

CLUTCH

CLUTCH DRIVE AND DRIVEN PLATES

NOTE:

Wipe off the engine oil from the drive and driven plates with a clean rag.

Measure the thickness of drive plates with a vernier calipers. If each drive plate is not within the standard range, replace it with a new one.

DATA Clutch drive plate thickness

Standard (No.1): 2.92 – 3.08 mm (0.115 – 0.121 in)
(No.2): 3.42 – 3.58 mm (0.135 – 0.141 in)

TOOL 09900-20102: Vernier calipers

Measure the claw width of drive plates with a vernier calipers. Replace the drive plates found to have worn down to the limit.

DATA Clutch drive plate claw width (No. 1 & No. 2)

Service Limit: 15.1 mm (0.594 in)

TOOL 09900-20102: Vernier calipers

Measure each driven plate for distortion with a thickness gauge and surface plate.

Replace driven plates which exceed the limit.

DATA Clutch driven plate distortion

Service Limit: 0.1 mm (0.004 in)

TOOL 09900-20803: Thickness gauge

CLUTCH SPRING FREE LENGTH

Measure the free length of each coil spring with a vernier calipers, and compare the elastic strength of each with the specified limit. Replace all the springs if any spring is not within the limit.

DATA Clutch spring free length

Service Limit: 46.8 mm (1.84 in)

TOOL 09900-20102: Vernier calipers

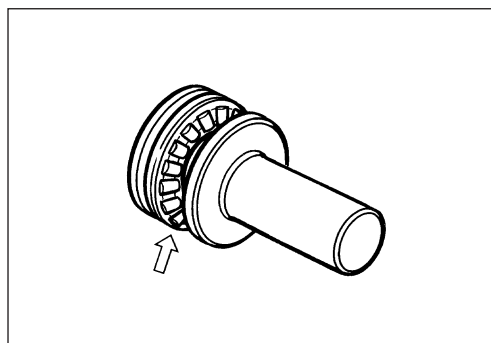
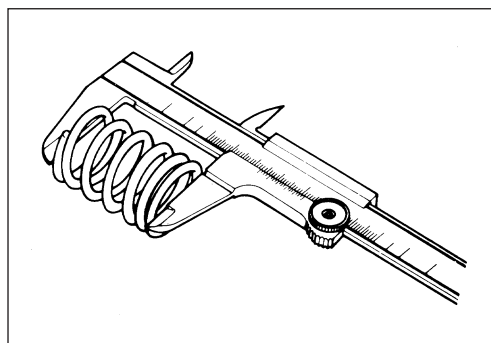
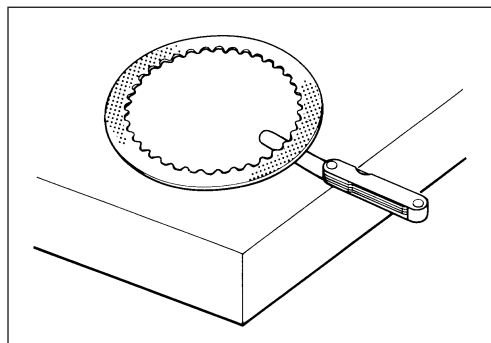
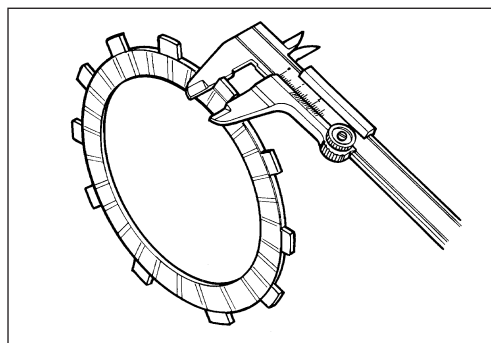
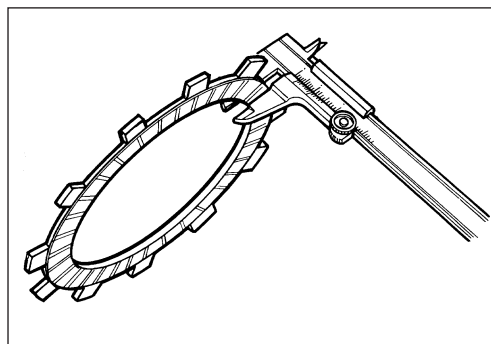
CLUTCH BEARING

Inspect the clutch release bearing for any abnormality, particularly cracks, upon removal from the clutch, to decide whether it can be reused or should be replaced.

Smooth engagement and disengagement of the clutch depends much on the condition of this bearing.

NOTE:

Thrust washer is located between the pressure plate and thrust bearing.

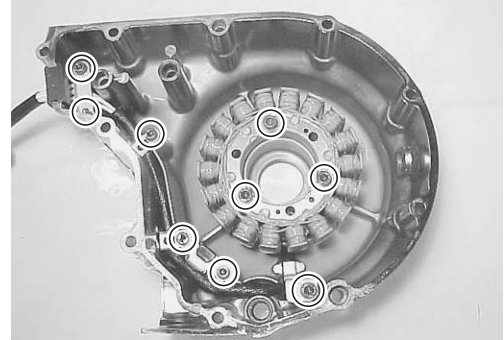


GENERATOR/SIGNAL GENERATOR/ STARTER CLUTCH

GENERATOR STATOR AND SIGNAL GENERATOR STATOR INSPECTION 8-8, 19, 20

GENERATOR STATOR AND SIGNAL GENERATOR STATOR SERVICING

When replacing the generator stator or signal generator stator, route the wire properly.



STARTER CLUTCH INSPECTION

Install the starter driven gear onto the starter clutch and turn the starter driven gear by hand to inspect the starter clutch for a smooth movement. The gear turns one direction only. If a large resistance is felt to rotation, inspect the starter clutch for damage or inspect the starter clutch contacting surface of the starter driven gear for wear or damage.

If they are found to be damaged, replace them with new ones.



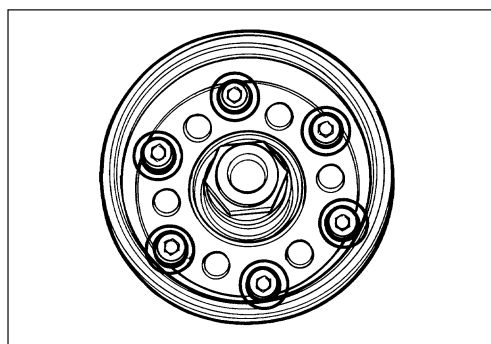
STARTER DRIVEN GEAR BEARING INSPECTION

Inspect the starter driven gear bearing for any damages.

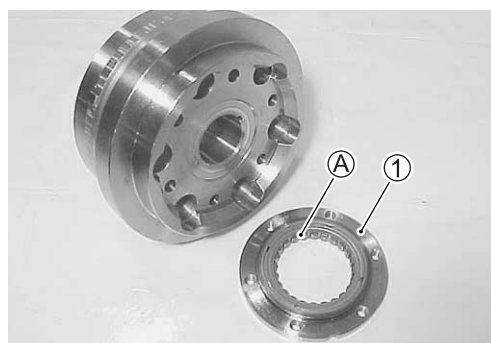


STARTER CLUTCH SERVICING

- Hold the rotor with off-set wrench and remove the starter clutch securing bolts.



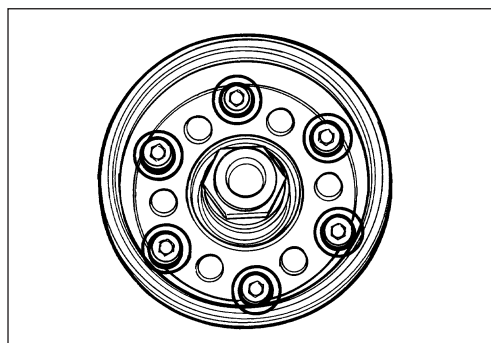
- When fitting the one way clutch to the guide ①, position flange side A of one way clutch to the rotor side.



- Apply THREAD LOCK SUPER “1303” to the securing bolts and tighten them to the specified torque while holding the rotor with off-set wrench.

 **1303 99000-32030: THREAD LOCK SUPER “1303”**

 **Starter clutch securing bolt: 26 N·m (2.6 kgf·m, 19.0 lb-ft)**



OIL PUMP

- Rotate the oil pump by hand and check that it moves smoothly.
- If it does not move smoothly, replace the oil pump assembly.

**Do not attempt to disassemble the oil pump assembly.
The oil pump is available only as an assembly.**



TRANSMISSION

DISASSEMBLY

- Disassemble the transmission gears as shown in the illustration.

① Driveshaft bolt
 ② Over driving gear
 ③ 1st driven gear
 ④ 4th driven gear
 ⑤ 3rd driven gear
 ⑥ Driveshaft
 ⑦ 5th driven gear
 ⑧ 2nd driven gear
 ⑨ Countershaft/1st drive gear
 ⑩ 4th drive gear
 ⑪ 3rd drive gear
 ⑫ 5th drive gear
 ⑬ 2nd drive gear

FWD

ITEM	N·m	kgf·m	lb·ft
①	65	6.5	47.0

REASSEMBLY

Assemble the countershaft and driveshaft in the reverse order of disassembly. Pay attention to following points:

NOTE:

Always use new circlips.

NOTE:

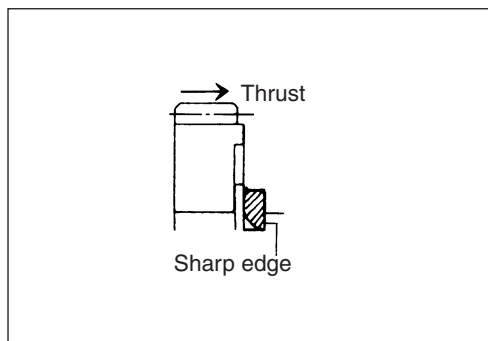
Before installing the gears, coat lightly moly paste or engine oil to the driveshaft and countershaft.

 99000-25140: SUZUKI MOLY PASTE

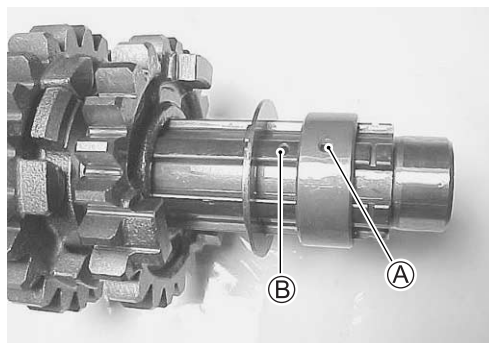
▲ CAUTION

- * **Never reuse a circlip. After a circlip has been removed from a shaft, it should be discarded and a new circlip must be installed.**
- * **When installing a new circlip, care must be taken not to expand the end gap larger than required to slip the circlip over the shaft.**
- * **After installing a circlip, always ensure that it is completely seated in its groove and securely fitted.**

- When installing a new circlip, pay attention to the direction of the circlip. Fit it to the side where the thrust is as shown in figure.

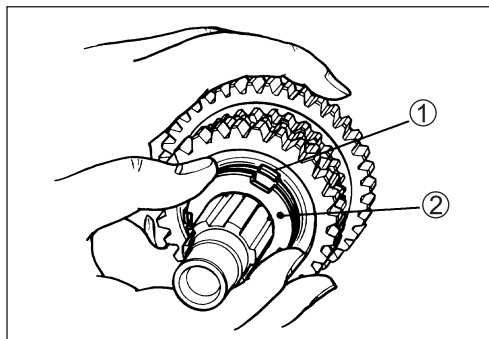
**▲ CAUTION**

When installing the top drive gear bushing, align the bushing oil hole (A) with the countershaft hole (B).



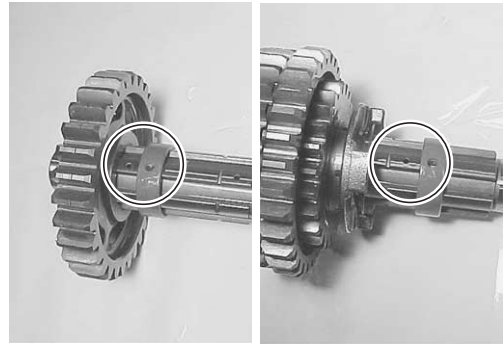
When installing the 3rd driven gear onto the driveshaft, install the lock washer No.2 ① onto the driveshaft, and turn and fit it into the groove.

Then, fit the lock washer No.1 ② in the lock washer No.2 ①.

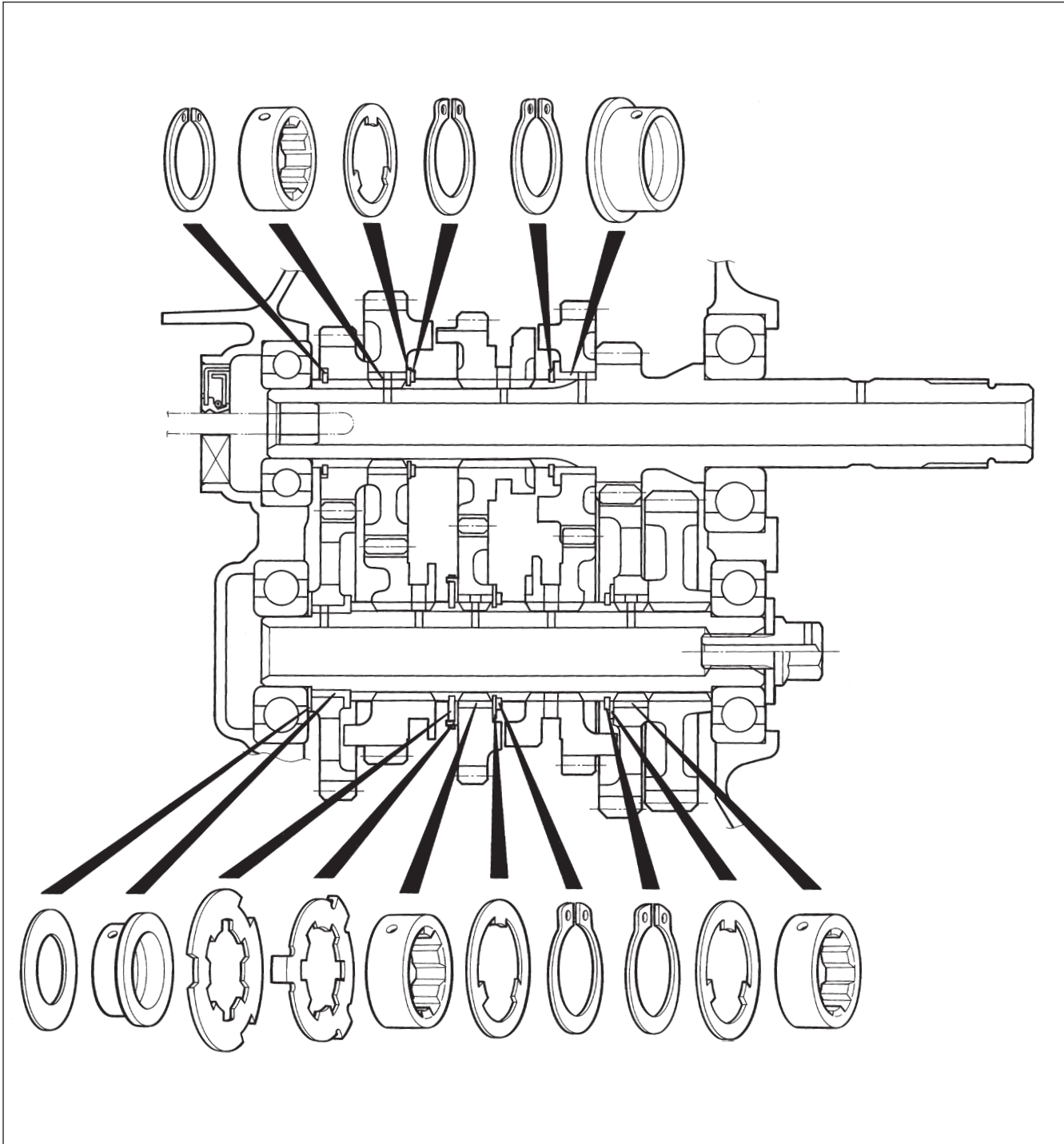


▲ CAUTION

When installing the 1st and 3rd driven gear bushings, align the bushing oil hole with the driveshaft oil hole.



TRANSMISSION GEARS AND RELATED PARTS



GEARSHIFT FORK

GEARSHIFT FORK TO GROOVE CLEARANCE

Using a thickness gauge, check the shifting fork clearance in the groove of its gear.

The clearance for each of the three shifting forks plays an important role in the smoothness and positiveness of shifting action.

If the clearance checked is noted to exceed the limit specified, replace the fork or its gear, or both.

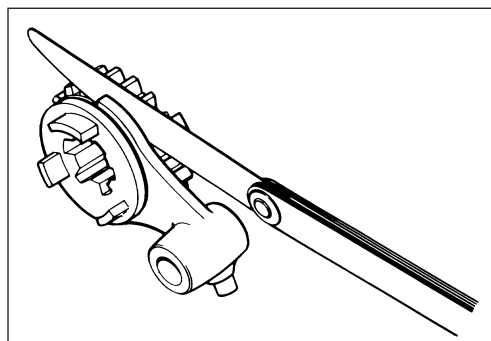
DATA Gearshift fork to groove clearance

Standard: 0.10 – 0.30 mm (0.004 – 0.012 in)

Service Limit: 0.50 mm (0.020 in)

TOOL 09900-20803: Thickness gauge

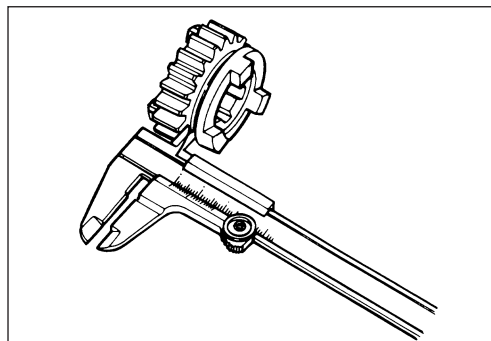
09900-20102: Vernier calipers



DATA Shift fork groove width

Standard (No. 1): 5.50 – 5.60 mm (0.217 – 0.220 in)

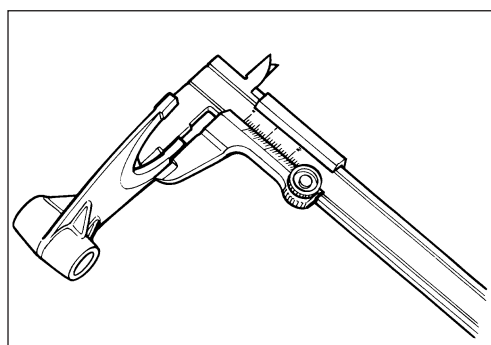
(No. 2): 4.50 – 4.60 mm (0.177 – 0.181 in)



DATA Shift fork thickness

Standard (No. 1): 5.30 – 5.40 mm (0.209 – 0.213 in)

(No. 2): 4.30 – 4.40 mm (0.169 – 0.173 in)



OIL JET

Check the all oil jets for clogging. If it is clogged, clean its oil passage with a compressed air.

CAUTION

Use new O-rings to prevent the oil pressure down.

NOTE:

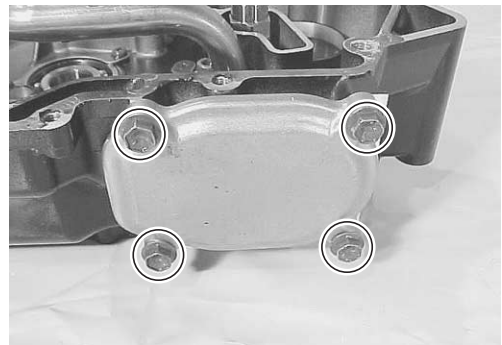
When installing the oil jets apply oil to the O-rings.



CRANKCASE

OIL SUMP FILTER

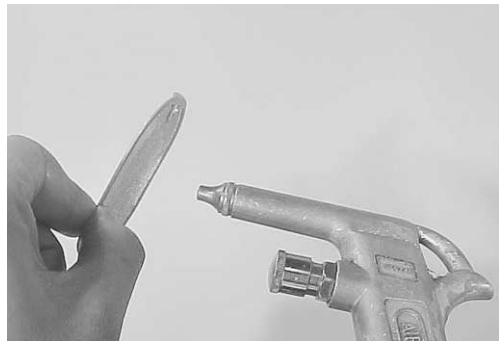
- Remove the oil sump filter cover.




- Remove the oil sump filter.

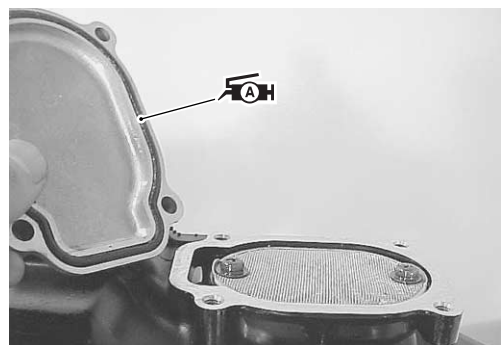


- Clean the oil sump filter using compressed air.



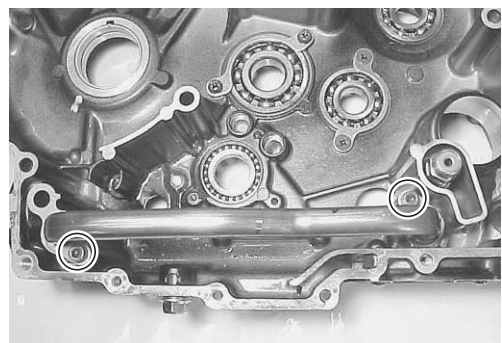
- When installing the O-ring, apply grease to it.

 99000-25030: SUZUKI SUPER GREASE "A" (For USA)
99000-25010: SUZUKI SUPER GREASE "A"
(For the others)



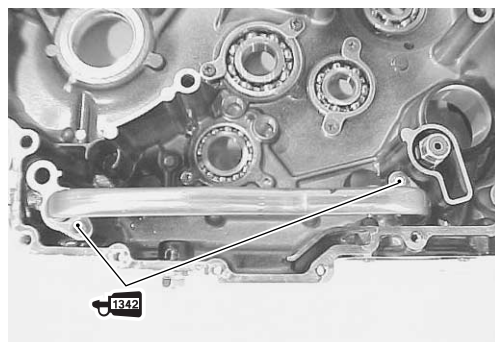
OIL PIPE

- Remove the oil pipe.



- When installing the oil pipe, use the new O-rings.
- Apply a small quantity of the THREAD LOCK “1342” to the oil pipe retainer bolts and tighten them securely.


 99000-32050: THREAD LOCK “1342”

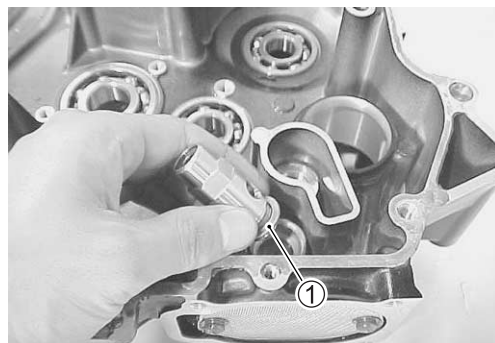


OIL PRESSURE REGULATOR

- Remove the oil pressure regulator.
- Check the operation of the oil pressure regulator by pushing on the piston with an appropriately shaped tool. If the piston does not operate, replace the oil pressure regulator with a new one.



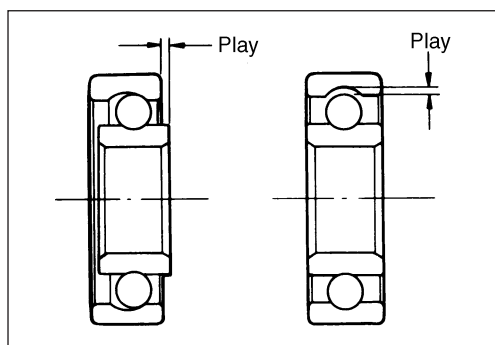
- When installing the oil pressure regulator, install the new washer .



BEARING INSPECTION

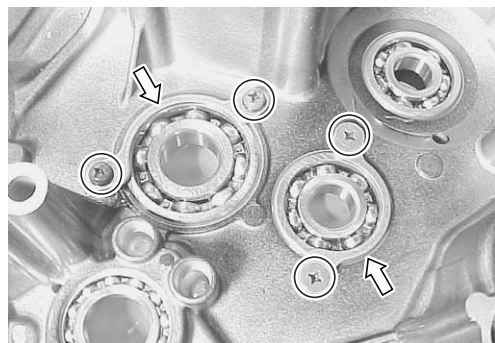
Rotate the bearing inner race by finger to inspect for abnormal play, noise and smooth rotation while the bearings are in the crankcase.

Replace the bearing in the following procedure if there is anything unusual.



BEARING DISASSEMBLY

- Remove the bearing retainers.

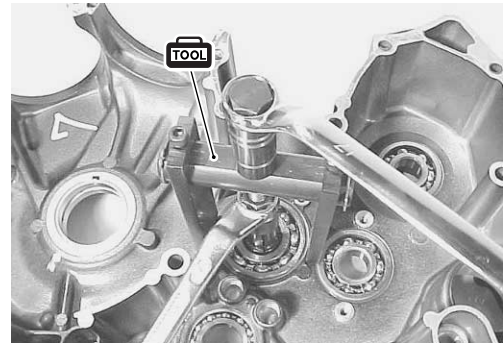


- Remove the bearing with the special tool.

 **09921-20220: Bearing remover set**

NOTE:

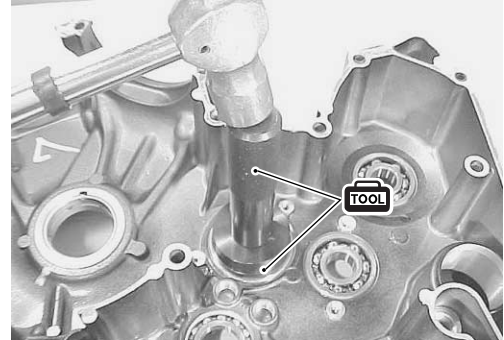
If abnormal noise does not occur, it is not necessary to remove the bearing.



BEARING REASSEMBLY

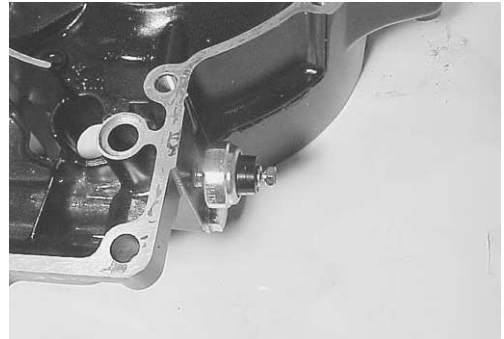
- Install the bearing into the crankcase with the special tool.

 **09913-70210: Bearing installer set**



OIL PRESSURE SWITCH

- Remove the oil pressure switch.

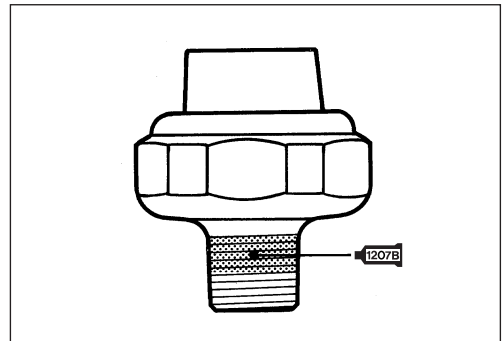


- When installing the switch, apply SUZUKI BOND “1207B”.

 **Oil pressure switch: 14 N·m (1.4 kgf·m, 10.0 lb-ft)**

 **99104-31140: SUZUKI BOND “1207B” (For USA)**

99000-31140: SUZUKI BOND “1207B” (For the others)



OIL SEAL

- Remove the oil seal.

- Install the oil seal with the special tool.

- Apply grease to the oil seal lip.

 **99000-25030: SUZUKI SUPER GREASE “A” (For USA)**

99000-25010: SUZUKI SUPER GREASE “A”

(For the others)

 **09913-70210: Bearing installer set**

