QUICK REFERENCE GUIDE

Truck maintenance and operation

B6.7 (EPA 2021)

For ease of identification, important characteristics of this engine are:

- Single camshaft
- High Pressure Common Rail (HPCR) fuel system
- Single module DPF and SCR aftertreatment system
- ECM 2450 (this control module incorporates DEF dosing control)
- Variable geometry turbocharger (VGT)
- Exhaust gas recirculation system (EGR)

MAINTENANCE INTERVALS

		Fuel consumption		
Oil drain interval*		Severe (< 6 mpg) (< 2.6 km/liter)	Normal (6 - 10 mpg) (2.6 – 4.3 km/liter)	Light (> 10 mpg) (> 4.3 km/liter)
Oil capacity: 19.5 quarts (18.5 liters)	**Miles**	12,000	25,000	30,000
	Kilometers	19,000	40,000	48,000
	Hours	900	1,000	1,000
	Months	18		
Oil capacity: 16 quarts (15.1 liters)	**Miles**	10,000	20,000	25,000
	Kilometers	16,000	32,000	40,000
	Hours	650	750	850
	Months	18		
Fuel filters		60,000 miles (96,000 km) / 2,000 hours / 18 months		
Crankcase ventilation		Maintenance free		
Overhead adjustment		150,000 miles (240,000 km) / 5,000 hours		
DPF change		200,000 miles (320,000 km) / 6,500 hours		
DEF filter		200,000 miles (320,000 km) / 6,500 hours		

*Consult relevant procedures in the Owners or Maintenance and Operation manuals.

Maintenance information

CAUTION

- Never loosen a high-pressure fuel line with the engine running. With the engine stopped, relieve pressure only at the fuel pump inlet line fitting on the side of the rail.
- Drain water from the fuel filter daily. Follow procedure 006-075 when the Water-In-Fuel (WIF) sensor is activated.
- When changing the engine mounted fuel filter, never pre-fill by pouring fuel in the center hole (clean side). Recommended procedure is to install filter dry and turn the key switch on and off 3-4 times and allow the priming pump to fill the filter.
- If you have to pre-fill the filter, use the smaller outside holes (dirty side) and let the fuel flow through the filter media to provide clean, filtered fuel to the clean side.
- Synthetic or Semi-Synthetic oils may be beneficial for extreme arctic or extreme heat conditions. DO NOT EXTEND Oil Drain Intervals with synthetic or semi-synthetic oils.
- A high-quality lubricating oil that meets Cummins Engineering Standard CES 20086 (CK-4) must be used. 10W30 or 15W40 is recommended. Refer to Procedure 018-003 to identify the correct lubricating oil for your engine and operating conditions.
- Check the oil pressure, coolant temperatures, WIF sensor, DEF level, and other engine parameters daily via the OEM instrument panel or gauge cluster to make sure they are operational.
- Check the instrument panel regularly for any alarm messages. Take appropriate action to rectify the alarm condition or contact your nearest Cummins Distributor.

Electronic features

For best fuel economy and performance, take advantage of the following electronic engine features, setting the parameters to meet your needs:

- Road Speed Governor
- Cruise Control
- Idle Control
- Gear Down Protection

For guidance in parameter settings: https://www.cummins.com/parts-and-service/digital-products-and-services/powerspec.

DPF cleaning or change intervals

Cummins Inc. recommends aftertreatment DPFs that require ash cleaning to be returned to a Cummins authorized repair location for replacement. Unauthorized cleaning methods are not to be used to clean the aftertreatment DPF.

The Aftertreatment Diesel Oxidation Catalyst and Aftertreatment Diesel Particulate Filter Reuse Guidelines, Bulletin 4021600, can be used to determine if the aftertreatment DPF is suitable for use.

Lubricating oil systems

SPECIFICATIONS

Oil pressure	
At idle (min allowed)	69 kPa (10 psi)
At rated speed (min allowed)	207 kPa (30 psi)
Oil capacity (standard pan)	
Pan only	14.2 liters (15 qt)
Total system	15.1 liters (16 qt)
High to Low (on dipstick)	1.9 liters (2 qt)
Oil capacity (high capacity)	
Pan only	17.2 liters (18.5 qt)
Total system	18.5 liters (19.5 qt)
High to Low (on dipstick)	2.8 liters (3 qt)
Oil filter capacity	0.95 liters (1 qt)

Cooling system

SPECIFICATIONS

Coolant capacity
11.5 liters (3 gal)

Normal coolant temperature range
173 – 203°F (79 – 95°C)

Maximum top tank temperature
225°F (107°C)

Minimum recommended pressure operating temperature
160°F (71.1°C)

Minimum recommended pressure cap range
103 – 172 kPa (15 – 25 psi)

Fuel system

SPECIFICATIONS

Maximum fuel inlet temperature
176°F (80°C)

Maximum pressure drop across fuel filter
81 kPa (11.7 psi)

Maximum fuel drain line restriction
19 kPa (2.7 psi)

Cooling system information

Cummins recommends using either a 50/50 mixture of good quality water and fully formulated antifreeze, or fully formulated coolant when filling the cooling system. The fully formulated antifreeze or coolant must meet Cummins Engineering Standard (CES)14603 specifications.

Most coolants which meet American Society of Testing and Materials (ASTM) D6210 also meet CES14603.

However, some OAT coolants such as Shell™ Rotell ELC, Chevron™, Texaco™, and Delo ELC and their private label counterparts meet ASTM D6210, but do not meet the elastomer compatibility test of CES14603. These coolants are acceptable for use, assuming the OEM added silicate at initial fill. Refer to bulletin 3666132, Cummins® Coolant Requirements and Maintenance, Section 3, Extended Service Interval, for more details.

Diesel exhaust fluid

It is unlawful to tamper with or remove any component of the aftertreatment system. It is also unlawful to use a Diesel Exhaust Fluid (DEF) that does not meet the specifications provided or to operate the vehicle/equipment with no DEF. Cummins is not responsible for failures or damage resulting from what Cummins determines to be abuse or neglect.

In compliance with the regulatory agencies (EPA and CARB), the Cummins engine system incorporates on board diagnostics and electronic controls to monitor and ensure that tail pipe emissions requirements are met. A DEF lamp will notify the driver when the DEF tank level is running low and/or the quality of the DEF in the tank is not meeting specifications. Failure to promptly refill or replace DEF in the tank will trigger an inducement sequence, limiting engine torque and, eventually, vehicle speed to 5 mph.

For further details and discussion of DEF for Cummins engines, refer to Diesel Exhaust Fluid Specifications for Cummins Selective Catalytic Reduction Systems, bulletin 4021566.

For engines using SCR operating in the United States and Canada, it is also strongly recommended that the DEF used be certified by the American Petroleum Institute (API). This would be indicated by a symbol on the container/dispensing system.

To ensure the correct DEF is used, Cummins recommends the use of Fleetguard® Diesel Exhaust Fluid. Fleetguard® carries different quantity options from small to bulk containers.

For complete maintenance recommendations and guidelines, refer to EPA 2021 B6.7 CM2450 Owner's Manual, Bulletin 5613227 and EPA 2021 B6.7 CM2450 Operation and Maintenance Manual, Bulletin 5613228.

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Bulletin 5676572 Produced in U.S.A. Rev. 11/24