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2010 JEEP Cherokee/Liberty OEM Service and Repair Workshop Manual

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Sample

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YOUR CURRENT VEHICLE

Vibration Damper

VIBRATION DAMPER

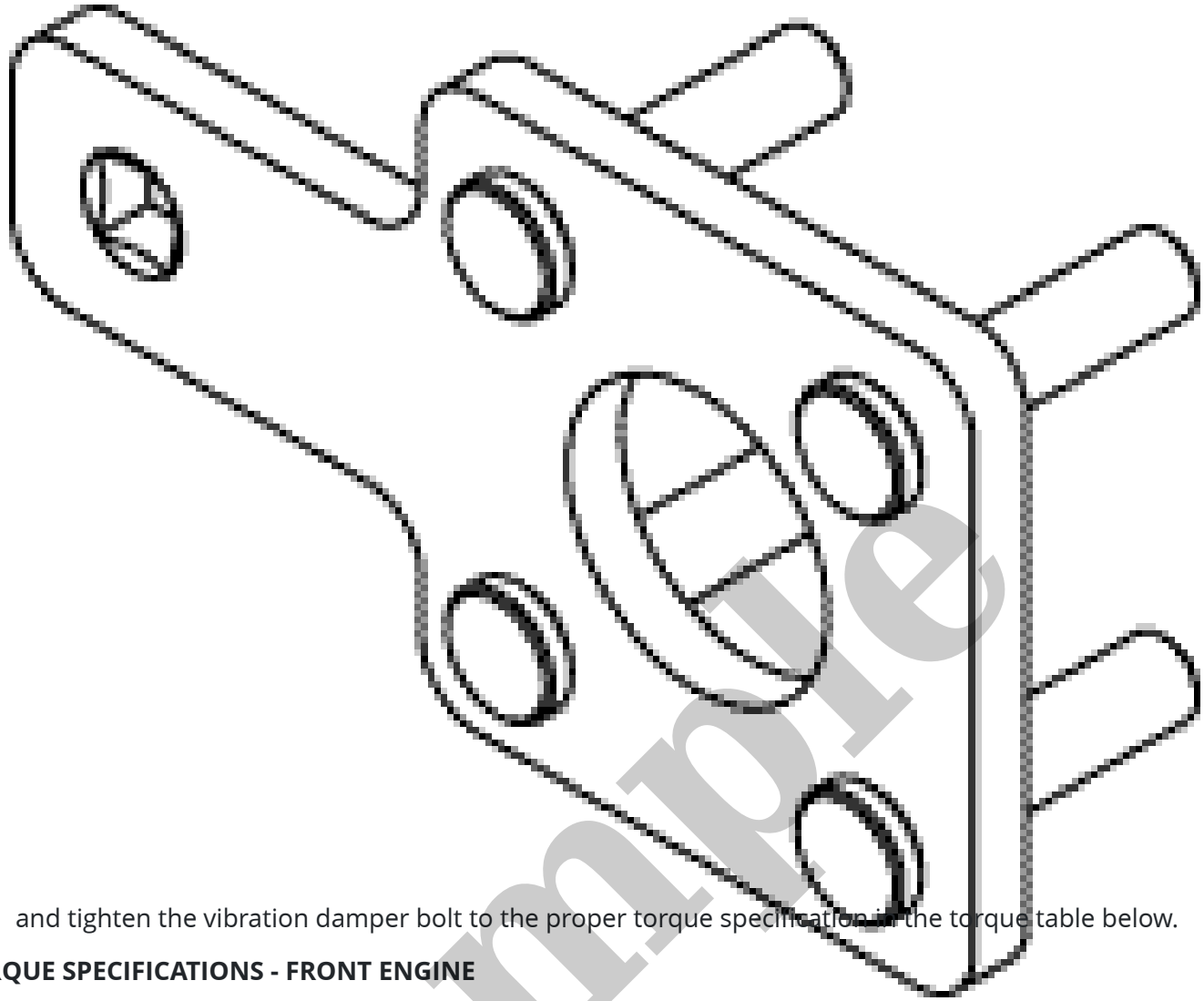
REMOVAL

1. Remove the serpentine belt (Refer to Engine/Accessory Drive/BELT, Serpentine/Removal and Installation) (Refer To List 1).

NOTE

A force greater than 350 N·m (260 ft. lbs.) may be required to remove the crankshaft vibration damper bolt.

Sample



and tighten the vibration damper bolt to the proper torque specification in the torque table below.

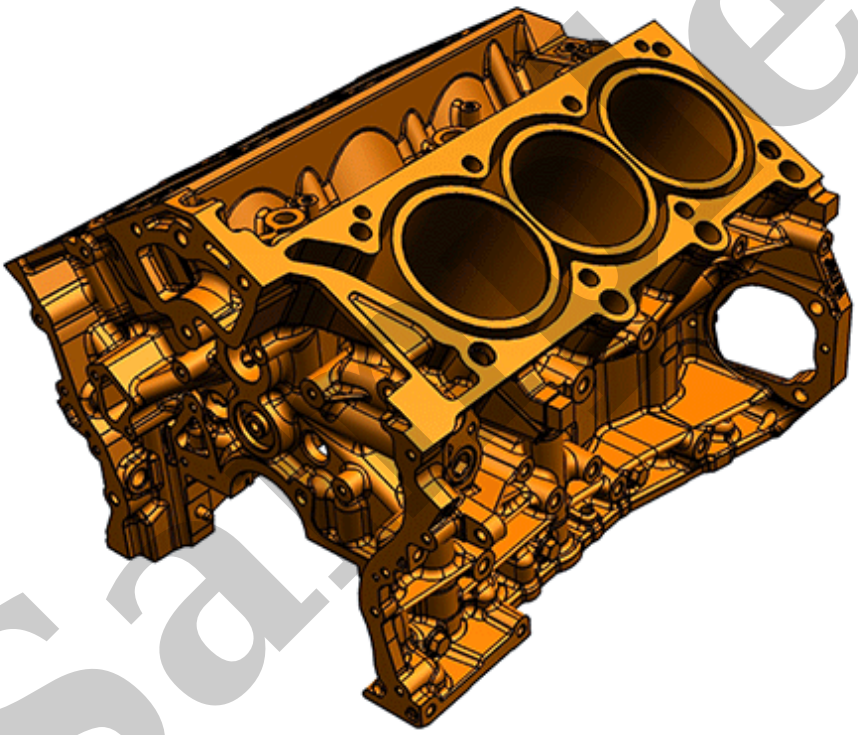
TORQUE SPECIFICATIONS - FRONT ENGINE

Sample

YOUR CURRENT VEHICLE

Engine Block

ENGINE BLOCK



Sample

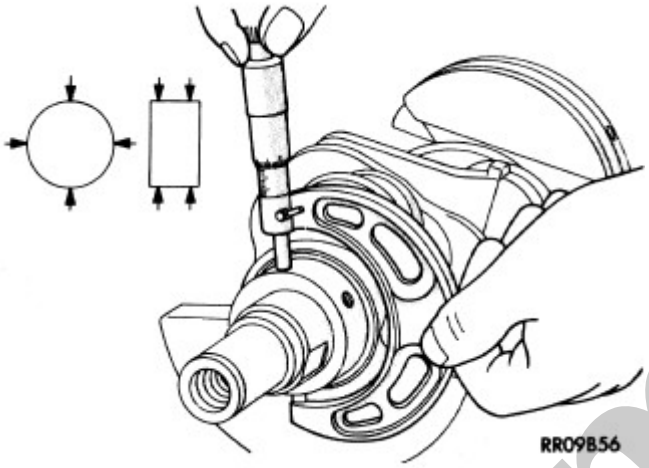
The cylinder block is a 60 degree high-pressure die cast aluminum design with cast iron cylinder liners.

- The leading side of the block is on the right side and houses cylinders 1, 3 and 5.
- The cylinder block is an open deck design with cut slots between each cylinder.
- Two knock sensors are located in the block valley.
- The cylinder block has three sets of piston cooling jets which are attached to the main oil gallery.
- The four powdered metal main bearing caps are a cross-bolted design and have directional arrows molded into the caps.
- The number 2 main bearing is the location for the two piece upper half thrust bearings.
- The thrust bearings are installed with the oil groves facing outward.

YOUR CURRENT VEHICLE

Crankshaft

CRANKSHAFT



NOTE

Typical crankshaft journal measurements shown.

1. Clean the oil off of the bearing journals.
2. Determine the maximum diameter of the journals with a micrometer. Measure at two locations 90° apart at each end of the journals.
3. Compare the measured rod journal diameter to the crankshaft connecting rod bearing journal diameter grade marking chart (Refer to Engine/Engine Block/Standard Procedure)(Refer To List 1). Select the bearing size that corresponds to the crankshaft markings for each rod bearing journal that will provide the proper oil clearance.
4. Compare the measured main bearing journal diameter to the crankshaft main bearing journal diameter grade marking chart (Refer to Engine/Engine Block/Standard Procedure)(Refer To List 1). Obtain the main bearing journal grade identification marks from the engine block and select the upper and lower main bearing sizes that will provide the proper oil clearance.

Sample

Refer To List:

List 1

- 09 - Engine, 2.0L / Engine Block / Standard Procedure
- 09 - Engine, 3.6L / Engine Block / Standard Procedure
- 09 - Engine, 5.7L / Engine Block / Standard Procedure

List 2

- 09 - Engine, 2.0L / Technical Specifications
- 09 - Engine, 3.6L / Technical Specifications
- 09 - Engine, 5.7L / Technical Specifications

Sample

The coated pistons will be serviced with the piston pin and connecting rod pre-assembled.

Refer To List:

List 1

- 09 - Engine, 2.0L / Engine Block / Standard Procedure
- 09 - Engine, 3.6L / Engine Block / Standard Procedure
- 09 - Engine, 5.7L / Engine Block / Standard Procedure

List 2

- 09 - Engine, 2.0L / Engine Block / Inspection
- 09 - Engine, 3.6L / Engine Block / Inspection
- 09 - Engine, 5.7L / Engine Block / Inspection

Sample

2 - No. 2 (Intermediate) Piston Ring
3 - Oil Ring Upper Side Rail
4 - Oil Ring Lower Side Rail
5 - Oil Ring Expander

NOTE

Typical piston shown.

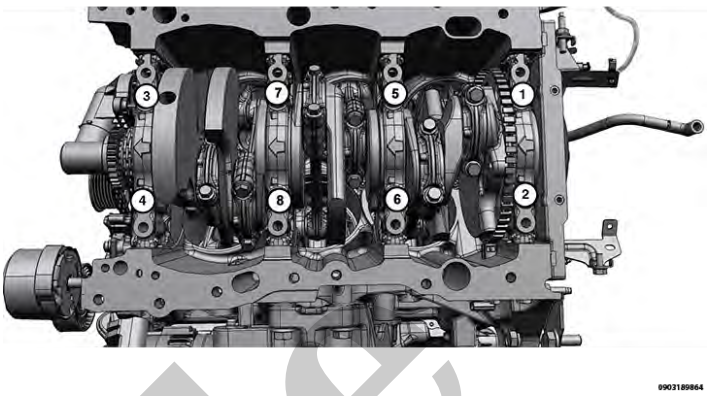
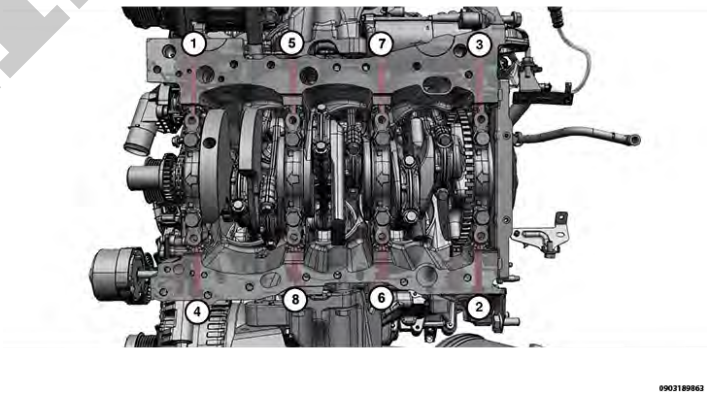
1. If required, fit **NEW** rings to the piston (Refer to Engine/Engine Block/Standard Procedure)(Refer To List 2).

NOTE

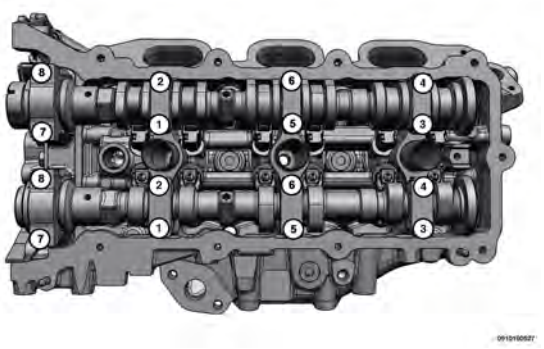
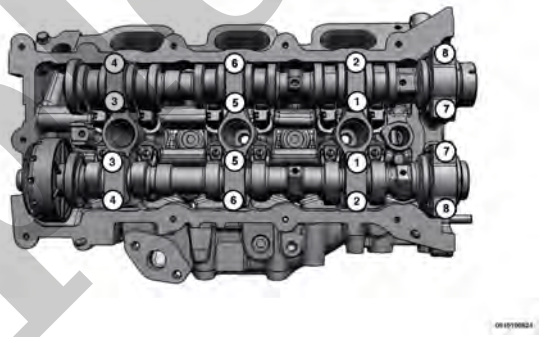
To avoid damage to the piston rings, they must be installed in the following order:

- Oil ring expander
- Oil ring lower side rail
- Oil ring upper side rail
- No. 2 (intermediate) piston ring
- No. 1 (upper) piston ring

Sample

CALLOUT	DESCRIPTION	SPECIFICATION	COMMENTS
1	Crankshaft Inner Main Bearing Cap M11 Bolts	**20 N·m (15 Ft. Lbs.) + 90° Turn**	Tightening Sequence  0903189864
2	Connecting Rod Cap Bolts	**20 N·m (15 Ft. Lbs.) + 90° Turn**	–
3	Crankshaft Side Main Bearing Cap (Tie Bolt) M8 Bolts	**30 N·m (22 Ft. Lbs.)**	Tightening Sequence  0903189863
4	Piston Oil Cooler Jet to Engine Block Bolt	**6 N·m (63 In. Lbs.)**	–
–	Crankshaft Outer Main Bearing Cap and Windage Tray M8 Bolts	**21 N·m (15 Ft. Lbs.) + 90° Turn**	Tightening Sequence

Sample

3	Camshaft Bearing Cap Bolts	**10 N·m (89 In. Lbs.)**	Tightening Sequence - Left  Tightening Sequence - Right 
–	Cylinder Head Oil Galley Plug	**18 N·m (13 Ft. Lbs.)**	–
–	Cylinder Head Oil Restrictor M8 Plug	**15 N·m (11 Ft. Lbs.)**	–
–	Heater Core Supply Tube to Cylinder Head M8 Bolt	**12 N·m (9 Ft. Lbs.)**	–
–	Wire Harness Retainer Bracket to LH Cylinder Head Bolts	**10 N·m (89 In. Lbs.)**	–
–	Variable Valve Lift Solenoid to	**10 N·m (89 In. Lbs.)**	–

Sample