

## VALVE, VALVE GUIDE INSPECTION

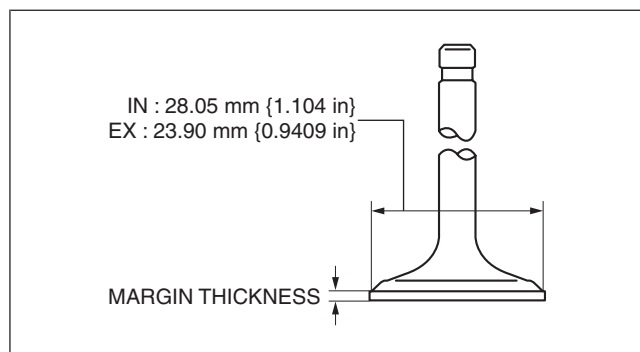
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1. Measure the valve head margin thickness using a vernier caliper.
  - If it is less than the standard specification, replace the valve.

### Standard valve head margin thickness

**IN:** 1.50—1.70 mm {0.0591—0.0669 in}

**EX:** 1.68—1.88 mm {0.0662—0.0740 in}



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2. Measure the length of the each valve using a vernier caliper.
  - If it is less than the minimum specification, replace the valve.

### Standard valve length

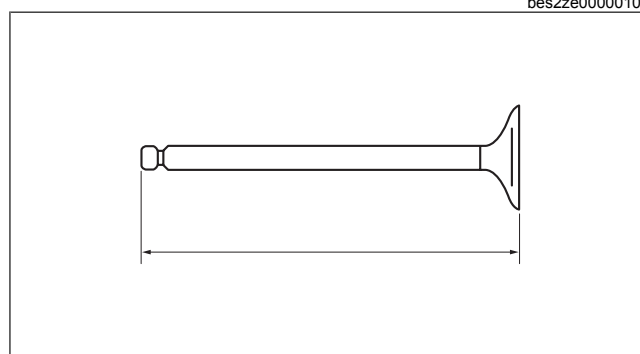
**IN:** 102.68—103.18 mm {4.0426—4.0622 in}

**EX:** 99.77—100.27 mm {3.928—3.947 in}

### Minimum valve length

**IN:** 102.64 mm {4.0409 in}

**EX:** 99.55 mm {3.919 in}



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3. Measure the valve stem diameter of each valve using the micrometer. Measurement positions total six and are in the X and Y directions, at three points (A, B, and C) as shown in the figure.
  - If it is less than the minimum specification, replace the valve.

### Standard valve stem diameter

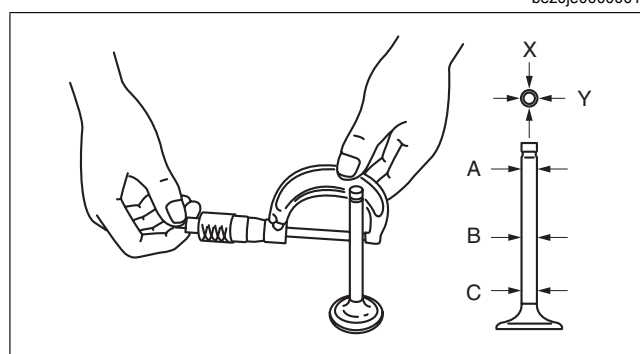
**IN:** 5.470—5.485 mm {0.2154—0.2159 in}

**EX:** 5.465—5.480 mm {0.2152—0.2157 in}

### Minimum valve stem diameter

**IN:** 5.424 mm {0.2135 in}

**EX:** 5.419 mm {0.2133 in}



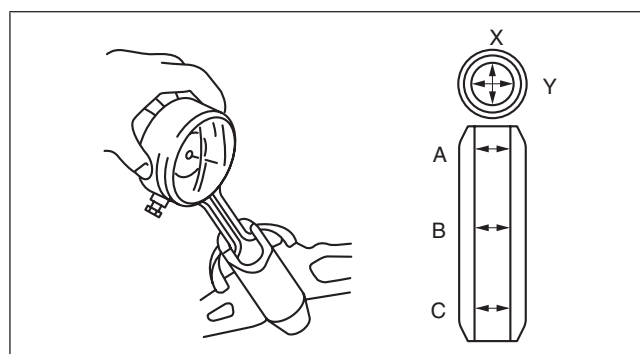
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4. Measure the inner diameter of each valve guide using the caliper gauge. Measurement positions total six and are in the X and Y directions, at three points (A, B, and C) as shown in the figure.
  - If it is not within the specification, replace the valve guide.

### Standard valve guide inner diameter

**IN:** 5.510—5.530 mm {0.2170—0.2177 in}

**EX:** 5.510—5.530 mm {0.2170—0.2177 in}



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5. Calculate the clearance between the valve stem and the valve guide by subtracting the inner diameter of the valve guide from the outer diameter of the corresponding valve stem.
- If it exceeds the maximum specification, replace the valve or valve guide.

**Standard clearance between valve stem and guide**

**IN: 0.025—0.060 mm {0.0010—0.0023 in}**

**EX: 0.030—0.065 mm {0.0012—0.0025 in}**

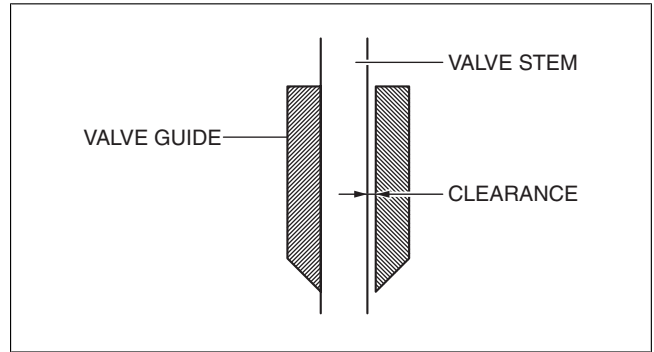
**Maximum clearance between valve stem and guide**

**0.10 mm {0.0039 in}**

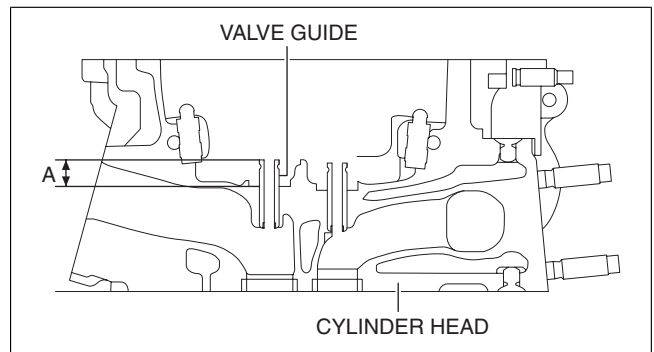
6. Measure the projection height (dimension A) of each valve guide using the vernier caliper.
- If it is not within the specification, replace the valve guide.

**Standard valve guide projection height**

**14.8—15.3 mm {0.583—0.602 in}**



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