

# DRAFT

# BODY BUILDER INSTRUCTIONS

Mack Trucks



Oil and Filters  
MD  
Section 1

## Oils and Filters

This information provides specifications for Oil and Filters applications in MACK vehicles.

**Note:** We have attempted to cover as much information as possible. However, this information does not cover all the unique variations that a vehicle chassis may present. Note that illustrations are typical but may not reflect all the variations of assembly. All data provided is based on information that was current at time of release. However, **this information is subject to change without notice.**

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# Oil and Filters

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## Approved Oils

For a complete list of Approved Oils used in Mack vehicles (Engines, transmissions, and other components), refer to **Approved Oils, Mack Components**.

## Cummins Engine

### Oil Capacity

Engine	Oil Pan Type	Oil Capacity
B6.7	Standard Oil Pan	15.6 liters (16 quarts)

### Oil and Filter Maintenance Intervals

		Severe Duty (<6 mpg or 40% idle)	Normal Duty (6 - 10 mpg)	Light Duty (>10 mpg)
		Miles / Hours / Months	Miles / Hours / Months	Miles / Hours / Months
Oil Drain and Oil Filter Change Interval	Standard Oil Pan	12,,000 / 900 / 12	25,000 / 1000 / 12	30,000 / 1000 / 12

### Engine Oil Type / Quality

Engines designed with exhaust aftertreatment systems requiring an oil that meets MACK EO-N quality standards. The MACK EO-N oil quality standard is essential to adequately protect the engines at the drain intervals specified.

Recommended SAE Grades For Engines
MACK Bulldog EO-N
Pre-2021 engine model year: 15W-40 From 2021 engine model year: 10W-30



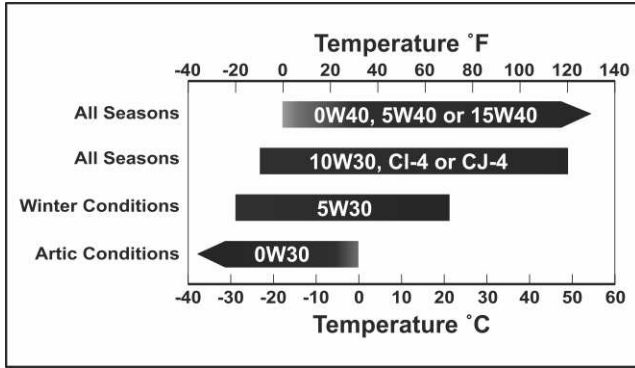
#### CAUTION

Extra oil additives must never be added to any engine oil used.

**Note:** For complete maintenance recommendations and guidelines, refer to EPA 2021 B6.7 CM2350 Owner's Manual and EPA 2017 B6.7 CM2350 Operation and Maintenance Manual. Contact 1-800-CUMMINS™ (1-800-286-6467) or visit [www.cummins.com](http://www.cummins.com) for any support.

# Viscosity diagram

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## Meritor Axle

### Oil Viscosity

Recommended SAE Oil quality for Rear Axles	SAE 75W-90
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### Oil Capacity

Front axle (Hub only)	0.35 to 0.415 liters (0.75 to 0.875 US pints)
Rear axle (Hub and axle housing)	13X axle: 12.80 liters (27.05 US pints) 14X axle: 15.76 liters (33.31 US pints)

# Allison Transmission, Lubrication

## Check Transmission Oil Level

Check the transmission oil level at each service interval. To do so, park the vehicle on a level surface and check the transmission oil level. Add approved transmission oil as needed.

Prognostics is turned off for Mack Medium Duty trucks. Recommended oil quality and change interval would change if prognostics is turned on.

Oil Quality	Duty Cycle	Oil Change Interval	Spin-On Control Main Filter Change Interval	Internal Filter Change Interval
TES 295	Normal Duty <sup>1</sup>	Whichever comes first of the following: <ul style="list-style-type: none"> <li>• 240,000 km (150,000 miles)</li> <li>• 4000 hours of operation</li> <li>• 48 calendar months</li> </ul>	Whichever comes first of the following: <ul style="list-style-type: none"> <li>• 80,000 km (50,000 miles)</li> <li>• 2000 hours of operation</li> <li>• 24 calendar months</li> </ul>	Every transmission overhaul
	Severe Duty <sup>2</sup>	Whichever comes first of the following: <ul style="list-style-type: none"> <li>• 120,000 km (75,000 miles)</li> <li>• 3000 hours of operation</li> <li>• 36 calendar months</li> </ul>	Whichever comes first of the following: <ul style="list-style-type: none"> <li>• 80,000 km (50,000 miles)</li> <li>• 2000 hours of operation</li> <li>• 24 calendar months</li> </ul>	Every transmission overhaul

<sup>1</sup> General Vocation: All vocations are not classified as severe

<sup>2</sup> Severe Vocation: On/Off Highway, Refuse, City Transit, Shuttle Transit

## Transmission Oil Capacity

Transmission		1000/2000 Product Family Allison Transmission	3000 Product Family Allison Transmission
Oil Capacity, Standard Sump	Initial Refill <sup>1</sup>	14 liters (14.8 quarts)	27(29 quarts)
	Refill <sup>1</sup>	10 liters (10.6 quarts)	18(19 quarts)

<sup>1</sup> Approximate quantities, do not include external lines, cooler, and hose.

**Note:** Approximate fluid loss for main filter (Spin- On) = 0.47 liters (one pint).

# Coolant Requirements

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## Chevron Delo ELC

Currently, Mack Trucks utilizes the 50/50 mix ELC (Extended Life Coolant) at Salem, VA plant facility as its premium coolant. This coolant is manufactured by and purchased from Chevron Products Company.

## Coolant

### Extended Life Coolant (ELC)

Color: Red

- Coolant Type** ..... ELC Antifreeze is a single-phase, ethylene glycol type diesel engine coolant/antifreeze. ELC must meet or exceed ASTM D6210 or TMC RP 329 for diesel engine service.
- Coolant Change Interval** ..... Refer Driver's Manual
- Coolant Filter Change Interval** ..... Refer Driver's Manual
- Coolant Testing** ..... The slow depleting additive chemistry does not require regular testing, but the coolant can be tested with a FleetFix Maintenance Test Strip and the FleetFix Dilution Test Kit. The FleetFix Maintenance Test Strip (a measure for nitrite and carboxylate levels, while the FleetFix Dilution Test Kit can determine contamination of ELC and continued protection levels. The freeze protection level should be checked at least twice per year with a standard refractometer. -35°F (-2°C) is the freeze point of approximately 50/50 ELC coolant.
- Cooling System Capacities** ..... Approximately 22.7 liters (24 US quarts)

### Coolant capacity

Coolant capacity (quantity shown is only engine)	11.5 liters (3.0 gal)
Coolant capacity (quantity shown for complete system)	22.7 liters (5.0 gal)

## Water Specifications

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Water Specifications	Parts per million (ppm)	Grains per Gallon	pH	µS/cm	mg/KmnO4/l
Chlorides, maximum	< 40	< 2.34			
Sulfates, maximum	< 100	< 5.8			
Total dissolved solids, maximum	< 340	< 20			
Total hardness	< 170	< 10			
pH			5.5 – 9		
Silica	< 20	< 1.17			
Iron	< 0.10	< 0.0058			
Manganese	< 0.05	< 0.0029			
Conductivity				< 500	
CODMn					< 15

### Notes

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# Coolant

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**Note:** DO NOT mix different coolant products, such as regular antifreeze and extended life antifreeze, etc.

## Coolant Requirements

Mack Trucks recommends the use of low silicate ethylene glycol base coolant for diesel engines. This coolant must meet or exceed ASTM D6210 or TMC RP329.

Mack does not recommend the use of antifreeze based on propylene glycol.

Mack Trucks recommends to use **ELC** (Extended Life Coolant), type of coolant for the CUMMINS engines. ELC does not require the addition of **SCAs** (Supplemental Coolant Additives) to maintain the desired properties of the coolant.

**Note:** Do not mix other types of coolant with ELC type coolant. Mixing of other types of coolant with ELC would have negative effects on the coolant's properties.

**Note:** Antifreeze or premixed coolant meeting the standards ASTM D3306 or ASTM D4656 are primarily for automotive gasoline engines, containing high levels of silicate, and are unacceptable for diesel engines. The silicate clogs the radiator and leave unwanted deposits in the engine.

### Notes

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