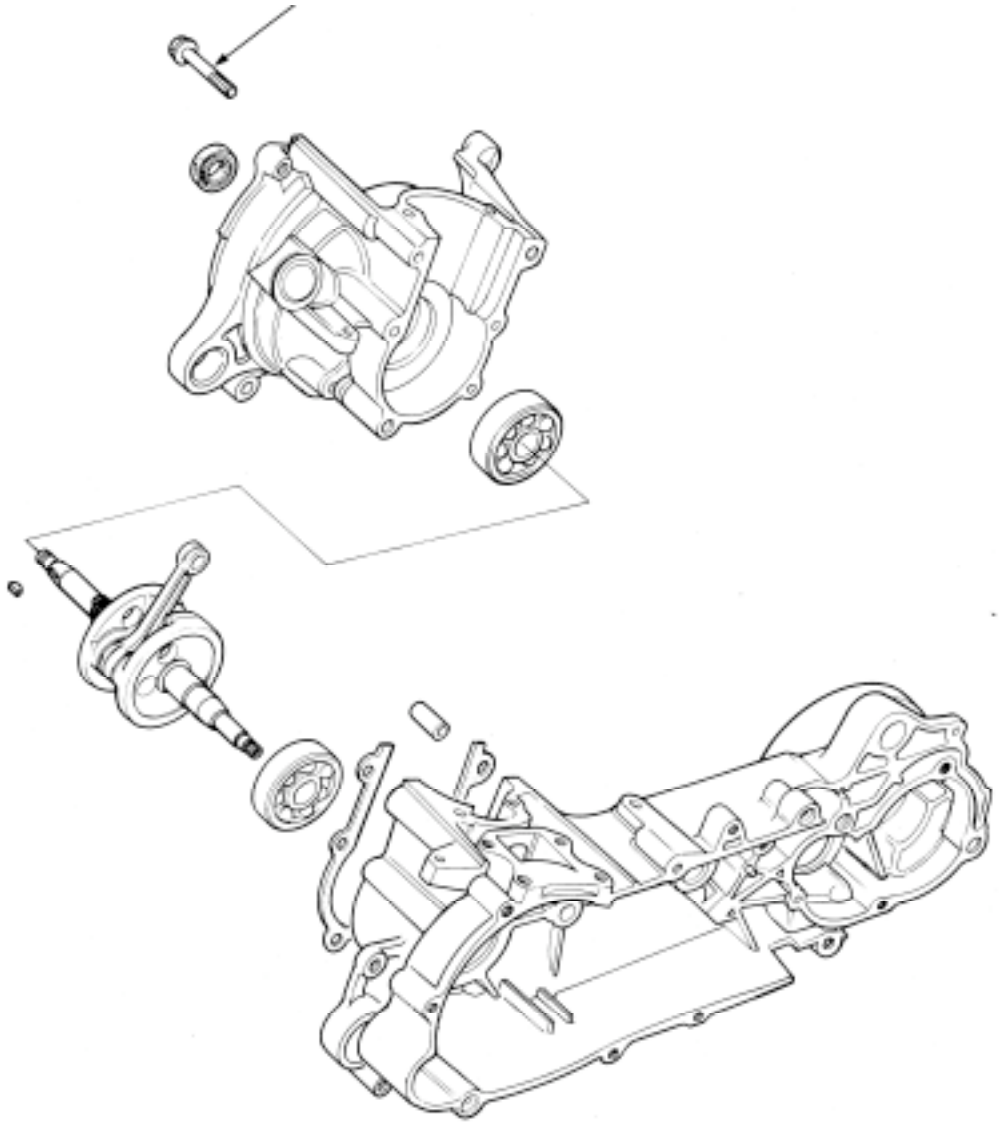
CRANKCASE/CRANKSHAFT

10. CRANKCASE/CRANKSHAFT

Torque: 0.8_ 1.2kg-m



SERVICE INFORMATION

GENERAL INSTRUCTIONS

- This section covers crankcase separation to service the crankshaft.
- The following parts must be removed before separating the crankcase.
  Engine (⇨Section 5) Driven pulley (⇨Section 8)
  Carburetor (⇨Section 11) A.C. generator (⇨Section 7)
  Oil pump (⇨Section 4) Cylinder head/cylinder (⇨Section 6)
  Reed valve (⇨Section 11)
- When the left crankcase must be replaced, remove the following part in addition to the above.
  Final reduction removal
- Special tools must be used for crankshaft and crankcase assembly. When separating the crankcase, the bearing will remain in the crankcase and it should be removed. When, assembling, drive a new bearing into the crankcase and install a new oil seal.

SPECIFICATIONS

Item	SC10AS	
	Standard (mm)	Service Limit (mm)
Connecting rod big end side clearance	□	0.60
Connecting rod big end radial clearance	□	0.04
Crankshaft runout A/B	□	0.15/0.10

SPECIAL TOOLS

Crankcase puller
Universal bearing puller
Crankcase assembly collar
Crankcase assembly tool
Bearing outer driver handle A
Bearing outer driver, 42x47mm
Bearing driver pilot, 20mm
Bearing outer driver, 37x40mm
Bearing driver pilot, 17mm

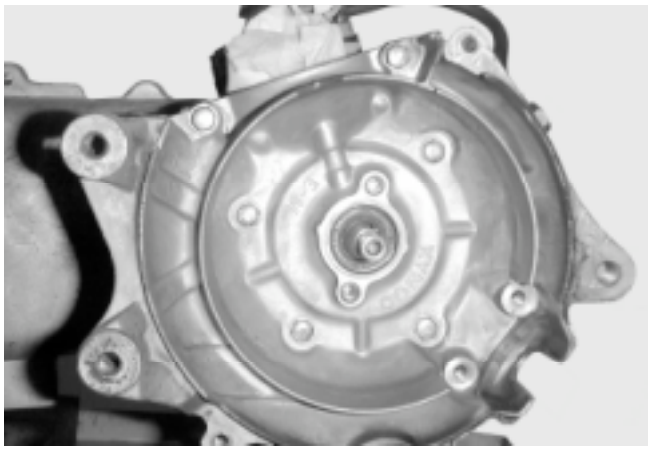
TROUBLESHOOTING

Abnormal engine noise

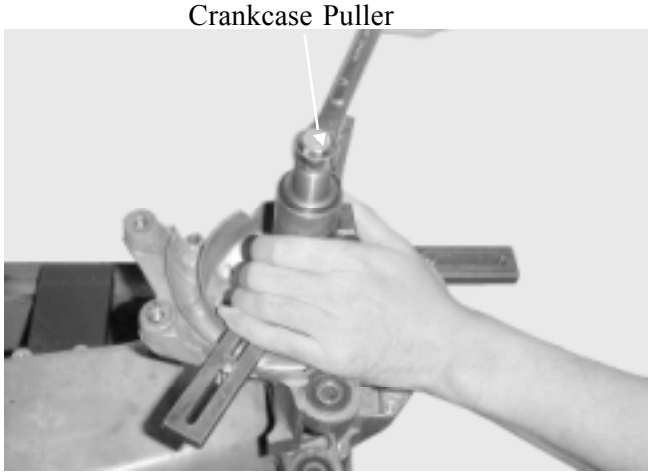
- Excessive crank journal bearing play
- Excessive crankpin bearing play
- Excessive transmission bearing play

CRANKCASE SEPARATION

Remove the crankcase attaching bolts.

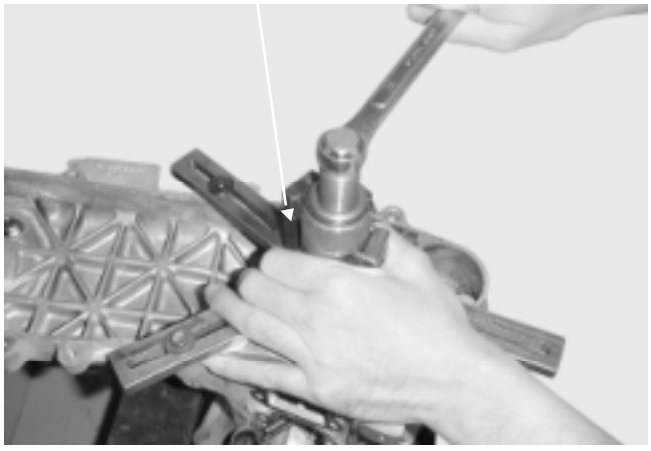


Attach the crankcase puller on the right crankcase and remove the right crankcase from the left crankcase.

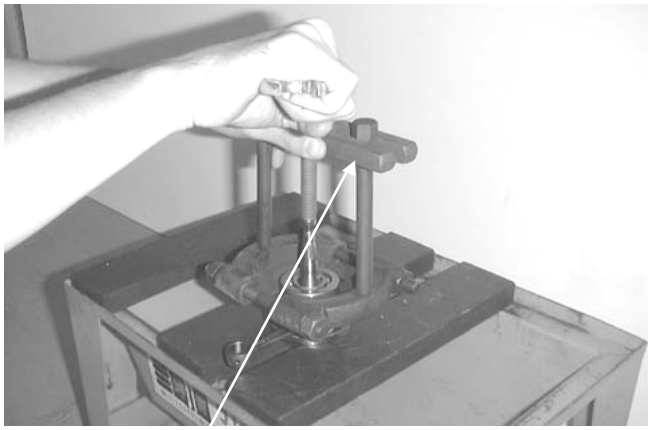


CRANKSHAFT REMOVAL

Attach the crankcase puller on the left crankcase and remove the crankshaft from the left crankcase.



Remove the remaining bearing on the crankshaft side using the universal bearing puller.



Universal Bearing Puller

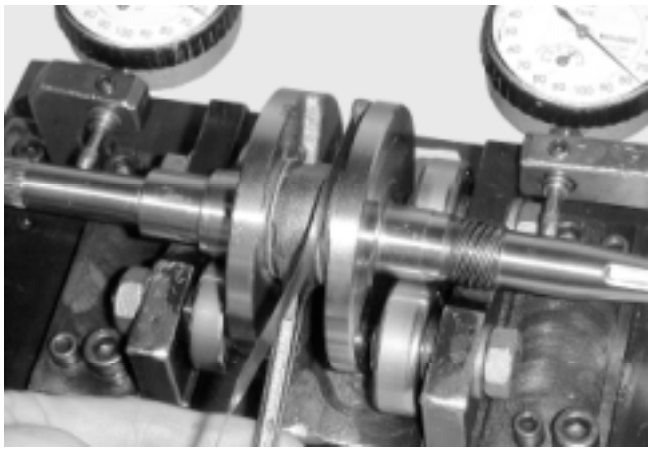
CRANKSHAFT INSPECTION

Measure the connecting rod big end side clearance.

Service Limit: 0.6mm replace if over

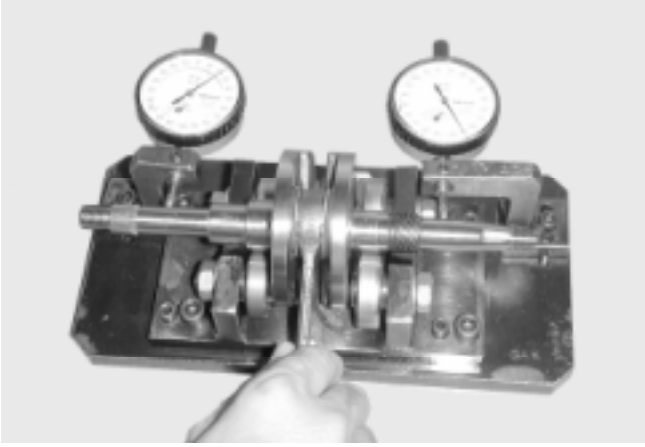
Measure the connecting rod big end radial clearance at two points in the X and Y directions.

Service Limit: 0.04mm replace if over

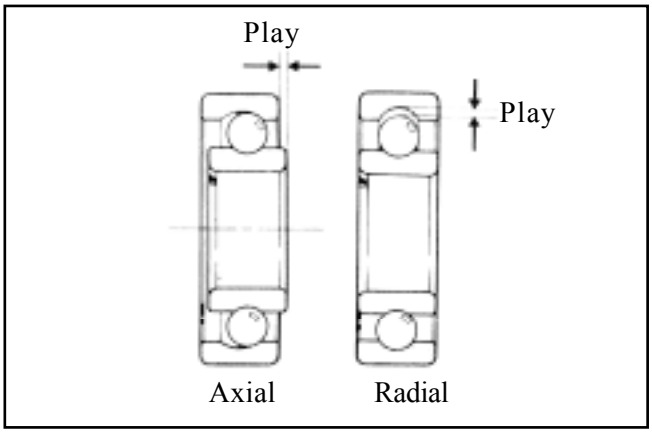


Measure the crankshaft runout.

Service Limit	
A	B
0.150mm replace if over	0.100mm replace if over



Check the crankshaft bearings for excessive play. The bearings must be replaced if they are noisy or have excessive play.



CRANKSHAFT INSTALLATION

Wash the crankshaft in cleaning solvent and then check for cracks or other faults.

Drive a new crankshaft bearing into the right crankcase.

Bearing Outer Driver Handle A

Bearing Outer Driver, 37x40mm
Bearing Driver Pilot, 17mm

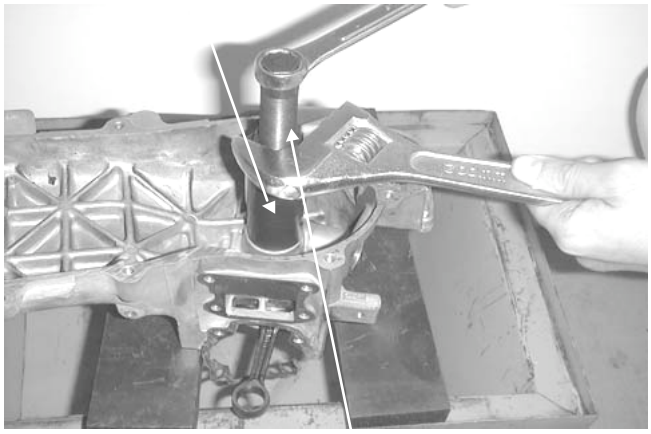
Drive a new crankshaft bearing into the left crankcase.

Bearing Outer Driver Handle A

Bearing Outer Driver, 42x47mm
Pilot, 20mm

Install the crankshaft into the left crankcase.

Crankcase Assembly Collar

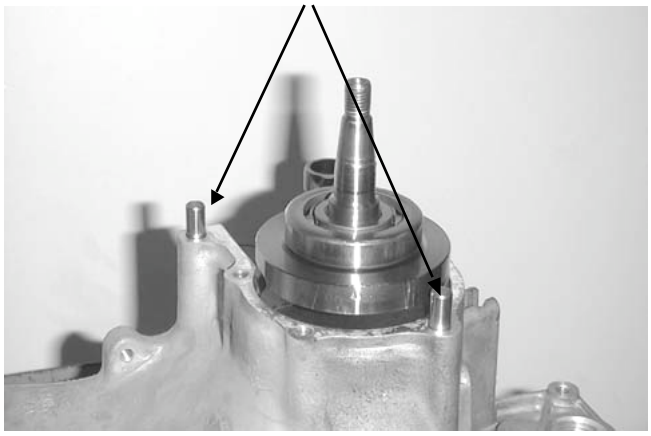


Crankcase Assembly Tool

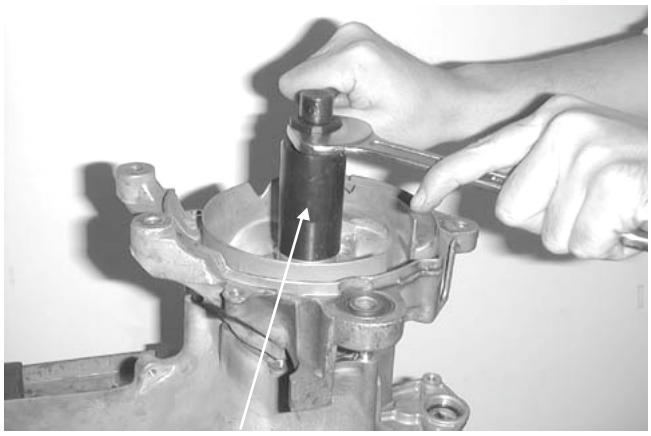
CRANKCASE ASSEMBLY

Install the dowel pins and a new gasket to the crankcase mating surface.

Dowel Pins

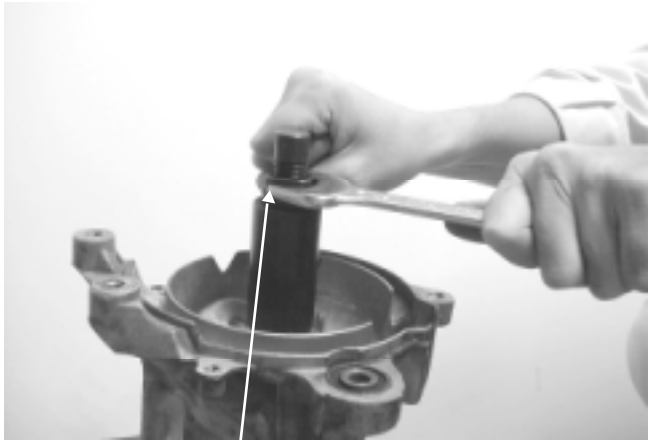


Assemble the crankcase halves.



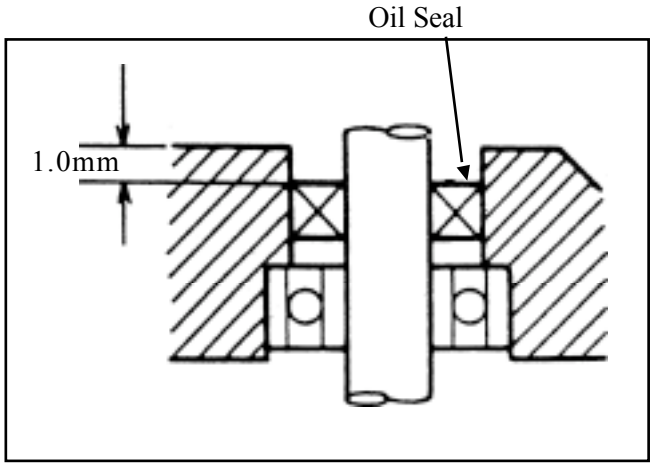
Crankcase Assembly Tool

The distance between the right crankcase oil seal and crankcase surface is about 12.5±0.5 mm.



Crankcase Assembly Tool

The distance between the left crankcase oil seal and crankcase surface is about 1.0mm.



Install and tighten the crankcase attaching bolts.