


303-01 Engine - 2.3L EcoBoost (201kW/273PS)  
Removal and Installation

2019 Ranger  
Procedure revision date: 01/8/2019

### Crankshaft Rear Seal

Base Part Number: 6701

### Special Tool(s) / General Equipment

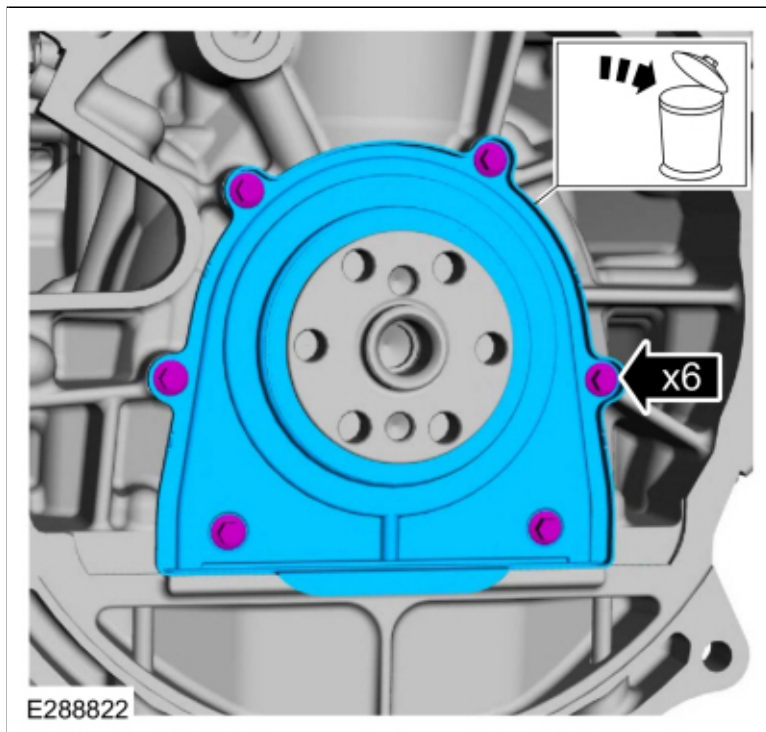
	<a href="#">303-328</a> (T88P-6701-B1) Replacer, Rear Seal TKIT-1988-FLM TKIT-1988-F TKIT-1988-LM
Plastic Scraper	
Oil Drain Equipment	

### Materials

Name	Specification
Motorcraft® High Performance Engine RTV Silicone TA-357	WSE-M4G323-A6
Motorcraft® Silicone Gasket Remover ZC-30-A	-
Motorcraft® Metal Surface Prep Wipes ZC-31-B	-
Motorcraft® Metal Brake Parts Cleaner PM-4-A, PM-4-B	-

### Removal

1. Remove the flexplate.  
Refer to: [Flexplate](#) (303-01 Engine - 2.3L EcoBoost (201kW/273PS), Removal and Installation).
2.
  - Remove the bolts and the crankshaft rear seal.
  - Discard the crankshaft rear seal.



3. **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 traces of sealant.

Clean and inspect the oil pan and cylinder block mating surfaces.

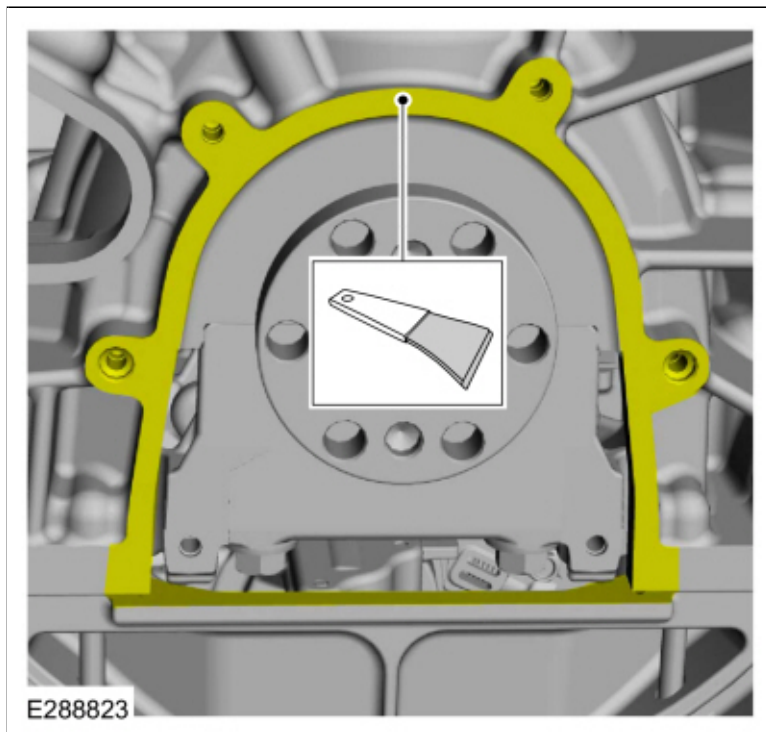
Refer to: [RTV Sealing Surface Cleaning and Preparation](#) (303-00 Engine System - General Information, General Procedures).

Use the General Equipment: Plastic Scraper

*Material:* Motorcraft® Silicone Gasket Remover / ZC-30-A

*Material:* Motorcraft® Metal Brake Parts Cleaner / PM-4-A, PM-4-B

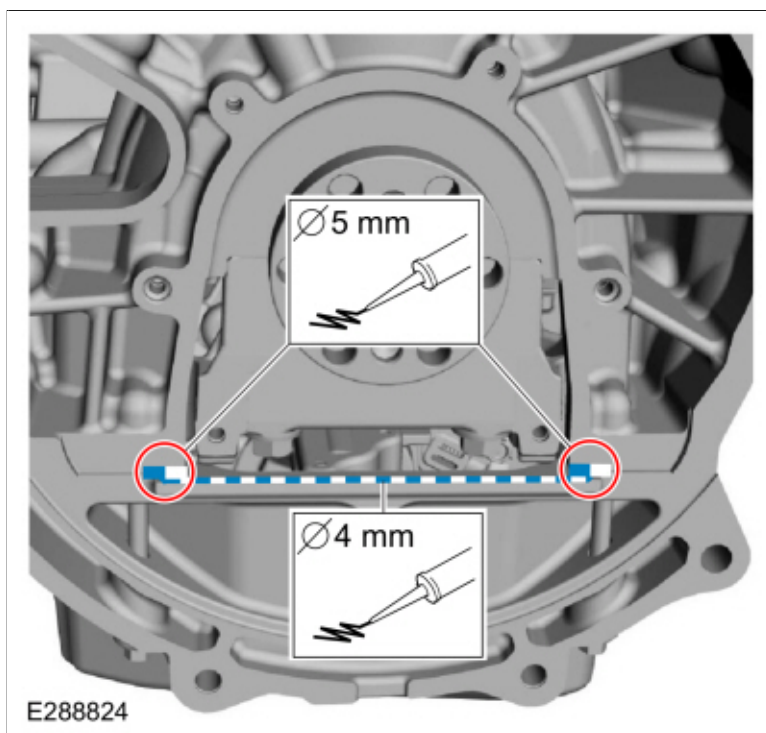
*Material:* Motorcraft® Metal Surface Prep Wipes / ZC-31-B



### Installation

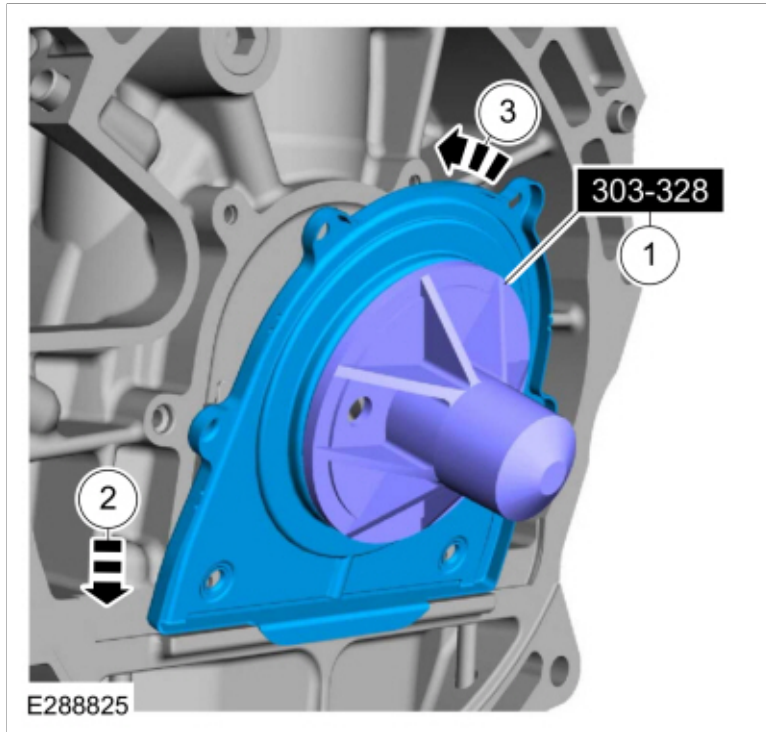
1. **NOTE:** If the crankshaft rear seal is not secured within 10 minutes of sealant application, the sealant must be removed and the sealing area cleaned. Failure to follow this procedure can cause future oil leakage.

Apply a 4 mm (0.157 in) bead of silicone to the oil pan surface and a 5 mm (0.196 in) bead at the T-joints.  
**Material:** Motorcraft® High Performance Engine RTV Silicone / TA-357 (WSE-M4G323-A6)

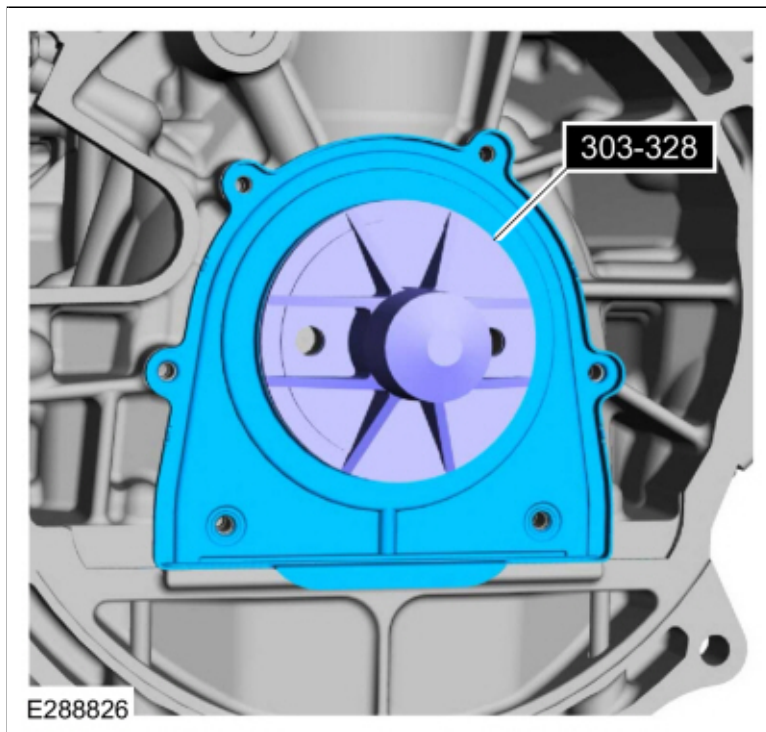


2.

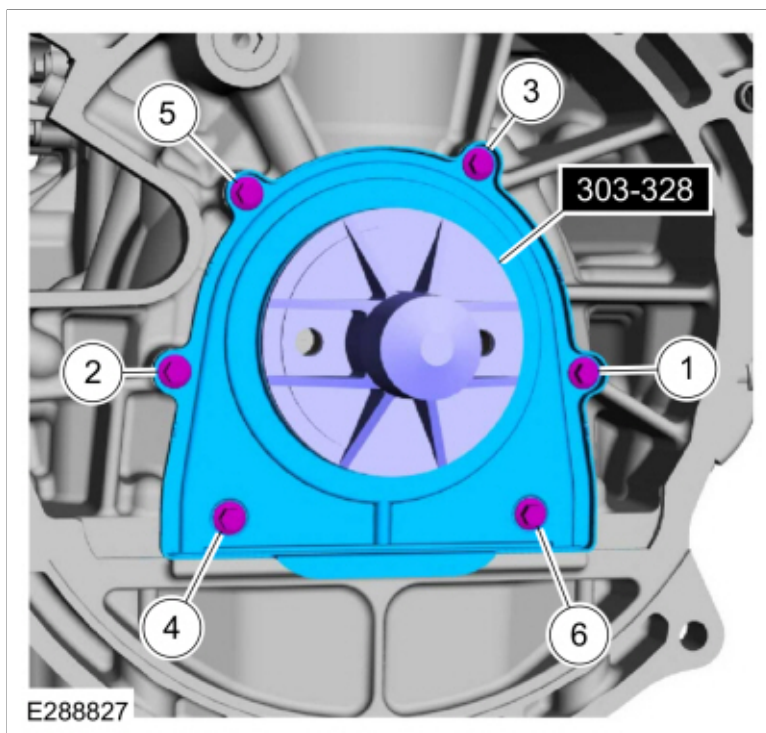
1. Install the crankshaft rear main oil seal installer.  
Use Special Service Tool: [303-328 \(T88P-6701-B1\) Replacer, Rear Seal.](#)
2. Install the crankshaft rear seal retainer at an angle above the oil pan flange to avoid scraping off the sealer.
3. Tilt the seal retainer up and onto the rear of the cylinder block.



3. Using the special tool, seat the crankshaft rear seal.  
Use Special Service Tool: [303-328 \(T88P-6701-B1\) Replacer, Rear Seal.](#)

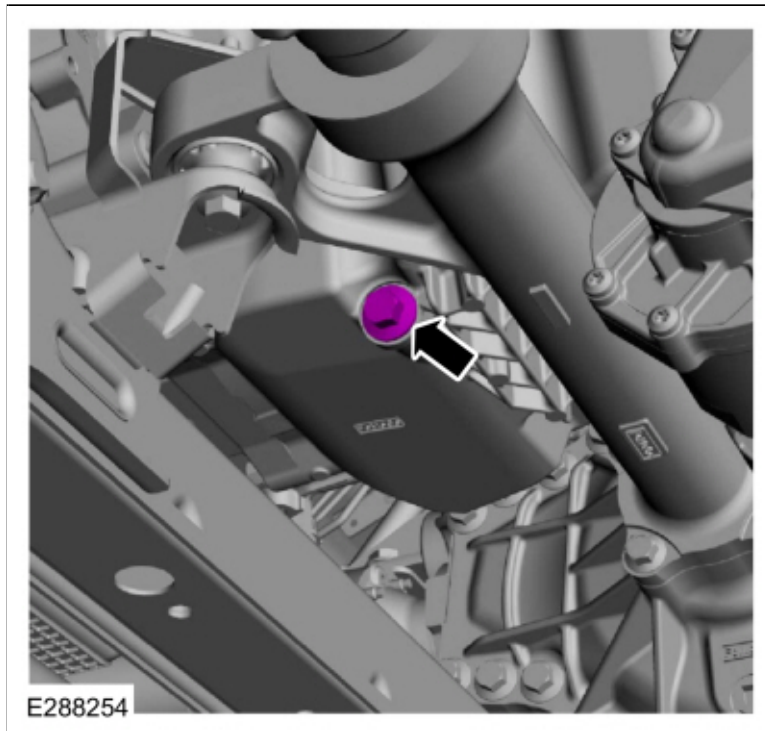


4. Install the bolts and tighten in sequence shown.  
 Remove Special Service Tool: [303-328 \(T88P-6701-B1\) Replacer, Rear Seal](#).  
 Torque: 97 lb.in (11 Nm)

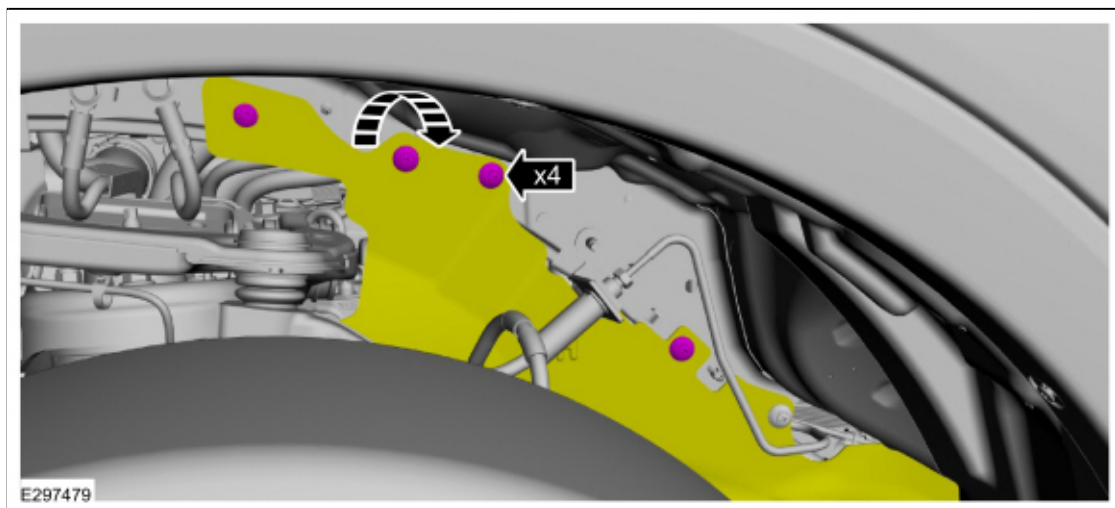


- 5.
- Remove the oil pan drain bolt and drain the engine oil.  
 Use the General Equipment: Oil Drain Equipment

- Install the oil pan drain bolt.  
Torque: 20 lb.ft (27 Nm)



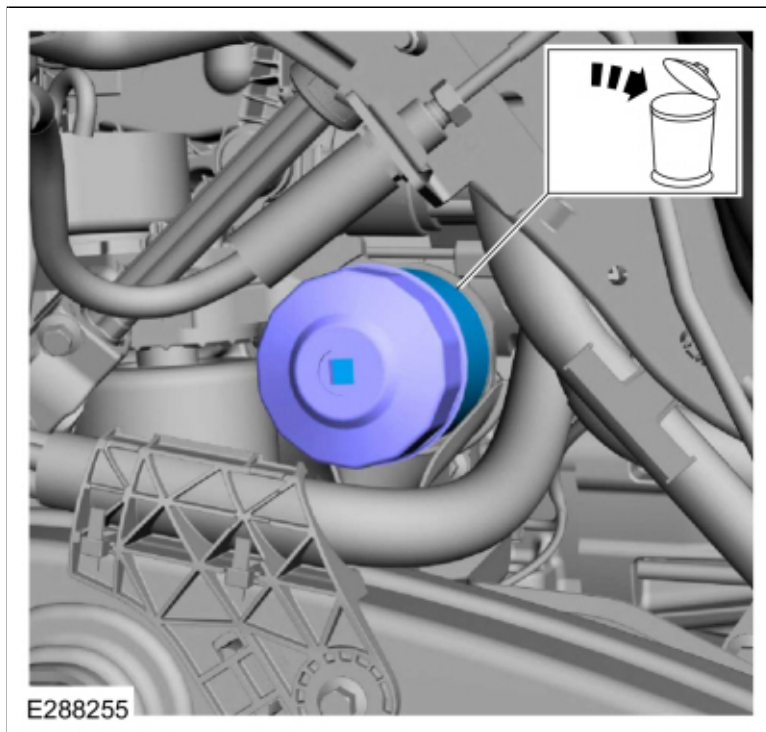
6. Remove the retainers and the position the LH side splash shield down for access to the oil filter.



7. **NOTE:** Use a commercially available end cap oil filter wrench.

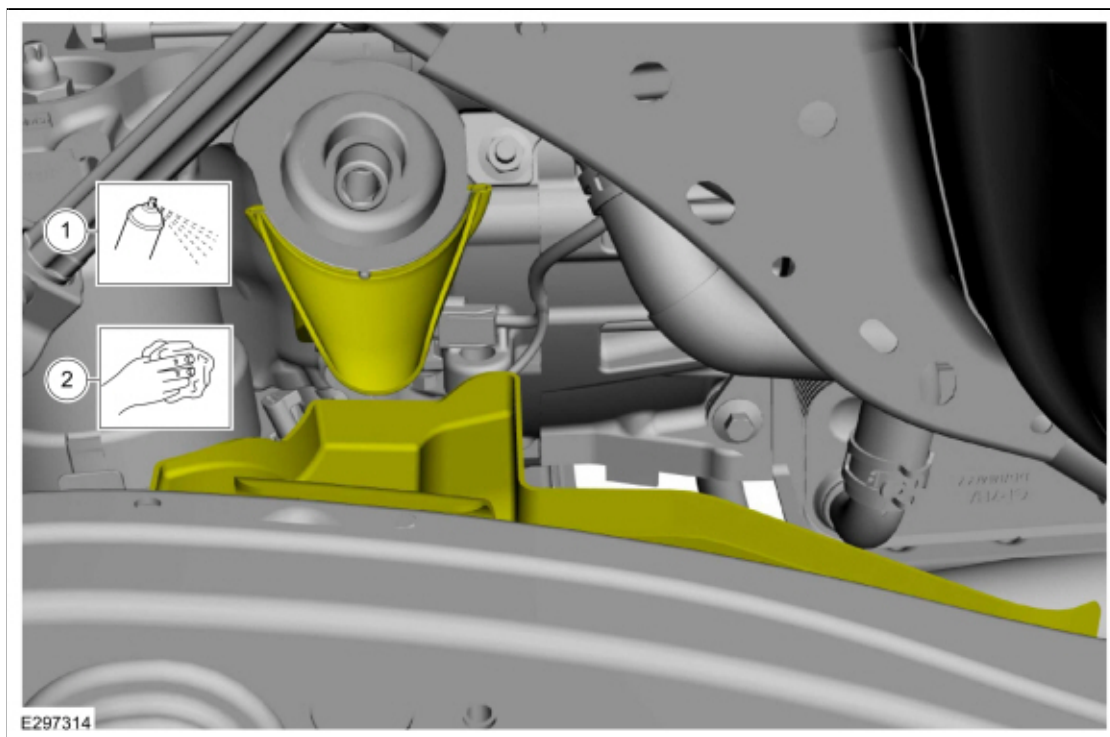
Remove and discard the engine oil filter.  
Use the General Equipment: Oil Drain Equipment





8.

1. Using brake cleaner, clean the drain troughs.  
Use the General Equipment: Oil Drain Equipment  
*Material:* Motorcraft® Metal Brake Parts Cleaner / PM-4-A, PM-4-B
2. Wipe the drain troughs clean.



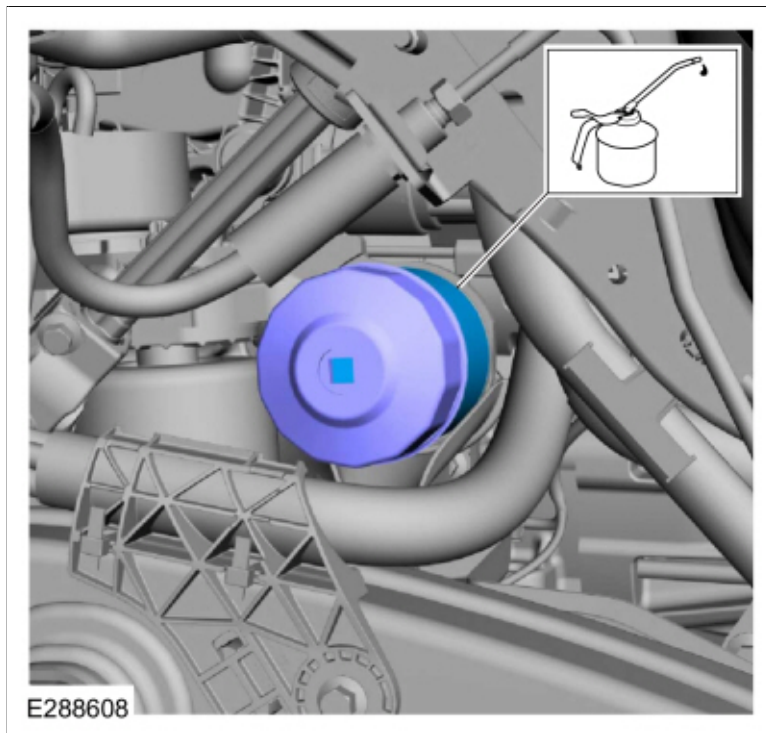
9. **NOTE:** Use a commercially available end cap oil filter wrench.

Lubricate the oil filter seal with clean engine oil and install.

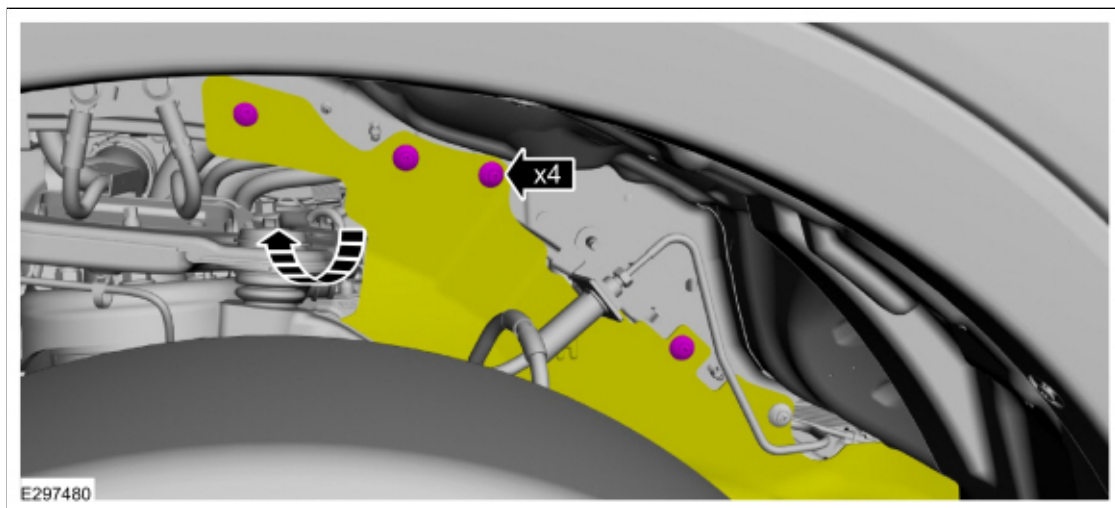
*Torque:*

Stage 1: 71 lb.in (8 Nm)

Stage 2: 180°

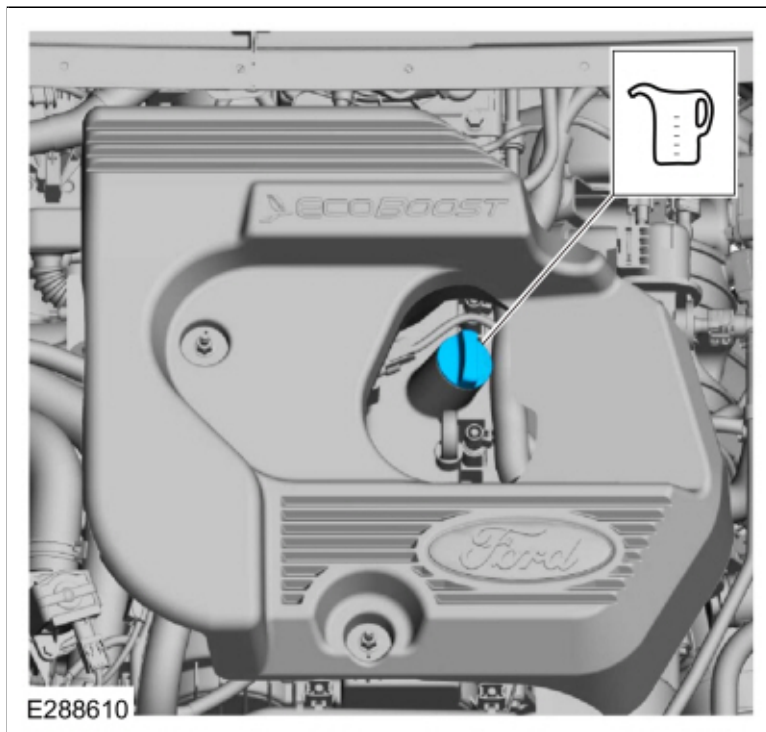


10. Position the LH side splash shield and install the retainers.



11. Fill the engine with clean engine oil.  
Refer to: [Specifications](#) (303-01 Engine - 2.3L EcoBoost (201kW/273PS), Specifications).





12. Install the flexplate.  
Refer to: [Flexplate](#) (303-01 Engine - 2.3L EcoBoost (201kW/273PS), Removal and Installation).

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