

12.LEFT CRANKSCASE/CRANKSHAFT/ BALANCE SHAFT

MXU 500

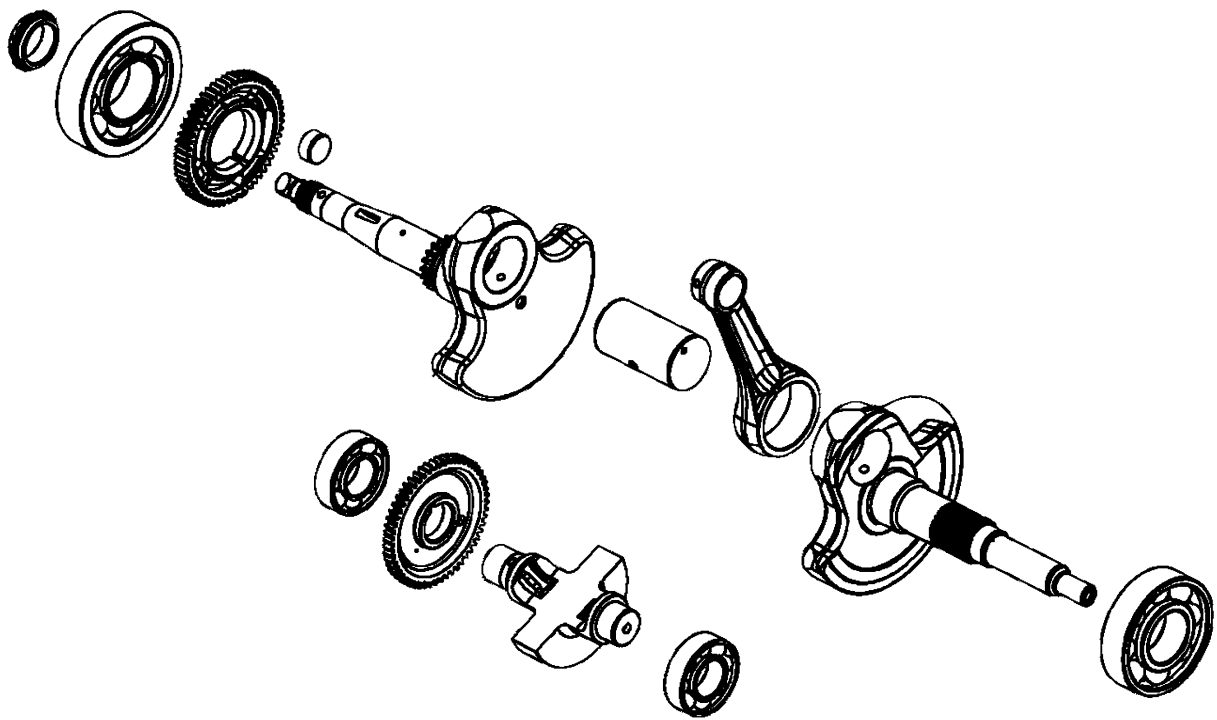
LEFT CRANKCASE/CRANKSHAFT/ SHAFT

BALANCE

SERVICE INFORMATION-----	12- 2
TROUBLESHOOTING-----	12- 2
CRANK SHAFT AND BALANCE SHAFT REMOVAL/INSPECTION/INSTALLATION -----	12- 3
BEARING/OIL SEAL REPLACEMENT IN THE LEFT CRANKCASE-----	12- 6

12.LEFT CRANKCASE/CRANKSHAFT/ BALANCE SHAFT

MXU 500



12.LEFT CRANKSCASE/CRANKSHAFT/ BALANCE SHAFT

MXU 500

SERVICE INFORMATION

GENERAL INSTRUCTIONS

- This section covers crankcase separation to service the crankshaft. The engine must be removed for this operation.
- The following parts must be removed before separating the crankcase.
 - Cylinder head (⇒Chapter 8)
 - Cylinder/piston (⇒Chapter 9)
 - Drive and driven pulleys (⇒Chapter 10)
 - A.C. generator (⇒Chapter 17)
 - Starter clutch (⇒Chapter 19)
 - Oil pump (⇒Chapter 4)

SPECIFICATIONS

Unit: mm (in)

	Item	Standard	Service Limit
Crankshaft	Connecting rod big end side clearance	Not USA type	0.01 ~ 0.4 (0.002 ~ 0.016)
		USA type	0.3 ~ 0.6 (0.012 ~ 0.024)
	Connecting rod big end radial clearance		0 ~ 0.008 (0 ~ 0.00032)
	Run out		—
			0.6 (0.024)
			0.8 (0.032)
			0.05 (0.002)
			0.1 (0.004)

TROUBLESHOOTING

- Excessive engine noise
- Excessive bearing play

12.LEFT CRANKCASE/CRANKSHAFT/ BALANCE SHAFT

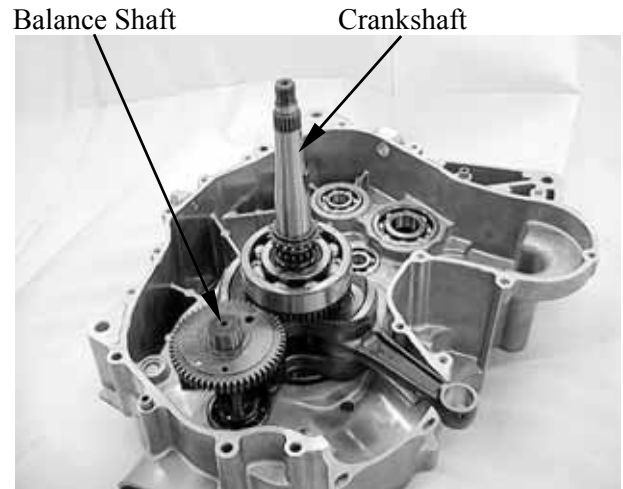
MXU 500

CRANKSHAFT AND BALANCE SHAFT REMOVAL/INSPECTION/ INSTALLATION

REMOVAL

Remove the right crankcase (refer to the “**RIGHT CRANKCASE REMOVAL/INSTALLATION**” section in the chapter 11).

Remove the crankshaft and balance shaft together.



INSPECTION

Balance shaft

Inspect the balance shaft gear teeth.
Burr/chips/roughness/wear → Replace.



Crankshaft inspection

Inspect the crankshaft gear teeth.
Burr/chips/roughness/wear → Replace.

Measure the connecting rod small end I.D.

Service Limit (replace if over):
22.06 mm (0.8824 in)



12.LEFT CRANKCASE/CRANKSHAFT/ BALANCE SHAFT

MXU 500

Measure the connecting rod small end free play (A).

Out of specification:

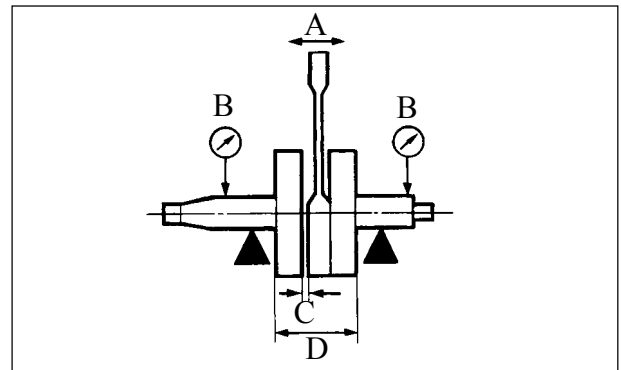
0.8 ~ 1 mm (0.032 ~ 0.04 in)

→ Replace the crankshaft.

Measure the crankshaft run out (B).

Service Limit (replace if over):

0.1 mm (0.004 in)



Measure the connecting rod big end side clearance (C).

Service Limit (replace if over):

Not USA type: 0.6 mm (0.024 in)

USA type : 0.8 mm (0.032 in)

Measure the crank width (D).

Out of specification:

72 ~ 72.05 mm (2.88 ~ 2.882 in)

→ Replace the crankshaft.

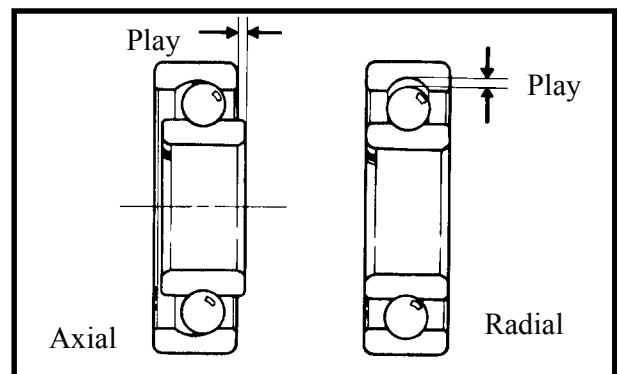
Turn the crankshaft bearings and check for excessive play.

Measure the crankshaft bearing play.

Service Limit (replace if over):

Axial : 0.2 mm (0.008 in)

Radial : 0.05 mm (0.002 in)



12.LEFT CRANKCASE/CRANKSHAFT/ BALANCE SHAFT

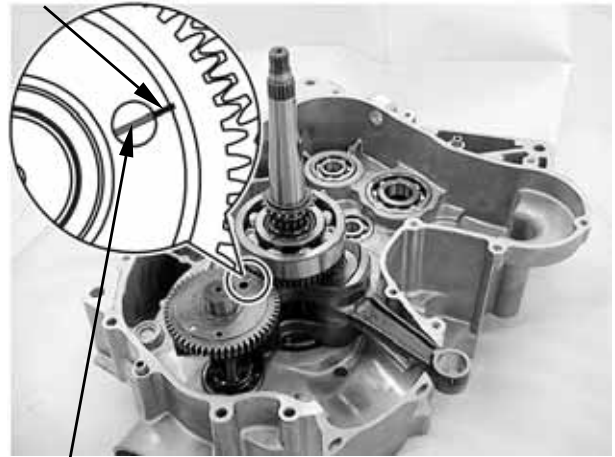
MXU 500

INSTALLATION

Install the balance shaft and crankshaft into the left crankcase.

- * Align the mark on the balance shaft with the mark on the crankshaft.

Mark (on the Balance Shaft)



Mark (on the Crankshaft)

12.LEFT CRANKSCASE/CRANKSHAFT/ BALANCE SHAFT

MXU 500

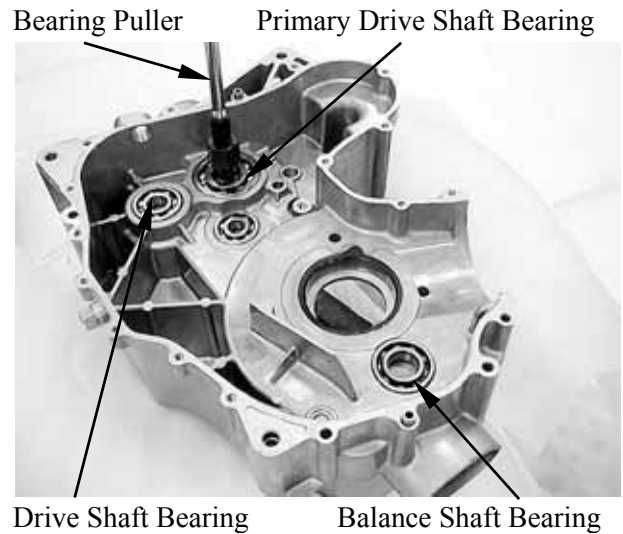
BEARING/OIL SEAL REPLACEMENT IN THE LEFT CRANKCASE

BALANCE SHAFT/COUNTERSHAFT/ PRIMARY DRIVE SHAFT/BALANCE SHAFT BEARING REPLACEMENT

Remove the balance shaft/countershaft/primary drive shaft /drive shaft bearing by using the special tool.

Special tool:

Bearing puller A120E00037



Install the new bearing by using the special tool.

Special tool:

Bearing driver A120E00014



Check the oil seals
Wear or damage → replace

