Your Ultimate Source for OEM Repair Manuals

FactoryManuals.net is a great resource for anyone who wants to save money on repairs by doing their own work. The manuals provide detailed instructions and diagrams that make it easy to understand how to fix a vehicle.

2010 JEEP Commander OEM Service and Repair Workshop Manual

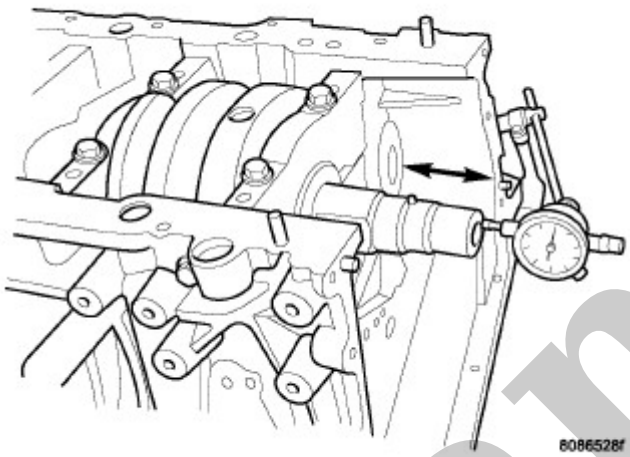
Go to manual page

YOUR CURRENT VEHICLE

Crankshaft End Play

CRANKSHAFT END PLAY

Typical V6 engine configuration shown, for reference only.



1. Mount Dial Indicator Set

   Set, Dial Indicator

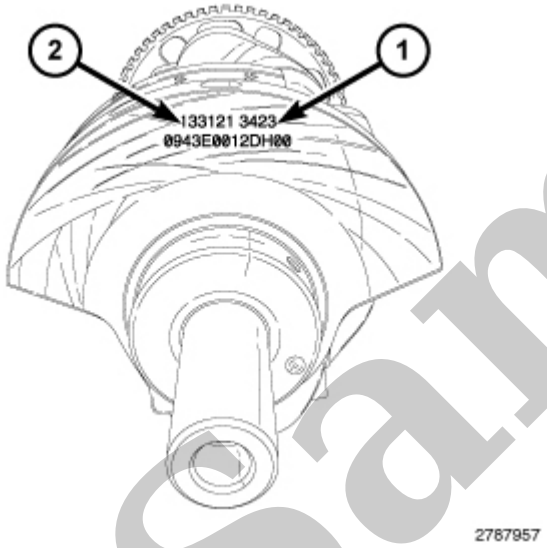
YOUR CURRENT VEHICLE

Main Bearing Fitting

MAIN BEARING FITTING

NOTE

Crankshaft thrust washers are not selectable and are only available in a single thickness.



1 - Main Bearing Sizes
2 - Rod Bearing Sizes

The upper and lower main bearings are “select fit” to achieve proper oil clearances. Crankshaft main bearing journal diameter grade markings are stamped into the front crankshaft counterweight. These marks are read from left to right, corresponding with journal number 1, 2, 3, 4.

NOTE

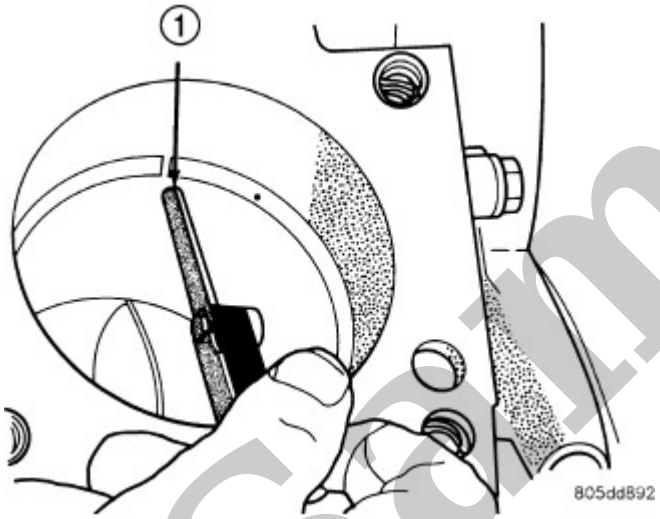
Bearing Marking	Size mm (in.)
4	2.4843 - 2.4879 mm (0.0978 - 0.0979 in.)
5	2.4807 - 2.4843 mm (0.0977 - 0.0978 in.)

YOUR CURRENT VEHICLE

Piston Ring Fitting

PISTON RING FITTING

1. Wipe the cylinder bore clean.
2. Using a piston, to ensure that the ring is squared in the cylinder bore, slide the ring downward into the cylinder to a position 12 mm (0.47 in.) from the top of the cylinder bore.



1 - Feeler Gauge

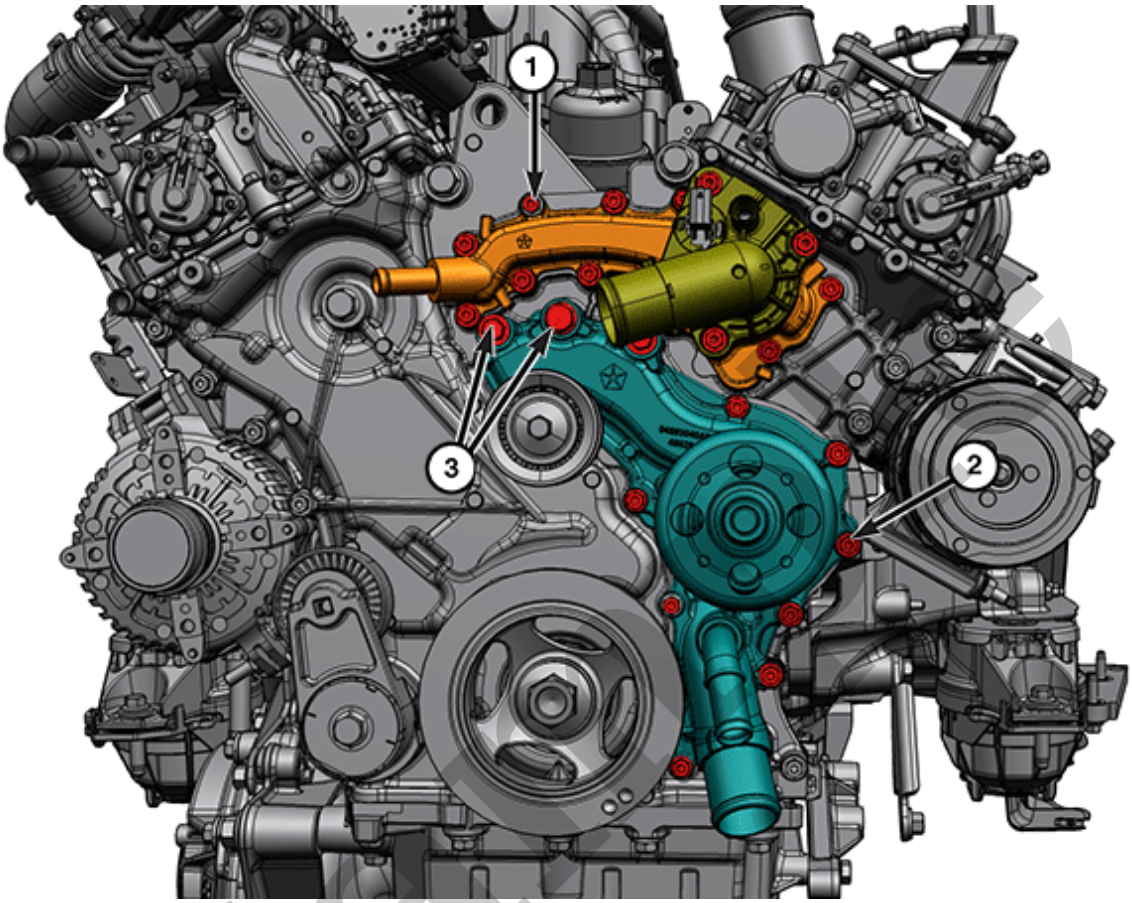
3. Using a feeler gauge, check the ring end gap. Replace any rings not within specification (Refer to Engine/Specifications)(Refer To List 1).

4. Remove the pressurized coolant bottle nuts and the pressurized coolant bottle.

INSTALLATION

Follow the removal procedure in reverse for general reassembly of the components on the vehicle.

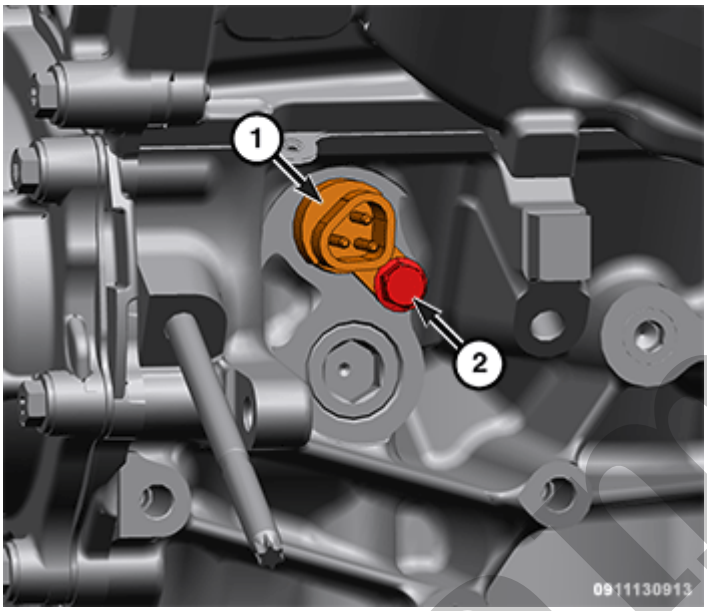
TORQUE SPECIFICATIONS - COOLING SYSTEM



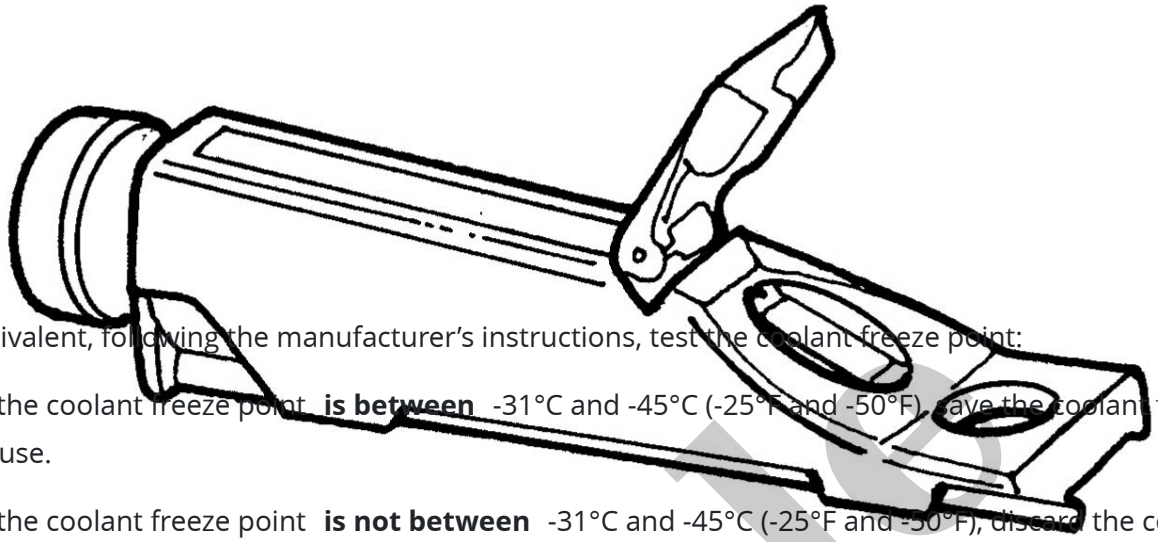
CALLOUT	DESCRIPTION	SPECIFICATION	COMMENTS
1	Coolant Crossover Bolts	**12 N·m (9 Ft. Lbs.)**	Tightening Sequence The shorter M6 mounting bolts (3, 4, 6, 8) bolt directly to the engine timing cover.

Engine Block Heater

ENGINE BLOCK HEATER



The 3.6L engine block heater (1) is mounted in the left side of the cylinder block, near the left front corner. The engine block heater (1) is a dry cylinder type design and is powered by 110 volt AC power cord.



or equivalent, following the manufacturer's instructions, test the coolant freeze point:

- If the coolant freeze point **is between** -31°C and -45°C (-25°F and -50°F), save the coolant for reuse.
- If the coolant freeze point **is not between** -31°C and -45°C (-25°F and -50°F), discard the coolant.

CAUTION

Avoid overheating. Do not operate engine for an excessive period of time. Open draincock immediately after test to eliminate boil over.

Vehicles equipped with a gas engine, start engine and accelerate rapidly three times, to approximately 3000 RPM while observing coolant. If internal engine combustion gases are leaking into cooling system, bubbles will appear in coolant. If bubbles do not appear, internal combustion gas leakage is not present.

Vehicles equipped with a diesel engine, start engine and accelerate rapidly three times, to approximately 2500 RPM in park or neutral while observing coolant. If internal engine combustion gases are leaking into cooling system, bubbles will appear in coolant. If bubbles do not appear, internal combustion gas leakage is not present.

Refer To List:

List 1

- 09 - Engine, 2.0L / Cooling System / Engine Cooling / THERMOSTAT / Removal and Installation
- 09 - Engine, 3.6L / Engine Cooling / THERMOSTAT / Removal and Installation
- 09 - Engine, 5.7L / Engine Cooling / THERMOSTAT / Removal and Installation

List 2

- 09 - Engine, 2.0L / Accessory Drive / BELT, Serpentine / Removal and Installation
- 09 - Engine, 3.6L / Accessory Drive / BELT, Serpentine / Removal and Installation
- 09 - Engine, 5.7L / Accessory Drive / BELT, Serpentine / Removal and Installation

Preliminary Checks

PRELIMINARY CHECKS

ENGINE COOLING SYSTEM OVERHEATING

Establish what driving conditions caused the complaint. Abnormal loads on the cooling system such as the following may be the cause:

- Prolonged idle.
- Very high ambient temperature.
- Overloaded vehicle
- Slow traffic.
- Traffic jams.
- High speed or steep grades.
- Snow plow restricting airflow through cooling module.
- Debris on front of the grill or the cooling module that is restricting airflow.

Driving techniques that avoid overheating are:

- Idle with A/C off when temperature gauge is at end of normal range.

RECENT SERVICE OR ACCIDENT REPAIR

Determine if any recent service has been performed on vehicle that may affect the cooling system. This may be:

- Slipping engine accessory drive belt(s).
- Brakes (possibly dragging).
- Changed parts. Incorrect water pump or pump rotating in wrong direction due to belt not correctly routed.
- Reconditioned radiator or cooling system refilling (possibly under filled or air trapped in system).

NOTE