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Service Information Bulletin

SUBJECT	DATE
Diagnostic Test - Engine Oil Leaks	October 2016

Additions, Revisions, or Updates

Publication Number / Title	Platform	Section Title	Change
DDC-SVC-MAN-0193	GHG17 DD Platform MD	Engine Oil Leaks - Oil Dye Method	New GHG17 MD diagnostic procedures
DDC-SVC-MAN-0191	GHG17 DD Platform HD	Engine Oil Leaks - Oil Dye Method	Updated step 5 and 8

DiagnosticLink users: Please update the troubleshooting guides in DiagnosticLink with this newest version. To update the tool troubleshooting guide, open DiagnosticLink and from the Help – Troubleshooting Guides menu, select the appropriate troubleshooting manual, then click Update.



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2 Engine Oil Leaks - Oil Dye Method

NOTE: This test is only to be performed if an oil leak is present and a visual inspection of the engine did not pinpoint an oil leak path.

Possible leak points:

- Air Compressor
- Camshaft Housing Seal
- Cylinder Head Gasket
- Flywheel Housing
- Flywheel Housing Gasket
- Front Crankshaft Oil Seal
- Fuel Injector Harness Seal
- High Pressure Fuel Injector Line Seals
- High Pressure Fuel Pump
- Oil Coolant Module
- Oil Drain Plug
- Oil Pan
- Rear Crankshaft Oil Seal
- Rocker Cover
- Turbocharger Drain Line
- Turbocharger Oil Supply

Check as follows:

NOTE: When diagnosing an engine oil leak, the source and location of the leak **MUST** be positively identified prior to repair.

1. Inspect the engine for any oil leaks. If oil leaks are present, record the location of the oil leak.



WARNING: FIRE HAZARD

Do not power wash or steam clean the engine bay in the area of vehicle electrical components, unless specified by vehicle manuals or service literature. Power washing/steam cleaning can permanently damage these components, which could result in fire, personal injury, or property damage.

NOTE: Determine which section of the engine contains the leak. Before the steam clean process, look for any leaks where the oil is most concentrated.

2. Steam clean the engine.



WARNING: PERSONAL INJURY

Diesel engine exhaust and some of its constituents are known to the State of California to cause cancer, birth defects, and other reproductive harm.

- Always start and operate an engine in a well ventilated area.
- If operating an engine in an enclosed area, vent the exhaust to the outside.
- Do not modify or tamper with the exhaust system or emission control system.

**WARNING: PERSONAL INJURY**

To avoid injury before starting and running the engine, ensure the vehicle is parked on a level surface, parking brake is set, and the wheels are blocked.

**WARNING: ENGINE EXHAUST**

To avoid injury from inhaling engine exhaust, always operate the engine in a well-ventilated area. Engine exhaust is toxic.

3. Run the engine to operating temperature.
4. Turn ignition ON (key ON, engine OFF). Remove the oil filler cap.
5. Add the proper amount of Oil/Fuel Leak Detection Dye, P/N: 23539660 into the oil filler tube. The dilution formula is 7.4 mL (¼ oz.) per 3.79 to 4.73 L (4 to 5 qt) of oil.
6. Install the oil filler cap.
7. Test-drive the vehicle for 15 minutes.

NOTE: If oil dye cannot be seen on the dipstick after the test drive, up to 14.8 mL (0.5 oz.) of Oil/Fuel Leak Detection Dye can be added to the engine oil.

8. Turn the engine OFF.
9. Using a black light and yellow/amber lens glasses, inspect the engine for the source of the oil leak.

3 Engine Oil Leaks - Oil Dye Method

NOTE: This test is only to be performed if an oil leak is present and a visual inspection of the engine did not pinpoint an oil leak path.

Possible leak points:

- Air Compressor
- Axial Power Turbine Gear Box
- Camshaft Housing Seal
- Cylinder Head Gasket
- Flywheel Housing
- Flywheel Housing Gasket
- Front Crankshaft Oil Seal
- Fuel Injector Harness O-rings
- High Pressure Fuel Injector Line Seals
- High Pressure Fuel Pump
- Oil Coolant Module
- Oil Drain Plug
- Oil Pan
- Rear Crankshaft Oil Seal
- Rocker Cover
- Turbocharger Drain Line
- Turbocharger Oil Supply

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