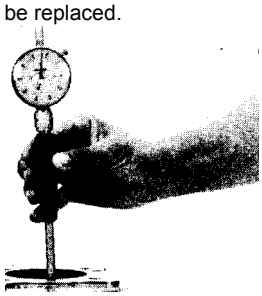
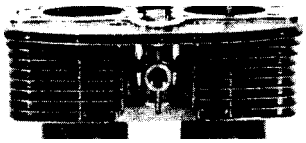
Cylinder, piston wear

Since there is a difference in cylinder wear in different directions, take a side-to-side and a front-to-back measurement at each of the 3 locations (total of 6 measurements) shown in Fig. 441. If any of the cylinder inside diameter measurements exceeds the service limit, the cylinder will have to be bored to oversize and then honed. However, if the amount of boring necessary would make the inside diameter greater than 79.0 mm, the cylinder block must be replaced.





Cylinder Inside Diameter Measurement

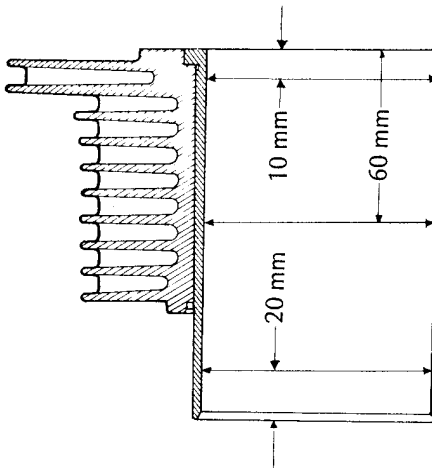


Table 32 Cylinder Inside Diameter

Standard	Service Limit
78.000 ~ 78.019 mm, and less than 0.006 mm difference between any two measurements	78.10 mm, and more than 0.05 mm difference between any two measurements

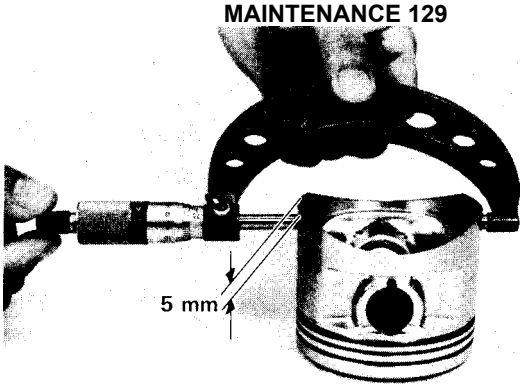


Table 33 Piston Diameter

Standard	Service Limit
77.94~77.96mm	77.8 mm

Table 32 applies only to a cylinder that has not been bored to oversize, and Table 33 applies only to the standard size piston. In the case of a rebored cylinder and oversize piston, the service limit for the cylinder is the diameter that the cylinder was bored to plus 0.1 mm and the service limit for the piston is the oversize piston original diameter minus 0.15 mm. If the exact figure for the rebored diameter is unknown, it can be roughly determined by measuring the diameter at the base of the cylinder.

NOTE: Whenever the piston or cylinder block has been replaced with a new one, the motorcycle must be broken in the same as with a new machine.

Piston/cylinder clearance

The piston-to-cylinder clearance is measured whenever a piston or the cylinder block is replaced with a new one, or whenever a cylinder is rebored and an oversize piston installed. The standard piston-to-cylinder clearance must be adhered to whenever the cylinder block is replaced or a cylinder rebored. If only a piston is replaced, the clearance may exceed the standard slightly. But it must not be less than the minimum, in order to avoid piston seizure.

The most accurate way to find the piston clearance is by making separate piston and cylinder diameter measurements and then computing the difference between the two values. Measure the piston diameter as

just described, and measure the cylinder diameter at the very bottom of the cylinder.

Table 34 Piston/Cylinder Clearance

Standard
0.050" "0.069mm

Measure the outside diameter of each piston 5 mm up from the bottom of the piston at a right angle to the direction of the piston pin. If the measurement is under the service limit, replace the piston.

NOTE: Abnormal wear such as a marked diagonal pattern across the piston skirt may mean a bent connecting rod or crankshaft.

Boring, honing

When boring and honing a cylinder, note the following:

1. Before boring a cylinder, first measure the exact diameter of the oversize piston, and then, in accordance with the standard clearance given in Table 34, determine the diameter of the rebore.