

- ④ Using the 45-degree cutter, remove burrs produced during the refacing by the 30-degree and 70-degree cutters.

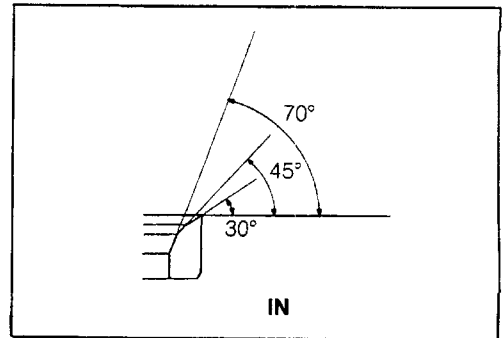


Fig. 5-136

WM-05155

● Refacing procedure for exhaust valve seats

- ① Recondition the roughness on the valve-to-valve seat contact surface, using a 45-degree cutter.

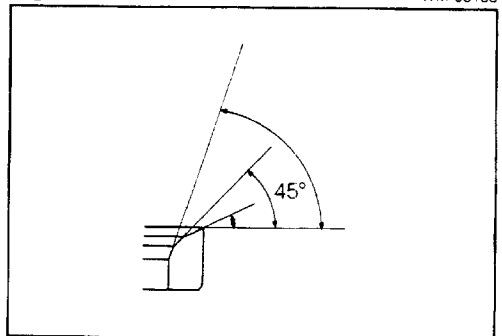


Fig. 5-137

WM-05156

- ② Using a 20-degree cutter, cut the valve seat in such a way that the circumference of the surface refaced by the 45-degree cutter may become 32 mm (1.26 inches).

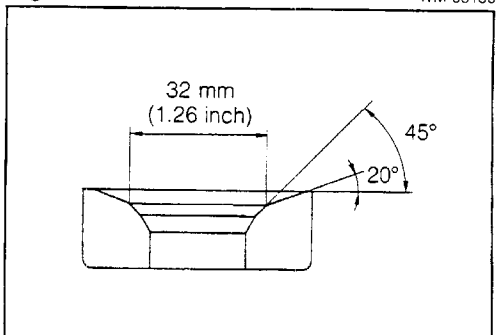


Fig. 5-138

WM-05157

- ③ Using a 60-degree cutter, cut the valve seat in such a way that the width of the surface refaced by the 45-degree cutter may become 1.4 mm (0.055 inches).

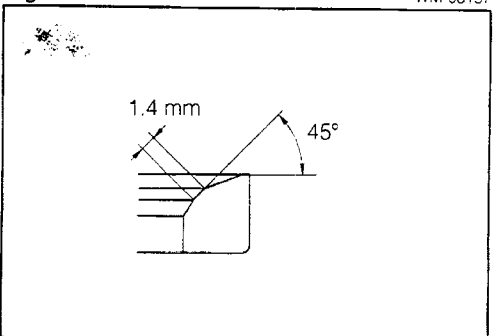


Fig. 5-139

WM-05158

- ④ Using the 45-degree cutter, remove burrs produced during the refacing by the 20-degree and 60-degree cutters.

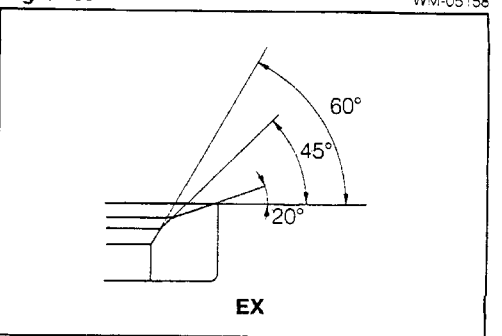


Fig. 5-140

WM-05159

ENGINE MECHANICALS

(4) Checking of valve recession

After the valve seat has been refaced, install the new valve. Measure the distance between the cylinder attaching surface of the cylinder head (attaching surface of the cylinder head gasket) and the uppermost section of the valve. Ensure that the distance does not exceed the following maximum limit.

Maximum Limit:

Intake valve 1.886 mm (0.0743 inch)

Exhaust valve 2.807 mm (0.1105 inch)

NOTE:

If the recession exceeds the maximum limit, replace the cylinder head.

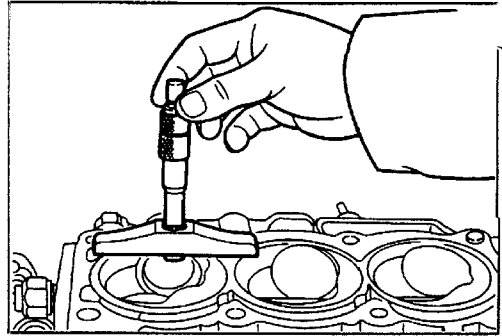


Fig. 5-141

WM-05160

2. Checking of valves

(1) Checking valve stems

Visually inspect the valve stem for seizure or damage. If the valve exhibits damage, replace it together with the valve guide bush as a set.

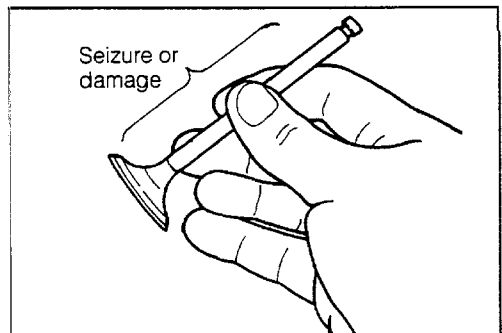


Fig. 5-142

WM-05161

(2) Checking valve stem end

① Check the valve stem end for abnormal wear.

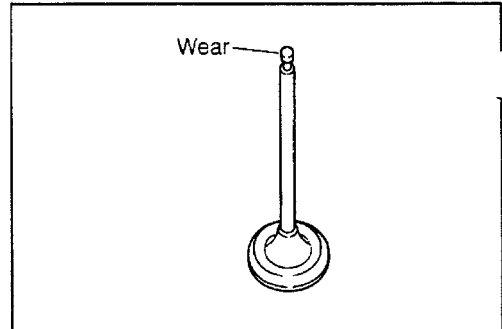


Fig. 5-143

WM-05162

- ② If the valve stem exhibits abnormal wear, correct the stem end with a valve refacer. However, make sure that the valve has the minimum valve overall length of 100.85 mm (3.97 inches).

Minimum Valve Overall Length:

100.85 mm (3.97 inches)

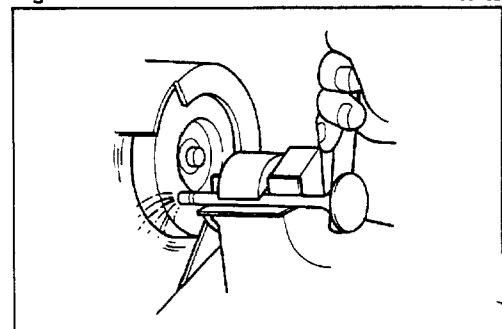


Fig. 5-144

WM-05163

(3) Checking of valve heads

① Check the valve-to-valve seat contact surface for roughness or damage. Remove any carbon deposit from the valve head.

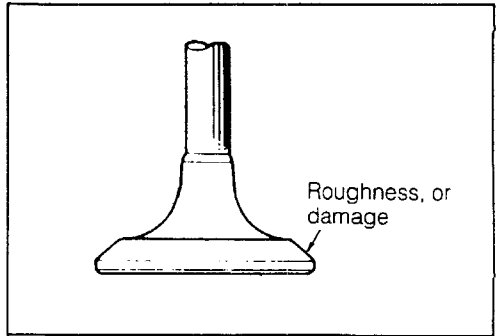


Fig. 5-145

WM-05164

② If the valve-to-valve seat contact surface exhibits any damage, grind the surface with a valve refacer.
Valve Face Angle: 45.5°

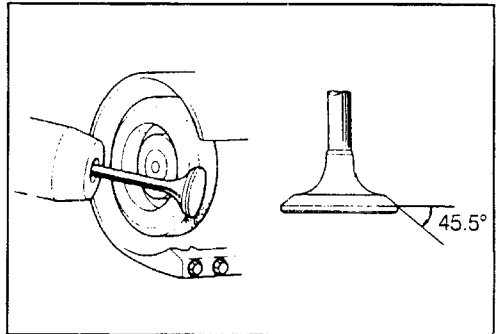


Fig. 5-146

WM-05165

③ After the valve head has been ground, measure the stock thickness of the valve head.

Minimum Limit

Intake valve	0.8 mm (0.031 inch)
Exhaust valve	1.0 mm (0.039 inch)

NOTE:

If the stock thickness of the valve head is less than the limit, replace it with a new one.

When replacing the valve with new one be sure to check the oil clearance with the valve guide bush.

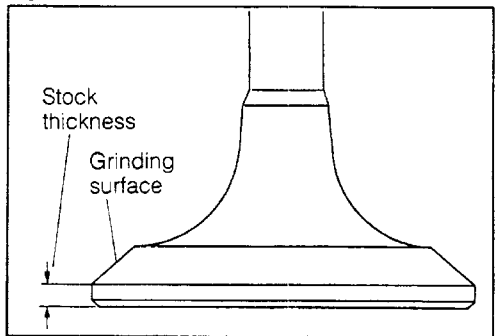


Fig. 5-147

WM-05166

3. Checking of valve guide bush-to-valve stem oil clearance

(1) Measuring oil clearance

Measure the valve guide bush-to-valve stem oil clearance.

Oil clearance = Inner diameter of valve guide bush – Outer diameter of valve stem

Specified Value: Intake valve: 0.040 - 0.090 mm (0.0016 - 0.0035 inch)

Exhaust valve: 0.045 - 0.100 mm (0.0018 - 0.0039 inch)

NOTE:

If the measured oil clearance exceeds the specified value, replace the valve guide bush together with the valve as a set.

WM-05167

ENGINE MECHANICALS

- ① Measurement of inner diameter of valve guide bush
Perform the measurement at six points.

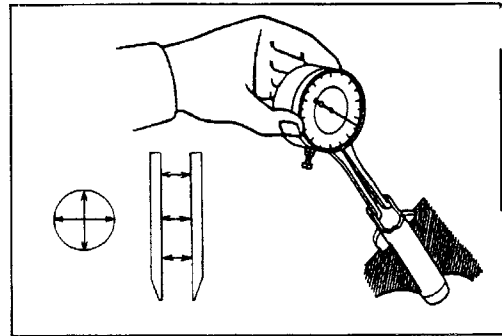


Fig. 5-148

WM-05168

- ② Measurement of outer diameter of valve stem
Perform the measurement at six points.

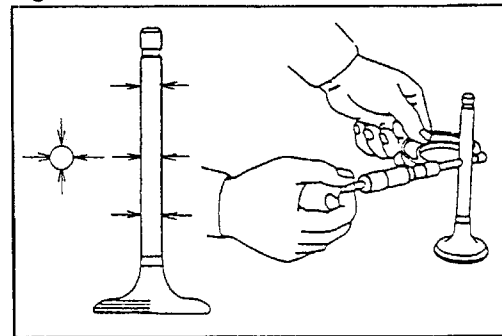


Fig. 5-149

WM-05169

- (2) Replacing valve guide bush

NOTE:

When replacing the valve guide bush, replace also the valve as a set. However, if the bushes with rings (replacement part) have been already installed as valve guide bushes, replace the cylinder head.

WM-05170

• **Exhaust side**

- ① Break the valve guide bush, using a brass bar

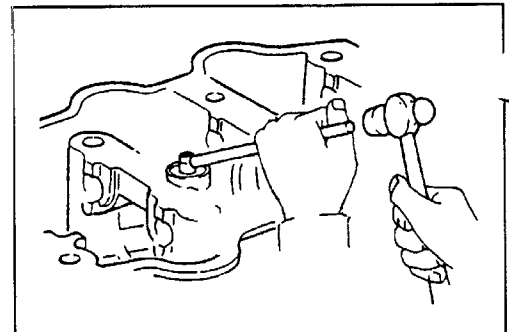


Fig. 5-150

WM-05171

- ② Drive out the valve guide bush toward the combustion chamber side, using the following SST.

SST: 09201-87201-000

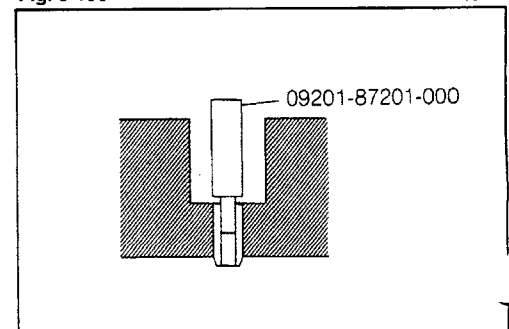


Fig. 5-151

WM-05172