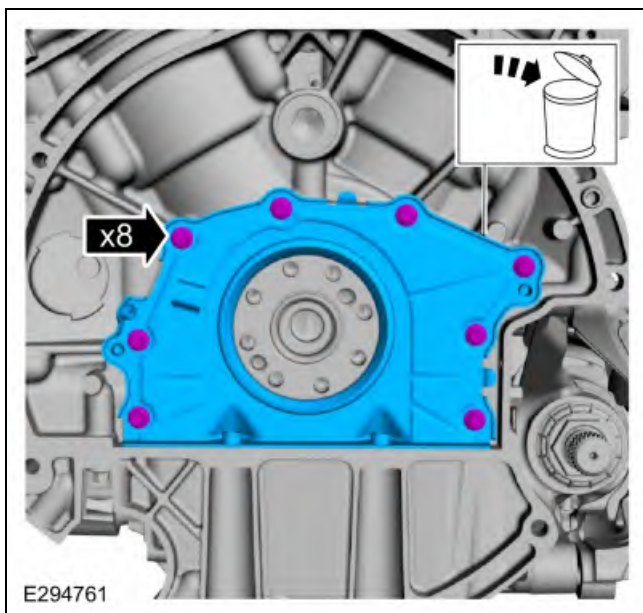




6. **NOTICE:** Do not use wire brushes, power abrasive discs or 3M[®] Roloc[®] Bristle Disk (2-in white, part number 07528) to clean the sealing surfaces of the engine block. These tools cause scratches and gouges that make leak paths. They also cause contamination that causes premature engine failure. Remove all traces of the gasket.

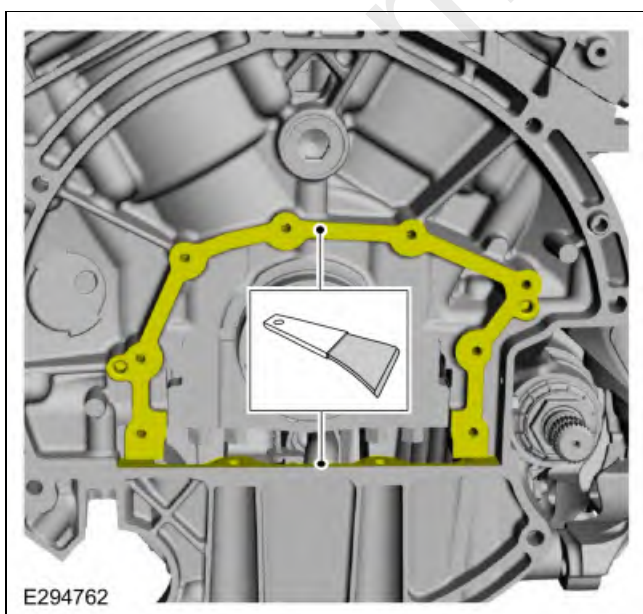
Make sure that the mating faces are clean and free of foreign material.

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

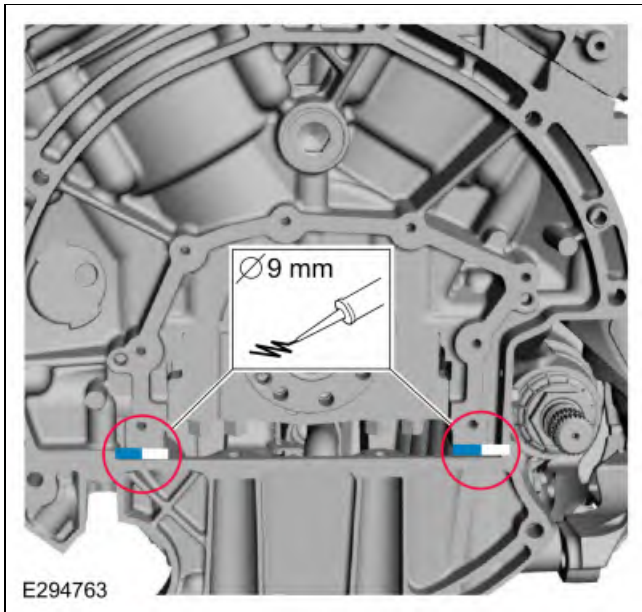
1. **NOTICE:** Failure to use Motorcraft[®] High Performance Engine RTV Silicone may cause the engine oil to foam excessively

and result in serious engine damage.

NOTE: The crankshaft rear seal retainer must be installed and the bolts tightened within 10 minutes of sealant application.

Apply 9 mm (0.354 in) bead of silicone sealant at the T-joints.

Material: Motorcraft® High Performance Engine RTV Silicone / TA-357 (WSE-M4G323-A6)

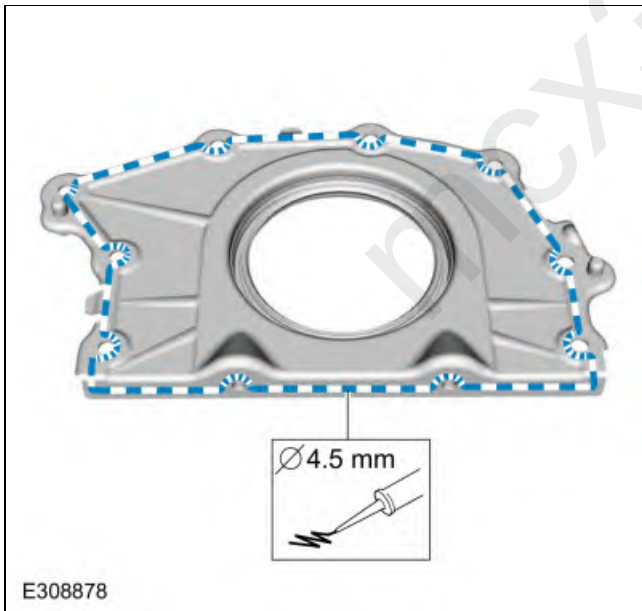


2. **NOTICE:** Failure to use Motorcraft® High Performance Engine RTV Silicone may cause the engine oil to foam excessively and result in serious engine damage.

NOTE: The crankshaft rear seal retainer must be installed and the bolts tightened within 10 minutes of sealant application.

Apply 4.5 mm (0.177 in) bead of silicone sealant.

Material: Motorcraft® High Performance Engine RTV Silicone / TA-357 (WSE-M4G323-A6)



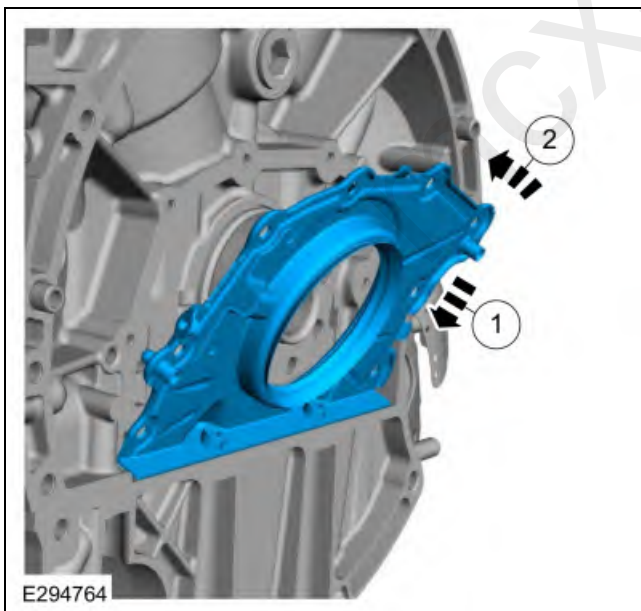
3. Lubricate the crankshaft rear seal with clean engine oil.



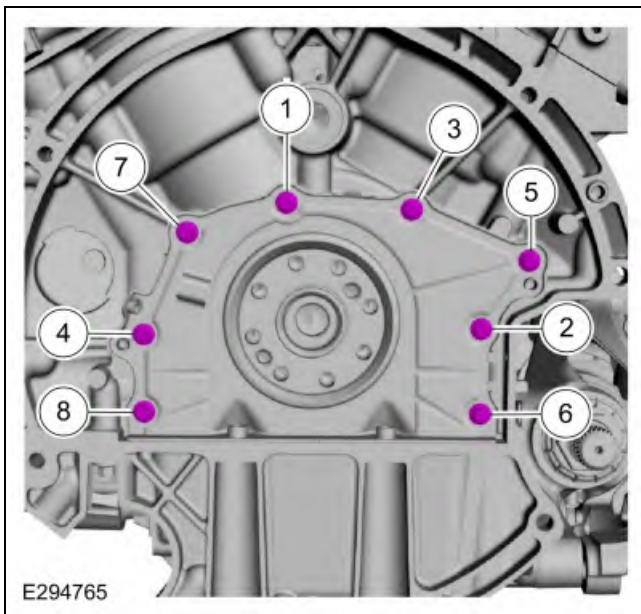
4.

1. Install the crankshaft rear seal retainer at an angle above the oil pan flange to avoid scraping off the sealer.
2. **NOTE:** *Inspect and ensure that the crankshaft rear seal lip is not rolled before proceeding to step 5.*

Tilt the seal retainer up and onto the rear of the cylinder block.



5. Install the bolts and tighten in sequence shown.
Torque: 89 lb.in (10 Nm)

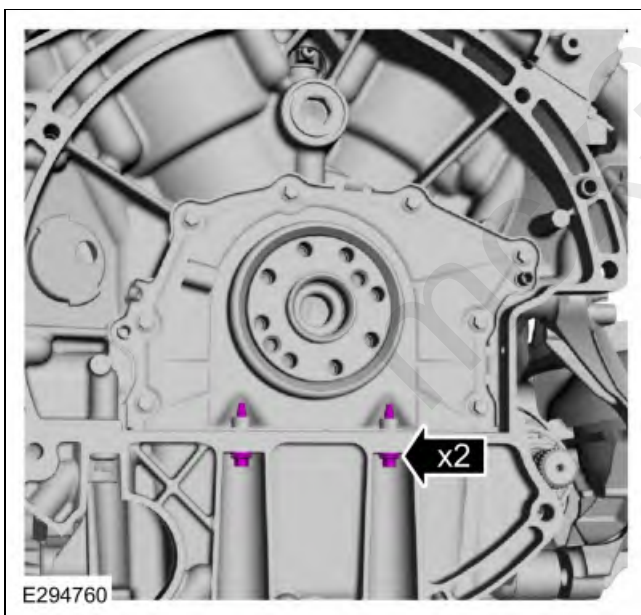


6. Install oil pan-to-crankshaft rear seal bolts.

Torque:

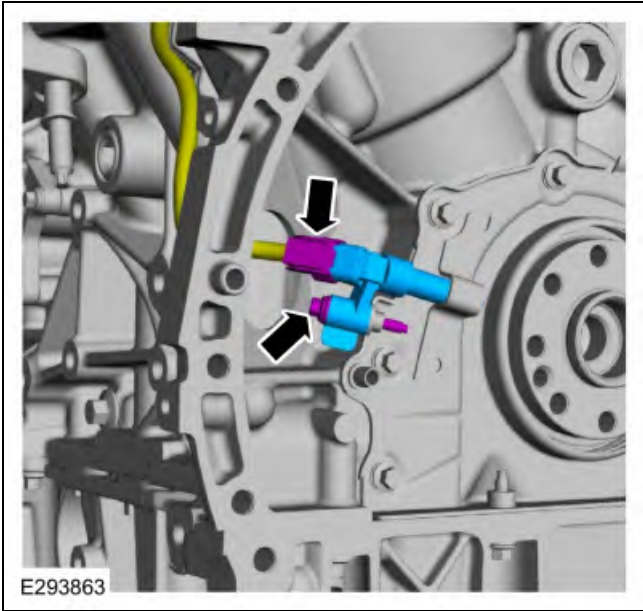
Stage 1: 89 lb.in (10 Nm)

Stage 2: 45°

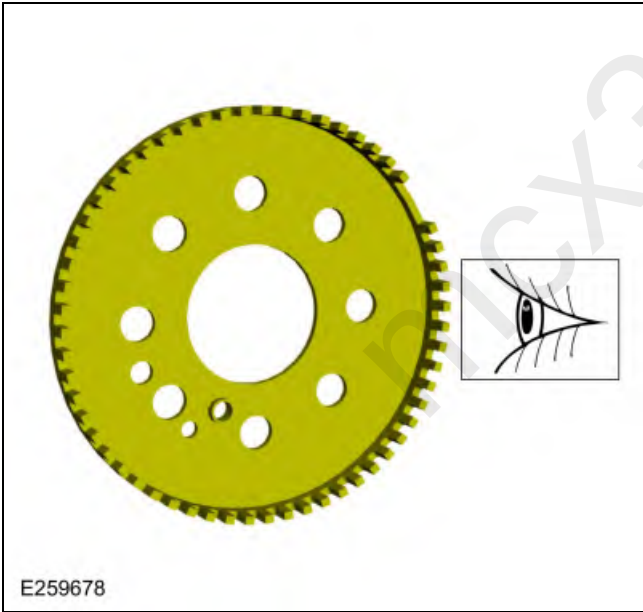


7.

- Install the CKP sensor and the bolt.
Torque: 53 lb.in (6 Nm)
- Connect the CKP sensor electrical connector.

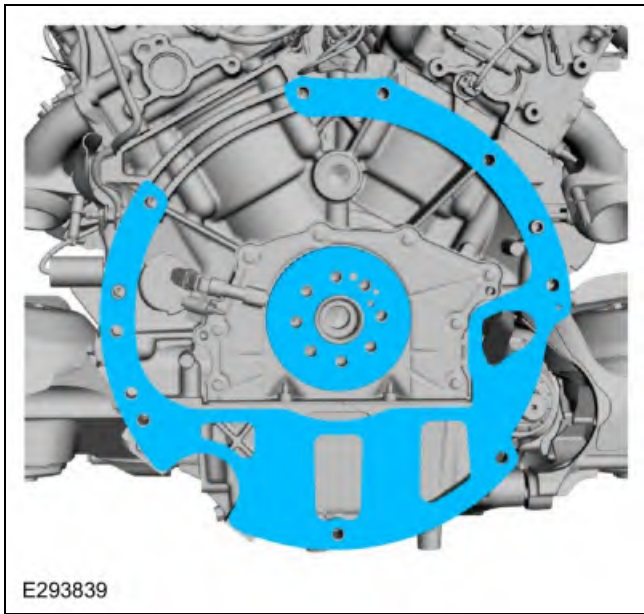


8. Inspect the ignition pulse ring for damage. If the ignition pulse ring has been dropped or has any visual damage, it must be replaced.



9. **NOTE:** Make sure the crankshaft ignition pulse ring is aligned with the inset hole on the crankshaft flange.

Install the engine-to-transmission spacer plate and the crankshaft sensor ring.



10. Install the flywheel.
Refer to: Flywheel (303-01D Engine - 3.3L Duratec-V6 “Hybrid (BP), Removal and Installation).

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Cylinder Head LH

Special Tool(s) / General Equipment

Oil Drain Equipment

Materials

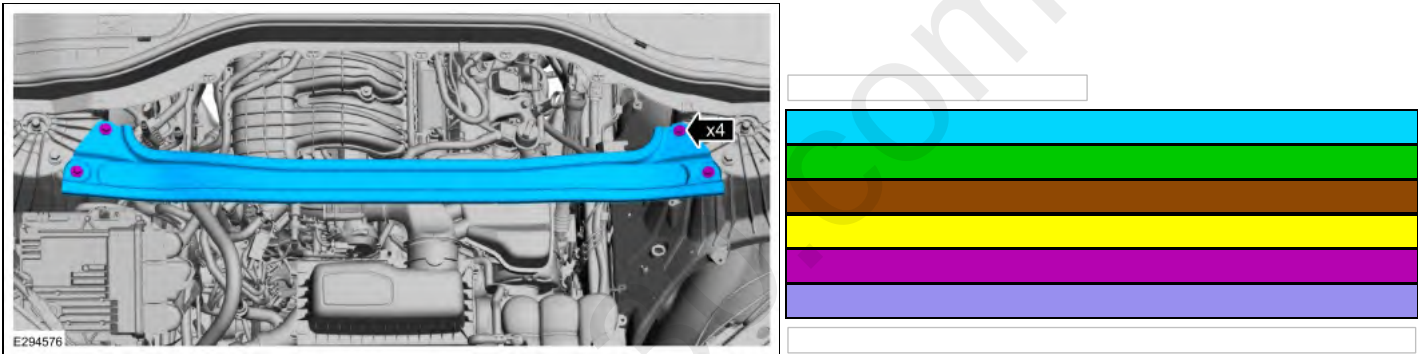
Name	Specification
Motorcraft® Metal Brake Parts Cleaner - PM-4-A, PM-4-B	-

Removal

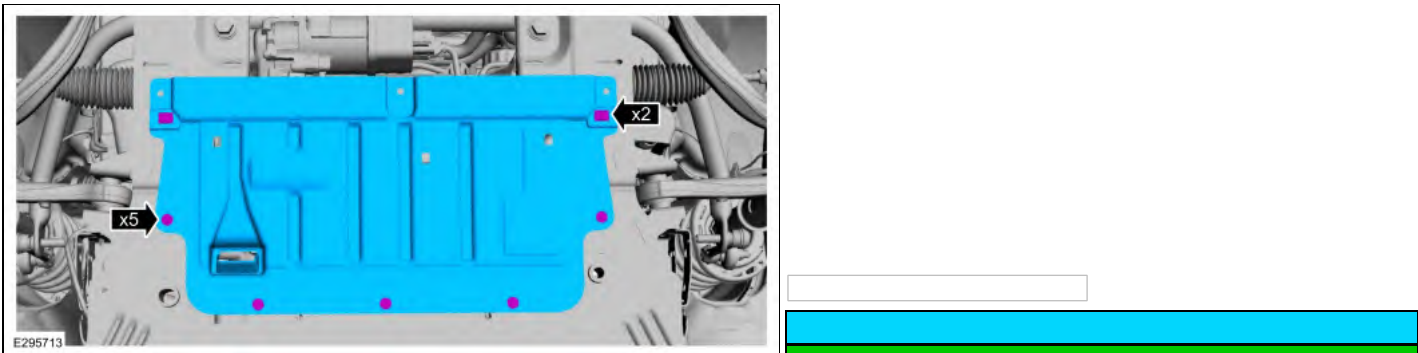
NOTICE: During engine repair procedures, cleanliness is extremely important. Any foreign material, including any material created while cleaning gasket surfaces that enters the oil passages, coolant passages or the oil pan, can cause engine failure.

NOTE: If the cylinder head is replaced, a new secondary timing chain tensioner will need to be installed. Refer to VCT unit.

- With the vehicle in NEUTRAL, position it on a hoist.
Refer to: Jacking and Lifting - Overview (100-02 Jacking and Lifting, Description and Operation).
- Remove the bolts and the suspension support bar.



- Release the fuel system pressure.
Refer to: Fuel System Pressure Release (310-00C Fuel System - General Information - 3.3L Duratec-V6, General Procedures).
- Disconnect the battery ground.
Refer to: Battery Disconnect and Connect (414-01 Battery, Mounting and Cables, General Procedures).
- Drain the cooling system.
Refer to: Engine Cooling System Draining, Vacuum Filling and Bleeding (303-03C Engine Cooling - 3.3L Duratec-V6, General Procedures).
- Remove the cowl panel.
Refer to: Cowl Panel (501-02 Front End Body Panels, Removal and Installation).
- Remove the pin-type retainer, bolts and the rear underbody shield.

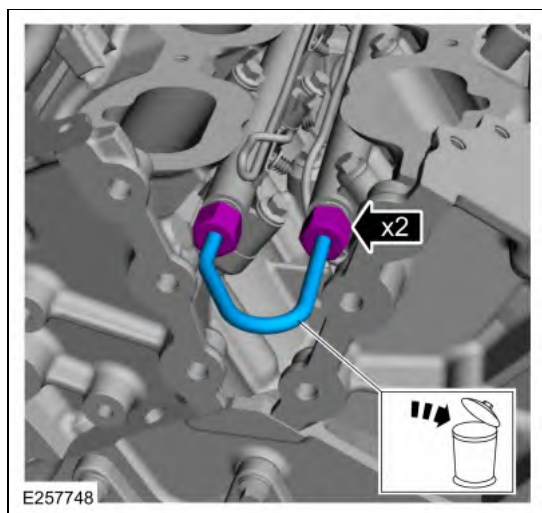


8. Remove the following items:

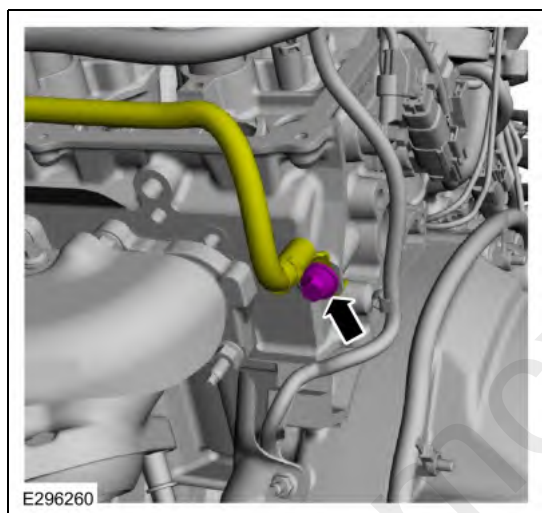
1. Remove the LH catalytic converter.
Refer to: Catalytic Converter LH (309-00D Exhaust System - 3.3L Duratec-V6 â€ˆ Hybrid (BP), Removal and Installation).
2. Remove the LH camshafts.
Refer to: Camshafts (303-01C Engine - 3.3L Duratec-V6, Removal and Installation).

9.

- Loosen the fuel rail to fuel rail high-pressure fuel tube flare nuts and remove.
- Discard the fuel rail to fuel rail high-pressure fuel tube.



10. Remove the fastener and ground wire from the rear side of LH cylinder head.



11.

- Detach and disconnect the direct injection wiring harness electrical connector.
- Disconnect the CMP sensor electrical connectors and detach the wiring harness retainer.