

**YOU GET OUT  
WHAT YOU  
PUT IN.**



# 2014 DETROIT DIESEL DD13

**Super-D® FE Engine Teardown Results**



These parts were pulled from a 2014 Detroit Diesel DD13. It belongs to an Atlanta, Georgia-based fleet operating refrigerated units in coast-to-coast service. All oil drains were performed at 45,000 mile intervals using Kendall® Super-D® FE 10W-30 (FA-4). At the time of this teardown, the odometer was pushing nearly 900,000 miles.

884,000 MILES



Piston - Thrust



Piston - Anti Thrust

PISTONS

Engines approaching one million miles 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. Kendall Super-D FE 10W-30 protects where it counts.



Piston - Front



Piston - Rear



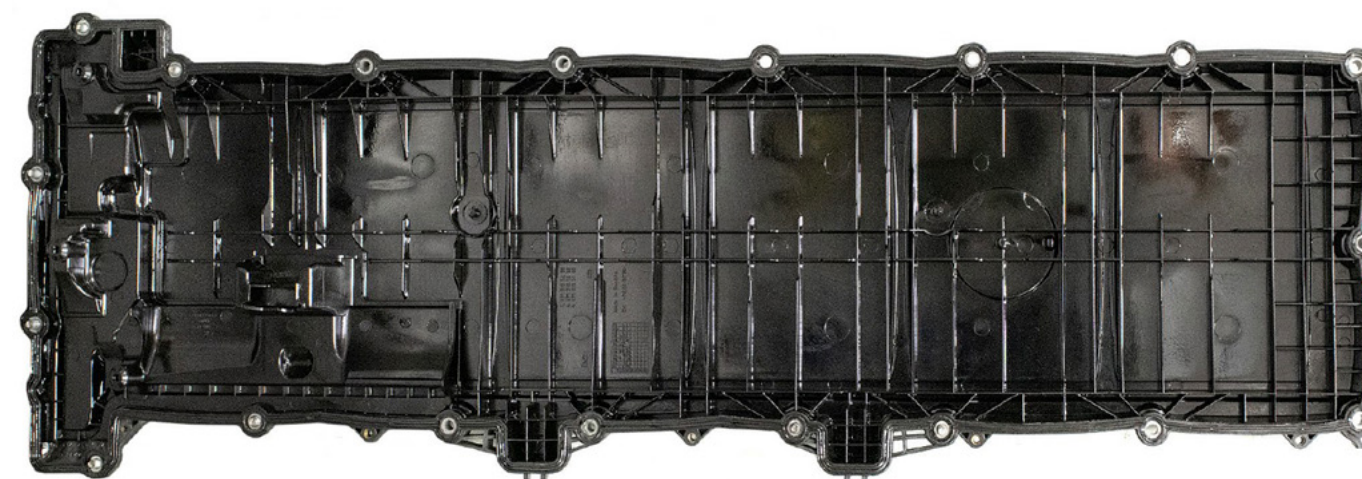




Liner 1A



Liner 1B



Rocker Cover

## CYLINDER LINERS.

Cylinders are subject to extensive heat and friction over the life of an engine. And while these liner cutaways show a few signs of wear, the cross-hatching looks like new with an overall average of 2% scuffing.

## ROCKER COVER & OIL PAN.

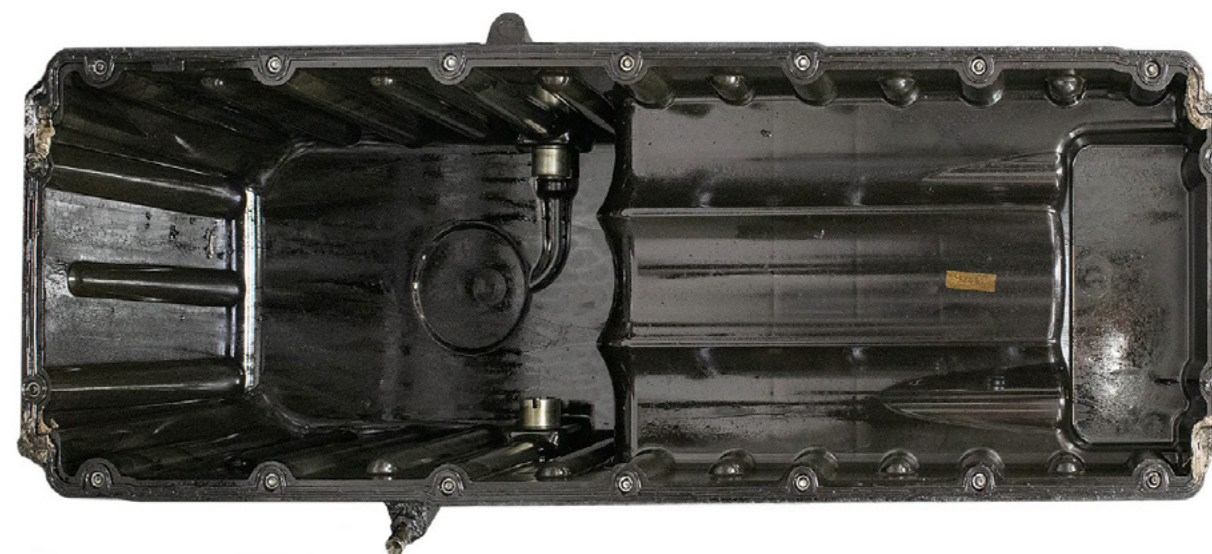
The oil pan and rocker cover is where sludge forms inside high-mileage engines. Close inspection of these photos of parts protected by Kendall® Super-D® FE tell a different story.



Liner 2A

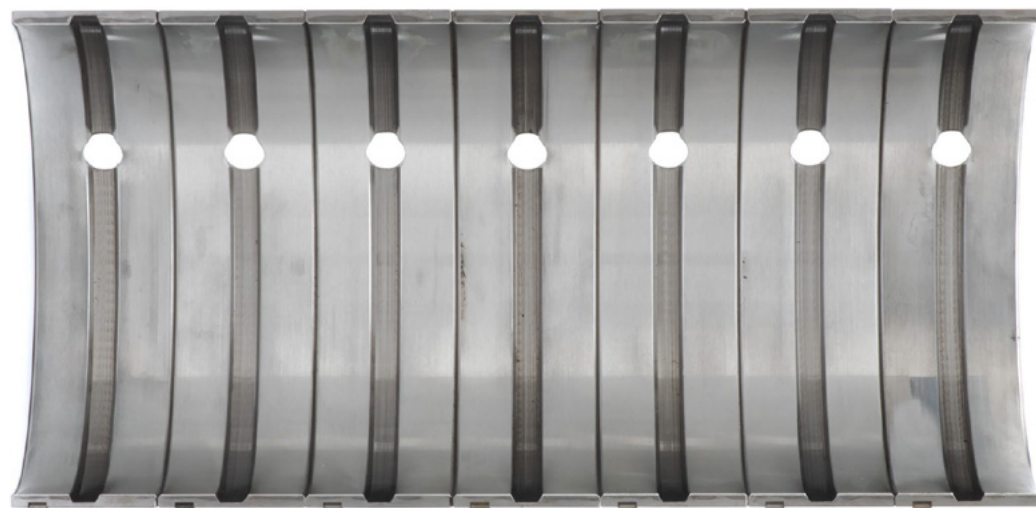


Liner 2B



Oil Pan





**Main Bearing Upper**



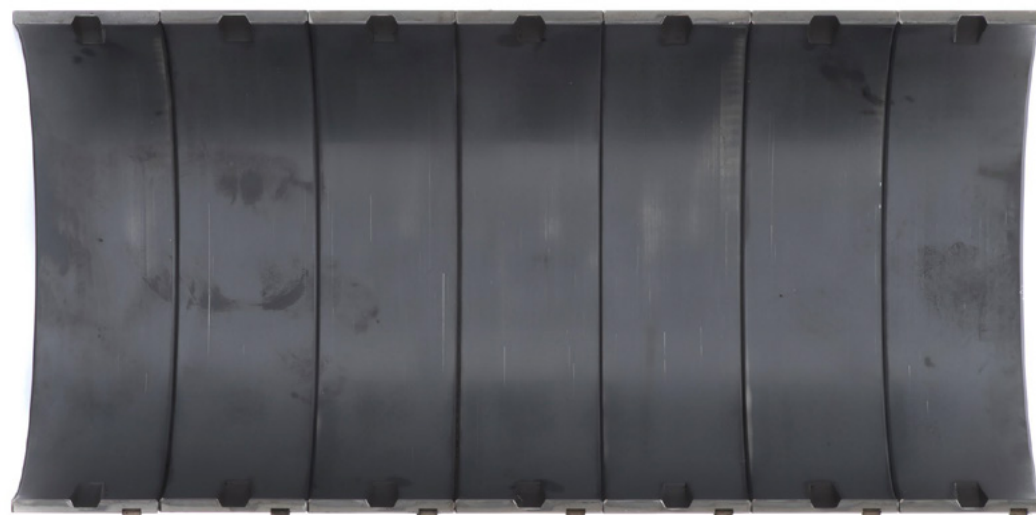
**Rod Bearing Upper**

## MAIN BEARINGS.

Bearings are where a poor performing product would quickly be exposed. The excellent High Temperature/High Shear (HTHS) properties of our FA-4 oil provide protection equivalent to our premium CK-4 15W-40.

## ROD BEARINGS.

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



**Main Bearing Lower**



**Rod Bearing Lower**

**YOU GET OUT  
WHAT YOU  
PUT IN.**



© Phillips 66 Company. Kendall® and its respective logos and products are registered trademarks of Phillips 66 Company in the U.S.A. and other countries. BL-KEN-202424