efficient way to use the machine. Knowing how to operate the machine safely and correctly will enable you to train others to operate the machine. Use this Cummins ISB CM2150 Engine operators manual as a guide, Your machine will remain a reliable working tool provided it is kept in good working condition and serviced properly. Models Covered:Cummins ISB CM2150 Engine Manual Covers:IntroductionEngine and System IdentificationAutomotive FeaturesOperating InstructionsMaintenance GuidelinesMaintenance Procedures at Daily IntervalMaintenance Procedures at 12,000 Kilometers [7500 Miles], 250 Hours, or 3 MonthsMaintenance Procedures at 24,000 Kilometers [15,000 Miles], 500 Hours, or 6 MonthsMaintenance Procedures at 48,000 Kilometers [30,000 Miles], 1000 Hours, or 1 YearMaintenance Procedures at 96,000 Kilometers [60,000 Miles], 2000 Hours, or 2 YearsMaintenance Procedures at 241,500 Kilometers [150,000 Miles], 5000 Hours, or 4 YearsMaintenance Procedures at 321,500 Kilometers [200,000 Miles], 6,500 HoursAdjustment, Repair, and ReplacementSystem DiagramsService LiteratureComponent ManufacturersService AssistanceTroubleshooting SymptomsMaintenance SpecificationsWarranty Cummins ISB 6.7-liter straight-six turbodiesel engine is the latest and biggest version of the B series. The ISB 6.7 is also the most powerful diesel engine produced by Cummins (350 hp and 650 lb-ft of torque) for light/medium-duty trucks. Its predecessor, the ISB 5.9, has been produced almost ten years. At that moment, it was outdated and depleted the limits of possibilities for improvements in terms of fuel consumption and emissions. The market wanted a new engine for medium-duty trucks and buses, and the ISB 6.7 engine became the answer for that. The 6.7 ISB had an increased cylinder bore (4.21 inches or 106.9 mm) and piston stroke (4.88 inches or 124.0 mm). That increased its displacement to 6.7 liters (408 cubic inches). The engine block is still made from cast iron. On top of the block, there is a 24-valve cast iron cylinder head similar to the ISB 5.9. The difference between ISB 5.9 and 6.7 cylinder head is the ISB6.7 head has holes (Sensor Hole Style head) from the air intake plenum side. There are many changes compared to the last generation B5.9 version, but the overall design remains the same. The 6.7L Cummins engine had a high-pressure Common Rail fuel injection system, electronically controlled fuel injection pump, and new equipment for emissions reduction. The new version was designed guided by stricter requirements on Federal emissions regulations. In 2007, the first year in production, the engine was the first Cummins diesel equipped with a diesel particulate filter (DPF). The DPF filter cleans the exhaust gases from soot by more than 90 percent. A diesel particulate filter has a ceramic matrix, which filters soot particles and regenerates them under high temperature, heated by exhaust gases. Also, the engine had the exhaust gas recirculation system (EGR) with cooling. In the 2010 model year, the engine received an additional DEF (diesel exhaust fluid), SCR (selective catalytic reduction), and EGR cooler. The DEF fluid is injected inside the DPF to help the regeneration process of soot at the lower temperature. So 2 liters of DEF is consumed for every 100 liters of diesel fuel. Holset HE351VE variable geometry turbocharger (VGT) is another interesting new feature of the engine. This turbocharger can block exhaust flow to increase temperatures inside the DPF, which reduces emission levels. The VGT also has an integrated exhaust brake function. It does the engine braking by restricting exhaust flow. All ISB6.7 engines are equipped with an air-to-air intercooler. The improvement process has never been stopped during the last ten years of production, so the 2017 model year engines already produce up to 900 lb-ft of torque. The ISB6.7 also was laid into the basis of the smaller version - ISB4.5 (a 4.5-liter straight four-cylinder turbodiesel engine). Production years 2007- present Cylinder block material Cast Iron Cylinder head material Cast Iron Fuel system Direct injection, electronically controlled Bosch high pressure common rail injection. Bore, mm 4.21 inch, 106.9 mm Stroke, mm 4.88 inch, 124 mm Displacement, cc 408 cubic inches, 6.7 liters Type of internal combustion engine Four-stroke, turbocharged Compression Ratio 17.3 : 1 Power, hp 305-385 hp /2,800-3,000 Torque, lb ft 610-900 lb-ft (827-1220 Nm)/1,500-1,700 Engine weight 1050-1150 lbs, 476-522 kg, dry Engine oil capacity, liter 12 qts (11.4 liters) with filter. Engine oil weight SAE 15W40 diesel oilOil recommendations and capacity may vary depending on the car model, year, and market. Please check the service manual specific to your vehicle! Oil change interval, mile 15,000 (24,000 km) or 6 month (7,500 miles or 6 months for 2007.5 - 2012 model years). Cars with this engine Dodge Ram pickup trucks, buses, medium duty trucks The 6.7 ISB has become the most reliable Cummins B engine to date. In stock form, the failure rates are meager. The common problems are related to emissions equipment and Common Rail Fuel injection. The EGR system is prone to clogging, and that issue is typical to all engines equipped with EGR. The DPF longevity is about 100,000 miles. Some owners prefer to install DPF aftermarket delete kits, which undoubtedly cheaper but less friendly to nature. Also, keep in mind, long idle times are not tolerant for the VGT. ISB6.7 fuel injectors also demand attention at 200k mileage. Owners report that 6.7 injectors are more reliable than injectors used in the 5.9 version. Dodge ISB 6.7 Truck's Transmissions and Power: In 2007 the 6.7 liters engine was introduced in 350 hp and 650 lb-ft version with Chrysler-built six-speed 68RFE automatic transmission, and 350 hp and 610 lb-ft modification attached to the Mercedes G56 6-speed manual transmission. The 2007 and newer 3500 trucks had only 305 hp and have being equipped with the Aisin AS68RC or the Mercedes G56 6-speed manual transmission. The 2008 4500/5500 medium duty trucks received the 350 hp and 610 lb-ft version of the engine, which come with the Aisin AS68RC or the Mercedes G56 manual. Since 2011, the 68RFE automatic transmission offered with 350-370hp and 800 lb-ft version of 6.7 liter engine. Since 2013, the Aisin AS69RC transmission became available for 3500 only with B6.7 engine produced 385 hp and 850-900 lb-ft of torque. Page 2 Cummins EV Powertrain Specifications No e-powertrains yet. The Cummins Inc. is the world leader in developing and manufacturing of diesel engines, an expert on their application and adaptation for many different types of equipment. More than a million Cummins engines rotate wheels of trucks, special vehicles, buses, and marines in anywhere around the world. Each of these engines is the result of the unique experience of developers, their ability to create efficient engines for all variants of exploitation. The headquarters of Cummins Inc. is located in Columbus, Indiana, in the United States. Companies owned by Cummins Inc. are located in 56 countries. Cummins production is organized in China, US, India, Japan, Brazil, Mexico, South Africa, Australia, Russia and other countries. The production activity of the company is concentrated in key areas: diesel engines for trucks and buses, ships, rail transport, agricultural, road building and industrial equipment; diesel-generator sets; spare parts for engines (filters, turbochargers, exhaust systems, etc.). Cummins is 28 thousand employees around the world and more than 5,000 service and dealership centers in 160 countries. Page 3 BMW EV Powertrain Specifications No e-powertrains yet. BMW was founded in 1916 in Munich as a plant of aircraft engines. In 1923, the manufacturer produced its first motorcycle. Five years later, BMW acquired a car plant in Eisenach, and along with it - the license for the production of the small car called as Dixi. This car was designed in Munich, as the same as all following BMW products. Currently, the company BMW, which started from a small aircraft engine plant, manufactures its products in five plants in Germany and twenty-two subsidiaries scattered around the world. When it comes to BMW cars, many people immediately feel positive association in this regard, and BMW engines are not an exception. But the views of many on engines of this brand, what they have a high degree of reliability, are caused by public opinion often rather than the truth. That is why we should consider each engine model separately. Page 4 Ford EV Powertrain Specifications No e-powertrains yet. Ford Motor Company is the largest automotive company in North America. The manufacturer produces a wide range of cars and commercial vehicles under the Ford brand. Today, the company is third in the US market. At different times the company owns different car brands. Currently, Ford has a stake in companies such as Kia Motors Corporation and Mazda Motor Corporation. Therefore, many of these manufacturers use Ford engines, or engines developed together. Ford develops and produces gasoline and diesel engines for cars, trucks and commercial vehicles. Ford engines are very reliable. At the same time, Ford uses the newest technologies in design and production of their engines. Page 5 GM EV Powertrain Specifications No e-powertrains yet. General Motors Company (GM) is an American multinational corporation that desings, produces, and distributes vehicles globaly. General Motors is home to Chevrolet, Buick, GMC and Cadillac. GM's engine line is very diverse. In the history of the brand, there is a list of dozens of models with small 3-cylinder engines and impressive V8 engines. Until the mid-70's, every division of General Motors has developed and produced its engines with a low degree of unification, which led to confusion among customers, made high cost of certification, etc. In the 1980s, concern has focused their engine production on individual lines and markets. So for the European market, almost all engines are created in the division Adam Opel AG (3, 4 and 6-cylinder gasoline and diesel engines). Often, these engines had one designation but produced at other plants located in South Korea. Technology exchange agreements with other manufacturers such as Isuzu and Nissan are aimed at reducing the cost of the final product. The unification of models provides significant savings in their price, which makes GM's vehicles popular around the world. Page 6 Hyundai KIA EV Powertrain Specifications No e-powertrains yet. Hyundai Motor Company is the most significant car manufacturer in South Korea, and the fourth car manufacturer in the world. The company was founded in 1967. It started with the production of several cars and a truck, which were models of Ford Company. Since 1974, the company began to produce their vehicles. Hyundai absorbed Korean car manufacturer Kia Motors in 1998. This way the company became to be the big conglomerate Hyundai Kia Automotive Group. Hyundai-Kia engines break quiet rare, are not sensitive to the quality of fuel, have a reliable and straightforward design. At the same time, they consume not much fuel and are environmentally friendly. Engines are produced both in Korea and in other countries like China. There is a unified system of quality control and uniform standards for the production at all plants. Hyundai designs and produces engines usually for both car brands - Hyundai and KIA. By visiting our site, you agree to our privacy policy regarding cookies, tracking statistics, etc. Read the privacy policy Would love your thoughts, please comment.x

Isb cm2150 manual. Isb cm850 oil capacity. Isb 6.7 oil capacity. Isb oil capacity. Isb cm2150. Cummins isb oil capacity.