



C. Reassembly

1. Wash all of the component parts in kerosene and reassemble the parts in the reverse order of disassembly.

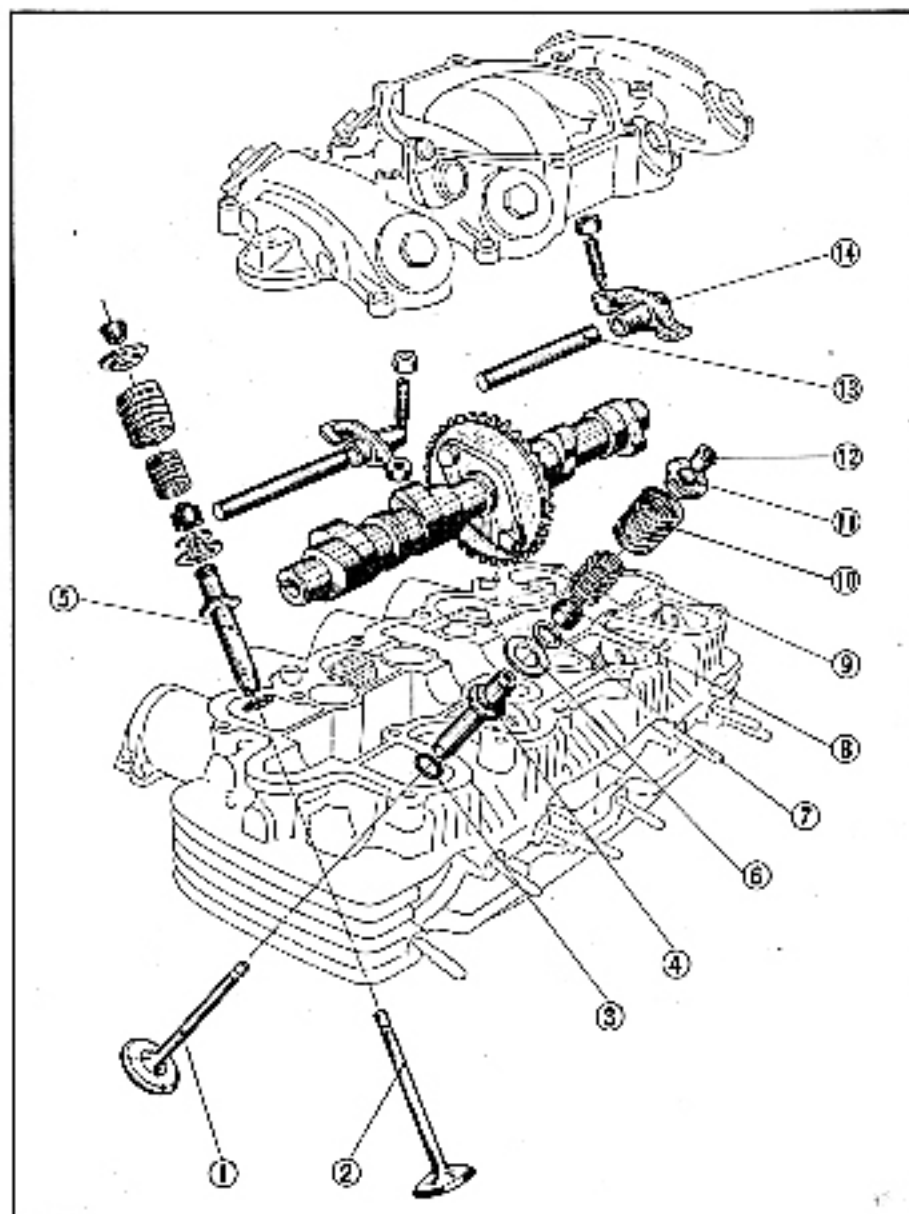


Fig. 97 Component parts of the cylinder head

- | | | |
|-----------------------|---------------------------|--------------------------|
| ① Exhaust valve | ⑧ Valve spring inner seat | ⑬ Retainer |
| ② Inlet valve | ⑨ Valve spring outer seat | ⑭ Cotter |
| ③ 10×1mm O ring | ⑩ Valve stem seal | ⑮ Valve rocker arm shaft |
| ④ Exhaust valve guide | ⑪ Inner valve spring | ⑯ Valve rocker arm |
| ⑤ Inlet valve guide | ⑫ Outer valve spring | |

Note:

- When installing the valves, apply a liberal amount of oil on the valve stem.
2. Install the cylinder head in accordance with section 3. C.

5. Oil Pump and Oil Filter

The oil pump is a trochoid type driven by the primary shaft. Screen and paper element filters are used to provide clean oil to the engine.

Lubricating System Block Diagram

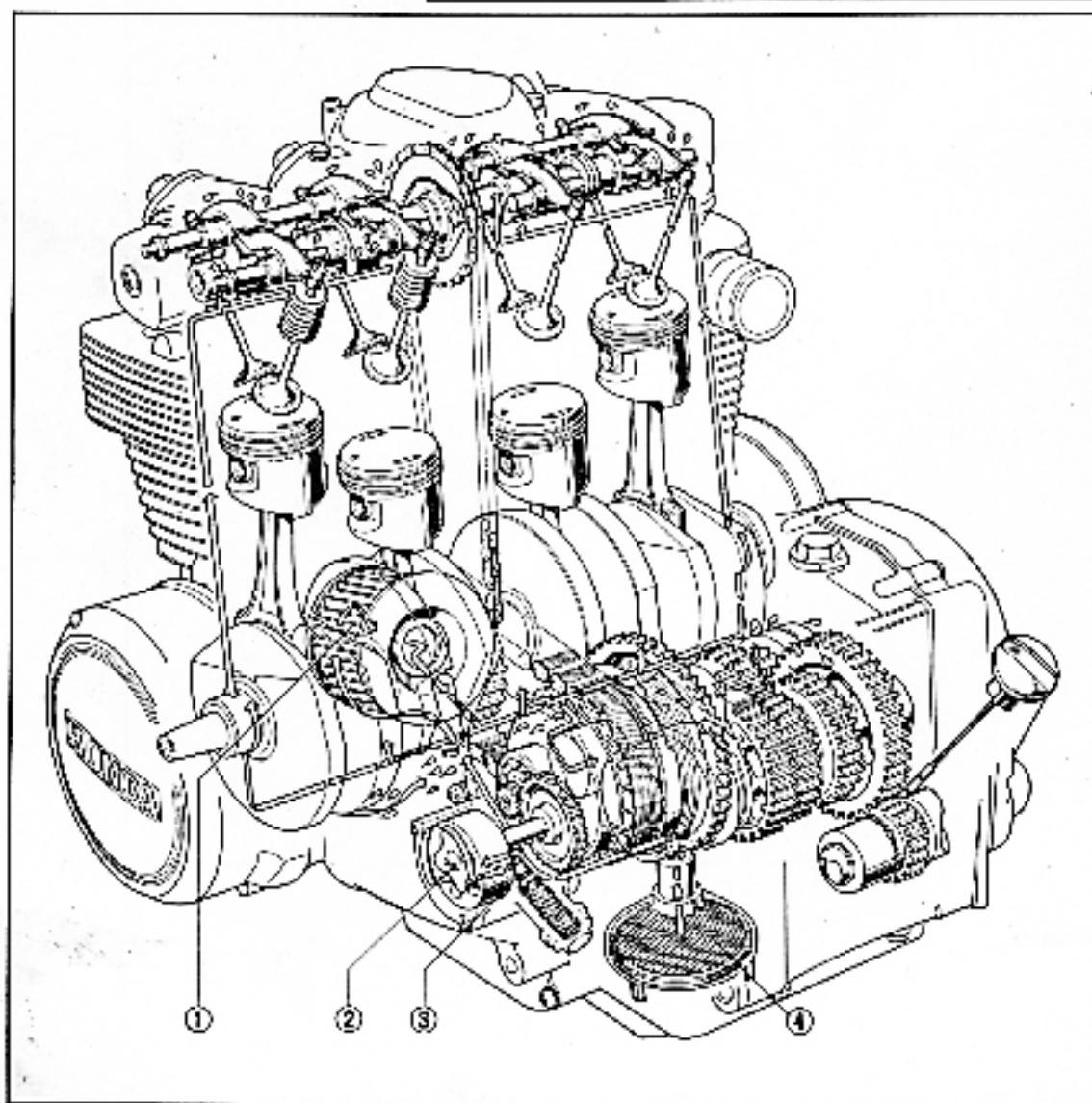
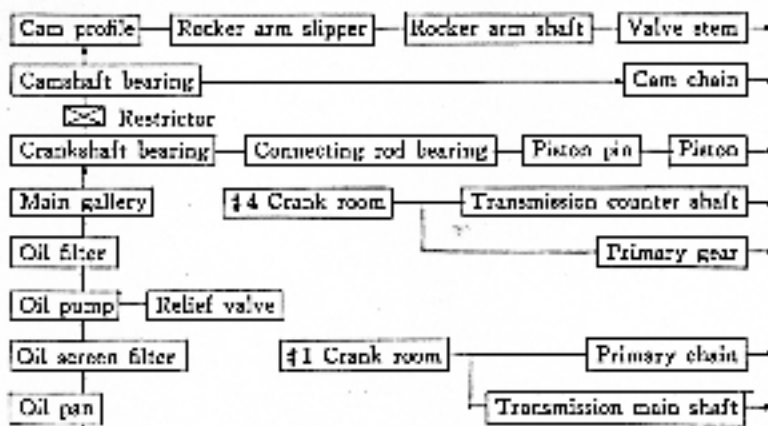


Fig. 98 Oil Lubricating Diagram

① Oil cleaner element ② Oil pump ③ Relief valve ④ Oil screen filter



A. Disassembly

Oil Pump

1. Drain the engine oil in accordance with section 2. A.
2. Remove the starting motor cover and the left crankcase cover.
3. Unscrew the 4 mm bolt and remove the pressure switch wiring. Next remove three 6 mm screws, and the oil pump.

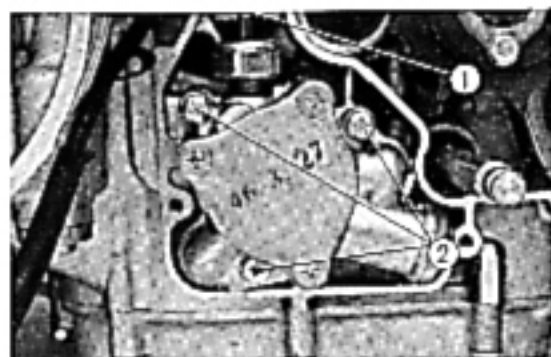


Fig. 99 ① 4 mm bolt
② 6 mm screws

4. Remove the cap and disassemble the relief valve and spring.

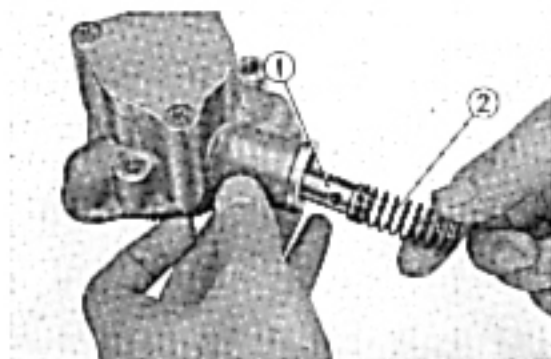


Fig. 100 ① Relief valve ② Spring

Oil Screen Filter

1. Drain the engine oil in accordance with section 2. A.
2. Unscrew ten 6 mm bolts from the oil pan. Remove the oil pan, and the oil screen filter can be removed.



Fig. 101 ① Oil screen filter

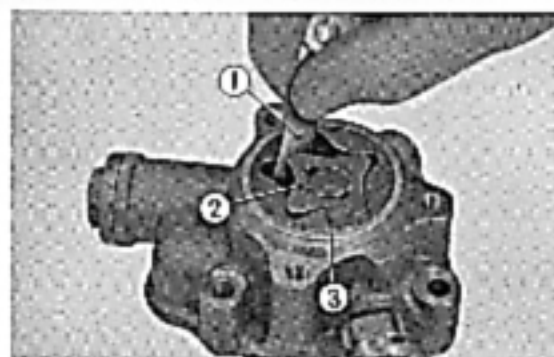


Fig. 102 ① Feeler gauge ② Inner rotor ③ Outer rotor

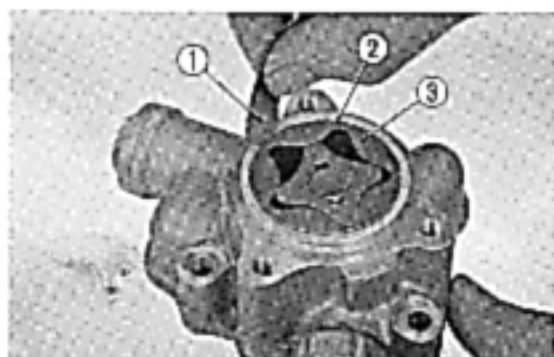


Fig. 103 ① Feeler gauge ② Outer rotor ③ Pump body

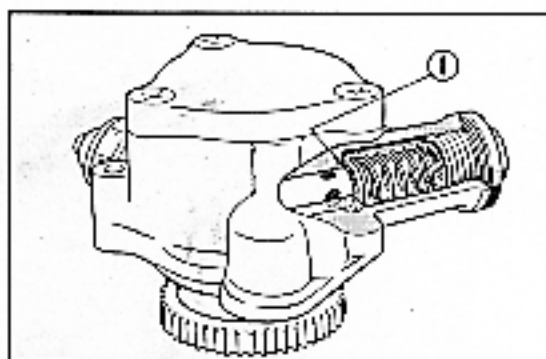


Fig. 104 ① Relief valve seat

Oil Filter

1. Drain the engine oil in accordance with section 2. A.
2. Unscrew the center bolt to remove the oil filter.

B. Inspection

1. Measure the clearance between the inner and outer rotors.

Use a feeler gauge to measure the clearance between the rotors. If the clearance beyonds the serviceable limit, replace the pump.

2. Measure the clearance between the outer rotor and the pump body.

Use a feeler gauge to measure the clearance between the outer rotor and the pump body. If the clearance beyonds the serviceable limit, replace the pump.

3. Inspect the operation of the relief valve. Make sure that the relief valve is not stuck in the pump body. Also check for any foreign objects which may be lodged between the valve and seat.

4. Inspect the screen filter

Wash and inspect the screen filter. Replace the filter if damaged.

C. Reassembly

Oil Filter

1. Insert the oil filter center bolt through the oil filter case and assemble the spring, spring seat and element. Screw the center bolt into the engine.

Oil Screen Filter

1. Mount the screen filter on the lower crankcase.
2. Mount the oil pan on the engine with ten 6 mm bolts.

Oil Pump

1. Insert the drive pump shaft into the oil pump body and install the drive pin into the shaft.
2. Align the outer and inner rotor punch marks and install into the pump body (the surfaces with the punch marks may be set to the pump body side or the pump cover side).
3. Install the 47 mm O-ring on the oil pump body and install the oil pump cover with three 6 mm screws.

4. Install the relief valve and spring into the oil pump body, and install the cap.
5. Install the two O-ring collars, two 14 mm O-rings, and a 47 mm O-ring into the oil pump body and then install the oil pump on the crankcase with three 6 mm screws.
6. Connect the pressure switch wires.
7. Install the left crankcase with four 6 mm screws, and the gear change pedal.
8. Install the starting motor cover.

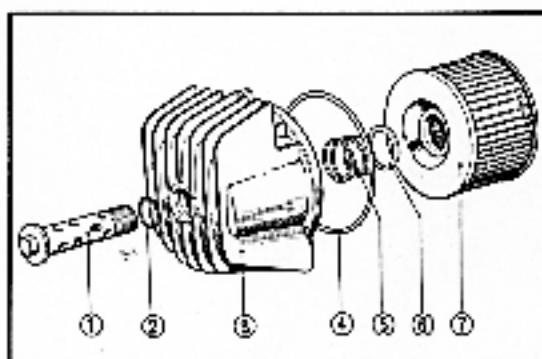


Fig. 106
 ① Oil filter center bolt ⑤ Filter element set spring
 ② 15x2.5 mm O-ring ⑥ Oil filter spring seat
 ③ Oil filter case ⑦ Oil filter element
 ④ 89x4.5 mm O-ring

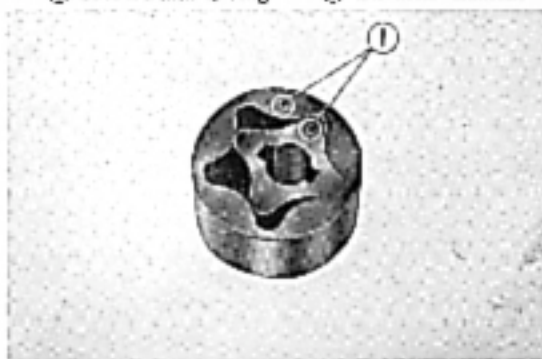


Fig. 108 ① Punch marks

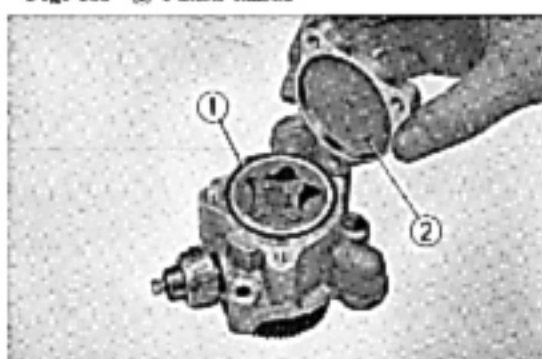


Fig. 107 ① 47 mm O-ring ② Oil pump cover



Fig. 108 ① O-ring collar ③ 47 mm O-ring
 ② 14 mm O-ring

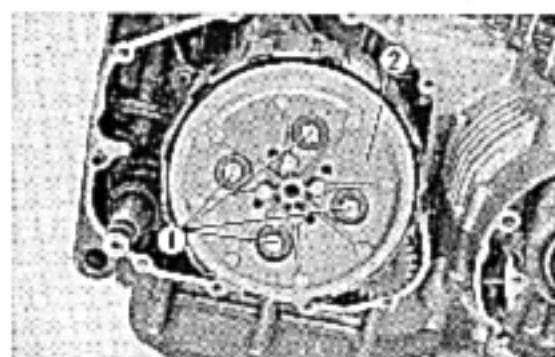


Fig. 109 ① Bolts ② Clutch pressure plate

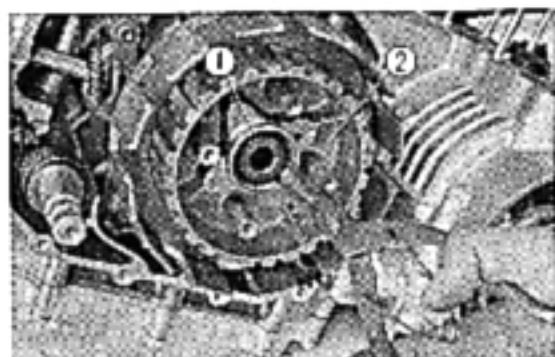
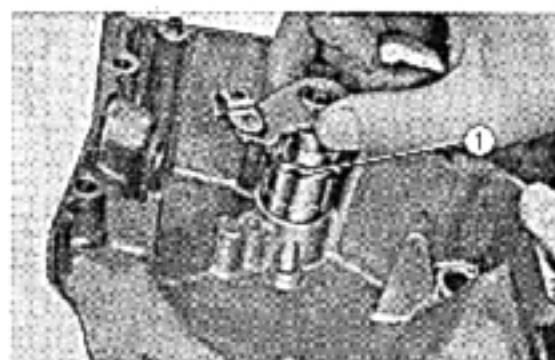
Fig. 110 ① 25 mm snap ring
② Clutch assembly

Fig. 111 ① Clutch adjuster



Fig. 112 ① Clutch lifter rod

6. CLUTCH

A. Disassembly

1. Drain the engine oil in accordance with section 2. A.
2. Remove the kick starter pedal.
3. Unscrew ten 6 mm screws and remove the clutch cover.
4. Unscrew the four clutch pressure plate mounting bolts, and remove the clutch pressure plate and four clutch springs.
5. Remove the clutch lifter joint piece.
6. Remove the 25 mm snap ring, shims (some engine may not have shims installed), and the clutch assembly from the main shaft.
7. Disassemble the clutch disc, clutch plate and clutch center from the clutch outer.
8. Remove the left crankcase cover.
9. Disconnect the clutch cable from the clutch lifter.
10. Unscrew the clutch adjuster lock bolt and remove the clutch adjuster from the left crankcase cover.
11. Pull out the clutch lifter rod.

B. Inspection

1. Measure the thickness of the friction disc. Measure the thickness with a vernier caliper and replace if beyond the serviceable limit.

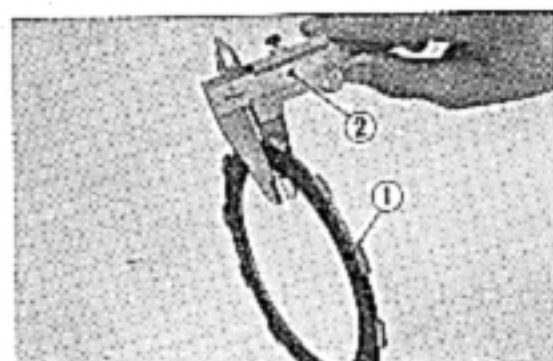


Fig. 113 ① Friction disc ② Vernier caliper

2. Check the clutch plate for warp. Place the clutch plate on the surface plate and measure the amount of warp using a feeler gauge. If the warp beyonds the serviceable limit, replace the clutch plate.
3. Measure the clutch spring. Measure the free length of the clutch spring with a vernier caliper and replace if beyond the serviceable limit.

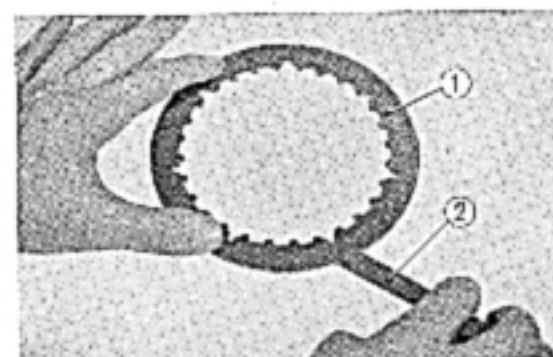


Fig. 114 ① Clutch plate ② Feeler gauge

4. Inspect the rivets mounting the clutch outer to the driven gear for looseness, and replace the clutch outer if any of rivets are loose.



Fig. 115 ① Driven gear ② Rivets ③ Clutch outer

C. Reassembly

1. Assemble the clutch lifter rod into the main shaft so that the spherical end is toward the right side.
2. Apply grease to the clutch lifter and assemble it to the left crankcase cover together with the adjuster. Tighten the lock bolt and reconnect the clutch cable to the clutch lifter.
3. Install the clutch lifter rod, set the steel ball into the clutch lifter, and mount the left crankcase cover with four 6mm screws.



Fig. 116 ① Clutch lifter ② Adjuster

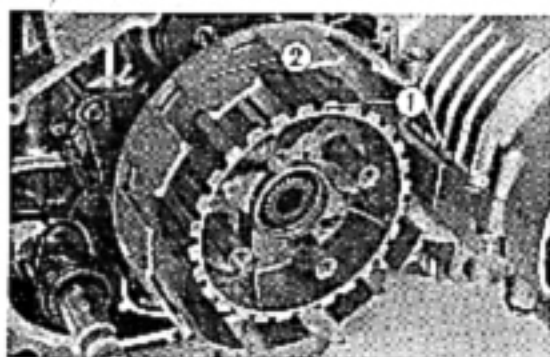


Fig. 117 (1) Clutch center (2) Clutch outer



Fig. 118 (1) Oil grooves

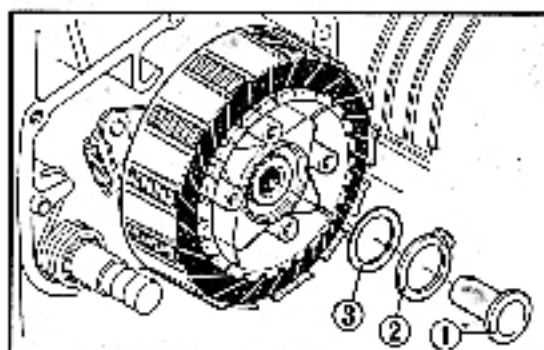


Fig. 119 (1) Joint piece (2) Shim (3) 25 mm snap ring

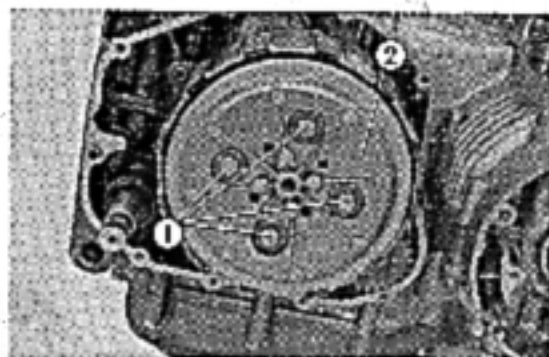


Fig. 120 (1) Bolts (2) Clutch pressure plate

4. Install the clutch outer to the mainshaft and then, install the clutch center.

5. Apply engine oil on the friction discs (7 pcs.) and assemble them on the clutch center alternately with the clutch plates (6 pcs.), and then, assemble into the clutch outer.

Note:

When assembling the friction discs, assemble them on the clutch center so that the oil grooves are facing as per Fig. 118.

6. After assembling the friction discs and clutch plates, set them with the snap ring. Place a dial gauge against the end of the clutch assembly to check for looseness. If the measured value of looseness is greater than 0.1 mm (0.004 in.), install a shim on the inside of the snap ring. Shims are available in the thickness of 0.1, 0.3 and 0.5 mm.

7. Insert the clutch lifter joint piece into the mainshaft and fix the clutch plates with four pcs. each of the clutch spring, washer and 6 mm screw.
8. Install the clutch cover.



7. GEAR SHIFT MECHANISM

A. Disassembly

1. Disassemble the clutch in accordance with the section 6. A.
2. Remove the gear change pedal.
3. Remove the gear shift arm while holding the gear shift arm down.

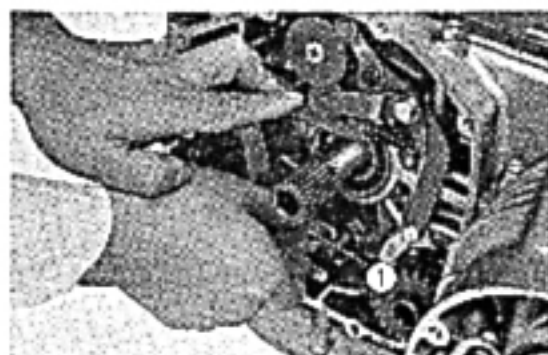


Fig. 121 ① Gear shift arm

4. Remove the shift drum stopper bolt and shift drum neutral stopper bolt, and then, remove the shift drum stopper and shift drum neutral stopper.
5. Unscrew the 6 mm screw and then, remove the oil guide plate and bearing set plate.
6. Unscrew the 6 mm screw and cam plate.
7. Disassemble the upper and lower crankcase and disassemble the transmission gears in accordance with the section 9. A.
8. Remove the neutral stopper switch from the gear shift drum.
9. Remove the shift drum guide screw from the upper crankcase and then remove the guide screw collar.
10. Remove the guide pin clip and guide pin and pull out the gear shift drum from the crankcase.

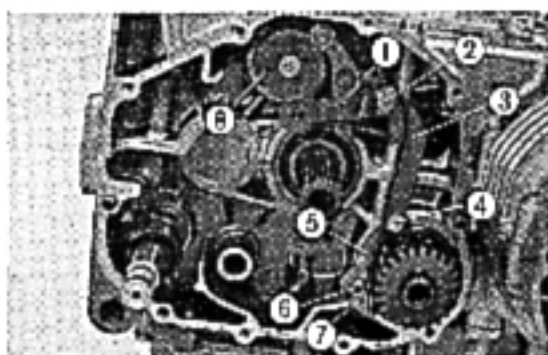


Fig. 122 ① Shift drum stopper
② Shift drum stopper bolt
③ Shift drum neutral stopper
④ Shift drum neutral stopper bolt
⑤ Bearing set plate
⑥ 6 mm screw
⑦ Oil guide plate
⑧ Cam plate

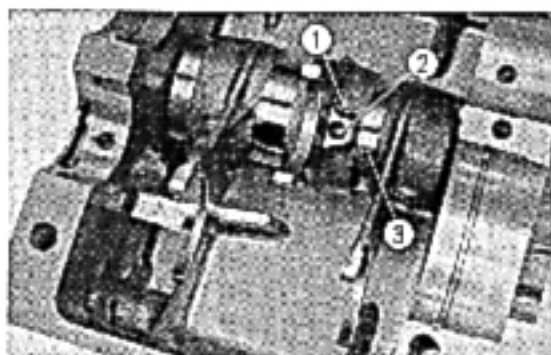


Fig. 124 ① Guide pin clip ② Gear shift drum
③ Guide pin



Fig. 123 ① Shift drum guide screw