

1D



## Valve Inspection

Refer to [Valve / Valve Spring Removal and Installation](#).

### Valve Stem Runout

Support the valve using V-blocks, and check its runout using the dial gauge as shown in the figure. If the runout exceeds the service limit, replace the valve.

#### Special Tool

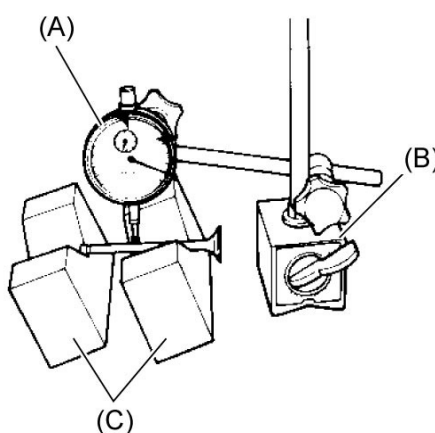
(A): [09900-20607](#)

(B): [09900-20701](#)

(C): [09900-21304](#)

#### Valve stem runout (IN. & EX.)

Service limit: 0.05 mm (0.002 in)



### Valve Head Radial Runout

Place the dial gauge at a right angle to the valve head face and measure the valve head radial runout. If it measures more than the service limit, replace the valve.

#### Special Tool

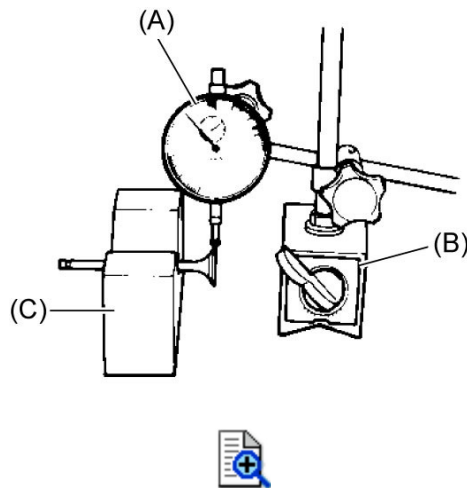
(A): [09900-20607](#)

(B): [09900-20701](#)

(C): [09900-21304](#)

#### Valve head radial runout (IN. & EX.)

Service limit: 0.03 mm (0.001 in)



## Valve Face Wear

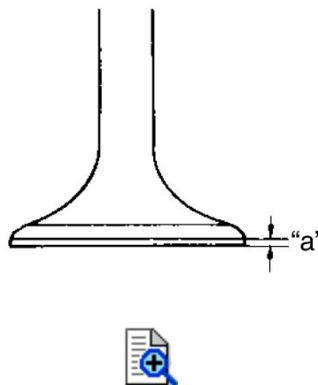
Visually inspect each valve face for wear. Replace any valve with an abnormally worn face. The thickness of the valve face decreases as the face wears. Measure the valve head "a". If it is out of specification replace the valve with a new one.

### Special Tool

**09900-20102**

### Valve head thickness "a" (IN. & EX.)

**Service limit: 0.5 mm (0.02 in)**



## Valve Stem Deflection

Lift the valve about 10 mm (0.39 in) from the valve seat. Measure the valve stem deflection in two directions, (1) and (2), perpendicular to each other, positioning the dial gauge as shown in the figure. If the deflection measured exceeds the service limit, then determine whether the valve or the guide should be replaced with a new one.

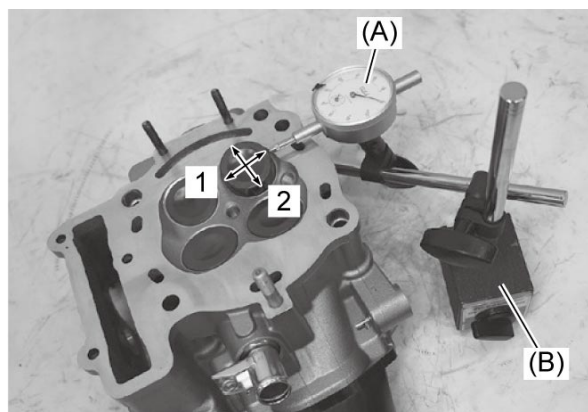
### Special Tool

**(A): 09900-20607**

**(B): 09900-20701**

### Valve stem deflection (IN. & EX.)

**Service limit: 0.35 mm (0.014 in)**



## Valve Stem Wear

Measure the valve stem O.D. using the micrometer.

If the valve stem is worn down to the limit, as measured with a micrometer, replace the valve.

If the stem is within the limit, then replace the guide.

After replacing valve or guide, be sure to recheck the deflection.

### Special Tool

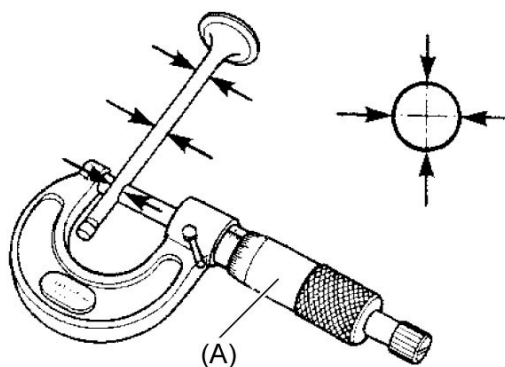
(A): [09912-66310](#)

### Valve stem O.D. (IN.)

Standard: 5.475 – 5.490 mm (0.2156 – 0.2161 in)

### Valve stem O.D. (EX.)

Standard: 5.455 – 5.470 mm (0.2148 – 0.2154 in)

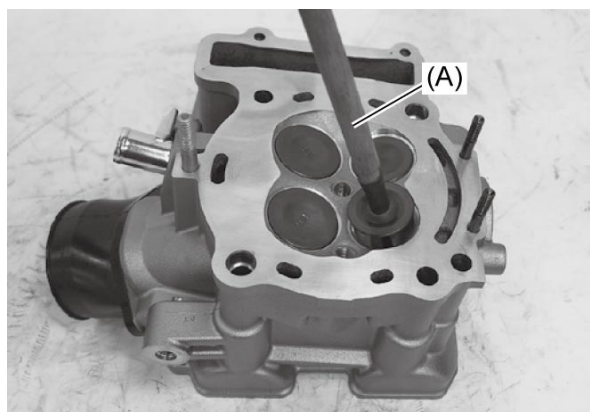


## Valve Seat Width


- 1) Visually check for valve seat width on each valve face. If the valve face has worn abnormally, replace the valve.
- 2) Coat the valve seat with a red lead (Prussian Blue) and set the valve in place.
- 3) Rotate the valve with light pressure.

### Special Tool

(A): [09916-10911](#)



- 4)** Check that the transferred red lead (Blue) on the valve face is uniform all around and in center of the valve face.

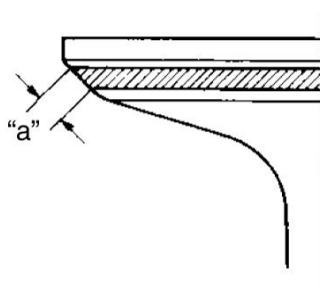
If the seat width "a" measured exceeds the standard value, or seat width is not uniform reface the seat using the seat cutter. 

**Valve seat width (IN.)**

**Standard: 1.17 – 1.37 mm (0.046 – 0.054 in)**

**Valve seat width (EX.)**

**Standard: 1.31 – 1.51 mm (0.052 – 0.059 in)**



## Valve Seat Sealing Condition

- 1)** Clean and assemble the cylinder head and valve components.
- 2)** Fill the intake and exhaust ports with gasoline to check for leaks. If any leaks occur, inspect the valve seat and face for burrs or other things that could prevent the valve from sealing. 