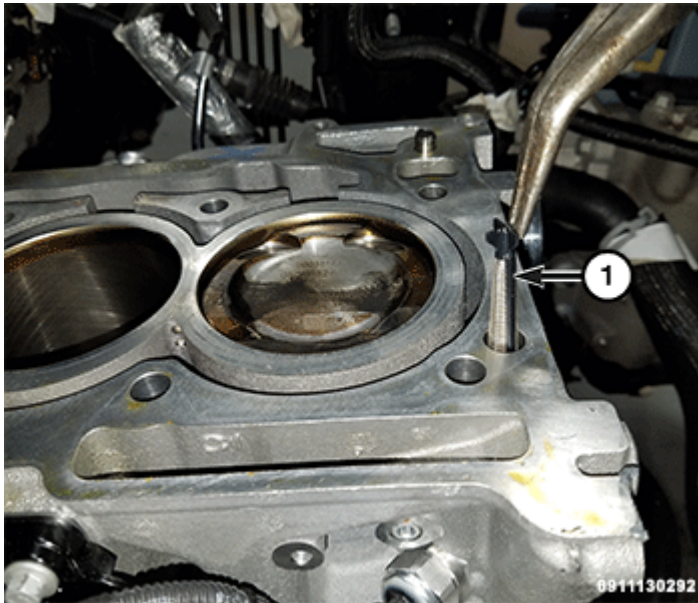


Your Ultimate Source for OEM Repair Manuals

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.

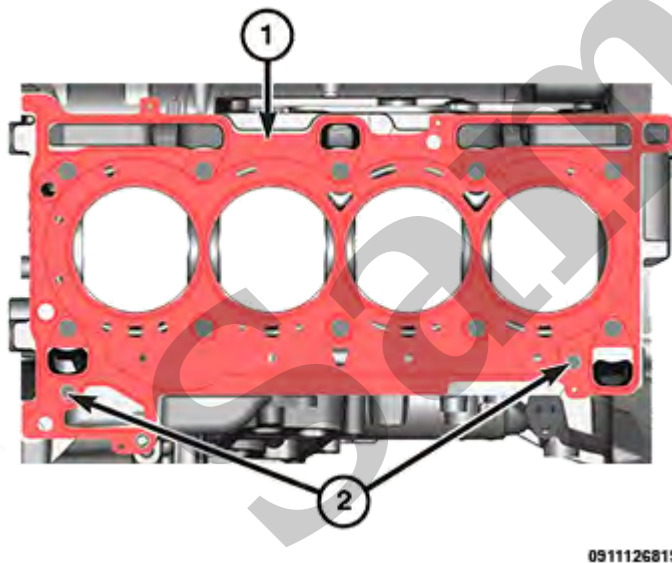
2008 JEEP Grand Cherokee SRT-8 OEM Service and Repair Workshop Manual

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1 - Variable Valve Timing Oil Filter

2. Install the variable valve timing oil filter in the engine block.

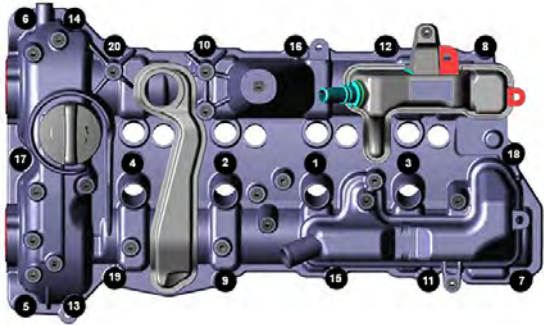
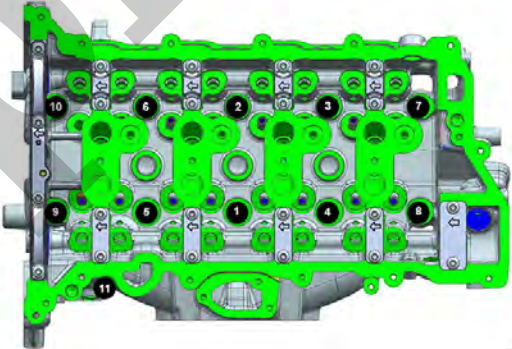
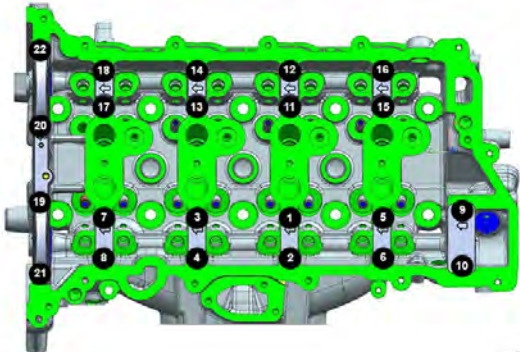


1 - Cylinder Head Gasket

2 - Locating Pins

3. Install a **NEW** cylinder head gasket onto the locating pins.

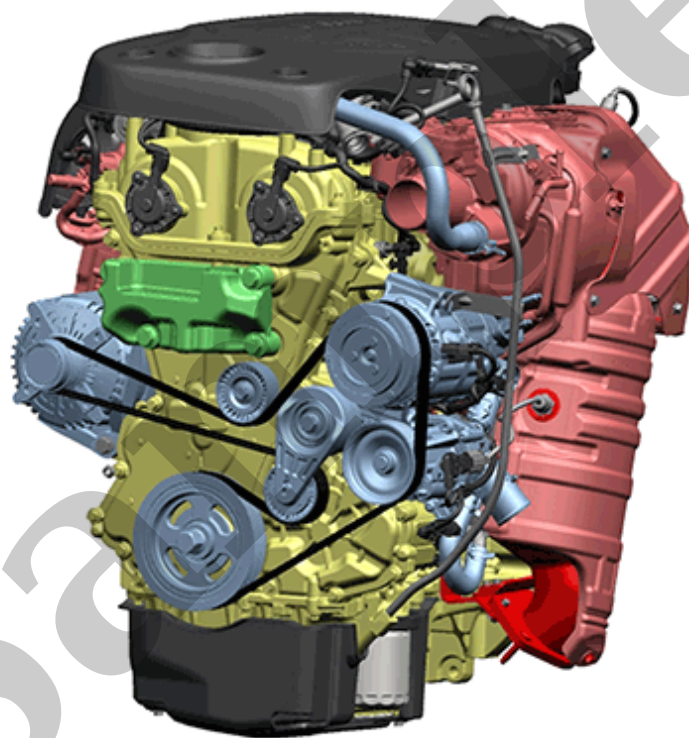
4. Place the complete cylinder head in position onto the locating pins.

CALLOUT	DESCRIPTION	SPECIFICATION	COMMENTS
			
2	Cylinder Head M11 Inner Bolts Cylinder Head M8 Side Bolt (11)	Torque Procedure: 1. M11 bolts to 20 N·m (15 Ft. Lbs.) 2. M11 bolts to 55 N·m (41 Ft. Lbs.) 3. Tighten M11 bolts again to 55 N·m (41 Ft. Lbs.) 4. + 180° 5. M8 bolt to 28 N·m (21 Ft. Lbs.)	Tightening Sequence Tightening Sequence 
3	Camshaft Cap M6 Bolts	10 N·m (89 In. Lbs.)	Tightening Sequence 

TORQUE SPECIFICATIONS - VALVE TIMING

2.0L Engine

2.0L ENGINE



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The 2.0 Liter in-line four cylinder engine is a double over head camshaft four valves per cylinder design. This engine is NOT free-wheeling; meaning that the pistons will contact the valves in the event of a timing chain failure.

The cylinders are numbered from front of the engine to the rear. The firing order is 1-3-4-2.

Some additional engine features include:

- Cylinder block and cylinder head are cast aluminum.
- Camshaft driven high pressure fuel pump with direct in-cylinder fuel injection.
- Two internal balance shafts.

Engine Performance Diagnostic Table

ENGINE PERFORMANCE DIAGNOSTIC TABLE

CONDITION	POSSIBLE CAUSE	CORRECTION
ENGINE WILL NOT START	1. Weak battery.	1. Test the battery. Charge or replace as necessary (Refer to Electrical/Battery System/Diagnosis and Testing).
	2. Corroded or loose battery connections.	2. Clean and tighten the battery connections. Apply a coat of light mineral grease to the terminals (Refer to Torque Specifications).
	3. Faulty engine starting system.	3. Test the starting system (Refer to Non-DTC Diagnostics/Drivability - Gas/Diagnosis and Testing).
	4. Faulty coil(s).	4. Test the ignition coil and replace as needed (Refer to 29 - Non-DTC Diagnostics/Drivability - Gas/Diagnosis and Testing).
	5. Incorrect spark plug gap.	5. Check the spark plug gap (Refer to Engine/Technical Specifications)(Refer To List 1).
	6. Contamination in fuel system.	6. Clean the fuel system and replace the fuel filter (Refer to Engine/Fuel System/FILTER(S), Fuel/Removal and Installation).
	7. Faulty fuel pump.	7. Test the fuel pump and replace as needed (Refer to 29 - Non-DTC Diagnostics/Drivability - Gas/Diagnosis and Testing).
	8. Incorrect cam timing.	8. Verify cam timing (Refer to Engine/Valve Timing - Standard Procedure)(Refer To List 2).

- 09 - Engine, 3.6L / Ignition Control / SPARK PLUG / Removal and Installation
- 09 - Engine, 5.7L / Ignition Control / SPARK PLUG / Removal and Installation

List 6

- 09 - Engine, 2.0L / Fuel System / ASSEMBLY, Fuel Pump / Removal and Installation
- 09 - Engine, 3.6L / Fuel System / ASSEMBLY, Fuel Pump / Removal and Installation
- 09 - Engine, 5.7L / Fuel System / ASSEMBLY, Fuel Pump / Removal and Installation

List 7

- 09 - Engine, 2.0L / Cylinder Head / Cylinder Head Assembly / Removal and Installation
- 09 - Engine, 3.6L / Cylinder Head / Cylinder Head Assembly / Removal and Installation
- 09 - Engine, 5.7L / Cylinder Head / Cylinder Head Assembly / Removal and Installation

List 8

- 09 - Engine, 2.0L / Diagnosis and Testing
- 09 - Engine, 3.6L / Diagnosis and Testing
- 09 - Engine, 5.7L / Diagnosis and Testing

List 9

- 09 - Engine, 2.0L / Cylinder Head / VALVES, Intake and Exhaust / Removal and Installation
- 09 - Engine, 3.6L / Cylinder Head / VALVES, Intake and Exhaust / Removal and Installation
- 09 - Engine, 5.7L / Cylinder Head / VALVES, Intake and Exhaust / Removal and Installation

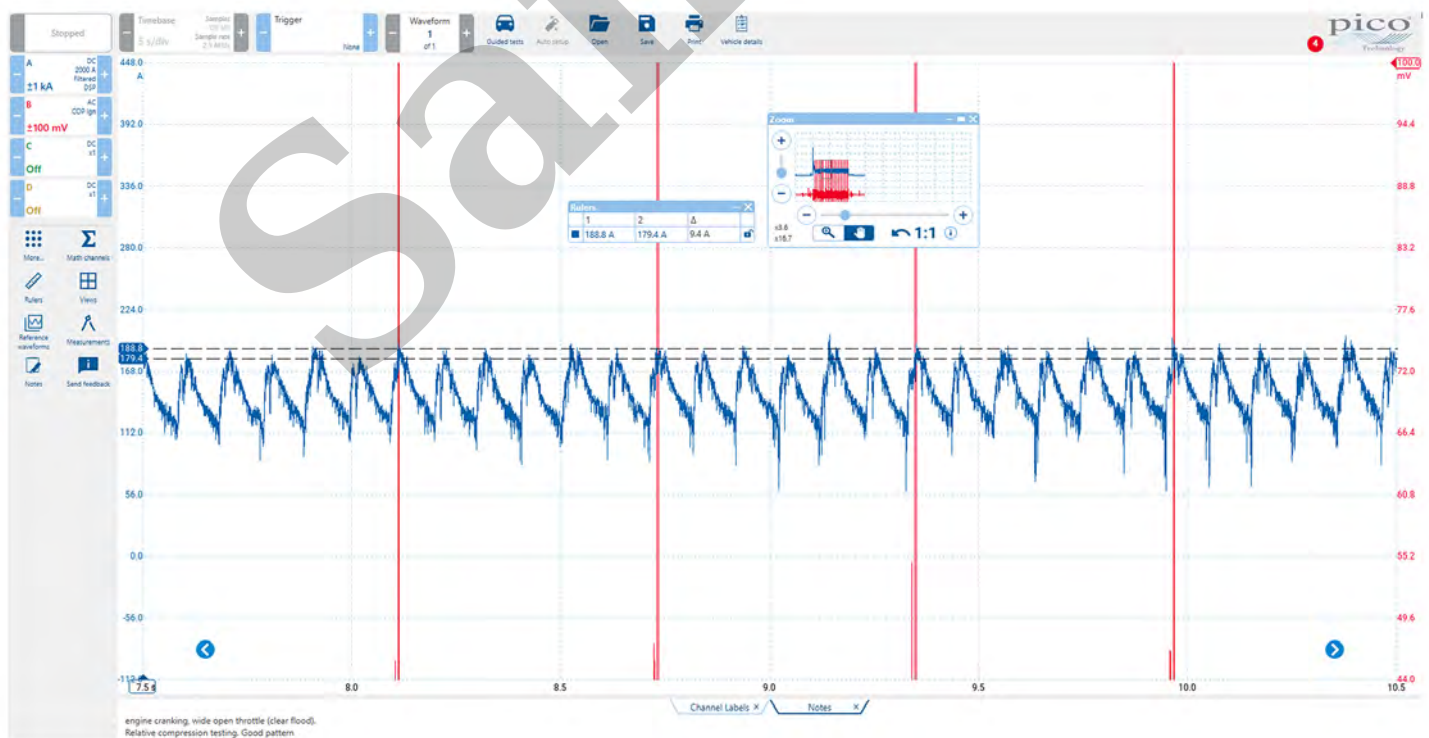
Opening the throttle to wide open throttle can cause the PCM to turn off the coils on some engines. Therefore the throttle should not be opened to wide open throttle if the coil signal is not reading during cranking. If the coil sync is not being used, wide open throttle is best to keep the engine from trying to start.

7. Crank the engine until the screen fills. If a trigger is not being used, stop the scope when the screen fills or the engine stops cranking.
8. Analyze the pulses in the cranking amperage for across all cylinders.

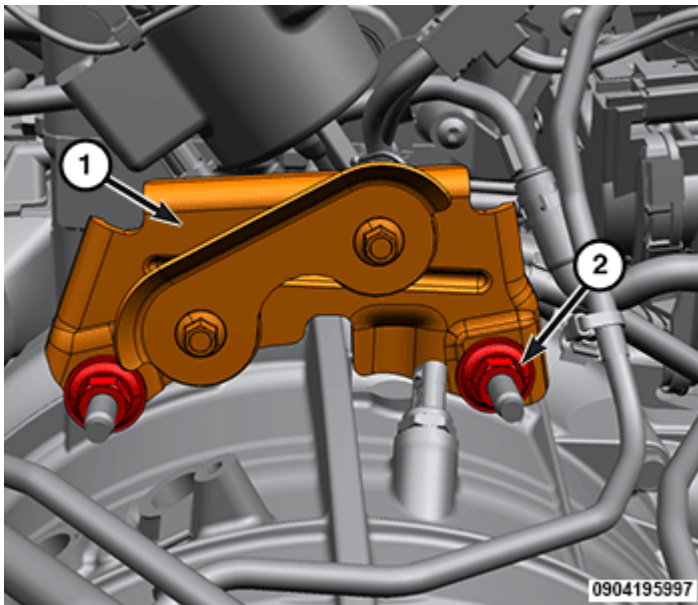
NOTE

When analyzing the amperage draw, do not analyze the initial cranking cycle of the engine. There is always an initial in-rush at starter engagement for the first few cylinders. Analyze the 2nd or 3rd cycle of the engine when the amperage has stabilized. The red channel is showing ignition coil 1 sync as an example if the sync is needed.

Below is an example of a vehicle with good compression in each cylinder. The amperage peaks will appear to be relatively equal. A physical compression and leak down test are likely not necessary on this vehicle since the peaks are relatively equal.



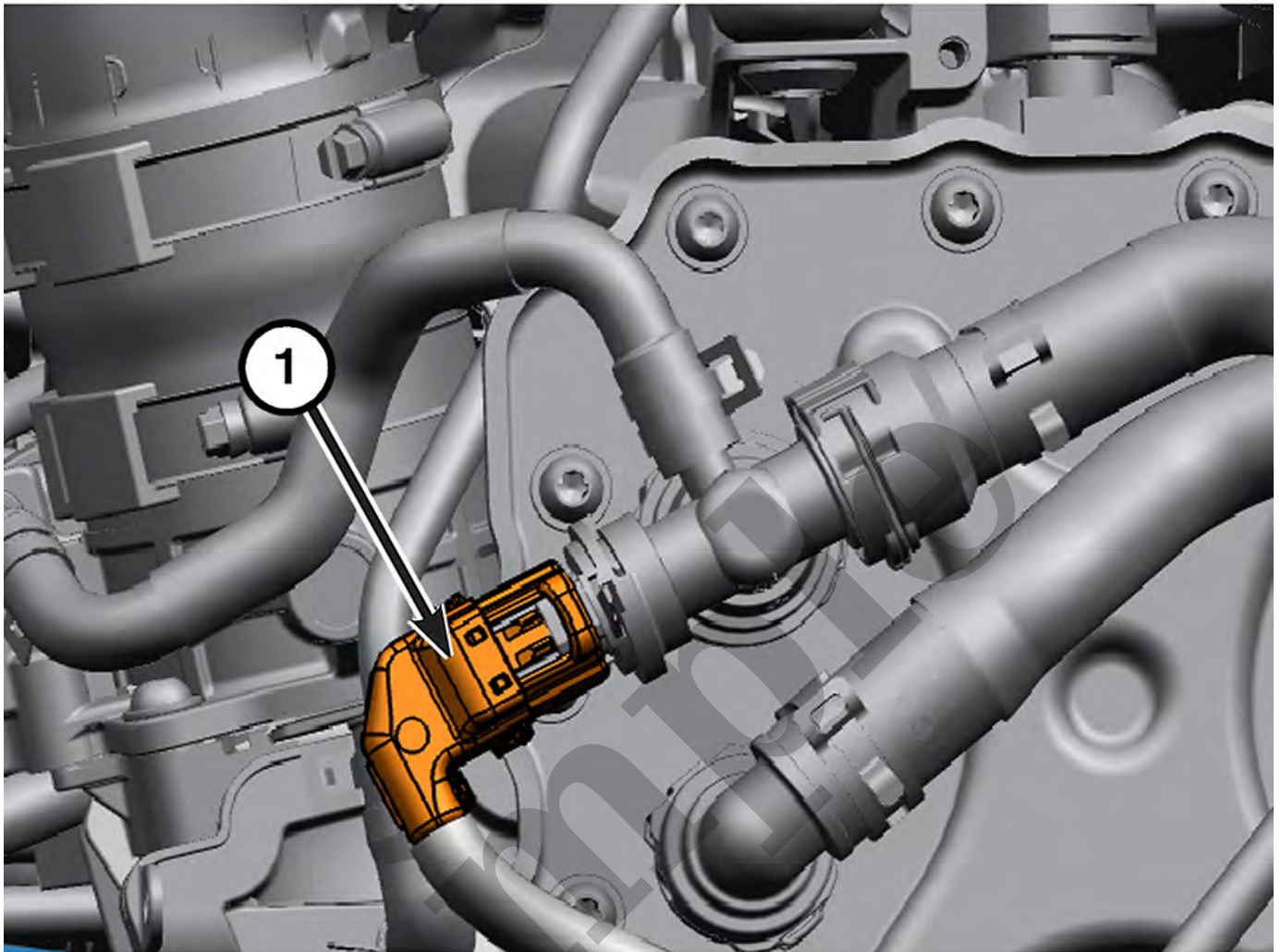
CONDITION	POSSIBLE CAUSES	CORRECTION
	5. Driven component bearing failure.	5. Replace faulty component bearing.
	6. Belt glazed and hardened from heat and excessive slippage.	6. Replace belt.
"GROOVE JUMPING" (BELT DOES NOT MAINTAIN CORRECT POSITION ON PULLEY)	1. Belt tension either too high or too low.	1. Replace automatic belt tensioner.
	2. Belt routed incorrectly.	2. Verify belt routing.
	3. Incorrect belt.	3. Replace belt.
	4. Pulley(s) not within design tolerance.	4. Replace pulley(s).
	5. Foreign object(s) in grooves.	5. Remove foreign objects from grooves.
	6. Pulley misalignment.	6. Inspect pulleys and accessories. Inspect the mounting components. Apply chalk to the edges of the belt and rotate the engine 2–3 revolutions to transfer the chalk to the misaligned pulley. Adjust or replace as necessary.
	7. Belt cord line is broken.	7. Replace belt.
BELT BROKEN (NOTE: IDENTIFY AND CORRECT PROBLEM BEFORE NEW BELT IS INSTALLED)	1. Excessive tension.	1. Replace belt and automatic belt tensioner.
	2. Incorrect belt.	2. Replace belt.
	3. Tensile member damaged during belt installation.	3. Replace belt.
	4. Severe misalignment.	4. Check and replace.



1 - Lower Fuel Injection Pump Shield

2 - Fuel Injection Pump Shield Isolator Nuts

20. Remove the lower fuel injection pump shield nuts and the fuel injection pump shield.
21. Remove the bolt securing the coolant tube to the high voltage bracket (right side rear).
22. Remove the bolts securing the coolant tube to engine block and position aside the coolant tube (right side rear).
23. Remove the bolts securing the high voltage cable to the transmission (right side).
24. Remove the high voltage cable retainer from the transmission and position aside the wire harness (right side).
25. Install the transmission crossmember and securely tighten the bolts.
26. Remove the jack from under the transmission.
27. Remove support and lower the vehicle.
28. Position a jack under the transmission and slightly raise the transmission.



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1 - Charge Air Cooler Coolant Temperature Sensor Harness Connector

42. Disconnect the CAC coolant temperature sensor wire harness connector.