

Valve lapping operation is performed last. This is to obtain a leak-proof seal between the valve and the valve seat. Place a liberal amount of lapping compound on the valve face and lap the valves, applying a slight pressure while rotating the valve back and forth with a suction cup lapping tool. Wash off the compound thoroughly and inspect the valve seat with bluing.

**(Note)**

- (a) When the valve stem is greatly worn, the valve guide is usually also worn. Hence, when a valve is replaced, it also is desirable to replace the valve guide. Since the guide is press fitted, it is recommended that they be replaced with an over-size guide.
- (b) When the valve is assembled, the compound which was used during lapping should be completely removed.

#### 6. CYLINDER

##### A. Construction

For improved cooling effect and weight, reduction, the cylinder is made of aluminum alloy with a press fitted special cast steel cylinder sleeves. (Fig. 3-155)

The cam chain guide roller is incorporated at the left hand side of the cylinder.

##### B. Disassembly

1. Remove the cylinder head. Refer to Section 3.2 B.
2. Remove the two 6 mm hex. nuts and the cylinder from the crankcase. (Fig. 3-156)

##### C. Inspection

1. Measure the cylinder bore, taper, out-of-round with a precision cylinder gauge. (Fig. 3-157)  
Take the measurement at the top, middle and bottom in both the X and Y axes.

Item	Standard Value	Serviceable Limit
Bore	44.0~44.01 mm	Repair if over
	(1.7323~1.7327 in)	44.1 mm (1.7362 in)
Taper, out-of-round	0.005 mm (0.0002 in)	Repair if over 0.05 mm (0.0020 in)

2. The clearance between the piston and cylinder will greatly affect the engine performance. Because the piston is elliptical, the clearance is controlled very closely. The clearances are not the same, however, if any area is greater than 0.1 mm (0.004 in), the cylinder should be rebored and fitted with an oversize piston.

##### D. Reassembly

1. Install the gasket between the cylinder and crankcase and insert the cylinder over the stud bolts.
2. Make sure that the cylinder gasket and the two dowel pins are installed.
3. During the installation of the cylinder, use a hardwood piston base to prevent piston movement. Also use a ring compressor to prevent ring damages. (Fig. 3-158)

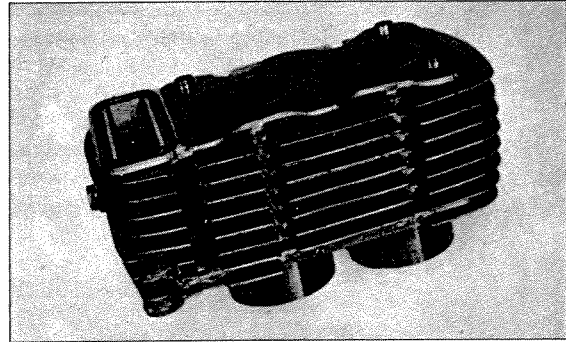
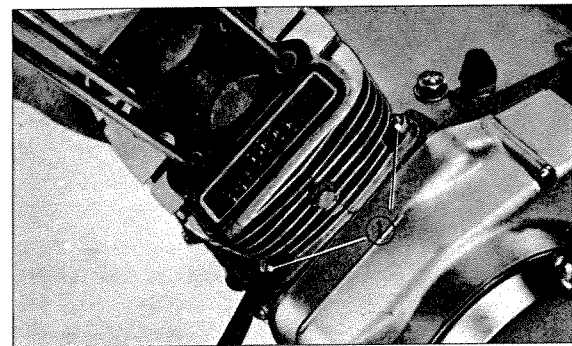
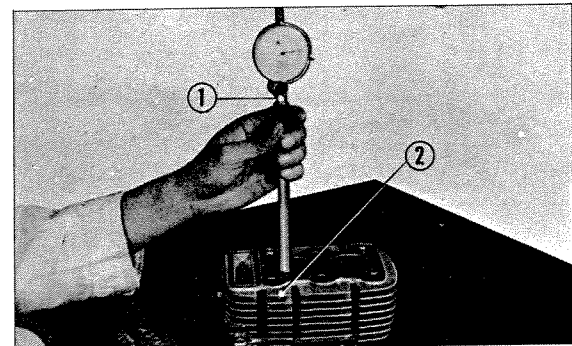


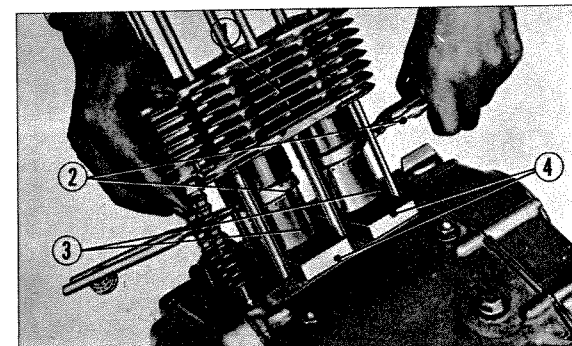
Fig. 3-155. Cylinder



① 6 mm nuts  
Fig. 3-156. Removing the cylinder



① Cylinder gauge ② Cylinder  
Fig. 3-157. Measuring the cylinder bore



① Cylinder ② Piston ring compressor ③ Piston  
④ Piston base.  
Fig. 3-158. Installing the cylinder