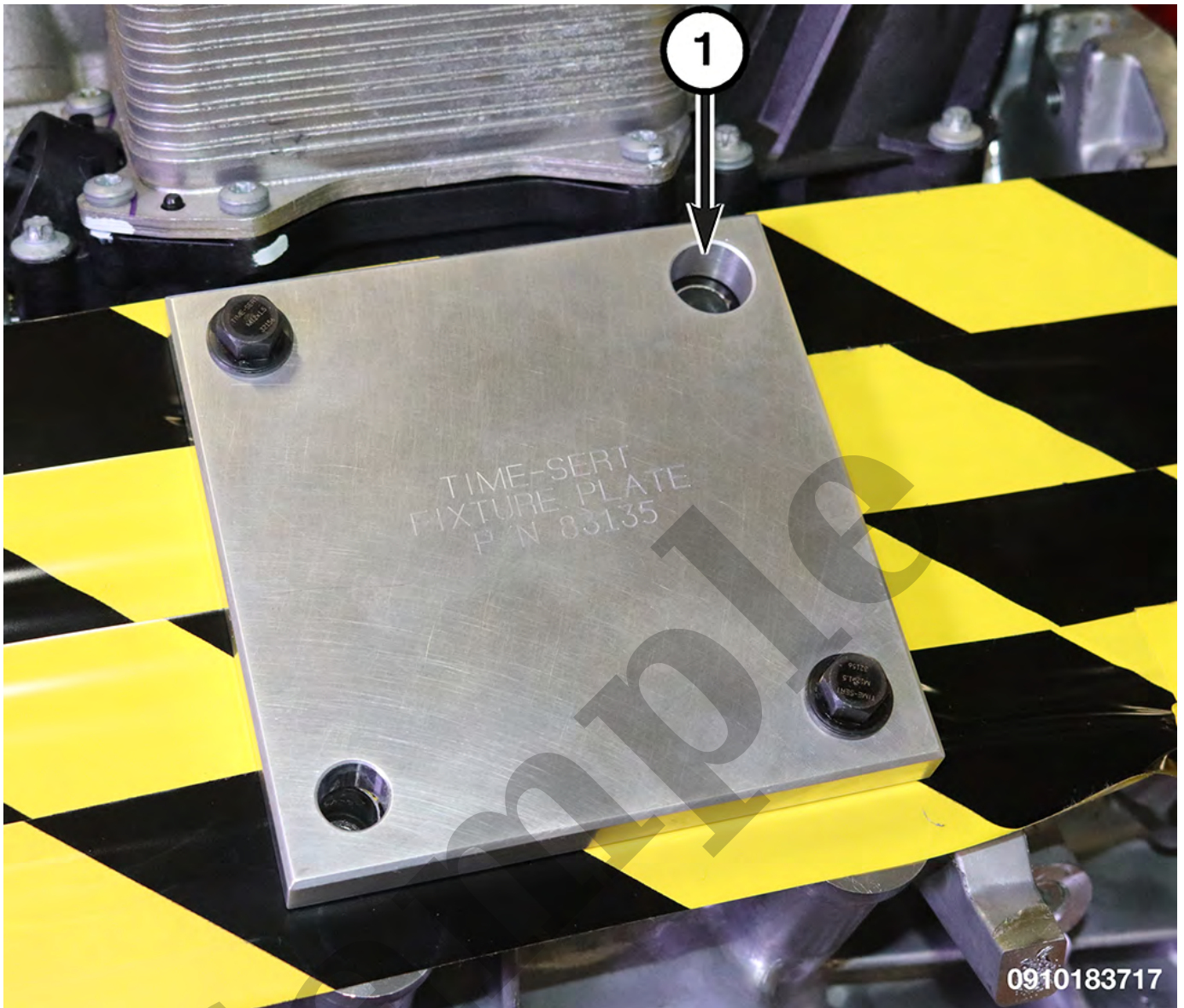


Your Ultimate Source for OEM Repair Manuals

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.

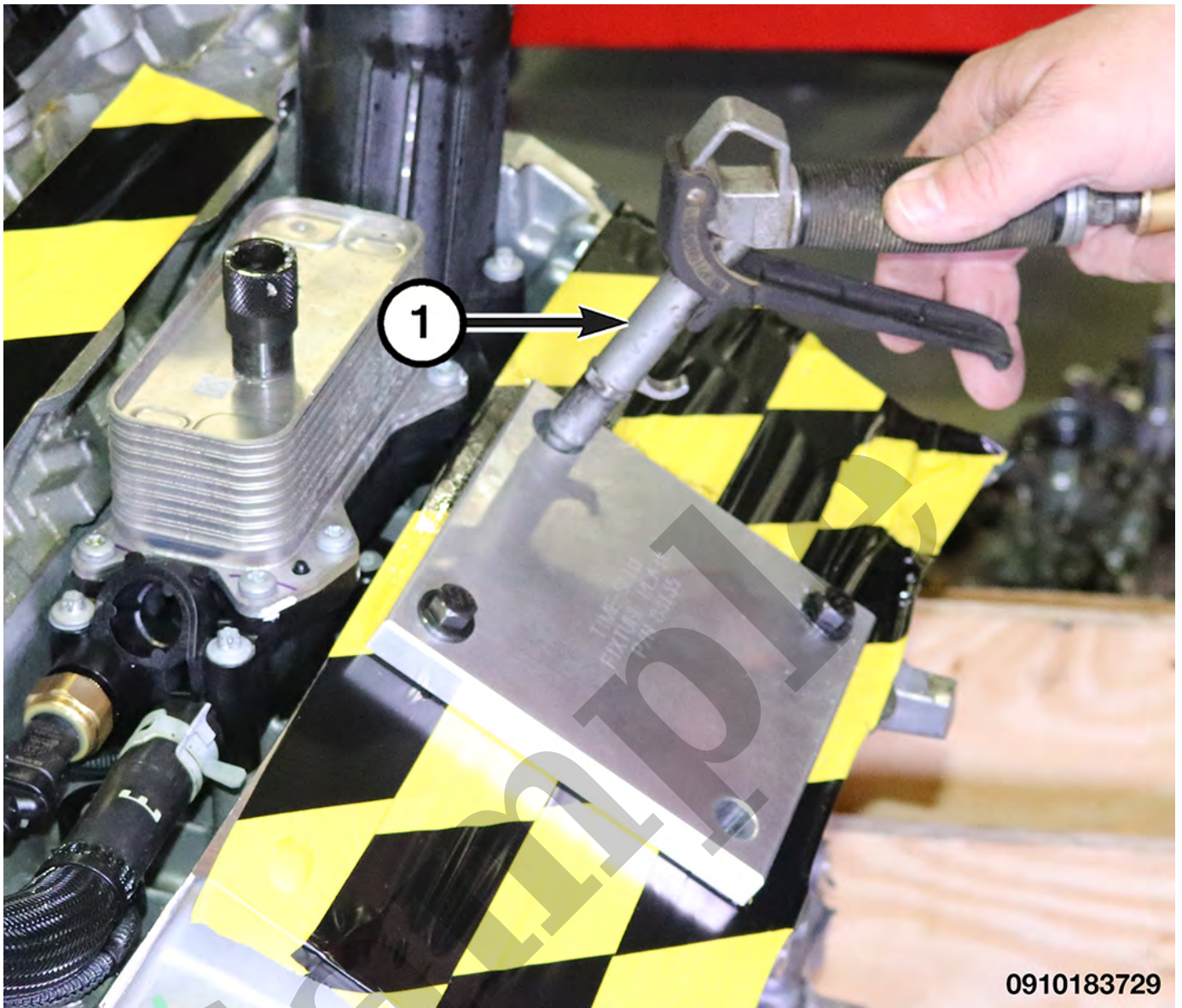
2009 JEEP Wrangler OEM Service and Repair Workshop Manual

[Go to manual page](#)



1 - Drill Fixture Bushing Hole

4. If necessary, remove the cylinder head alignment dowel pins from the engine block.
5. Place the drill fixture bushing hole over the hole to be repaired and loosely install the bolts.



1 - Air Nozzle

9. Thoroughly clean out all metal chips and debris using a long air nozzle that must reach the bottom of the hole.

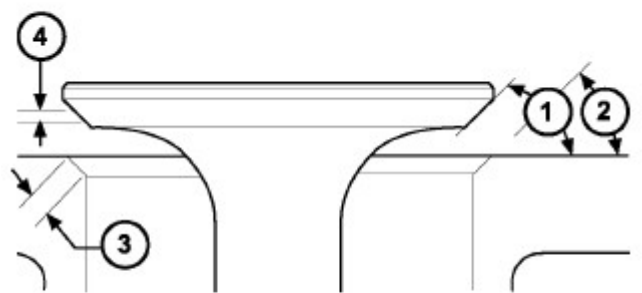
NOTE

The use of drilling lubricant is required.

YOUR CURRENT VEHICLE

Refacing Intake And Exhaust Valves

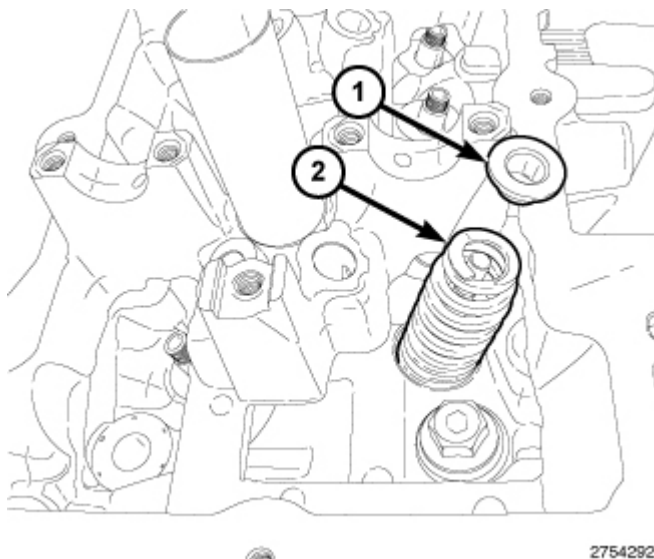
REFACING INTAKE AND EXHAUST VALVES



1 - Seat Width
2 - Face Angle
3 - Seat Angle
4 - Seat Contact Area

The intake and exhaust valves have a 45.25 ± 0.25 degree face angle. The valve seats have a 44.75 ± 0.25 degree face angle.

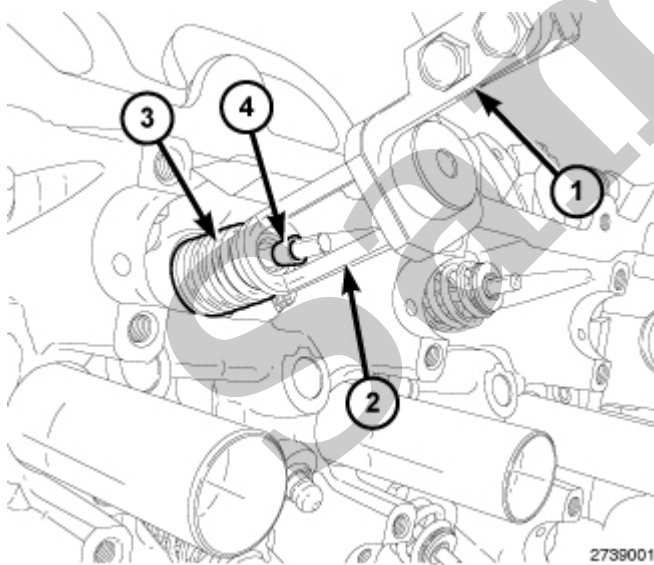
VALVES



NOTE

If the valve springs are being reused, reassemble them into their original locations. Number 5 cylinder exhaust valve spring shown, all other valves similar.

4. Install the valve spring (2) and valve spring retainer (1).



NOTE

Number 3 cylinder intake valve spring compression shown, all other valves similar.

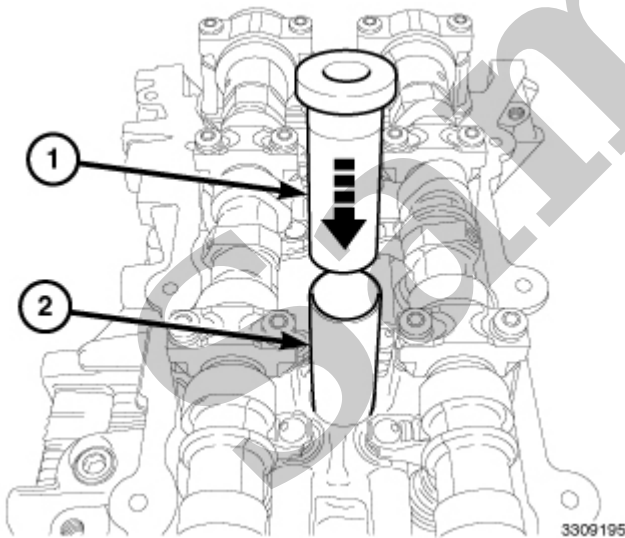
5. Compress the valve spring (3) with the Valve Spring Compressor Adapter

Spark Plug Tube

SPARK PLUG TUBE

REMOVAL

1. Remove the ignition coils ([Refer to Engine/Ignition Control/COIL, Ignition/Removal and Installation](#))([Refer To List 1](#)).
2. Using compressed air, blow out any dirt or contaminants from around the top of the spark plugs.
3. Remove the cylinder head cover(s) ([Refer to Engine/Cylinder Head/COVER\(S\), Cylinder Head/Removal and Installation](#))([Refer To List 2](#)).



1 - Spark Plug Tube Installer Tool

2 - Spark Plug Tube

4. Install the top half of the
Installer, Spark Plug Tube

4. Position the spark plug tube on the top half of the

Installer, Spark Plug Tube



and assemble the tool on the cylinder head. Make sure the two thrust washers are installed.

CAUTION

Do not overtighten the bolt (1). Overtightening can damage the cylinder head spark plug threads.

5. Tighten the bolt to draw the spark plug tube into position. When the top half of the tool contacts the bottom half of the tool, the tube is installed.
6. Install the spark plug.

CAUTION

Spark plug torque is critical and must not exceed the specified value. Overtightening stretches the spark plug shell reducing its heat transfer capability resulting in possible catastrophic engine failure.

7. If required, install a **NEW** spark plug tube seal in the cylinder head cover.
8. Install the cylinder head cover(s) ([Refer to Engine/Cylinder Head/COVER\(S\), Cylinder Head/Removal and Installation](#))([Refer To List 2](#)).

	Cylinder Head Cover		
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Refer To List:

List 1

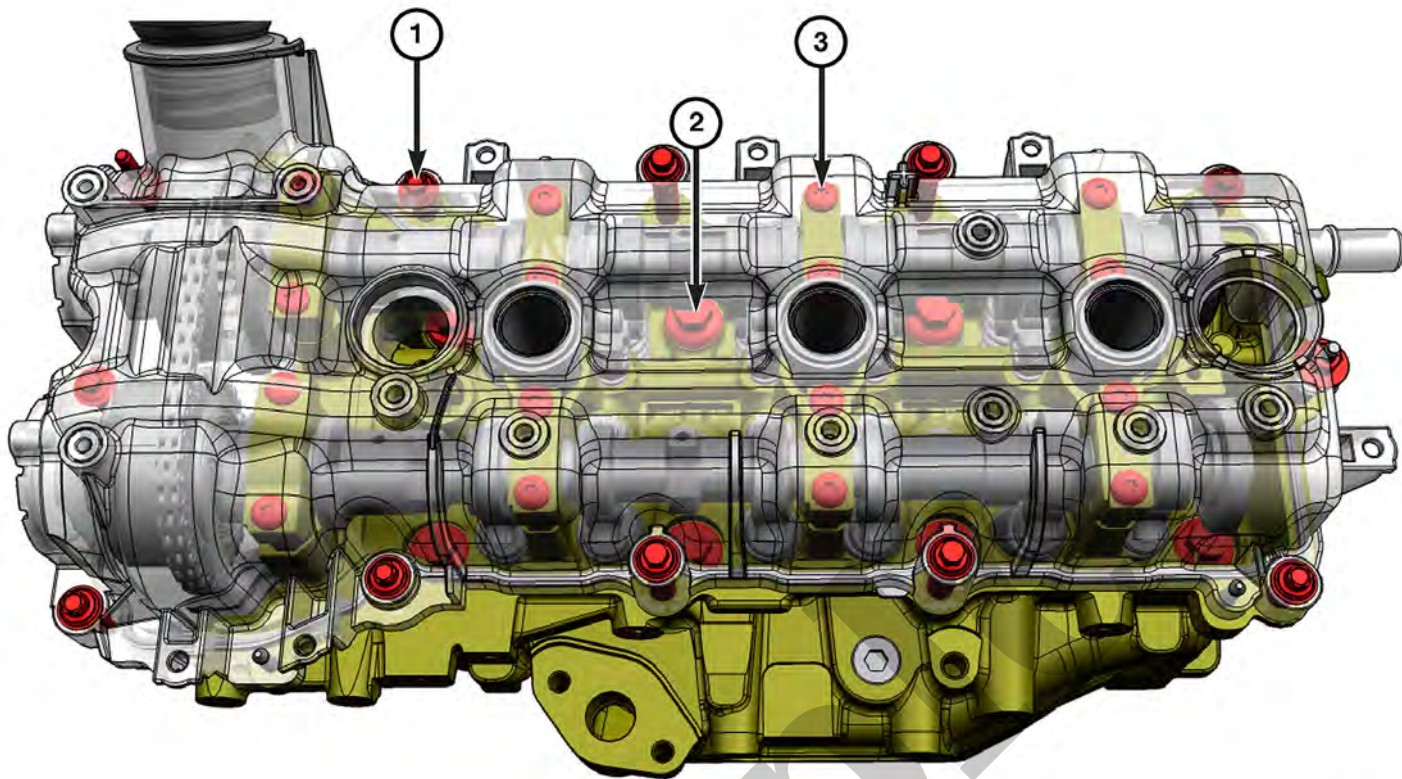
- [09 - Engine, 2.0L / Ignition Control / COIL, Ignition / Removal and Installation](#)
- [09 - Engine, 3.6L / Ignition Control / COIL, Ignition / Removal and Installation](#)
- [09 - Engine, 5.7L / Ignition Control / COIL, Ignition / Removal and Installation](#)

List 2

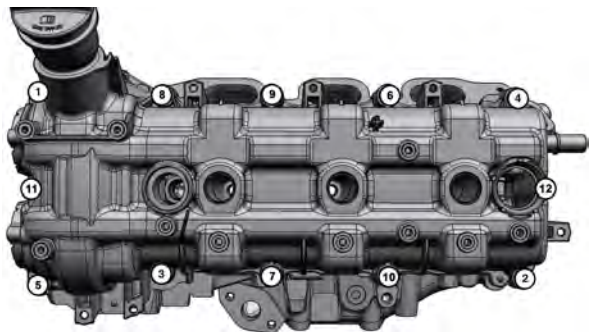
- [09 - Engine, 2.0L / Cylinder Head / COVER\(S\), Cylinder Head / Removal and Installation](#)
- [09 - Engine, 3.6L / Cylinder Head / COVER\(S\), Cylinder Head / Removal and Installation](#)
- [09 - Engine, 5.7L / Cylinder Head / COVER\(S\), Cylinder Head / Removal and Installation](#)

List 3

- [09 - Engine, 2.0L / Ignition Control / SPARK PLUG / Removal and Installation](#)
- [09 - Engine, 3.6L / Ignition Control / SPARK PLUG / Removal and Installation](#)
- [09 - Engine, 5.7L / Ignition Control / SPARK PLUG / Removal and Installation](#)



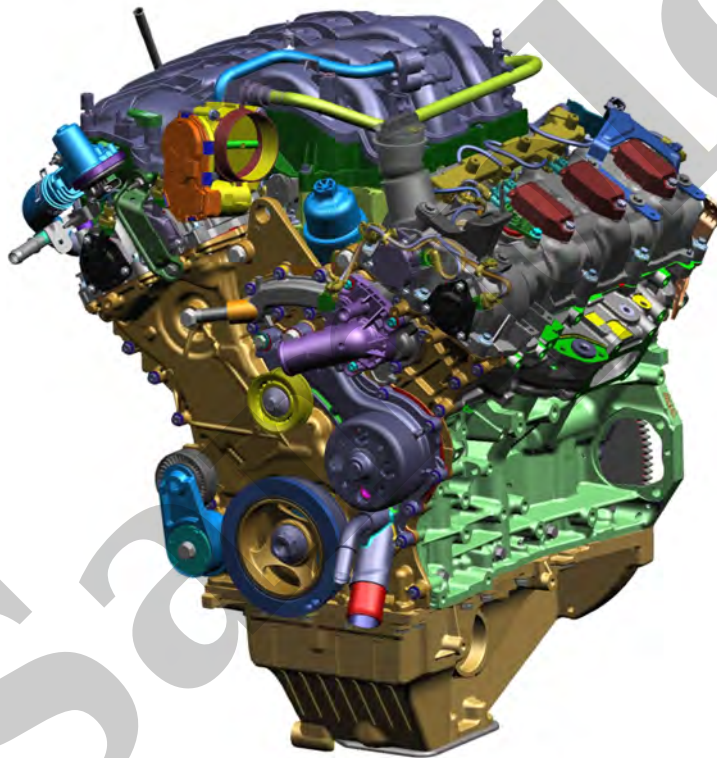
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CALLOUT	DESCRIPTION	SPECIFICATION	COMMENTS
1	Cylinder Head Cover M6 Bolts	12 N·m (9 Ft. Lbs.)	<p>Tightening Sequence - Left</p>  <p>Tightening Sequence - Right</p>

YOUR CURRENT VEHICLE

Engine Assembly

ENGINE ASSEMBLY



0909167440

CAUTION

If the engine has experienced a catastrophic failure, THE INTAKE MANIFOLD MUST BE REPLACED!

The 3.6 liter (219.7 CID) V-6 engine features Variable Valve Timing (VVT), Dual Overhead Camshafts (DOHC) and a high-pressure die-cast aluminum cylinder block with steel liners in a 60° configuration. The 3.6 liter engine has a chain driven variable discharge oil pump with a two-stage pressure regulator for improved fuel economy. The exhaust manifolds are integrated into the cylinder heads for reduced weight. The cylinders are numbered from front to rear. The right bank is numbered 1, 3, 5 and the left bank is numbered 2, 4, 6. The