

DIAGNOSIS AND TESTING (Continued)

- If clutch face runout exceeds specification, remove flywheel and check for burrs between flywheel and face of crankshaft mounting flange. If no burrs exist, check runout of crankshaft mounting flange. Replace flywheel or machine crankshaft flywheel mounting face sufficiently to true-up the surface.

Engine Oil Leaks**Tools Required:**

- Rotunda Oil Leak Detector 112-00030

Rotunda Oil Leak Detector 112-00030 or equivalent may be used to check for oil leaks.

Compression Tests**Test Conclusion**

The compression reading of the lowest cylinder should be within 85-100 percent of the highest.

Example

If, after checking the compression pressures in all cylinders, it was found that the normal reading obtained was 199 psi and the lowest pressure reading was 171 psi, the engine is within specification and the compression is considered satisfactory.

Static Engine Off Valve Train Analysis (Cylinder Head Cover Removed)**Cylinder Head**

When inspecting the cylinder head, check the following:

- Check cylinder head gasket for proper installation.
- Check for plugged oil drain back holes.
- Check valve lash.

Dynamic Valve Train Analysis**Cylinder Head Cover**

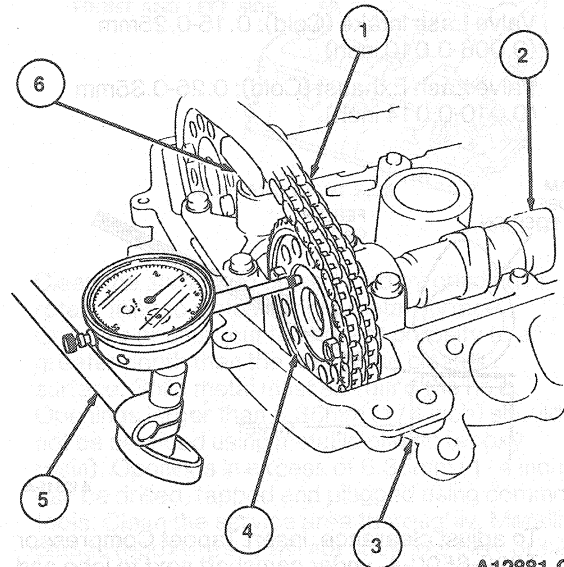
- Remove all foreign materials from cylinder head gasket groove and cylinder head cover.
- Apply a coat of Silicone Gasket and Sealant F1AZ-19562-A (WSE-M4G320-A2) or equivalent at gasket corners on each cylinder head as shown.
- Install cylinder head cover bolts. Tighten to specification in sequence. Refer to Section 03-01B.
- Connect all hoses, wires, spark plug leads and components.

Camshaft End Play**Tools Required:**

- Rotunda Dial Indicator with Bracketry 014-00282

- Remove cylinder head covers. Refer to Section 03-01B.

- Using Rotunda Dial Indicator with Bracketry 014-00282 or equivalent, measure end play while moving camshaft back and forth. If the end play is greater than 0.30mm (0.0118 inch), replace camshaft and / or cylinder head.
- Install cylinder head covers. Tighten bolts to specification in sequence. Refer to Section 03-01B.



Item	Part Number	Description
1	6268	Camshaft Timing Chain
2	6250	Camshaft
3	6049	Cylinder Head
4	6256	Camshaft Timing Chain Sprocket
5	014-00282	Rotunda Dial Indicator with Bracketry
6	6K261	Chain Tensioner

ADJUSTMENTS

Valve Clearance**3.0L/3.2L SHO****Tools Required:**

- Tappet Compressor T89P-6500-A
- Tappet Holder T89P-6500-B
- Pick Tool T71P-19703-C

- Disconnect negative battery cable.