

IN-VEHICLE REPAIR

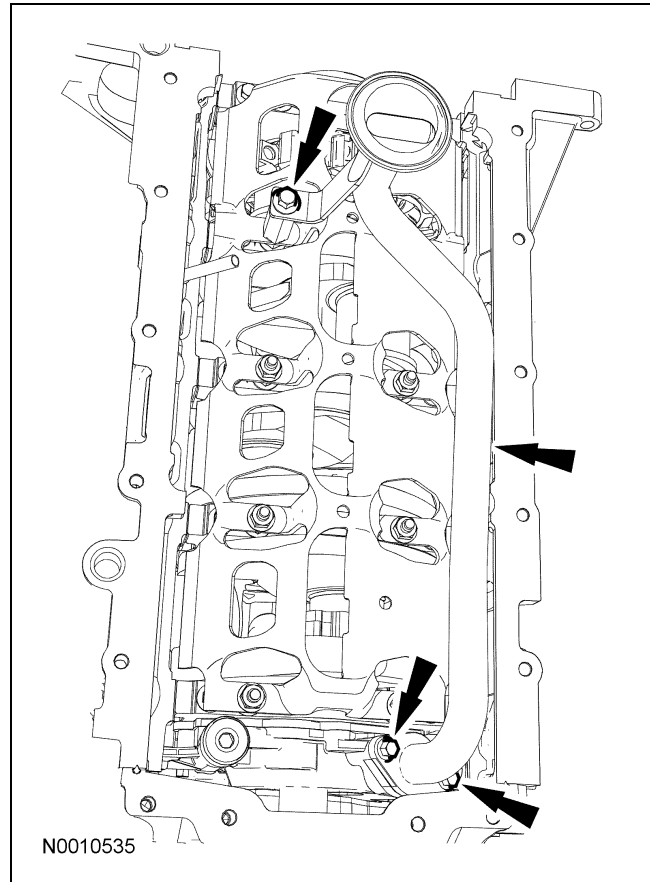
Oil Pump

Material

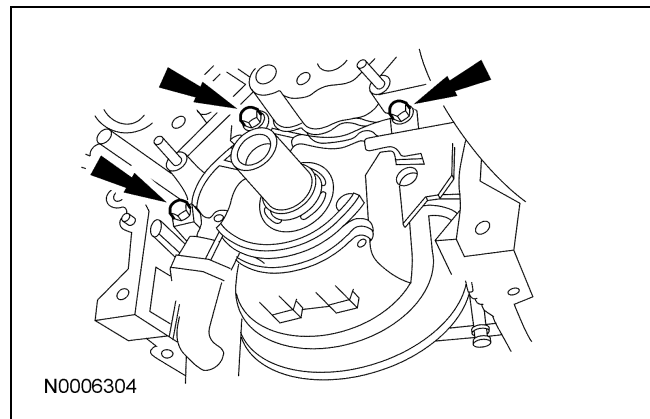
Item	Specification
Motorcraft® Metal Surface Prep ZC-31-A	—
Motorcraft® SAE 5W-20 Premium Synthetic Blend Motor Oil XO-5W20-QSP (US); Motorcraft® SAE 5W-20 Super Premium Motor Oil CXO-5W20-LSP12 (Canada); or equivalent	WSS-M2C930-A

Removal

1. Remove the oil pan. For additional information, refer to Engine Lubrication Components — Exploded View and Oil Pan in this section.
2. Remove the timing drive components. For additional information, refer to Timing Drive Components in this section.
3. Remove the bolts and the oil pump screen and pickup tube.



4. Remove the 3 bolts and the oil pump.

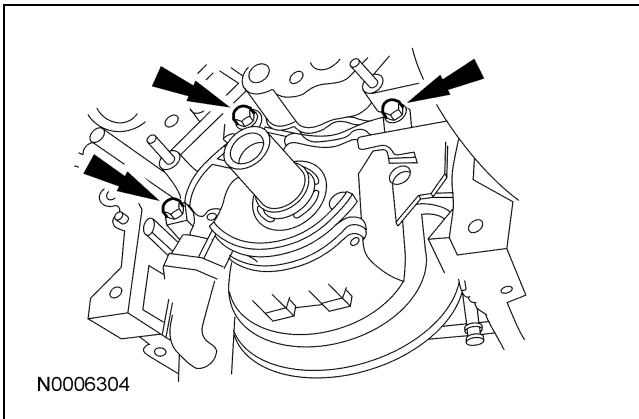


IN-VEHICLE REPAIR (Continued)**Installation**

1. **NOTICE:** Do not use metal scrapers, wire brushes, power abrasive discs or other abrasive means to clean the sealing surfaces. These tools cause scratches and gouges which make leak paths. Use a plastic scraping tool to remove all traces of old sealant.

Clean the sealing surfaces with metal surface prep. Follow the directions on the packaging. Inspect the mating surfaces.

2. Position the oil pump and install the bolts.
 - Tighten to 10 Nm (89 lb-in).

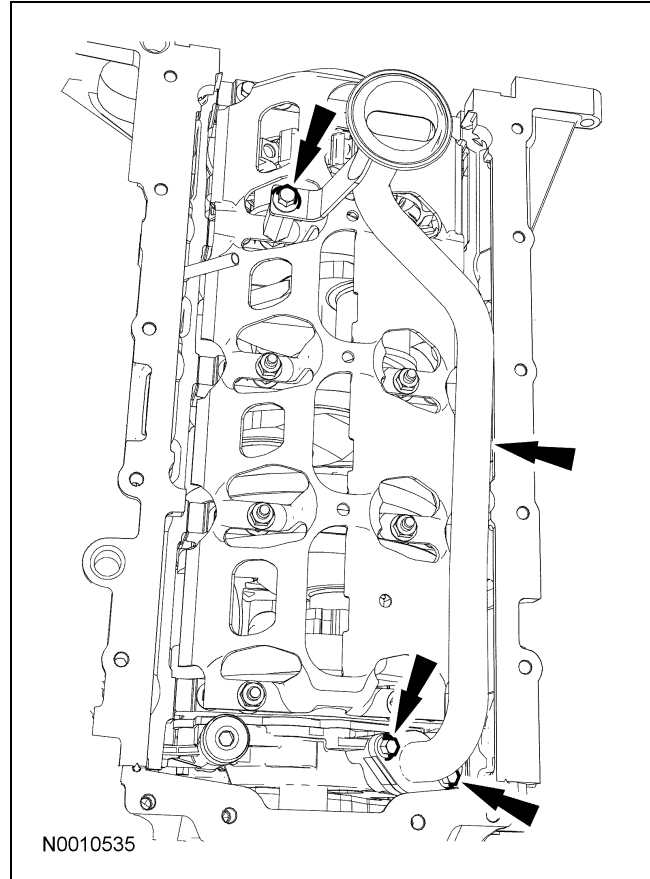


3. **NOTICE:** Make sure the O-ring seal is in place and not damaged. A missing or damaged O-ring seal can cause foam in the lubrication system, low oil pressure and severe engine damage.

NOTE: Clean and inspect the mating surfaces and install a new O-ring seal. Lubricate the O-ring seal with clean engine oil prior to installation.

Position the oil pump screen and pickup tube and install the bolts.

- Tighten the oil pump screen and pickup tube-to-oil pump bolts to 10 Nm (89 lb-in).
- Tighten the oil pump screen and pickup tube-to-spacer bolt to 25 Nm (18 lb-ft).



4. Install the timing drive components. For additional information, refer to Timing Drive Components in this section.
5. Install the oil pan. For additional information, refer to Engine Lubrication Components — Exploded View and Oil Pan in this section.