

Cylinder Head

Valve Stem-to-Guide Clearance Inspection

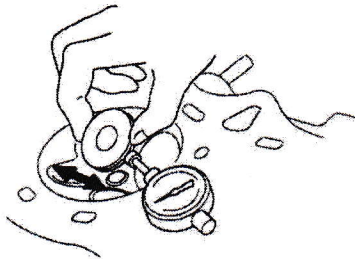
1. Remove the valves (see page 6-52).
2. Slide the valve out of its guide about 10 mm, then measure the guide-to-stem clearance with a dial indicator while rocking the stem in the direction of normal thrust (wobble method).
 - If the measurement exceeds the service limit, recheck it using a new valve.
 - If the measurement is now within the service limit, reassemble using a new valve.
 - If the measurement with a new valve still exceeds the service limit, go to step 3.

Intake Valve Stem-to-Guide Clearance:

Standard (New): 0.04 – 0.09 mm
(0.002 – 0.004 in.)
Service Limit: 0.16 mm (0.006 in.)

Exhaust Valve Stem-to-Guide Clearance:

Standard (New): 0.11 – 0.16 mm
(0.004 – 0.006 in.)
Service Limit: 0.24 mm (0.009 in.)



3. Subtract the O.D. of the valve stem, measured with a micrometer, from the I.D. of the valve guide, measured with an inside micrometer or ball gauge. Take the measurements in three places along the valve stem and three places inside the valve guide. The difference between the largest guide measurement and the smallest stem measurement should not exceed the service limit.

Intake Valve Stem-to-Guide Clearance:

Standard (New): 0.020 – 0.045 mm
(0.0008 – 0.0018 in.)
Service Limit: 0.08 mm (0.003 in.)

Exhaust Valve Stem-to-Guide Clearance:

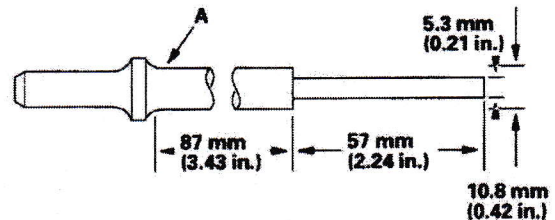
Standard (New): 0.055 – 0.080 mm
(0.0022 – 0.0031 in.)
Service Limit: 0.12 mm (0.005 in.)

Valve Guide Replacement

Special Tools Required

- Valve guide driver, 5.5 mm 07742-0010100
- Valve guide reamer, 5.5 mm 07HAH-PJ7010B

1. Inspect valve stem-to-guide clearance (see page 6-54).
2. As illustrated below, use a commercially available air-impact valve guide driver (A) modified to fit the diameter of the valve guides. In most cases, the same procedure can be done using the special tool and a conventional hammer.



3. Select the proper replacement guides and chill them in the freezer section of a refrigerator for about an hour.
4. Use a hot plate or oven to evenly heat the cylinder head to 300°F (150°C). Monitor the temperature with a cooking thermometer. Do not get the head hotter than 300°F (150°C); excessive heat may loosen the valve seats.

