

# **10. CRANKCASE/CRANKSHAFT**

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## **CRANKCASE/CRANKSHAFT**

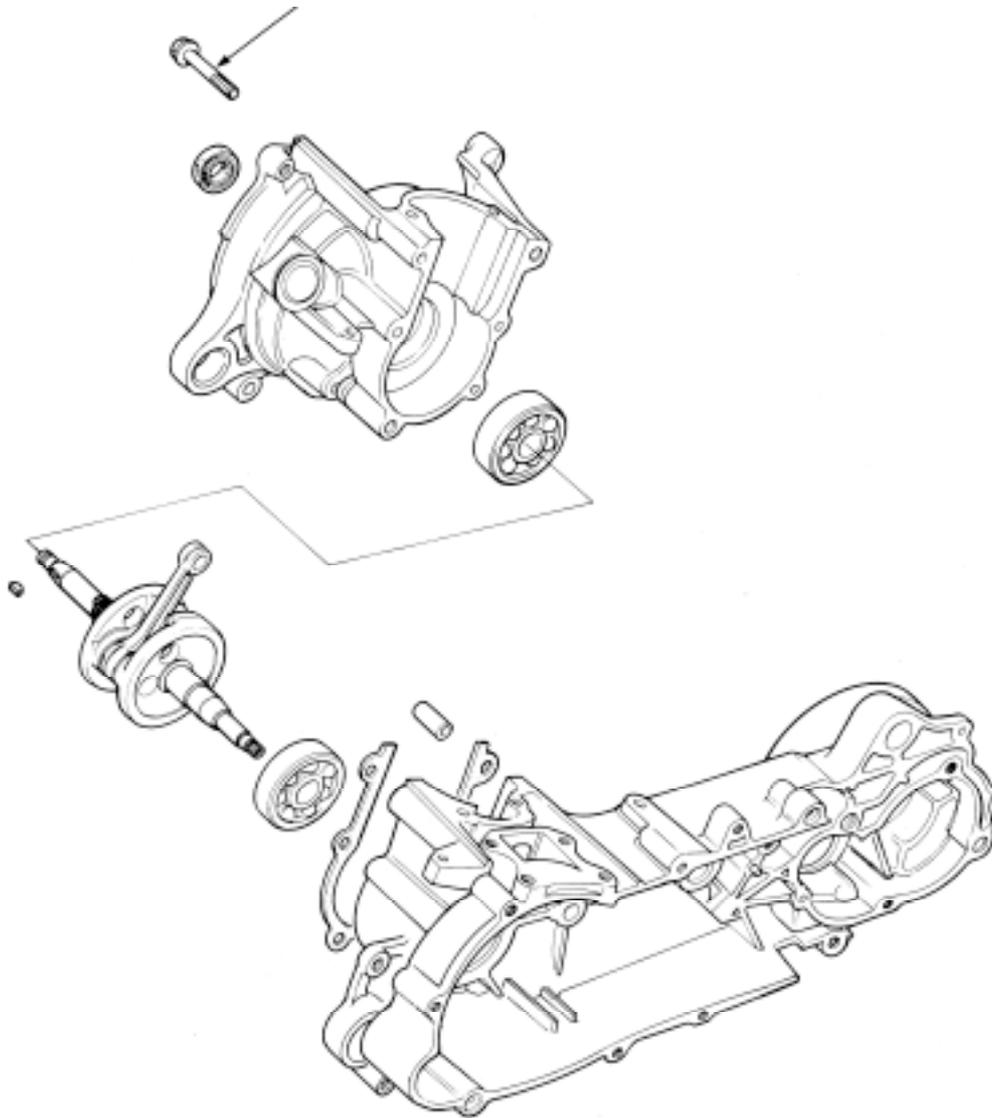
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**10. CRANKCASE/CRANKSHAFT**

Torque: 0.8\_ 1.2kg-m



# 10. CRANKCASE/CRANKSHAFT

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

### TROUBLESHOOTING

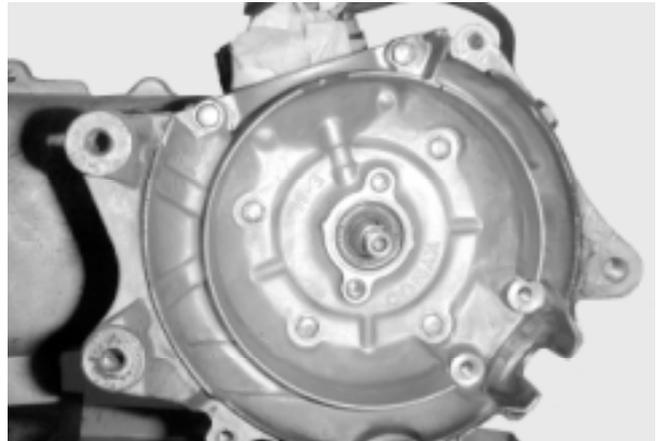
#### Abnormal engine noise

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

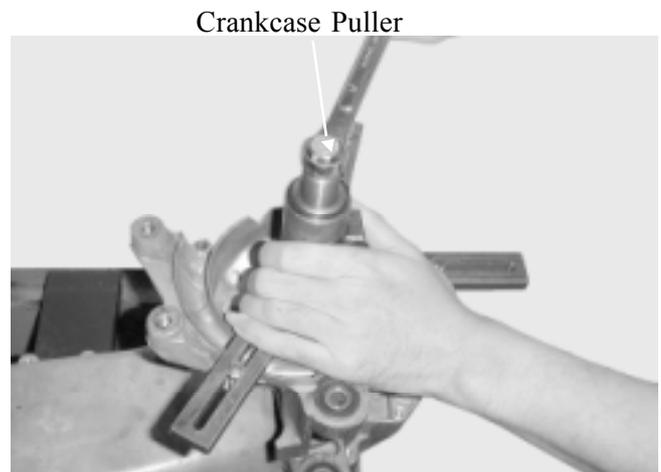
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### **CRANKCASE SEPARATION**

Remove the crankcase attaching bolts.

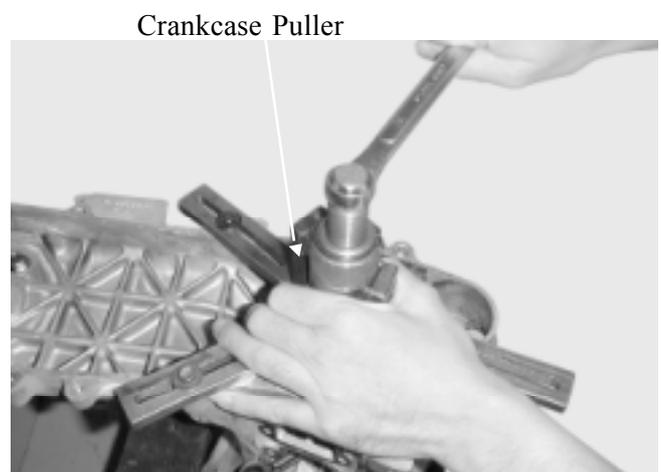


Attach the crankcase puller on the right crankcase and remove the right crankcase from the left crankcase.



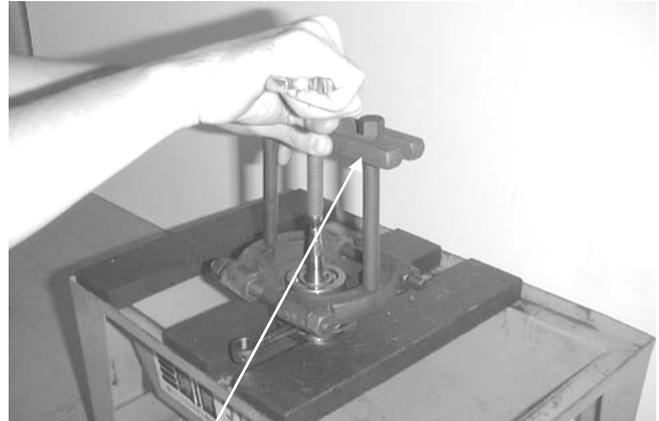
### **CRANKSHAFT REMOVAL**

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



## **10. CRANKCASE/CRANKSHAFT**

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



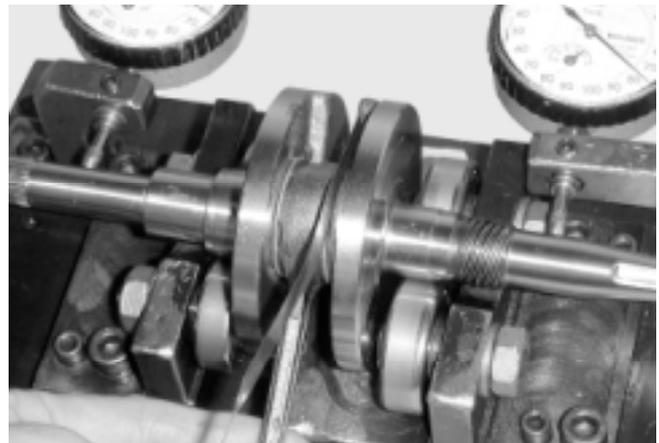
Universal Bearing Puller

### **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.

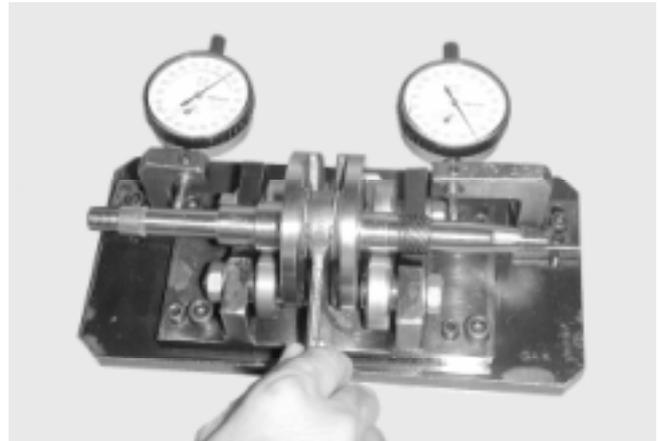
**Service Limit:** 0.04mm replace if over



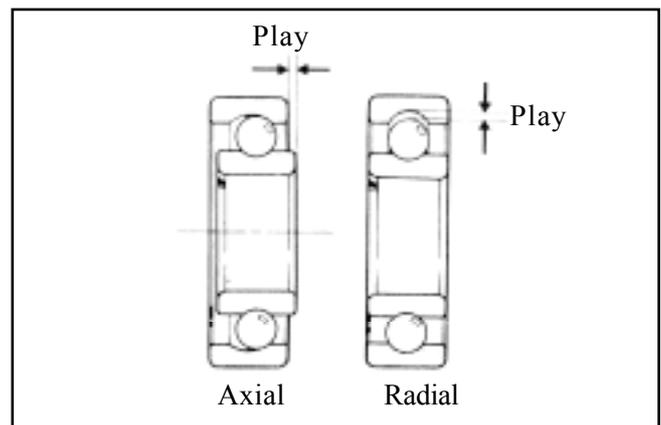
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Measure the crankshaft runout.

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.



## **10. CRANKCASE/CRANKSHAFT**

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.

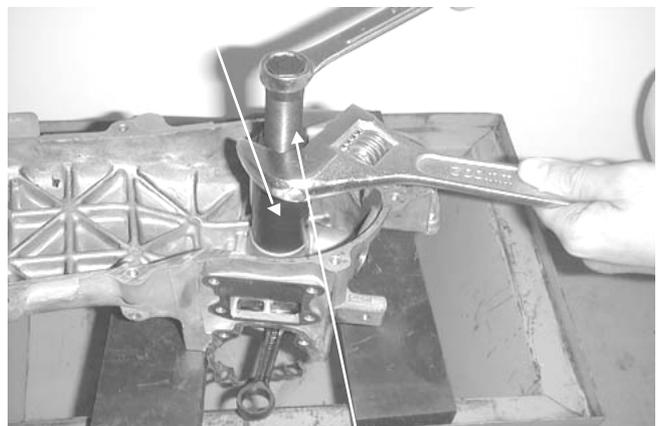
Bearing Outer Driver Handle A



Bearing Outer Driver, 42x47mm  
Pilot, 20mm

Install the crankshaft into the left crankcase.

Crankcase Assembly Collar

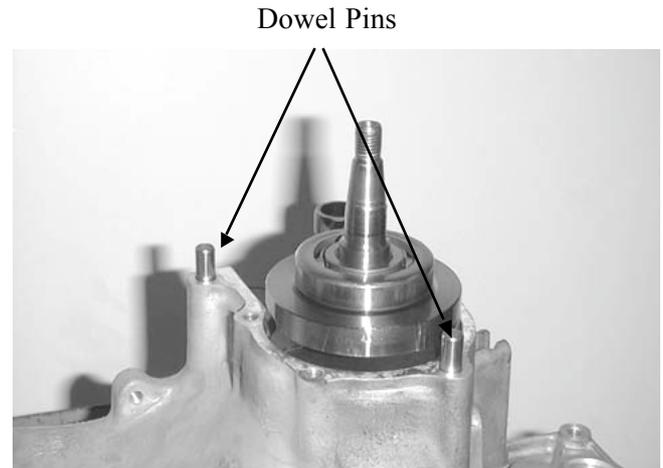


Crankcase Assembly Tool

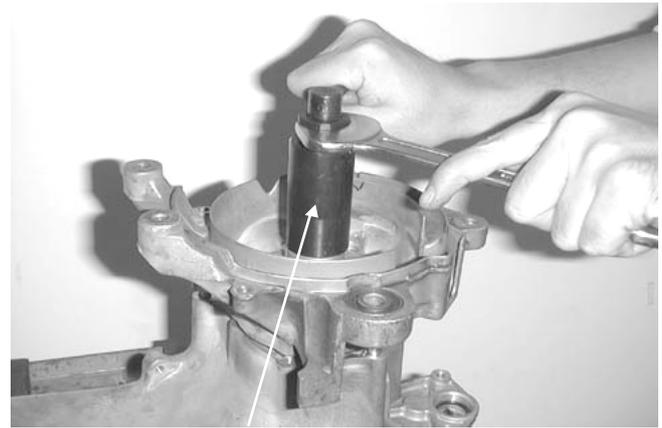
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## CRANKCASE ASSEMBLY

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



Assemble the crankcase halves.



Crankcase Assembly Tool

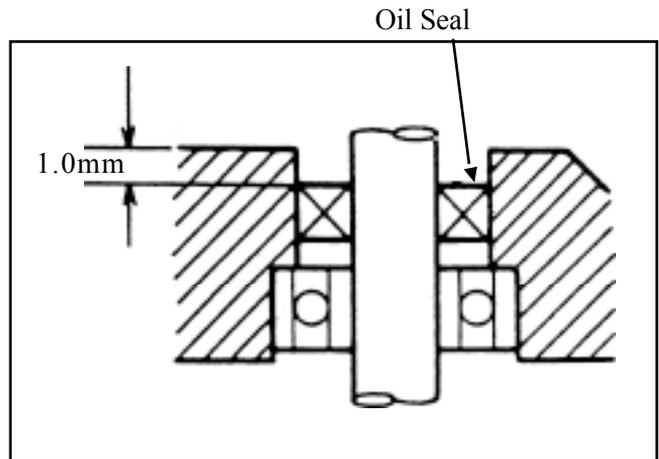
The distance between the right crankcase oil seal and crankcase surface is about  $12.5 \pm 0.5$  mm.



Crankcase Assembly Tool

## **10. CRANKCASE/CRANKSHAFT**

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



Install and tighten the crankcase attaching bolts.

