

Welcome to
**Lower
Visco
City.** 

2016 VOLVO D13

Guardol FE® Engine Teardown Results



This 2016 Volvo D13 powered a rig in coast-to-coast operation using a tandem driving team from a Youngstown, Ohio area fleet. Oil drains were at 30,000 miles using Guardol FE[®] 10W-30 (FA-4), accumulating 762,000 miles at the time of tear down. Performance is notable in that Volvo does not endorse the use of FA-4 oils.



Piston 1 - Thrust



Piston 1 - Anti Thrust

762,000 MILES

PISTONS

Engines accumulating this kind of mileage in heavy haul service would typically exhibit varying amounts of medium and heavy carbon deposits in the ring grooves. In this case there is only light carbon and virtually no piston skirt scuffing. Guardol FE 10W-30 protects where it counts.



Piston 1 - Crown



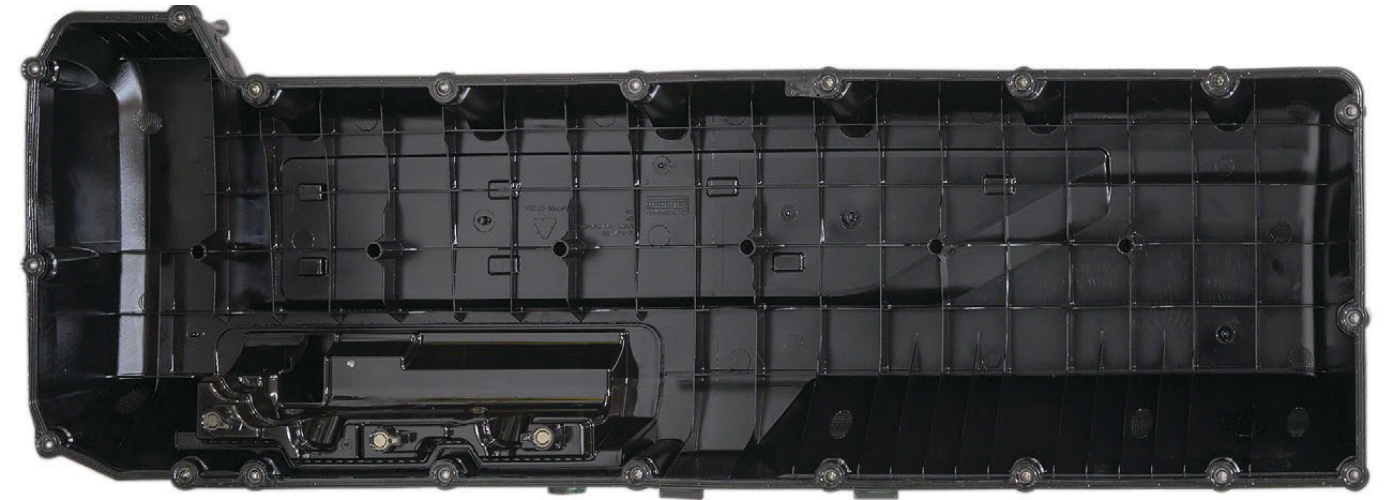
Piston 1 - Undercrown



Liner 1A



Liner 1B



Rocker Cover

CYLINDER LINERS.

Cylinder liners are subject to extensive heat and friction over the life of an engine. These representative examples show they are free from scuffing (cross-hatching looks great) and there's very minimal wear in the ring turn-around zone.

ROCKER COVER & OIL PAN.

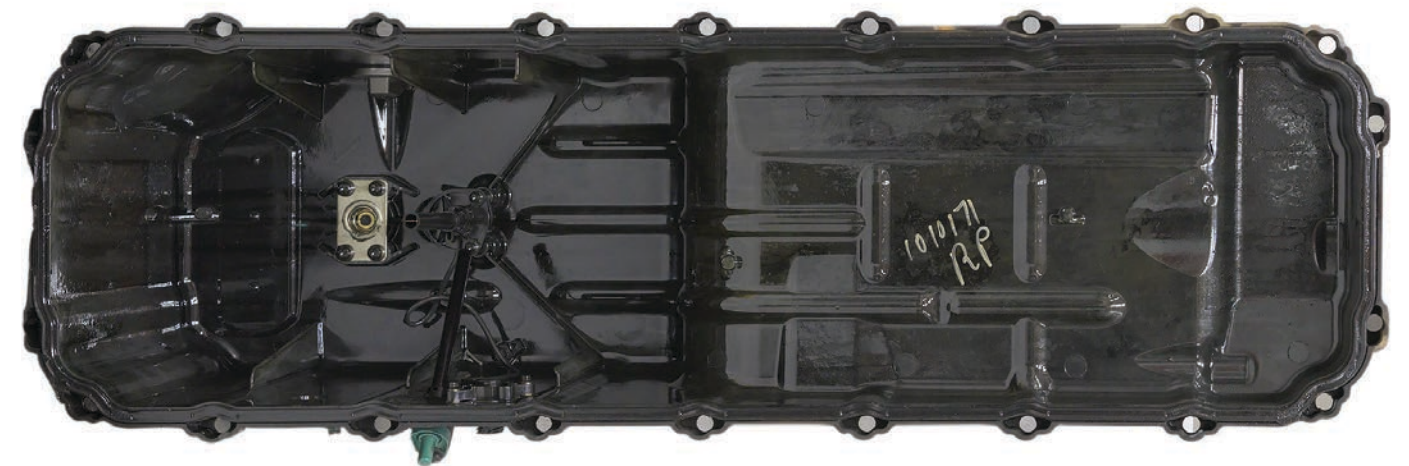
The oil pan and rocker cover are where sludge is often found in engine teardowns. Close inspection of the photos here tell a different story.



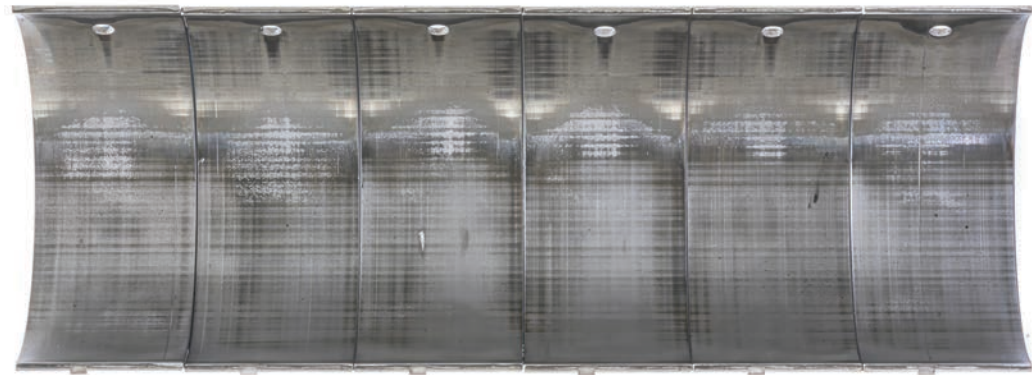
Liner 2A



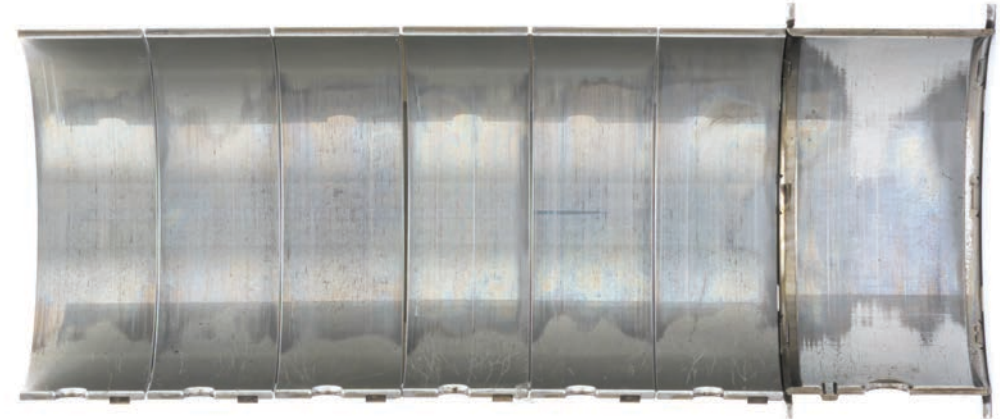
Liner 2B



Oil Pan



Rod Bearing Upper



Cam Bearing Upper

ROD BEARINGS.

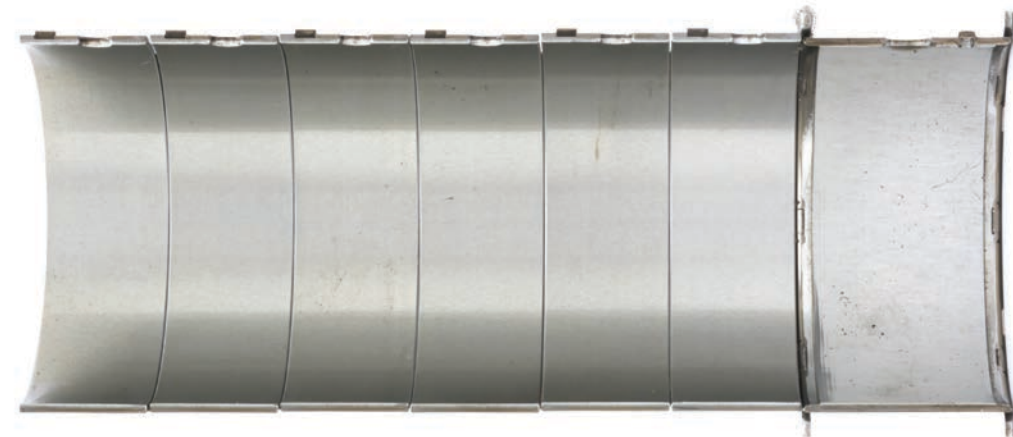
Rod bearings show little to no wear. Guardol FE® 10W-30 provides maximum durability.

CAM BEARINGS.

Because the Volvo cam shaft is larger than most other manufacturers, performance here is critical. Effective film strength of our FA-4 10W-30 provides all the protection you need to assure long life of the engine.



Rod Bearing Lower



Cam Bearing Lower

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HOME OF GUARDOL FE® 10W-30

