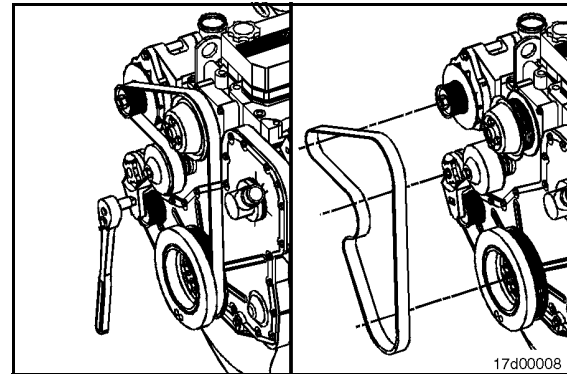


Drive Belt - Installation

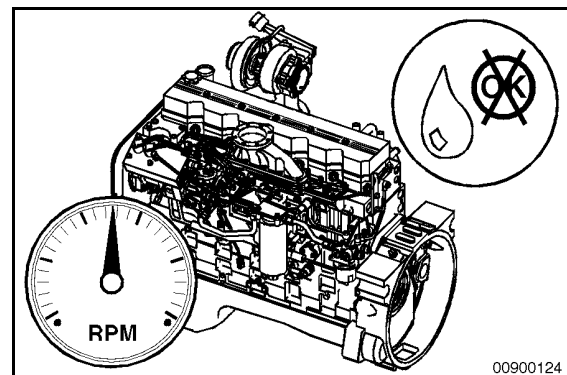
3/8-Inch Square Drive

Lift the tensioner and install the belt. Refer to Procedure 008-002.

Service Tip: If difficulty is experienced installing the drive belt (the belt seems too short), position the belt over the grooved pulleys first and then while holding the tensioner up, slide the belt over the water pump pulley.



Operate the engine and check for leaks.



Valve, Cylinder Head (002-020)

Preparatory (002-020-000)

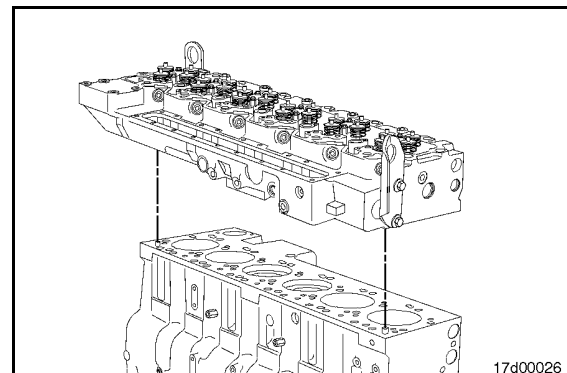
△ WARNING △

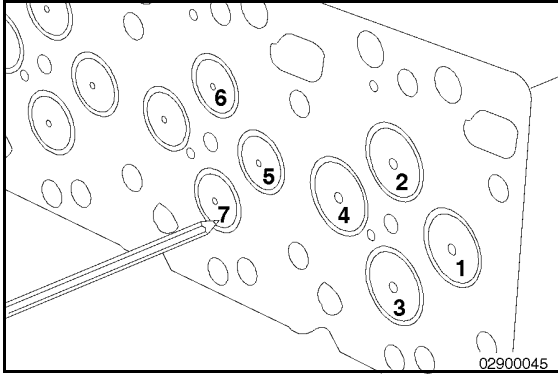
Coolant can be toxic. Keep away from pets and children. If not re-used, dispose of in accordance with local environmental regulations.

△ WARNING △

Wait until the temperature is below 50°C [120°F] to avoid personal injury from hot coolant.

- Drain the coolant. Refer to Procedure 008-018.
- Remove all water and heater hose. Refer to Procedure 008-045.
- Remove the cylinder head. Refer to Procedure 002-004.

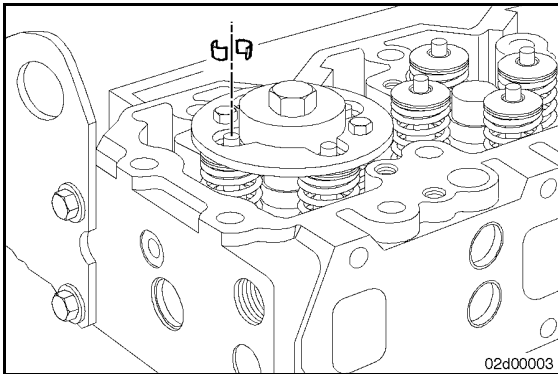




Disassemble (002-020-003)

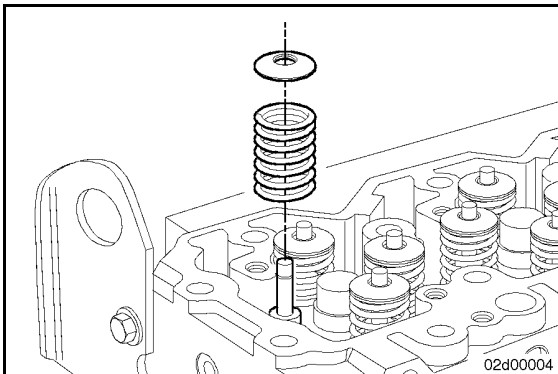
The following disassembly and assembly procedures are provided for inspection purposes **only**.

Mark the valves to identify their location.

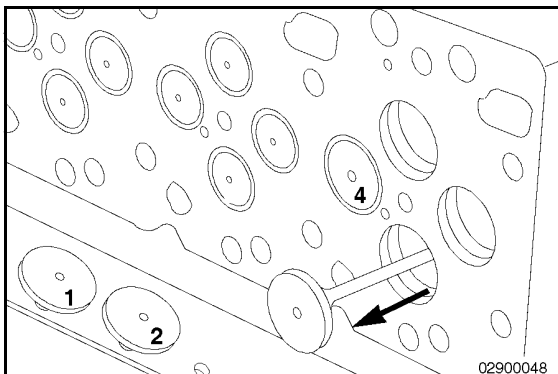


Valve Spring Compressor, Tool No. OEM-6414

Compress the valve spring and remove the valve stem collets. Use Service Tool, Tool No. OEM-6414.



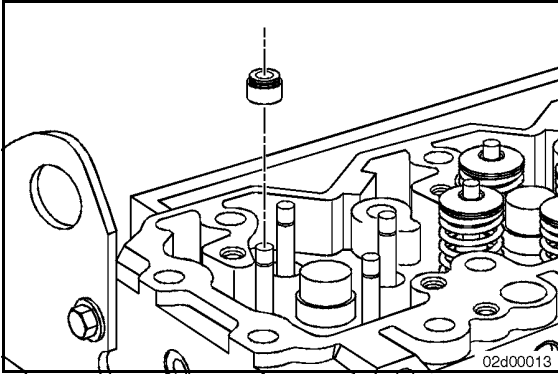
Release valve spring and remove the spring retainer and spring.



Remove the remaining collets, retainers, springs and valves.

Keep the valves in a labeled rack for a correct match with companion seats while making measurements.

Remove the valve stem seals.



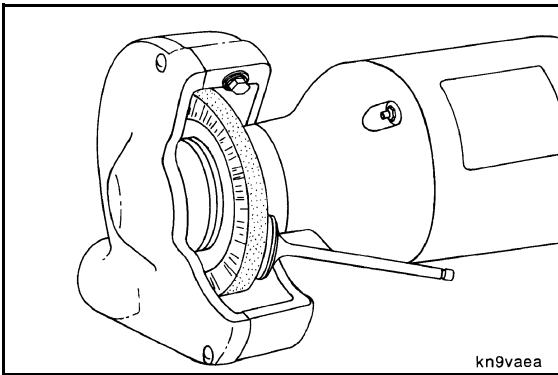
Clean (002-020-006)

△ WARNING △

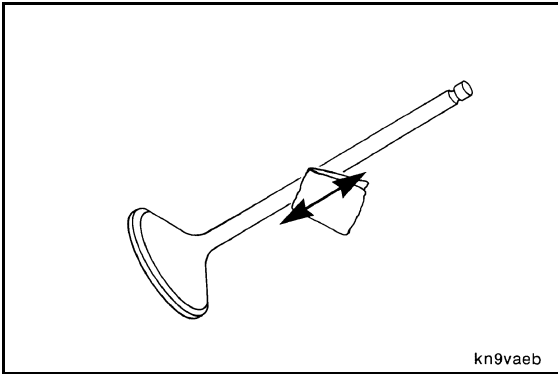
Wear protective eye covering when cleaning the valves.

Clean the valve heads with a soft wire wheel.

NOTE: Keep the valves in a labeled rack to prevent mixing prior to making measurements.



Polish the valve stem with a Scotch-Brite™ pad, or equivalent, and diesel fuel or solvent.



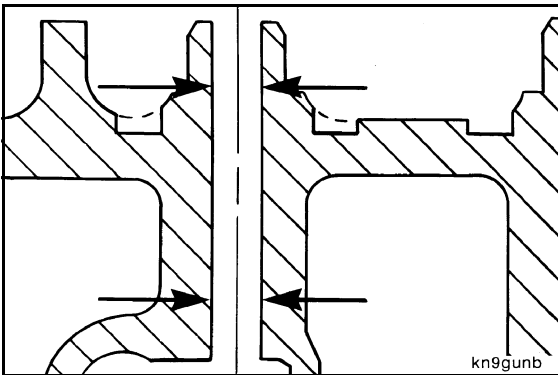
Inspect for Reuse (002-020-007)

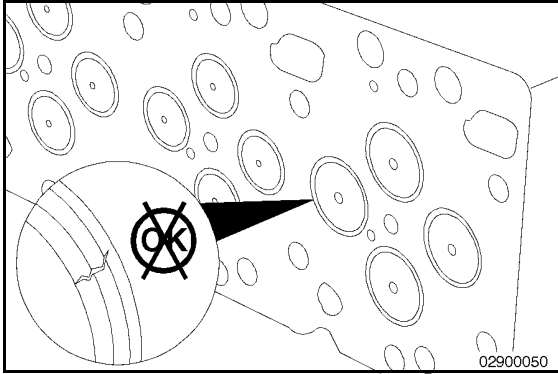
Valve Guide Inspection

Inspect the valve guides for scuffing or scoring.

Measure the valve guide bore.

Valve Guide Bore Diameter		
mm		in
8.019	MIN	0.3157
8.071	MAX	0.3185

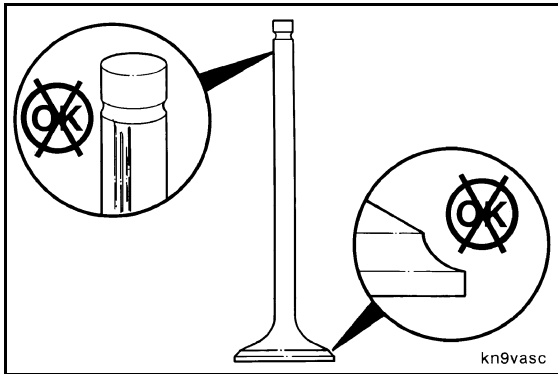




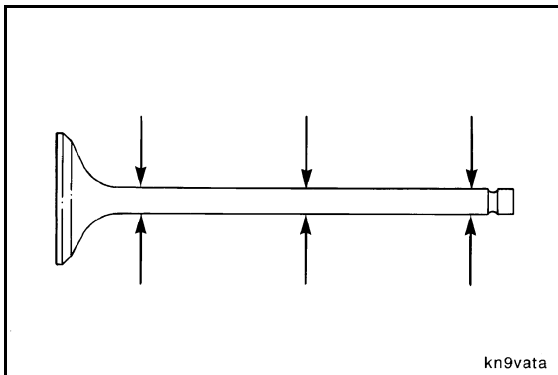
Valve Seat Inspection

Inspect the valve seats for cracks or burned spots.

Service valve seats are available for seats with burned spots that will require more than 0.254 mm [0.010 in] grinding to clean up.

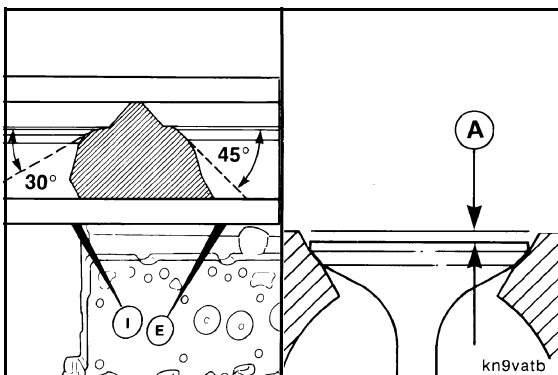


Inspect for abnormal wear on the heads and stems.



Measure the valve stem diameter.

Valve Stem Diameter		
mm		in
7.94	MIN	0.3126
7.98	MAX	0.3142

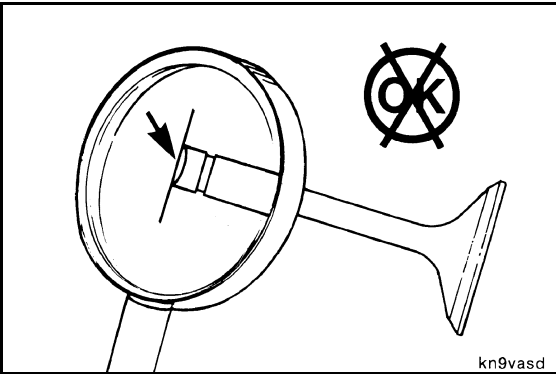


Valve Seat Angle

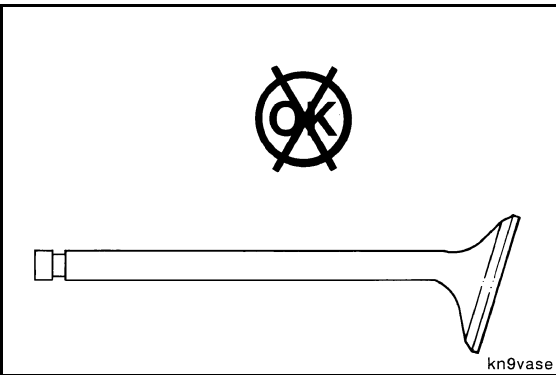
- Intake 30 degrees
- Exhaust 45 degrees

Valve Depth (Installed)		
mm		in
0.859	MIN	0.034
1.21	MAX	0.048

Check the valve stem tip for flatness.

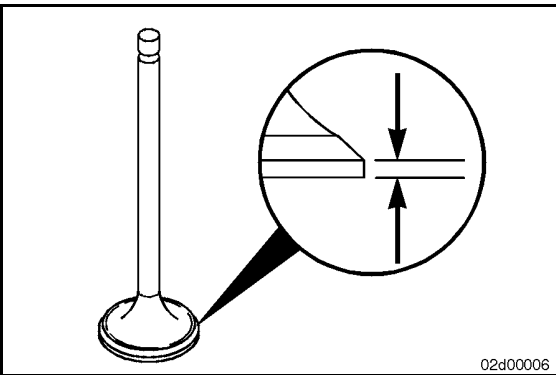


Inspect for bent valves.



Measure the rim thickness to determine if there is enough stock to grind the valve.

Valve Rim Thickness Limit		
mm		in
0.79	MIN	0.031



Inspect the valve springs.

Measure the valve spring.

Approx. Free Length (L):
J944711 59 mm [2.34 in]

Maximum Inclination:
J944711 1.5 mm [0.059 in]

