


Crankshaft Rear Seal with Retainer Plate

Special Tool(s)

 <p>ST1479-A</p>	<p>Installer, Crankshaft Rear Oil Seal 303-516 (T95P-6701-BH)</p>
 <p>ST1480-A</p>	<p>Installer, Crankshaft Rear Oil Seal 303-518 (T95P-6701-DH)</p>
 <p>ST1482-A</p>	<p>Installer, Crankshaft Rear Oil Slinger 303-517 (T95P-6701-CH)</p>
 <p>ST1382-A</p>	<p>Remover, Crankshaft Rear Oil Seal 303-519 (T95P-6701-EH)</p>
 <p>ST1481-A</p>	<p>Remover, Crankshaft Rear Oil Slinger 303-514 (T95P-6701-AH)</p>
 <p>ST1185-A</p>	<p>Slide Hammer 100-001 (T50T-100-A)</p>

Material

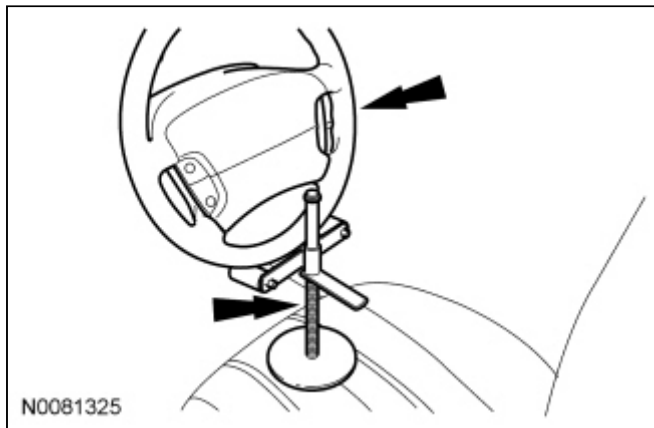
Item	Specification
<p>Gasket Maker TA-16</p>	<p>WSK- M2G348-A5</p>
<p>Motorcraft® Metal Surface Prep ZC-31-A</p>	<p>—</p>
<p>Motorcraft® SAE 5W-20 Premium Synthetic Blend Motor Oil XO-5W20-QSP (US); Motorcraft® SAE 5W-20 Super Premium Motor Oil</p>	<p>WSS- M2C930-A</p>

CXO-5W20-LSP12 (Canada); or equivalent	
Silicone Gasket and Sealant TA-30	WSE-M4G323-A4
Silicone Gasket Remover ZC-30	—

Removal

1. With the vehicle in NEUTRAL, position it on a hoist. For additional information, refer to [Section 100-02](#).
2. Remove the flywheel or flexplate. For additional information, refer to [Lower End Components — Exploded View, Flexplate, Flywheel and Crankshaft Rear Seal](#) and [Flexplate](#) or [Flywheel](#) in this section.
3. Remove the engine-to-transmission spacer plate.
4. Remove the Power Steering Pressure (PSP) tube bracket-to-crossmember bolt and position the bracket aside.
5. **NOTE:** Use a steering wheel holding device (such as Hunter® 28-75-1 or equivalent).

Using a suitable holding device, hold the steering wheel in the straight-ahead position.

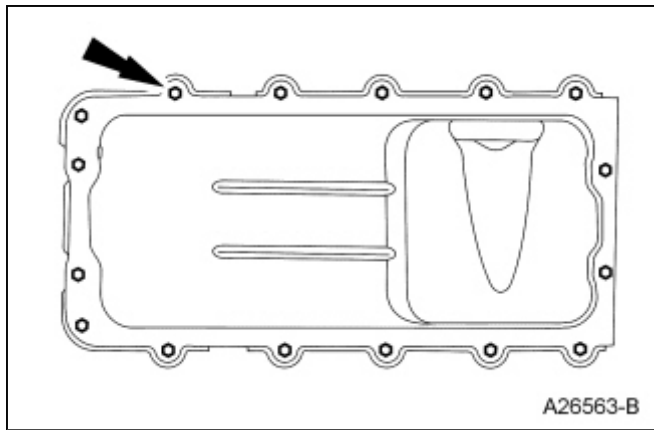


6. **NOTICE:** Do not allow the intermediate shaft to rotate while it is disconnected from the steering gear or damage to the clockspring can result. If there is evidence that the intermediate shaft has rotated, the clockspring must be removed and re-centered. For additional information, refer to [Section 501-20B](#).

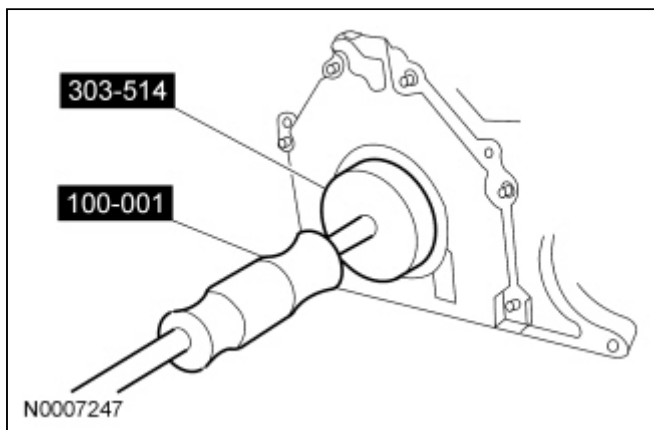
Remove the steering column coupling-to-steering gear pinch bolt.

- Discard the pinch bolt.

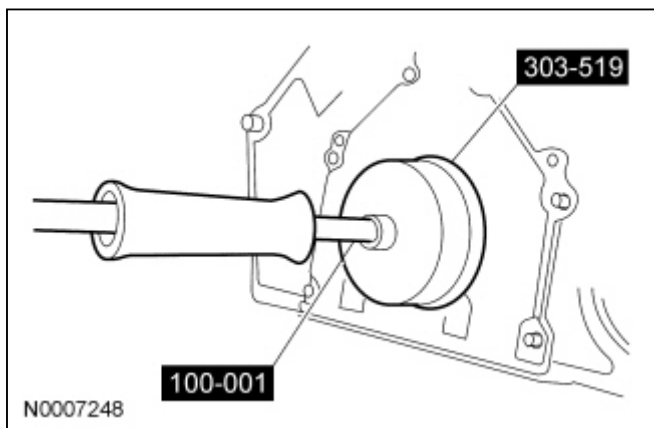
7. Remove the 2 steering gear bolts and disconnect the coupling from the steering gear while positioning the steering gear forward.
8. Drain the engine oil.
 - Install the drain plug when finished.
 - Tighten to 26 Nm (19 lb-ft).
9. Detach the 2 pin-type wire harness retainers.
10. Remove the 16 oil pan bolts and remove the oil pan.
 - Discard the oil pan gasket.



11. Using the Slide Hammer and the Crankshaft Rear Oil Slinger Remover, remove the crankshaft oil slinger.
 - Discard the crankshaft oil slinger.



12. Using the Slide Hammer and the Crankshaft Rear Oil Seal Remover, remove the crankshaft rear seal.
 - Discard the crankshaft rear seal.



13. Remove the 6 bolts and the crankshaft rear seal retainer plate.

Installation

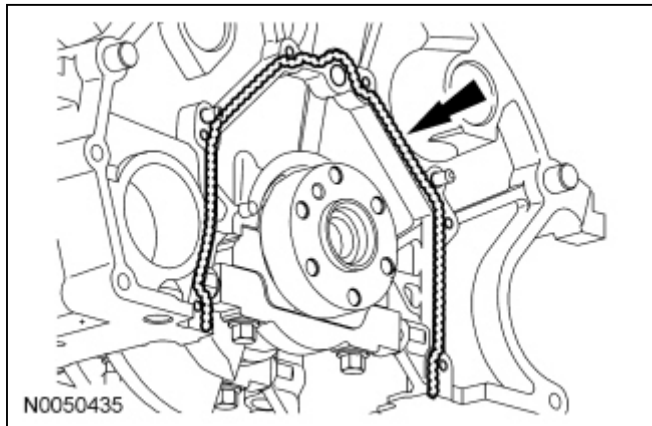
1. **NOTICE:** Do not use metal scrapers, wire brushes, power abrasive discs or other abrasive means to clean the sealing surfaces. These tools cause scratches and gouges which make leak paths. Use a plastic scraping tool to remove all traces of old sealant.

NOTE: Clean the sealing surfaces with silicone gasket remover and metal surface prep. Follow the directions on the packaging. Failure to follow this procedure can cause future oil leakage.

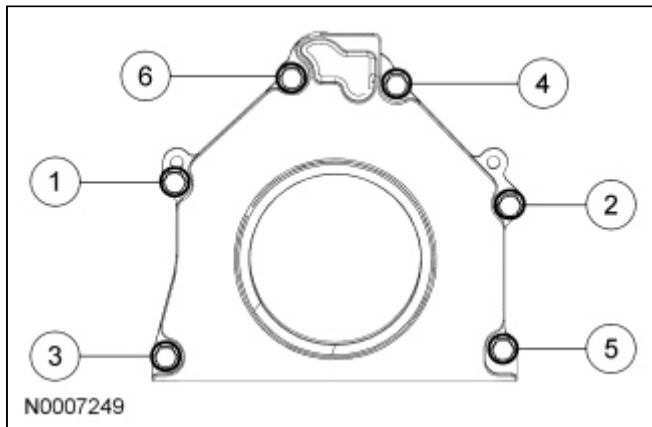
Clean and inspect the mating surfaces.

2. **NOTE:** The rear crankshaft seal retainer plate does not have a sealant groove. Gasket maker must be applied to the rear crankshaft seal retainer mating surface on the engine block.

Apply a bead of gasket maker to the rear crankshaft seal retainer mating surface on the engine block.

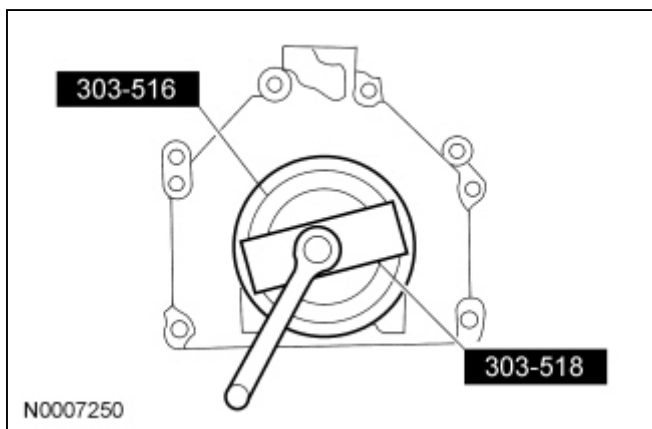


3. Install the crankshaft rear seal retainer plate and the 6 bolts in the sequence shown.
- Tighten to 10 Nm (89 lb-in).

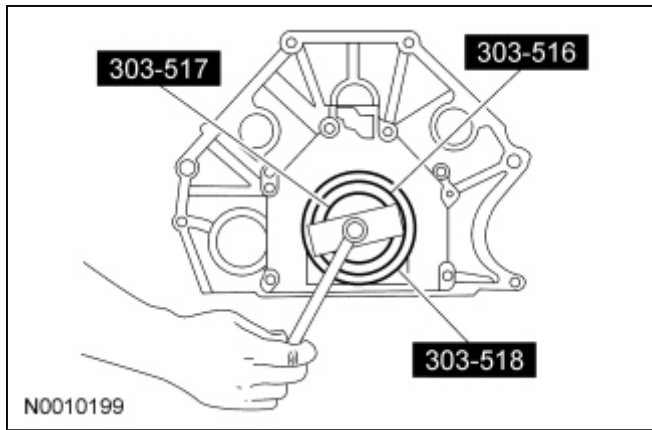


4. **NOTE:** Lubricate the inner lip of the crankshaft rear seal with clean engine oil.

Using the Crankshaft Rear Oil Seal Installers, install the crankshaft rear seal.



5. Using the Crankshaft Rear Oil Seal Installers and the Crankshaft Rear Oil Slinger Installer, install the crankshaft rear oil slinger.

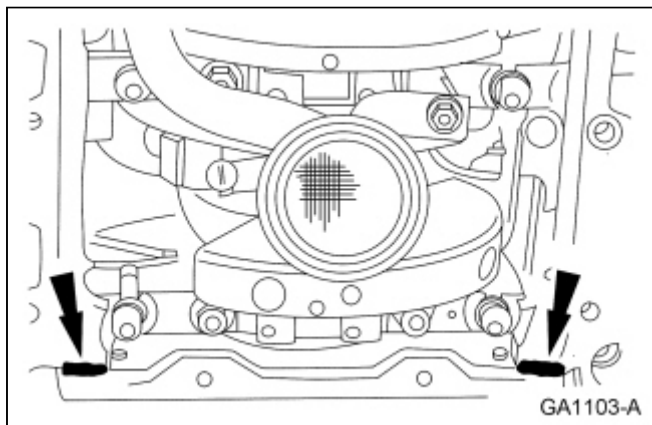


6. **NOTICE:** Do not use metal scrapers, wire brushes, power abrasive discs or other abrasive means to clean the sealing surfaces. These tools cause scratches and gouges, which make leak paths. Use a plastic scraping tool to remove all traces of old sealant.

Inspect the oil pan. Clean the mating surface for the oil pan with silicone gasket remover and metal surface prep. Follow the directions on the packaging.

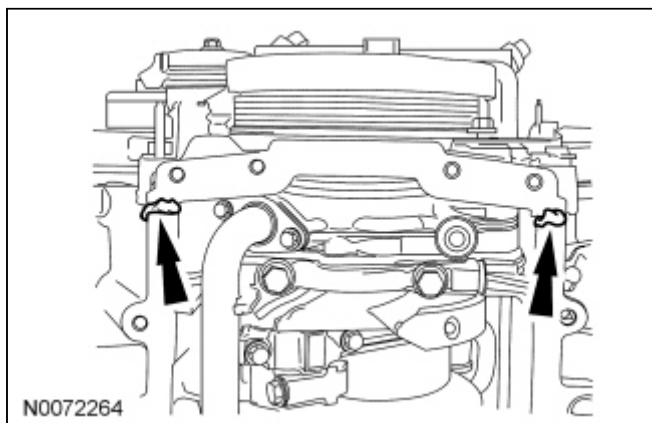
7. **NOTE:** If not secured within 4 minutes, the sealant must be removed and the sealing area cleaned. To clean the sealing area, use silicone gasket remover and metal surface prep. Follow the directions on the packaging. Failure to follow this procedure can cause future oil leakage.

Apply silicone gasket and sealant at the crankshaft rear seal retainer plate-to-cylinder block sealing surface.

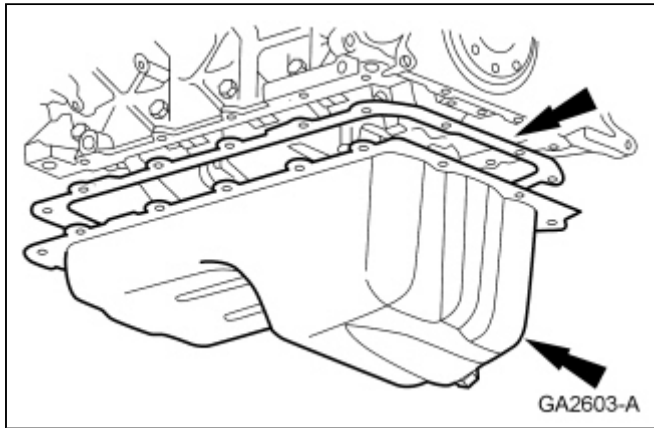


8. **NOTE:** If not secured within 4 minutes, the sealant must be removed and the sealing area cleaned. To clean the sealing area, use silicone gasket remover and metal surface prep. Follow the directions on the packaging. Failure to follow this procedure can cause future oil leakage.

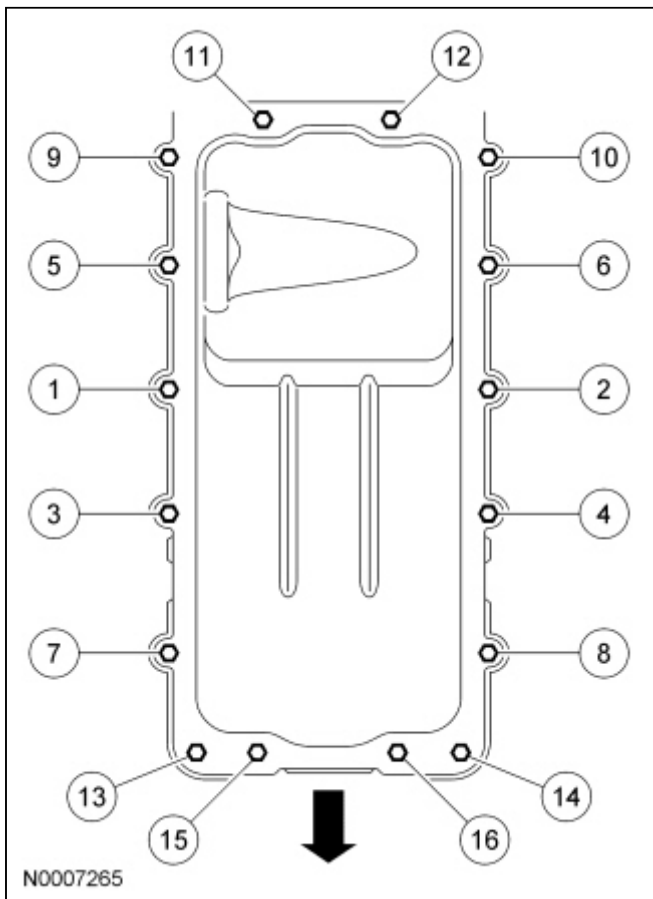
Apply silicone gasket and sealant at the engine front cover-to-cylinder block sealing surface.



9. Install the new oil pan gasket and the oil pan and loosely install the 16 bolts.



10. Tighten the bolts in 3 stages, in the sequence shown.
- Stage 1: Tighten to 2 Nm (18 lb-in).
 - Stage 2: Tighten to 20 Nm (177 lb-in).
 - Stage 3: Tighten an additional 60 degrees.



11. Attach the 2 pin-type wire harness retainers.
12. **NOTICE:** Do not allow the intermediate shaft to rotate while it is disconnected from the steering gear or damage to the clockspring can result. If there is evidence that the intermediate shaft has rotated, the clockspring must be removed and re-centered. For additional information, refer to [Section 501-20B](#).

Position the steering gear while connecting the steering column coupling to the steering gear and install the 2 steering gear bolts.

- Tighten to 115 Nm (85 lb-ft).

13. Install the new steering column coupling-to-steering gear pinch bolt.
 - Tighten to 25 Nm (18 lb-ft).
 14. Position the [PSP](#) tube bracket and install the pressure tube bracket-to-crossmember bolt.
 - Tighten to 9 Nm (80 lb-in).
 15. Install the engine-to-transmission spacer plate.
 16. Install the flywheel or flexplate. For additional information, refer to [Lower End Components — Exploded View, Flexplate, Flywheel and Crankshaft Rear Seal](#) and [Flexplate](#) or [Flywheel](#) in this section.
 17. Fill the engine with clean engine oil.
 18. Start the engine and check for leaks.
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