

2022 CHEVROLET CORVETTE SERVICE MANUAL

- **SEARCH**

1. **Engine/Propulsion**
2. **Engine Mechanical - 6.2L (LT2)**
3. **Repair Instructions**
- 4.

Engine Block Overhaul

Single Use Fasteners and Components

Engine Block Oil Gallery Plug Seal

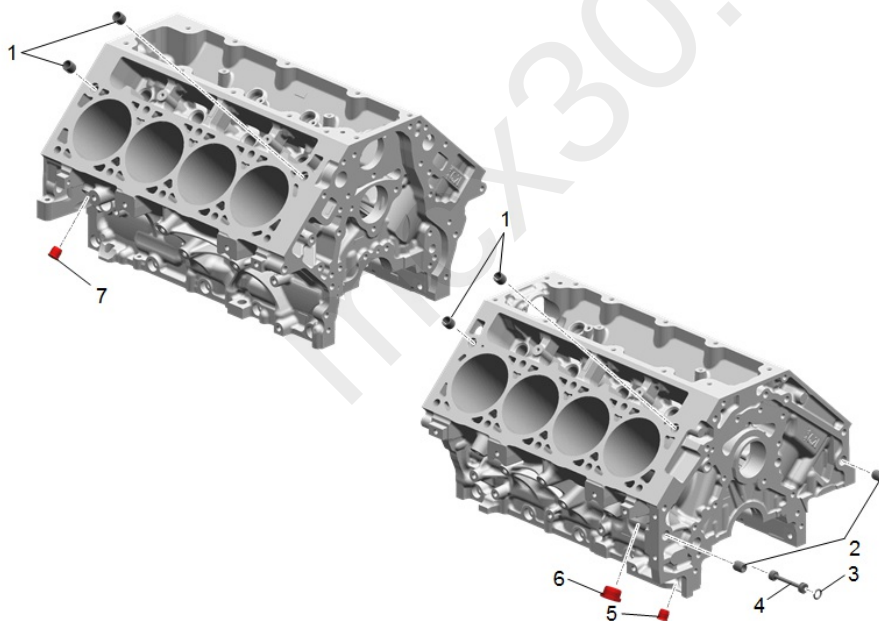
Special Tools

- EN-8087, Cylinder Bore Gauge
- EN-33049, Camshaft Bearing Service Set

Equivalent regional tools: Special Tools

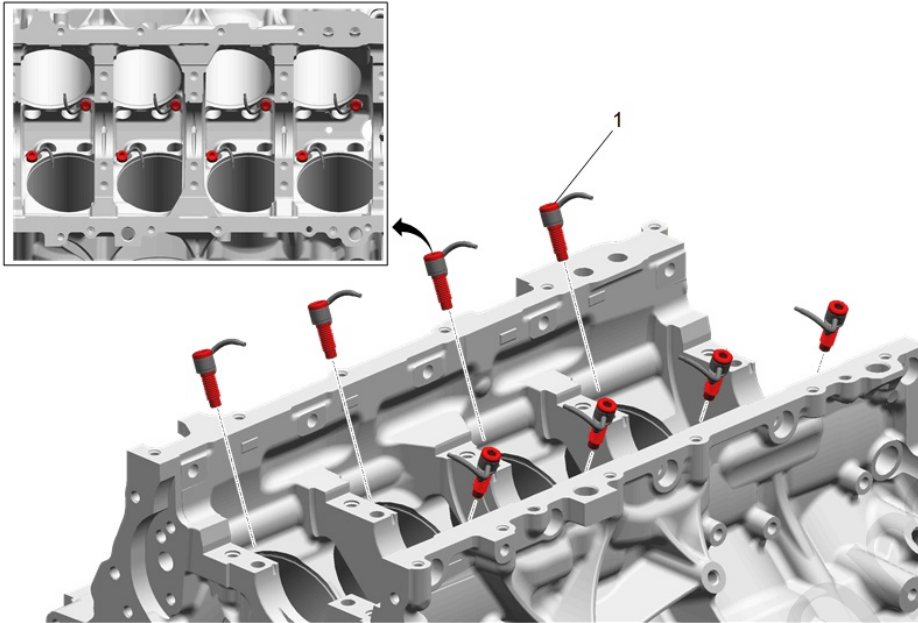
Engine Block Disassemble Procedure

1. Crankshaft >> Remove - Crankshaft and Bearing Removal and Installation



2. [Click here for full size](#)
3. Cylinder Head Locating Pin (1>) >> Remove [4>x]
4. Transmission Locating Pin (2>) >> Remove [2>x]
5. Engine Block Oil Gallery Plug Seal (3>) >> Remove and DISCARD
6. Engine Block Oil Gallery Plug (4>) >> Remove
7. Engine Block Core Hole Plug (5>) >> Remove

8. Engine Block Oil Gallery Plug (6>) >> Remove
9. Engine Block Coolant Drain Hole Plug (8>) >> Remove



10. [Click here for full size](#)

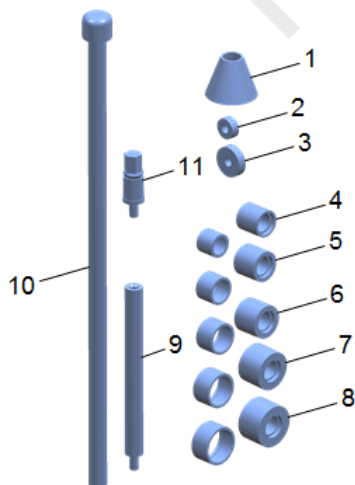
11. Piston Oil Nozzle (1>) >> Remove [8>x]

12. Note:

A loose camshaft bearing may be caused by an enlarged, out of round, or damaged engine block bearing bore.

13. Prior to bearing removal, inspect the camshaft bearings for loose fit in the engine block bearing bores.

14. Repair or replace the components, as required.

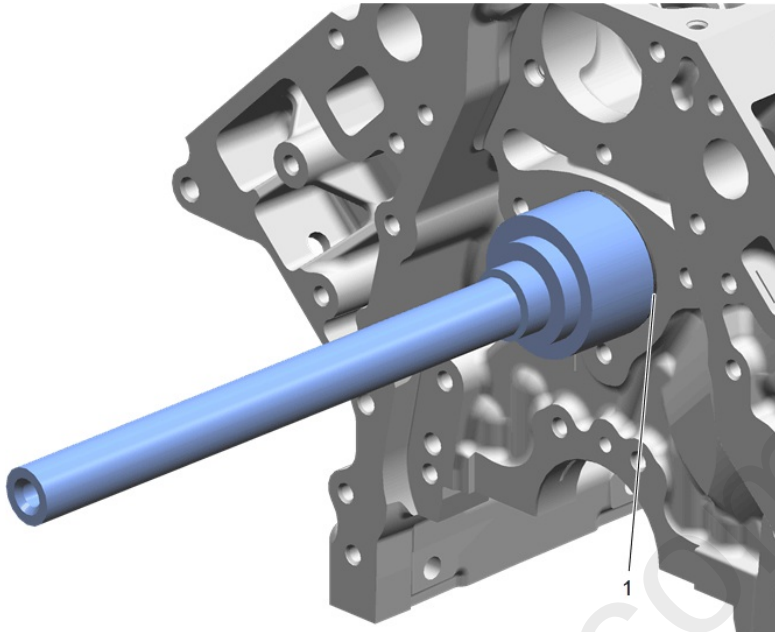


15. [Click here for full size](#)

16. Select the expanding driver (4–8) and washer (2 or 3) from the *EN-33049* Camshaft Bearing Service Set.

17. Assemble the tool.

18. Insert the tool through the front of the engine block and into the bearing.
19. Tighten the expander assembly (11) nut until snug.
20. Push the guide cone (1) into the front camshaft bearing in order to align the tool.



21.
Click here for full size
22. Drive the bearing (1) from the block bore.
23. Note:
In order to remove the inner camshaft bearings, operate the tool from either end of the block, using the driver bar extension and the guide cone in the front or rear camshaft bearing bore.
24. Repeat the above procedures in order to remove the remaining bearings.

Engine Block Cleaning Procedure

1. Note:
Ensure proper use of room temperature vulcanizing (RTV) sealant. Use of Room Temperature Vulcanizing (RTV) and Anaerobic Sealant
2. Remove any old thread sealant, gasket material or sealant using Replacing Engine Gaskets
3. Clean all the following areas with solvent:
4.
 - Sealing surfaces
 - Cooling passages
 - Oil passages
 - Bearing journals
5. Clean all threaded and through holes with solvent.
6. Warning:

Refer to Safety Glasses Warning.

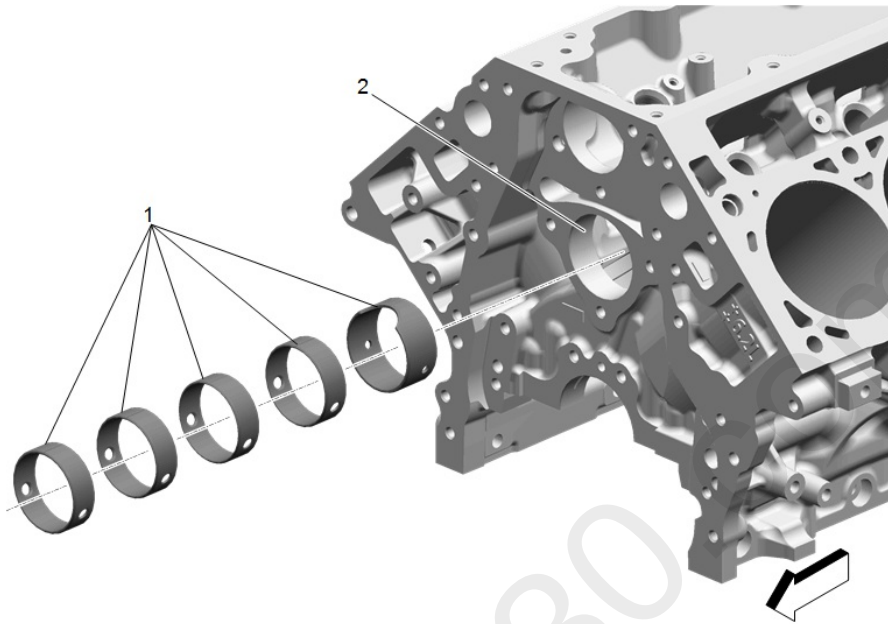
7. Dry the engine block with compressed air.

Camshaft Bearings Cleaning and Inspection

1. Warning:

Refer to Safety Glasses and Compressed Air Warning

2. Clean the components in solvent.

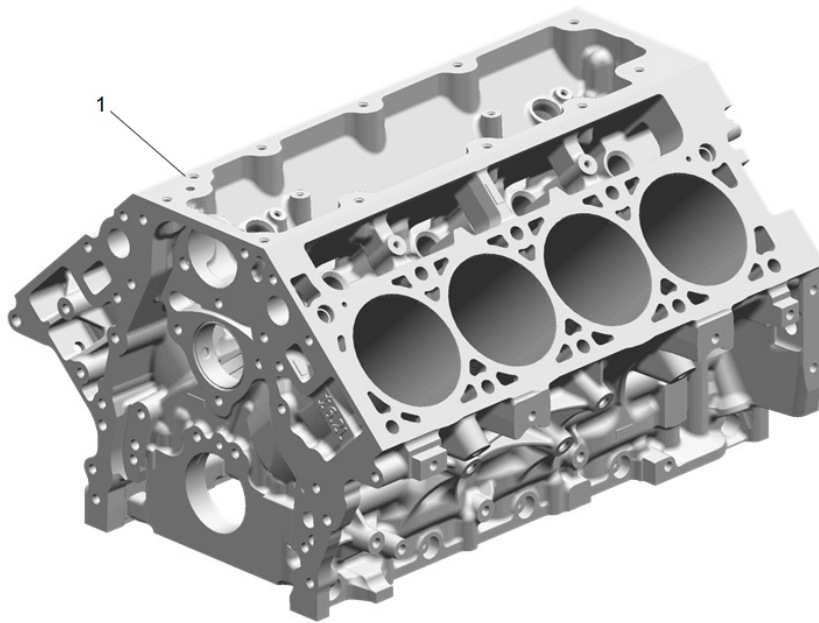


3.
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4. Inspect the camshaft bearings (1) for the following:

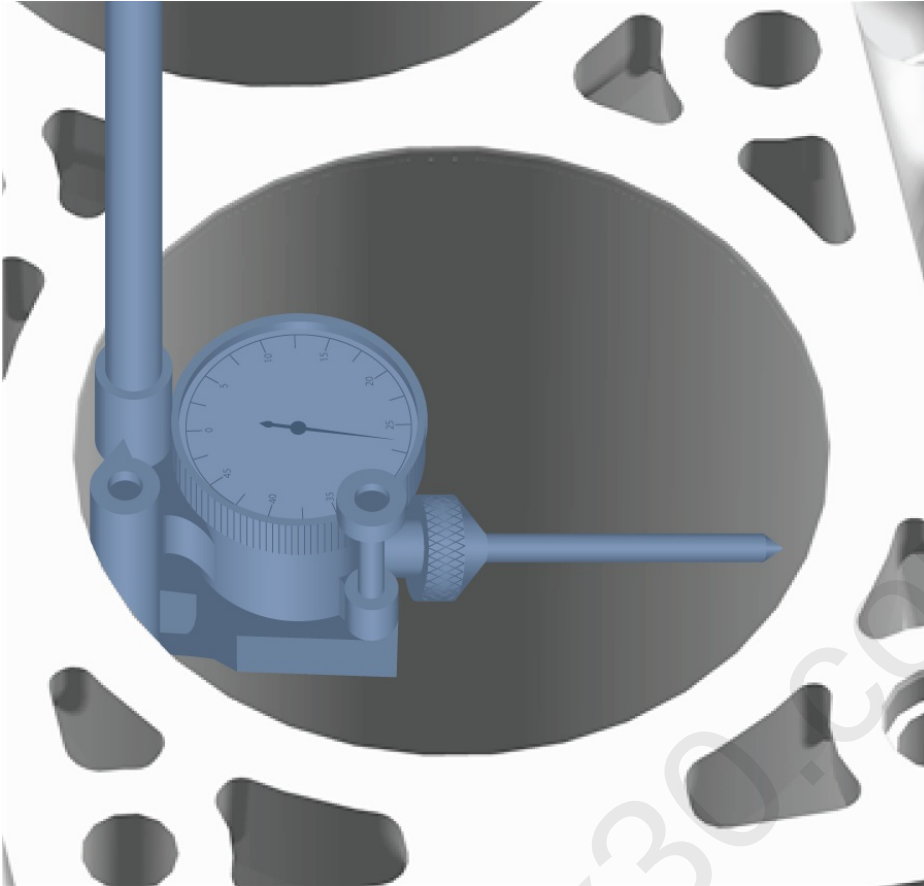
5.
 - Excessive wear, evidence of galling, pitting, scoring, or embedded debris. The appearance of the bearing material being different shades of gray are considered normal, and are not guideline for bearing replacement. Measure the bearing inside diameter (ID) as required for an over-sized condition. Engine Mechanical Specifications
 - Proper fit in the engine block. Camshaft bearings have an interference fit to the engine block and should not be loose in the engine block bearing bores.
 - The oil lubrication feed hole in the bearing must be in alignment with the drilled out passage in the block.
 - The oil lubrication feed hole is not plugged by debris.
 - Bearings with excessive wear or scoring must be replaced.
 - Bearings with excessive wear, galling, pitting, scoring, or embedded debris must be replaced.

Engine Block Visual Inspection



1.
Click here for full size
2. Inspect the crankshaft bearings journals for damage or spun bearings. The crankshaft bearing journals are not repairable, if the crankshaft bearing journals are damaged the engine block must be replaced.
3. Inspect the primary camshaft drive chain tensioner mounting surface on the engine block for burrs or any defects that would degrade the sealing of the NEW primary camshaft drive chain tensioner gasket.
4. Inspect all sealing and mating surfaces for damage, repair or replace the engine block if necessary.
5. Inspect all threaded and through holes for damage or excessive debris.
6. Inspect all bolts for damage, if damaged replace with NEW bolts only.
7. Check the cylinder condition. Some light vertical marks may be visible on the cylinder wall. In these areas, check that the honing marks are still visible in this marked area. If they are, the cylinder surface has not been compromised and the engine block can be used.
8. Inspect the cylinder walls for cracks or damage. The cylinder sleeves are not serviced separately, if the cylinders are damaged the engine block must be replaced.
9. Inspect the engine block for cracks. Do not repair any cracks. If cracks are found, the engine block must be replaced.
10. Repair any damaged threaded holes.

Measuring Cylinder Bore Diameter



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Measure the cylinder bore diameter 57 mm (2.244 in) from the deck face using the EN 8087 Cylinder Bore Gauge.

Compare your results with the Engine Mechanical Specifications. If the cylinder diameter exceeds the specifications, the engine must be replaced.

Measuring Cylinder Bore Taper

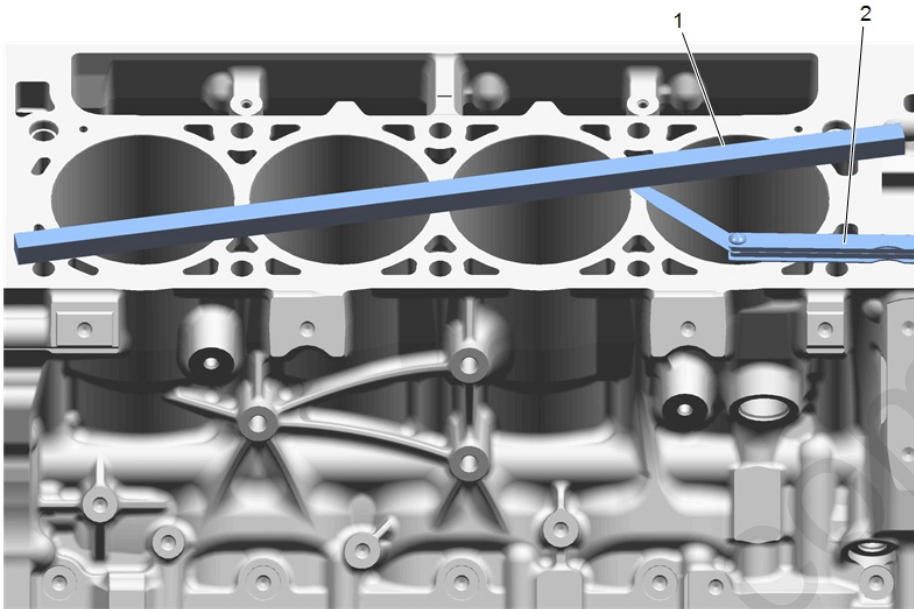
1. Measure the cylinder bore along the thrust surfaces, perpendicular to the crankshaft centerline, at 12 mm (0.472 in) below the deck surface and record your measurement.
2. Measure the cylinder bore along the thrust surfaces, perpendicular to the crankshaft centerline, at 127 mm (5.001 in) below the deck surface and record your measurement.
3. Calculate the difference between the 2 measurements. The result will be the cylinder taper.
4. Compare your results with the Engine Mechanical Specifications. If the cylinders exceed the specifications, the engine must be replaced.

Measuring Cylinder Bore Out-of-Round

1. Measure both the thrust and non-thrust cylinder diameter at 12 mm (0.472 in) below the deck. Record your measurements.
2. Calculate the difference between the 2 measurements. The result will indicate out-of-round at the upper end of the cylinder.

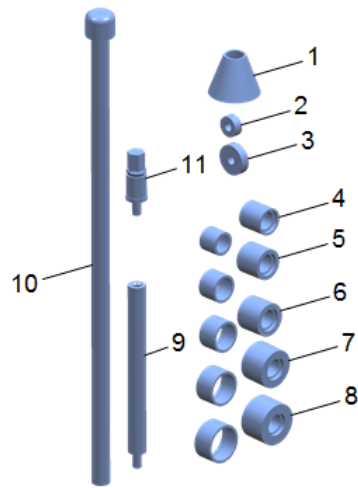
3. Measure both the thrust and non-thrust cylinder diameter at 127 mm (5.001 in) below the deck surface. Record your measurements.
4. Calculate the difference between the 2 measurements. The result will indicate out-of-round at the lower end of the cylinder.
5. Compare your results with the Engine Mechanical Specifications. If the cylinders exceed these specifications, the engine must be replaced.

Engine Block Deck Flatness Inspection

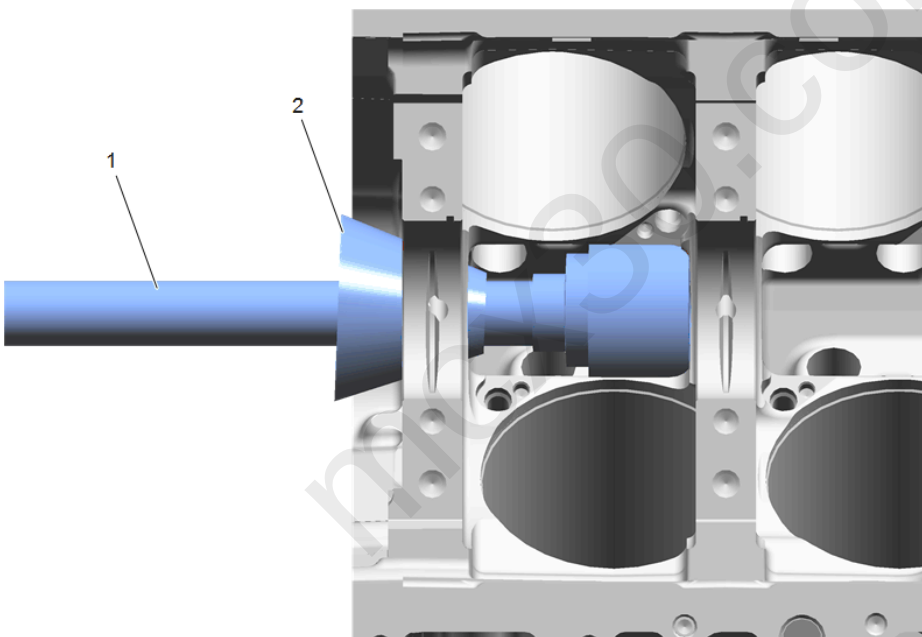


1. [Click here for full size](#)
2. Ensure the engine block decks are clean and free of gasket material.
3. Inspect the surface for any imperfections or scratches that could inhibit proper cylinder head gasket sealing.
4. Place a straight-edge (1) diagonally across the engine block deck face surface.
5. Measure the clearance between the straight-edge (1) and the engine block deck face using a feeler gauge (2) at 4 points along the straight-edge.
6. If the warpage is less than 0.10 mm (0.004 in), the engine block deck surface does not require resurfacing.
7. If the warpage is between 0.10 mm to 0.20 mm (0.004 to 0.008 in) or any imperfections or scratches that could inhibit proper cylinder head gasket sealing are present, the engine block deck surface requires resurfacing.
8. If resurfacing is required the maximum amount that can be removed is 0.25 mm (0.010 in).
9. If the engine block deck surface requires more than 0.25 mm (0.010 in) material removal the block must be replaced.

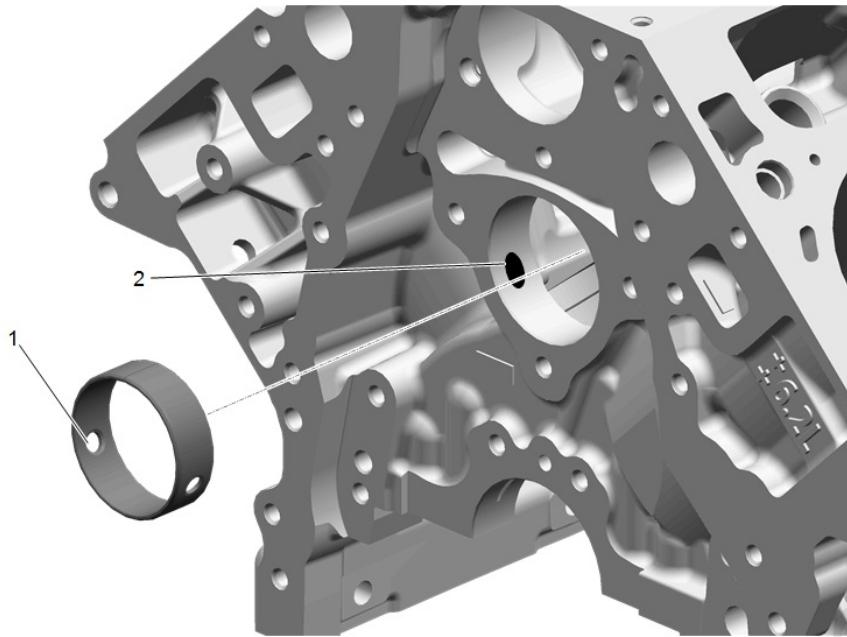
Engine Block Assemble Procedure



1. [Click here for full size](#)
2. Select the expanding driver (4-8) and washer (2 or 3) from the *EN-33049* Camshaft Bearing Service Set.
3. Assemble the tool.



4. [Click here for full size](#)
5. Insert the tool (1) through the front or rear of the engine block and into the bearing. For installation of inner bearings, it may be necessary to install the driver bar extension.
6. Tighten the expander assembly nut until snug.
7. Push the guide cone (2) into the front camshaft bearing in order to align the tool.

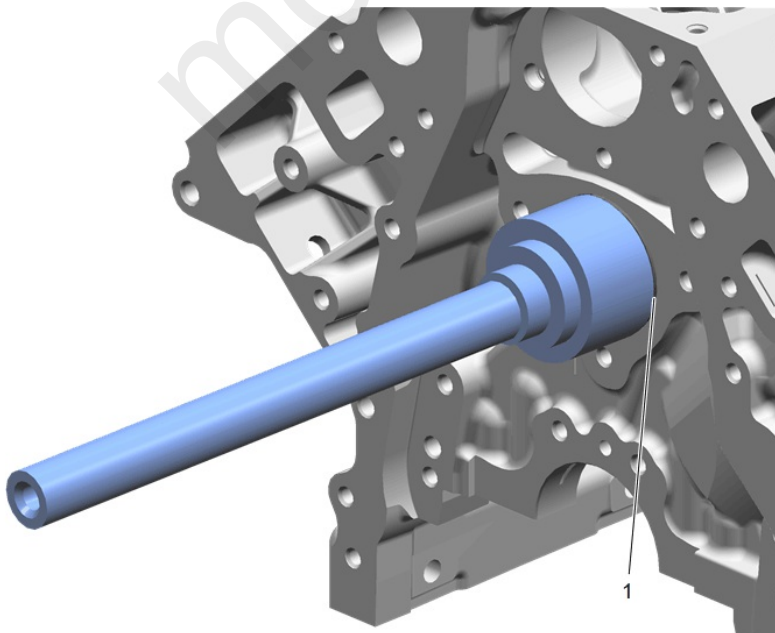


8. [Click here for full size](#)

9. Caution:

Camshaft bearings must be installed with bearing oil feed hole in alignment with the drilled oil passage in the block bore to ensure proper oil flow to the camshaft. If the bearings have a split seam, the split seam in the bearing must be installed in the 12 o'clock position towards the top of the block. Improperly installed bearings may restrict oil flow causing engine damage.

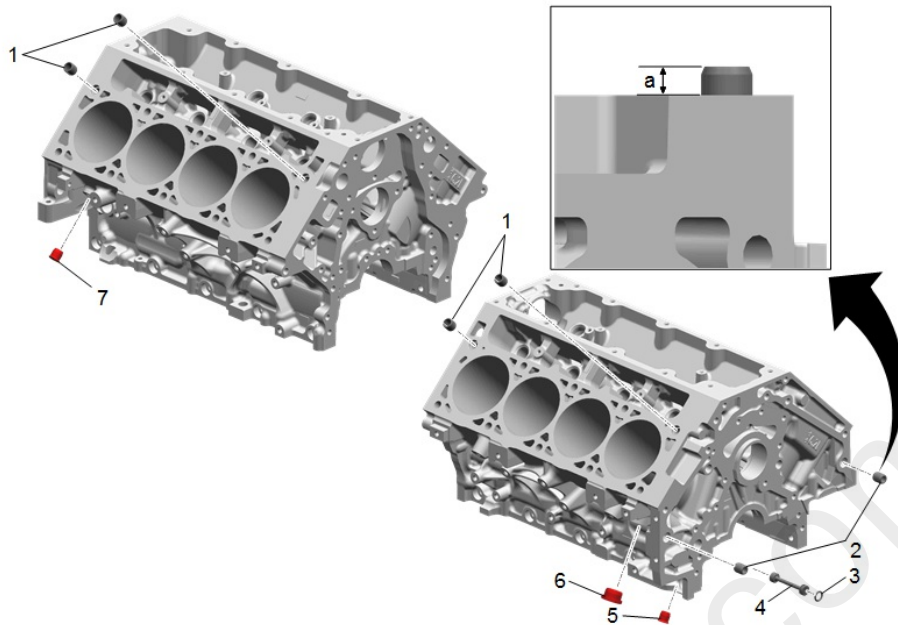
10. Position the camshaft bearing with oil feed hole (1) in alignment with drilled oil passage in block bore (2).



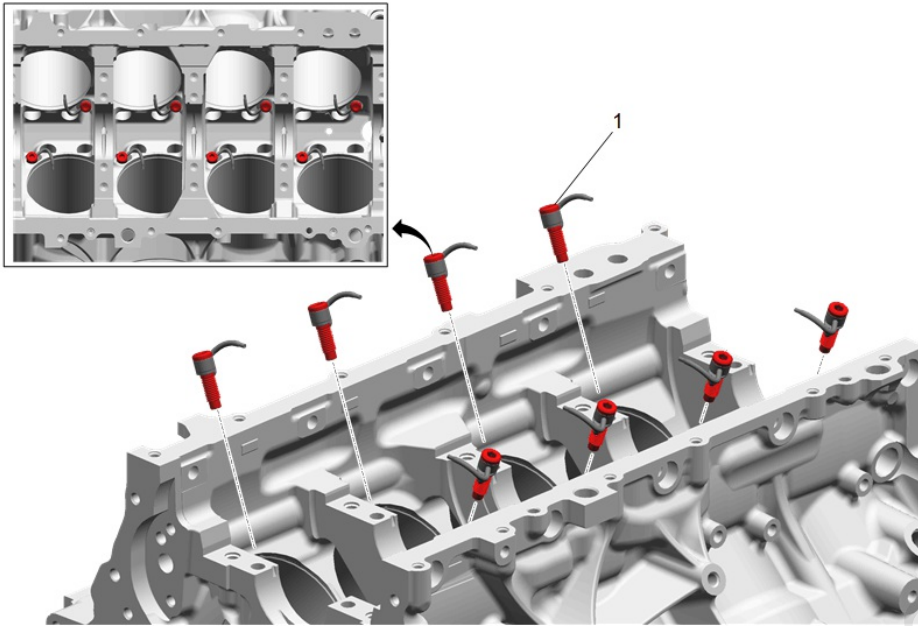
11. [Click here for full size](#)

12. Drive the bearing (1) into the block bore. During installation, ensure the bearing is installed straight.

12. Drive the bearing (1) into the block bore. During installation, ensure the bearing is installed straight.
13. Remove *EN-33049* Camshaft Bearing Service Set, inspect bearing to confirm the oil hole in the bearing is in alignment with the drilled oil passage in the block bore.
14. Repeat procedure to install the remaining bearings into the block.



15. [Click here for full size](#)
16. Cylinder Head Locating Pin (1>) >> Install [4>x]
17. Press fit the transmission locating pins (2) into the block, ensure that 8.75 mm (0.34 in) (a) of the transmission locating pin protrudes from the block as shown.
18. Engine Block Oil Gallery Plug Seal (3>) >> Install NEW
19. Caution:
Refer to Fastener Caution.
20. Engine Block Oil Gallery Plug (4>) >> Install
21. Note:
Ensure proper use of room temperature vulcanizing (RTV) sealant. Use of Room Temperature Vulcanizing (RTV) and Anaerobic Sealant
22. Engine Block Core Hole Plug (5>) >> Install and tighten 30 N-m (22 lb ft)
23. Engine Block Oil Gallery Plug (6>) >> Install and tighten 60 N-m (44 lb ft)
24. Engine Block Coolant Drain Hole Plug (8>) >> Install and tighten 30 N-m (22 lb ft)



25.

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26. Piston Oil Nozzle (1>) >> Install and tighten [8>x]20 N-m (15 lb ft)

27. Crankshaft >> Install - Crankshaft and Bearing Removal and Installation