

## CYLINDER HEAD/VALVES

Measure and record each valve guide I.D.

**SERVICE LIMIT: IN/EX:** 5.040 mm (0.1984 in)

Subtract each valve stem O.D. from the corresponding guide I.D. to obtain the stem-to-guide clearance.

**STANDARDS:**

**IN:** 0.010–0.037 mm (0.0004–0.0015 in)

**EX:** 0.025–0.052 mm (0.0010–0.0020 in)

If the stem-to-guide clearance is out of standard, determine if a new guide with standard dimensions would bring the clearance within tolerance. If so, replace any guides as necessary and ream to fit. If the stem-to-guide clearance is out of standard with the new guides, replace the valves and guides.

**NOTE:**

Reface the valve seats whenever the valve guides are replaced (page 8-17).



## VALVE GUIDE REPLACEMENT

Chill the replacement valve guides in the freezer section of a refrigerator for about an hour.

Heat the cylinder head to 100–150 °C (212–300 °F) with a hot plate or oven.

**▲WARNING**

*To avoid burns, wear heavy gloves when handling the heated cylinder head.*

**CAUTION:**

*Do not use a torch to heat the cylinder head; it may cause warping.*

Support the cylinder head and drive out the valve guides from combustion chamber side of the cylinder head.

**TOOL:**

Valve guide driver, 5 mm 07942-MA600000

