

132 MAINTENANCE

Connecting rod bend, twist

Remove the connecting rod big end bearing inserts, and replace the connecting rod big end cap. Select an arbor of the same diameter as the connecting rod big end and of optional length, and insert it through the big end of the connecting rod. Select an arbor of the same diameter as the piston pin and of optional length, and insert it through the small end of the connecting rod.

On a surface plate, set the big-end arbor on V blocks so that it is perpendicular to the surface plate. Using a height gauge or dial gauge, measure the difference in the height of the small-end arbor above the surface plate over a 100 mm length to determine the amount the connecting rod is bent. If the measurement exceeds the service limit, replace the connecting rod.

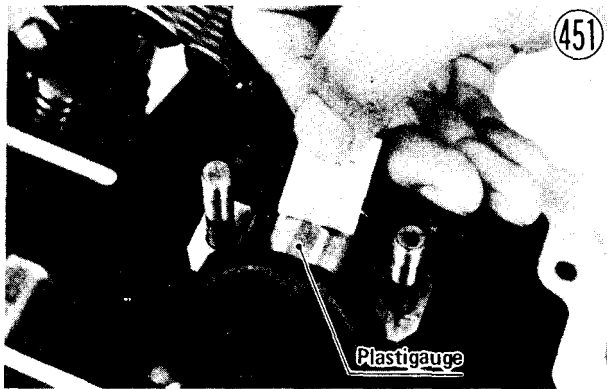
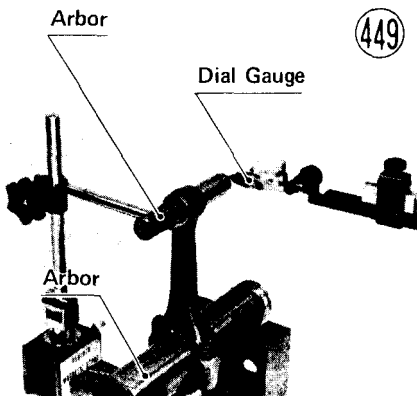


Table 43 Connecting Rod Bearing Insert/Journal Clearance

Table 41 Connecting Rod Bend

| Standard | Service Limit |
|-------------------|---------------|
| under 0.05/100 mm | 0.2 mm |

Swing the connecting rod 90° to one side and support it parallel to the surface plate as shown in Fig. 450. Measure the difference in the height of the small end arbor above the surface plate over a 100 mm length to determine the amount the connecting rod is twisted.

If the measurement exceeds the service limit, replace the connecting rod.

Arbor

Connecting rod bearing insert/journal wear

Bearing insert wear is measured using plastigauge (press gauge), which is inserted into the clearance to be measured. The plastigauge indicates the clearance by the amount it is compressed and widened when the parts are assembled.

Remove the connecting rods. Cut strips of plastigauge to bearing insert width. Place a strip on the connecting rod bearing insert on each connecting rod parallel to the crankshaft so the plastigauge will be compressed between the bearing insert and the connecting rod journal. Install the connecting rods, tightening the nuts with the specified torque (Pg. 201).

Remove the connecting rods, and measure the plastigauge width to determine the bearing insert/journal wear.

| Standard | Service Limit |
|-----------------|---------------|
| 0.041 ~0.071 mm | 0.1 mm |

If the clearance exceeds the service limit, replace the bearing inserts as follows:

1. With a micrometer, measure the diameter of the crankshaft journals on which the connecting rods fit. Mark each flywheel in accordance with the journal diameter (Table 44).

If the measurement is less than the service limit, replace the crankshaft.

If the measurement is less than the standard value, but is not under the service limit; use bearing inserts painted blue.

NOTE: Any mark already on the flywheel should not be referred to during servicing.

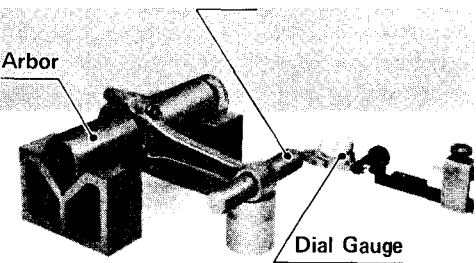


Table 42 Connecting Rod Twist

| Standard | Service Limit |
|-------------------|---------------|
| under 0.15/100 mm | 0.3 mm |

