

08/19/2019 CAL
FTL 01-001

Subject: Oil Suction Manifold Replacement

Models Affected: Freightliner Cascadia, MY2014

Our records indicate that you are the owner of certain vehicles, and DTNA has decided to share the following documentation with you.

Please see the attached communication in this email. We hope you find this information helpful.

08/19/2019 CAL
FTL 01-001

Work Instructions

Subject: Oil Suction Manifold Replacement

Models Affected: Freightliner Cascadia Vehicles, MY2014

Oil Suction Manifold Replacement

1. Park the vehicle, shut down the engine, and apply the parking brakes. Shut down the engine.
2. Disconnect battery power to the engine.
3. Open the hood.
4. Remove the oil drain plug from the oil pan, and drain the oil into a suitable container.

WARNING

To avoid injury, never remove any engine component while the engine is running.

CAUTION

To avoid injury from electrical shock, use care when connecting battery cables. The magnetic switch studs are at battery voltage.

5. Remove the oil pan.

WARNING

To avoid injury from hot surfaces, wear protective gloves, or allow engine to cool before removing any component.

NOTICE

The oil pan dipstick tube adaptor cannot be removed from the oil pan or damage may occur. If the dipstick guide tube will not come off the adapter, it can be cut in order to remove the oil pan from the engine without damaging the adapter.

- 5.1 Remove the dipstick tube from the oil pan.
- 5.2 Clean any debris on the oil filter housing around the oil filter cap.
- 5.3 Open the oil filter cap to allow oil to drain back to the pan.
- 5.4 Remove the drain plug and drain the engine oil. Discard the oil drain plug O-ring.
- 5.5 Raise and support the front of the vehicle to allow the front axle to be lowered, allowing proper clearance for the pan to be removed from the engine.
- 5.6 Remove the bolt at the harness P-clip on the front center of the oil pan.
- 5.7 Loosen the eighteen oil pan bolts. The bolts will remain installed on the pan.
- 5.8 Remove the oil pan, taking care not to damage the oil pump inlet pipe and screen.
- 5.9 Remove the oil pan seal and check for damage.
6. Remove the four bolts (ref. 2) securing the oil suction manifold to the cylinder block. See [Fig. 1](#).
7. Remove the oil suction manifold, the oil lines, and the O-rings. Discard the O-rings.

08/19/2019 CAL
FTL 01-001

8. Remove the three bolts (ref. 7) securing the oil pump to the cylinder block, and remove the oil pump.

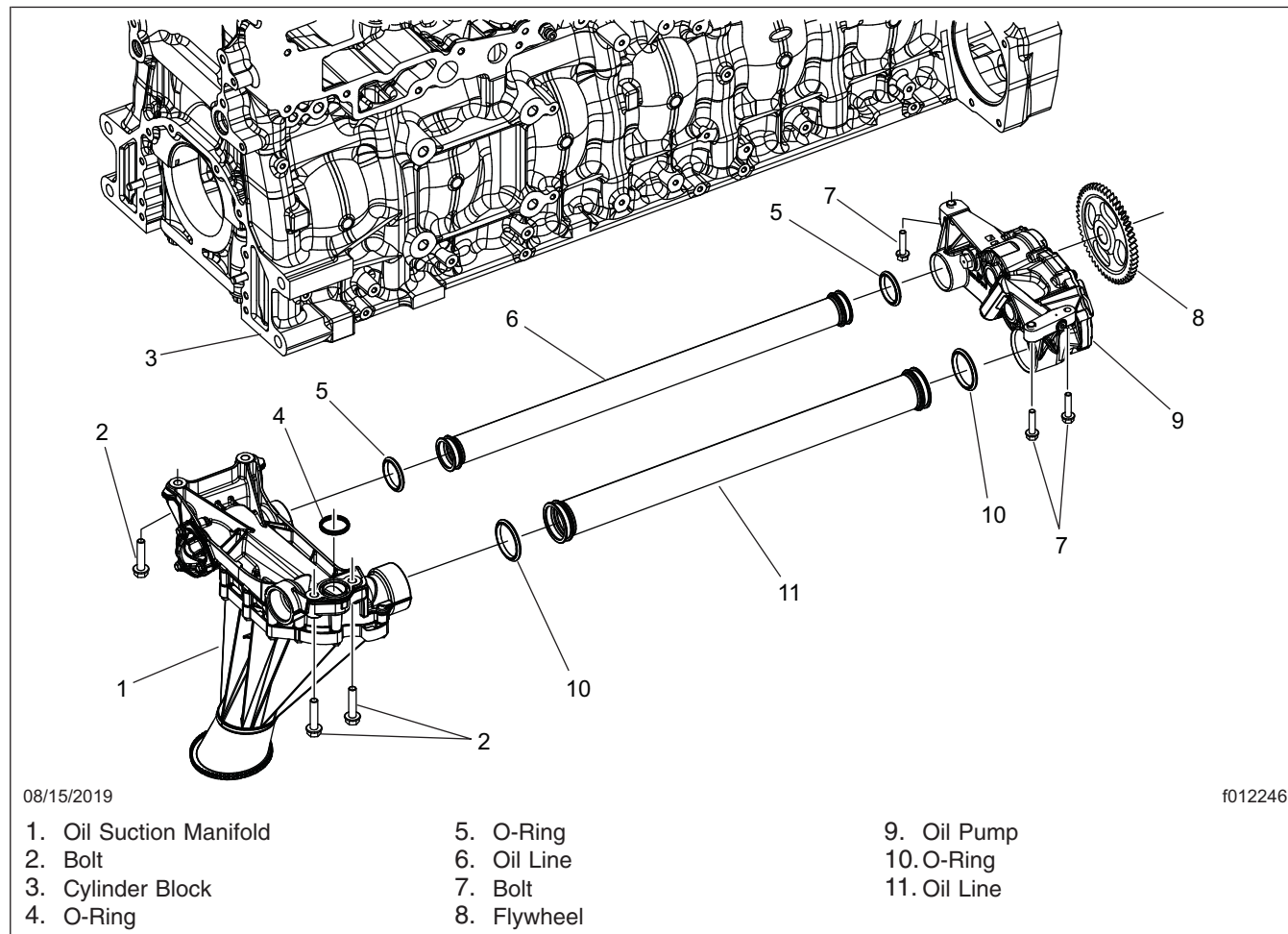


Fig. 1, Oil Pump Assembly

9. Verify the oil pump part number to be sure it is correct for this application.

NOTICE

The DD13 and DD15 AT oil pump cannot be used on a DD15 or DD16 turbocompound engine. Failure to install the correct oil pump or properly mount the oil pump will result in permanent damage to the engine. The oil pump must mount flush to the bottom of the cylinder block before installing the oil pan.

10. Position the oil pump on the cylinder block so that the drive gear of the oil pump meshes with the crankshaft gear.
11. Install the three oil pump mounting bolts. Torque the bolts to 22 lbf·ft (30 N·m).
12. Install oil suction and pressure lines, using new O-rings on each end.
13. Install four bolts and secure the oil intake manifold to the cylinder block. Torque the bolts to 44 lbf·ft (60 N·m) for the M10 diameter bolt, and 22 lbf·ft (30 N·m) for the M8 diameter bolt.
14. Install the oil pan.

08/19/2019 CAL
FTL 01-001

- 14.1 Ensure the joint surfaces of the gear case, the cylinder block, and front cover are cleaned and there is no damage that could prevent sealing.
 - 14.2 When a plastic oil pan is used, insert the raised lip portion of the seal into the groove in the oil pan. Press down on the isolator seal and insert it completely around the oil pan. Be careful not to stretch or bunch the seal. For best results, install the seal at each corner, then at points half way between the corners. Continue in this manner, halving the distance and seating the seal.
 - 14.3 For the aluminum oil pan, place the gasket on the top of the pan.
 - 14.4 Apply a 5mm (0.2 in.) diameter bead of Loctite® 5970 or equivalent to the four corners circled below on the gasket.
 - 14.5 Install the eighteen oil pan bolts and sleeve assemblies through the pan rail into the holes in the gasket.
 - 14.6 Install the oil pan assembly in position on the cylinder block.
 - 14.7 Ensure that the seal has not been disturbed. Torque the eighteen oil pan bolt assemblies using the proper sequence. For a Duraplastic oil pan, torque bolts to 15 to 18 lbf·ft (20 to 25 N·m). For the aluminum and thermoplastic oil pans, torque bolts to 30 to 22 to 26 lbf·ft (35 N·m).
 - 14.8 Install the oil pan drain plug with a new O-ring and torque the plug. On a plastic oil pan, torque plug to 33 lbf·ft ± 5 (45 N·m ± 7 N·m). On an aluminum oil pan torque plug to 44 lbf·ft ± 6 (60 N·m ± 9 N·m).
 - 14.9 Install bolt at harness P-clip on the front center of the oil pan.
 - 14.10 Torque bolt at harness P-clip to 17 lbf·ft (23 N·m).
 - 14.11 Remove supports and lower the truck to the ground.
 - 14.12 Install the dipstick tube.
 - 14.13 Install the oil filter and cap. Torque to 40 lbf·ft (55 N·m).
- NOTE: If the oil pump or oil suction manifold was removed, make sure to prime the engine before starting.
- 14.14 Fill the oil pan with lubricating oil.
 - 14.15 Connect battery power to the engine.
15. Prime the lubrication system.