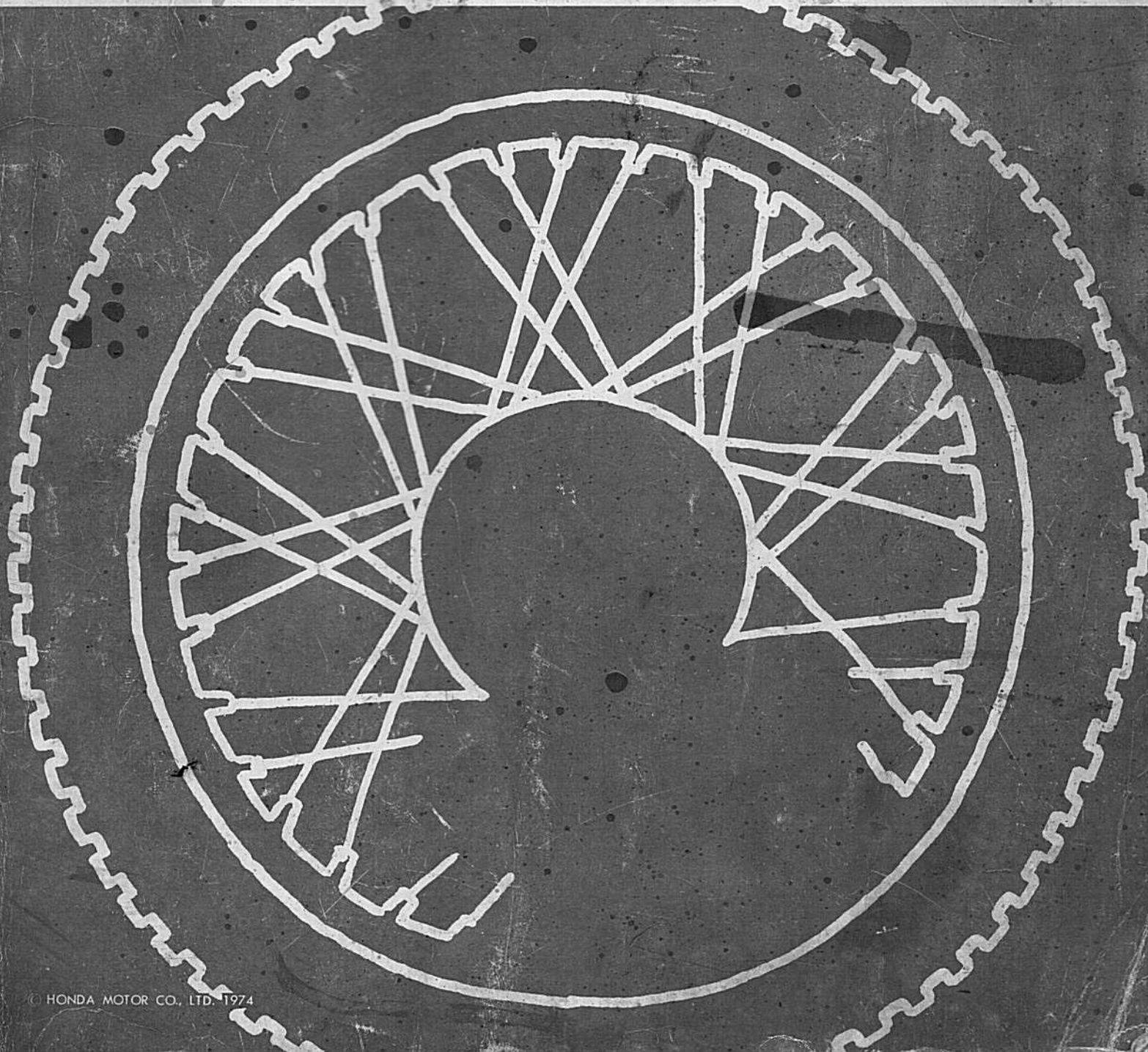


SHOP MANUAL

HONDA
CB125



PREFACE

This SERVICE MANUAL has been prepared as a "SERVICE GUIDANCE" for mechanics responsible for the upkeep of the HONDA CB125.

It is compiled into five sections and summarizes the procedures for disassembling, inspecting, and reassembling the components of the machine.

Strict adherence to the instructions given herein will result in better, safer service work.

All information, illustrations and specifications contained are based on the 1973 model. HONDA reserves the right to make changes at any time without notice and obligation.

HONDA MOTOR CO., LTD.
SERVICE PUBLICATIONS OFFICE

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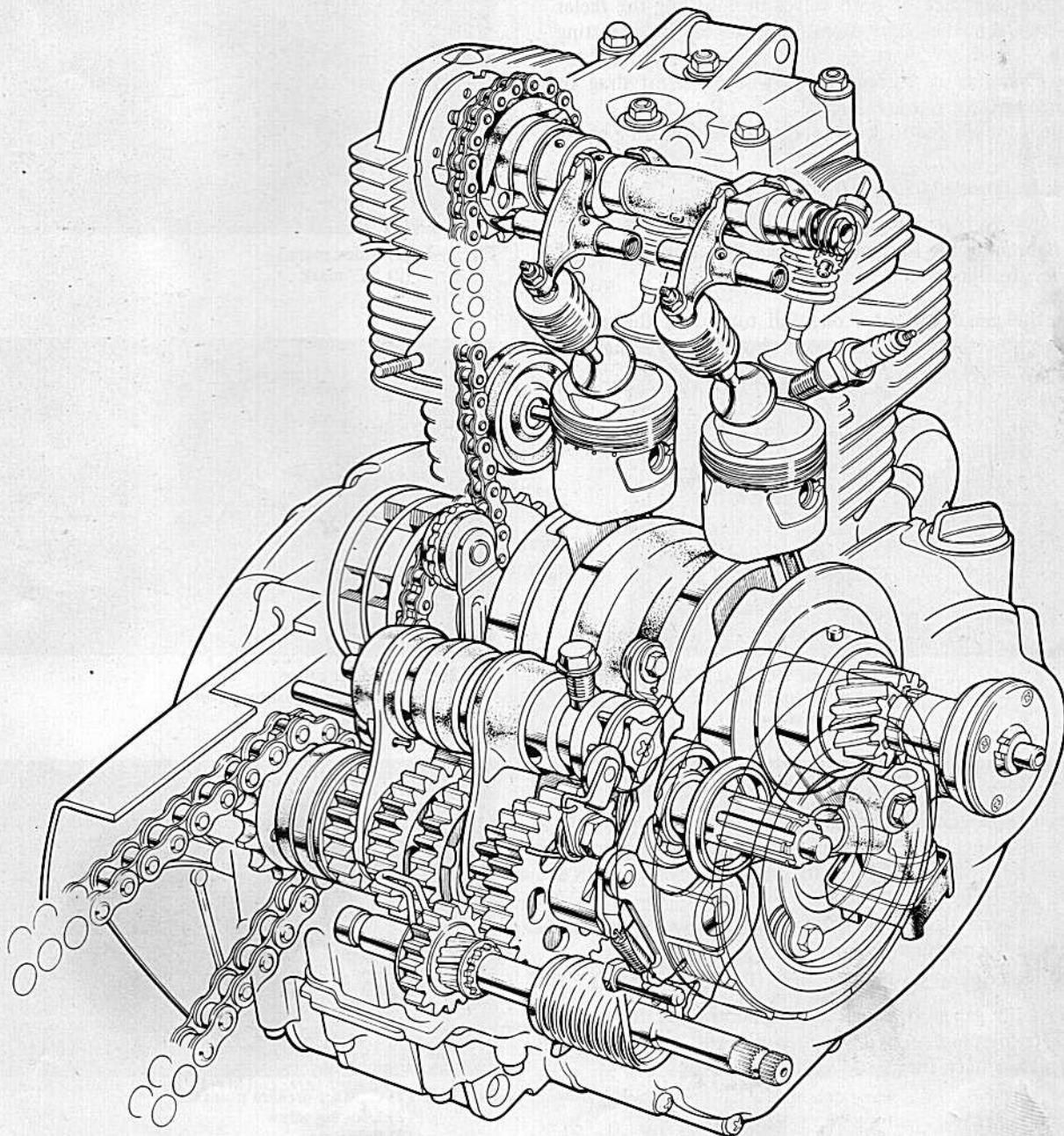
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I. SERVICE PRECAUTIONS

1. Always replace gaskets, O-rings and cotter pins whenever reassembling.
2. When tightening bolts or nuts for which sequence is not specified, beginning on center or larger diameter bolts, tighten them in a criss-cross pattern to specified torque in two or more steps if necessary.
3. Always use genuine HONDA parts and lubricants or those recommended by HONDA.
4. Use special service tool where specified.
5. Clean engine parts in or with cleaning solvent upon disassembly. Apply lubricant to their sliding surfaces when reassembling.
6. Coat or pack parts with grease where so specified.
7. Upon assembling, check every possible part for proper installation and movement or operation.
8. A joint work of more than two persons must be carried out with mutual safety attention paid.

NOTE:

The procedures for reassembling the engine and frame parts are, as a rule, not described in this manual. To assemble, reverse the disassembling procedures carefully observing the titles "Assembly", if any, in each section.



II. INSPECTION AND ADJUSTMENT

This section describes the inspection and adjustment for the important items of the periodical maintenance of the HONDA 125 Model CB125. Cross-refer to PERIODICAL MAINTENANCE SCHEDULE on page 73, if necessary. For the items other than those not described in this section, refer to the "Inspection" of each part in this manual.

1. TAPPET

Inspection and adjustment of the tappet clearance should be made while the engine is cold.

1. Open the seat and remove the fuel tank.
2. Remove the intake and exhaust tappet adjusting hole caps.
3. Remove the generator cover.
4. While slowly rotating the generator rotor counterclockwise watch the intake valve tappet. When this tappet goes down all the way and then start to lift, you must then watch for the alignment of the index mark and "T" mark. In this position, the piston will be at T.D.C. (Top dead center) of the compression stroke and the intake and exhaust valves should be fully closed.

5. Check the clearance of both valves by inserting the feeler gauge between the valve stem and the tappet adjusting screw.

If the clearance is correct there will be slight drag or resistance as the gauge is inserted.

To adjust, loosen the lock nut and turn the adjusting screw as required.

Tappet clearance: 0.05 mm (0.002-in.)

NOTE:

After tightening the lock nut, recheck the clearance and, if necessary, readjust.

6. Rotate the generator rotor one full turn until the marks align. Use the similar procedure as above to the remaining valves.

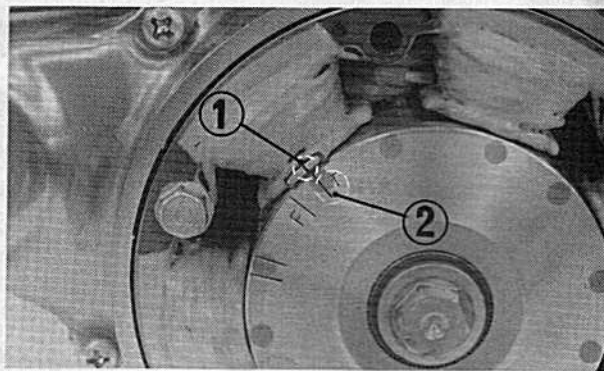


Fig. 2-1 (1) Index mark
(2) "T" mark

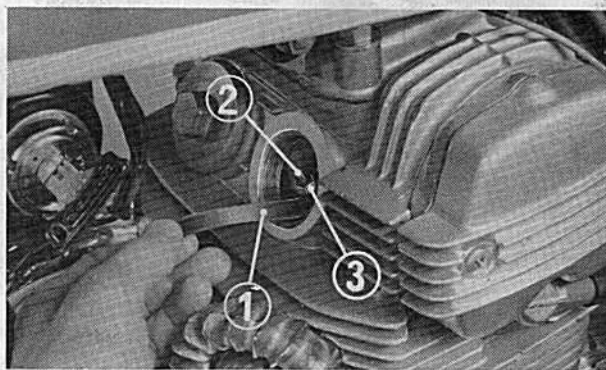


Fig. 2-2 (1) Feeler gauge
(2) Tappet adjusting screw
(3) Lock nut

2. CONTACT BREAKER POINT

1. Remove the generator and point covers.
2. Clean and inspect the contact breaker points. Replace if worn or badly pitted. Light pitting may be removed with a ignition point file.
3. Rotate the generator rotor counterclockwise and check the point gap at its maximum.

Specified maximum gap: 0.3–0.4mm (0.012–0.016-in.)

4. To adjust the gap, loosen the locking screws and move the breaker point plate. After adjustment, tighten the locking screws and recheck the gap.

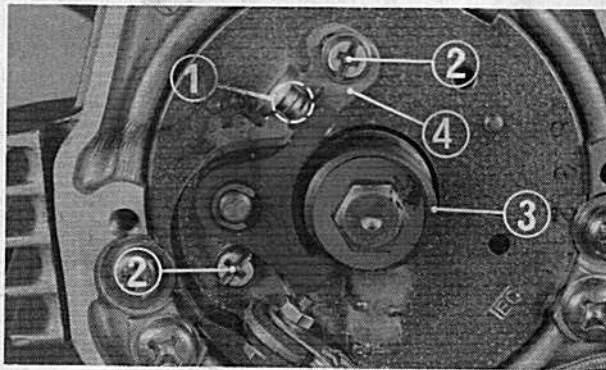


Fig. 2-3 (1) Contact breaker points
(2) Locking screw
(3) Point cam
(4) Contact breaker point plate

3. IGNITION TIMING

Before attempting to adjust ignition timing, make sure the contact breaker point gap is adjusted properly.

With stroboscopic timing light

1. Connect the timing light to the system properly. Refer to the instructions furnished by the manufacturer.
2. Start the engine and allow it to idle at 1,200 rpm.
3. Aim the matching mark with the timing light and see if the mark "F" aligns with the index mark. If not aligned, loosen the screws and manually rotate the base plate in either direction. Rotating the plate clockwise will advance the timing. Rotation of the plate in a counterclockwise direction will retard the timing.
4. Raise the engine speed up to 4,000 rpm and again check the index mark. The ignition timing is correct if the index mark is between the two advance marks.

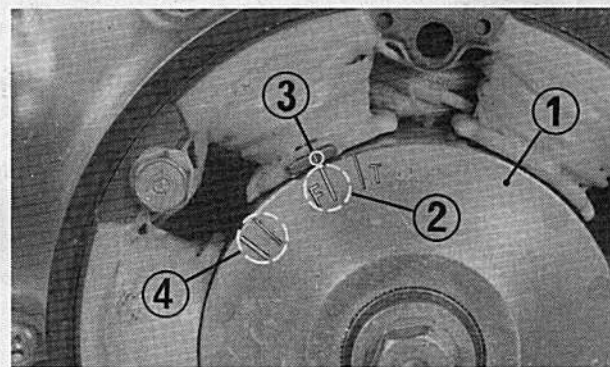


Fig. 2-4 (1) Generator rotor
(2) "F" mark
(3) Index mark
(4) Advance mark

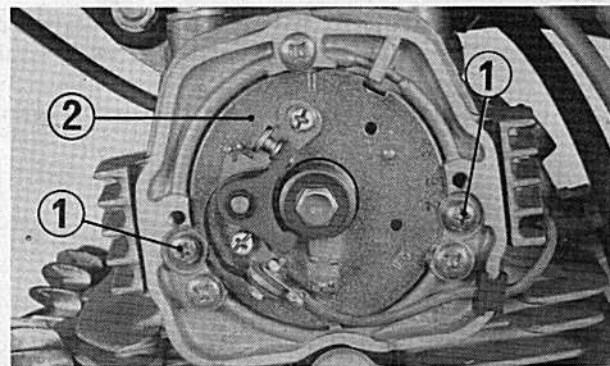


Fig. 2-5 (1) Locking screw
(2) Base plate

With test lamp (6V-3W)

1. Connect one lead of the test lamp to the contact breaker spring, and the other to the engine (ground).
2. Turn on the main switch.
3. Slowly turn the generator rotor in a counterclockwise direction until the lamp is about to light. Timing is correct if its mark "F" is lined up with the index mark.
4. When adjustment is necessary, loosen the locking screws and rotate the base plate as with a stroboscopic timing light.

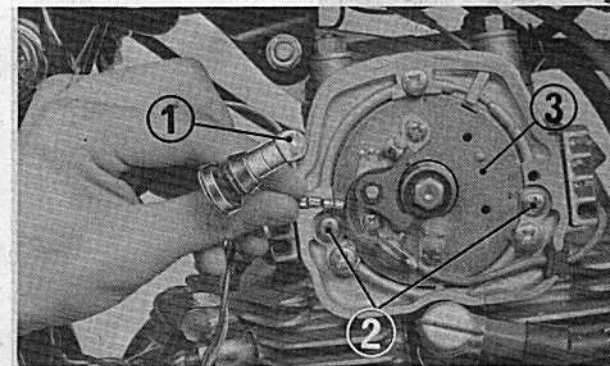


Fig. 2-6 (1) 6V-3W lamp
(2) Locking screw
(3) Base plate

4. CARBURETOR

1. Turn the air screw all the way in and then backing it out 1 1/8 turns.
2. Start and warm up the engine. Set the engine at the lowest idle speed by turning the throttle stop screw. Rotation of the throttle stop screw in a clockwise direction will increase the idle speed, and vice versa.
3. Turn the air screw either in or out to obtain the highest idle speed.
4. Set the engine at the specified idle speed by turning the throttle stop screw.

Specified idle speed: 1,100-1,300 rpm

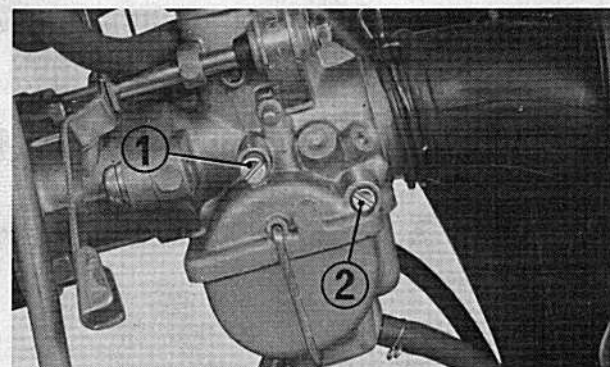


Fig. 2-7 (1) Throttle stop screw
(2) Air screw

5. THROTTLE CABLE

1. Check the free play of the throttle grip. It should be 2–10 mm (0.1–0.4-in.) at the throttle grip flange or 5°–25° of the grip rotation.

To adjust, loosen the lock nut and turn the grip play adjuster either in or out as necessary.

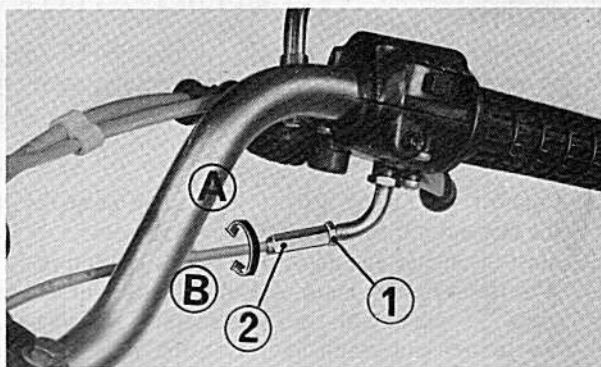


Fig. 2-8 (1) Lock nut
(2) Grip play adjuster
(A) To decrease
(B) To increase

2. Check the throttle cable for twisting or interference with adjacent parts; also for proper routing, while turning the handlebar to each extreme.

Repair or, if necessary, replace the cable with a new one.

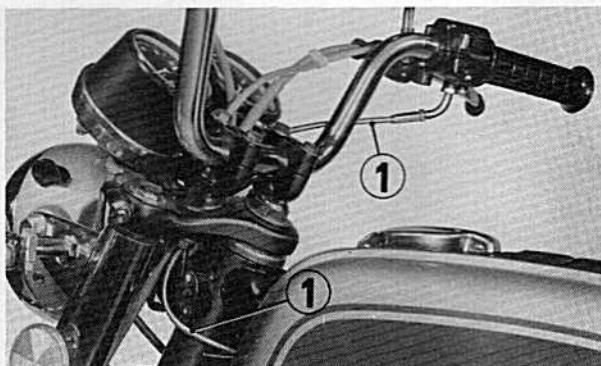


Fig. 2-9 (1) Throttle cable

6. CLUTCH

1. Check the clutch lever for free play at its tip.
Standard play: 10–20 mm (0.4–0.8-in.)

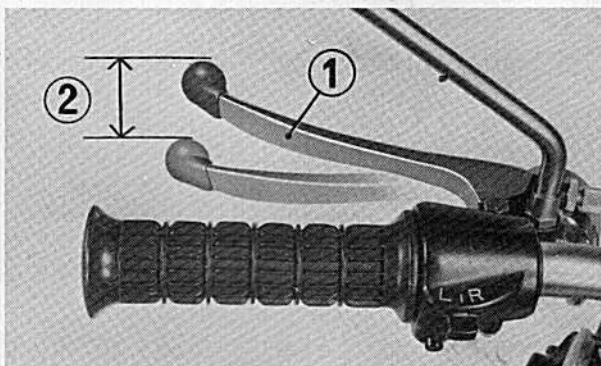


Fig. 2-10 (1) Clutch lever
(2) Free play

2. To adjust the play, remove the rubber cap and loosen the lock bolt; turn the adjuster in or out as necessary. Rotation of the adjuster in the direction "A" decreases the play, and rotating in the direction "B" increases the play.

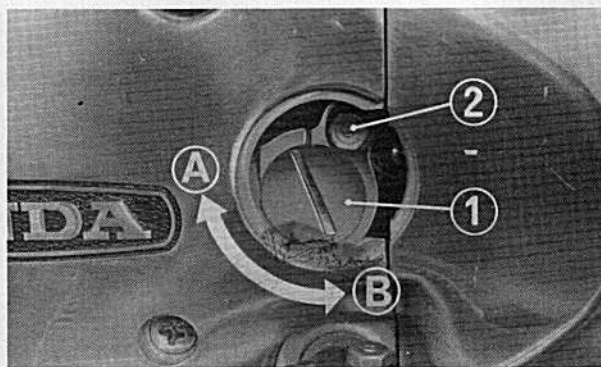


Fig. 2-11 (1) Clutch adjuster
(2) Lock bolt

3. Minor adjustment can be made by adjusters, one on each side of the clutch cable. To adjust, loosen the lock nut and turn the adjuster until the lever has the correct play. Turn the adjuster in a direction "A" to decrease the play, or "B" to increase it.
4. After the adjustment has been made, check to see that the clutch is not slipping and that the clutch is properly disengaging.
 - a) When the kick starter is used, the engine should easily start without the clutch slipping.
 - b) After the engine starts, pull the clutch lever and shift into gear, and make sure that the engine does not stall, nor the motorcycle start to creep.
 - c) Gradually release the clutch lever and open the throttle, the motorcycle should start smoothly and gradually accelerate.

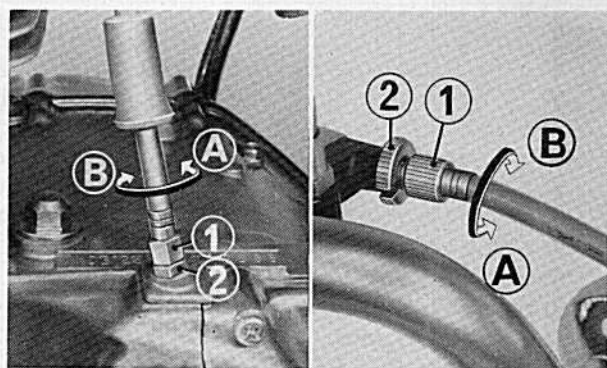


Fig. 2-12 (1) Adjuster
(2) Lock nut

7. CAM CHAIN

1. Stop the engine and remove the generator cover.
2. Rotate the generator rotor counterclockwise so as to align the "T" mark with the index mark.

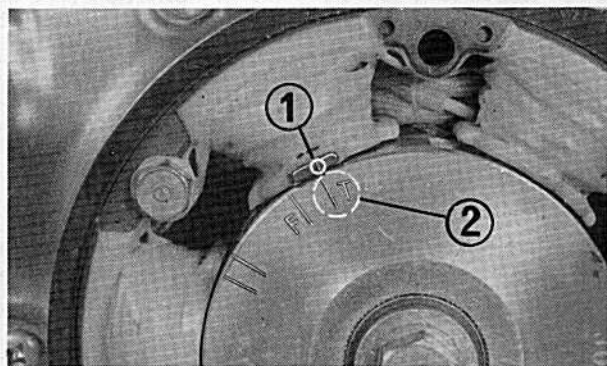


Fig. 2-13 (1) Index mark
(2) "T" mark

3. Loosen the lock nut and the cam chain tensioner bolt. The cam chain will be automatically tensioned properly when the tensioner bolt is loosened.
4. Tighten the tensioner bolt and secure with the lock nut.
5. Install the generator cover.

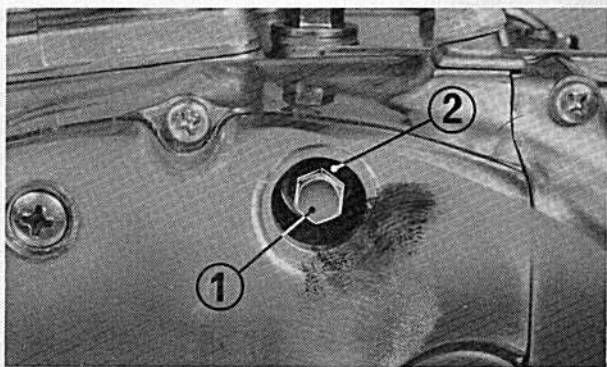


Fig. 2-14 (1) Tensioner bolt
(2) Lock nut

8. ENGINE OIL

Checking oil level

Insert the oil level gauge (oil filler cap) into the right crankcase to determine the oil level in the crankcase. Do not screw it in. The gauge is marked to indicate the proper oil level. The oil level should be anywhere between the upper and lower level marks on the gauge. If necessary, refill the crankcase with the specified oil.

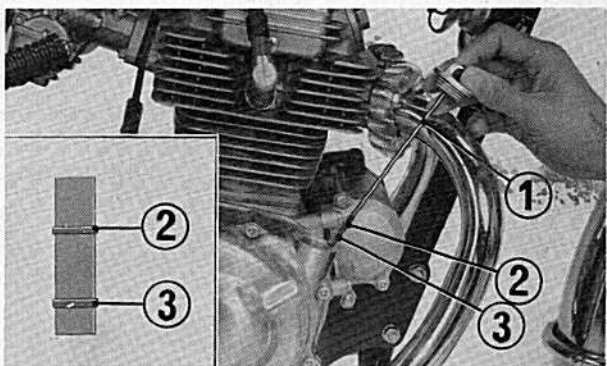


Fig. 2-15 (1) Oil level gauge (oil filler cap)
(2) Upper level mark
(3) Lower level mark

Changing oil

1. Warm up and stop the engine; remove the oil filler cap.
2. Drain the crankcase thoroughly by removing the drain plug. After the oil stops draining, operate the kick starter several times to drain any oil which may be left in the engine.
3. Replace the drain plug and refill the crankcase through the filler opening with the specified oil. Keep level as close as possible to upper level mark without overfilling.

Capacity: 1.2 liters (3.0 U.S. qt.)

Recommended oil:

API classification SE

Viscosity General, all temperatures:

SAE 10W-40 or SAE 10W-30

Alternate:

Above 15°C (59°F)	SAE 30
0° (32°) to 15°C (59°F)	SAE20 or 20W
Below 0°C (32°F)	

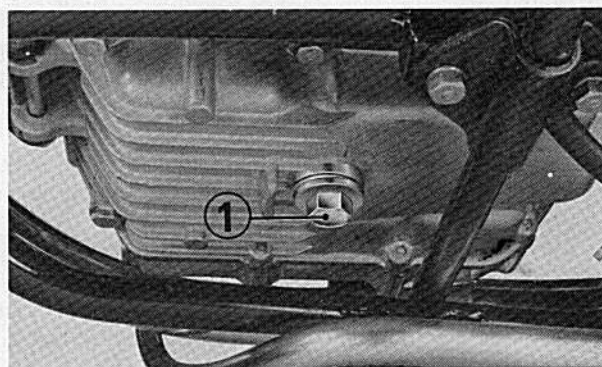


Fig. 2-16 (1) Drain plug

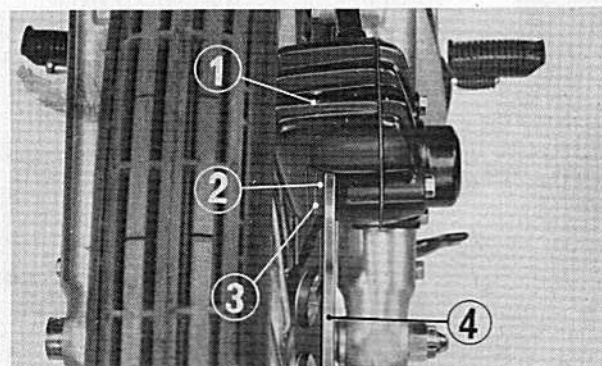


Fig. 2-17 (1) Brake caliper
(2) Brake pad
(3) Wear line (red)
(4) Brake disc

9. FRONT BRAKE**Brake pad**

Check the brake pads for excessive wear. Discard if worn down to the red wear line. Always replace a set of pads if either is found unserviceable.

Adjustment

No front brake adjustment is necessary as the brake is self adjustable. However, when the brake pads are to be replaced with new ones, the following steps should be observed:

1. The first thing necessary is to take up possible slack in the brake cable. This can be done by turning the brake cable adjusting bolt out. Do not loosen the bolt more than enough to take up slack. Further turn out the bolt 2-3 turns and secure with the lock nut.

NOTE:

Do not confuse "cable slack" with "free play" normally measured at the tip of the brake lever. Note that loose brake cable will prevent the lever to be returned fully when released.

2. Operate the brake lever about 10 times to allow the brake to self adjust. The lever should have a proper play of 20-30 mm (0.8-1.2-in.) automatically.
3. After adjustment, put the cable boot over the cable adjusting bolt. With the front wheel raised off the ground, make sure that the wheel rotates freely without drag.

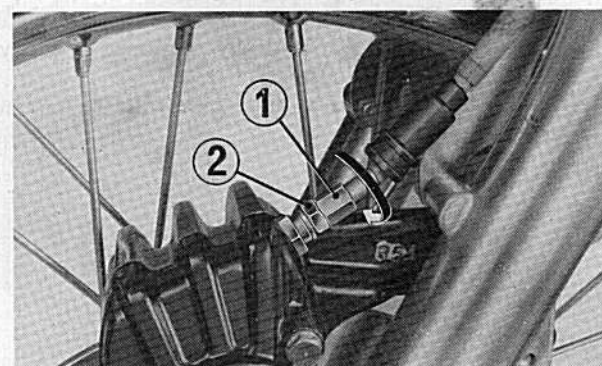


Fig. 2-18 (1) Brake cable adjusting bolt
(2) Lock nut

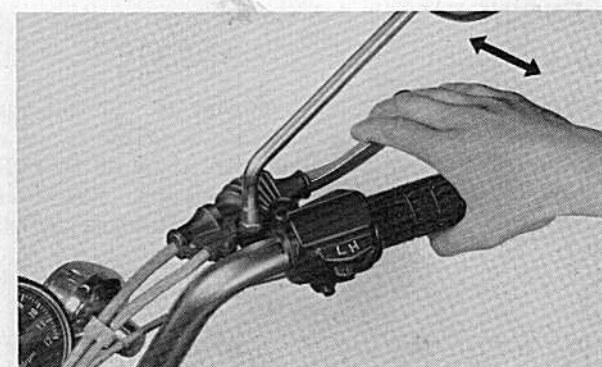


Fig. 2-19 Brake self adjusting

10. REAR BRAKE

1. Loosen the lock nut and adjust the pedal free height with the brake pedal stop bolt.
2. Check the brake pedal play.

Standard play: 20-30 mm (0.8-1.2-in.)

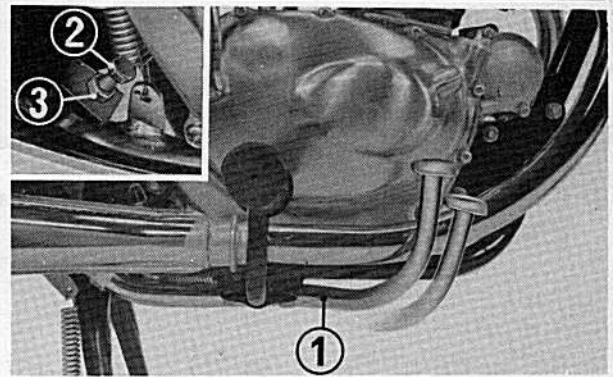


Fig. 2-20 (1) Rear brake pedal
(2) Pedal stop bolt
(3) Lock nut

3. Adjust the brake pedal play by turning the brake adjusting nut either in or out as necessary. To decrease the play, rotate the nut in the direction "A", and vice versa.
4. Adjust the rear brake stop light switch, if necessary. (See page 69.)

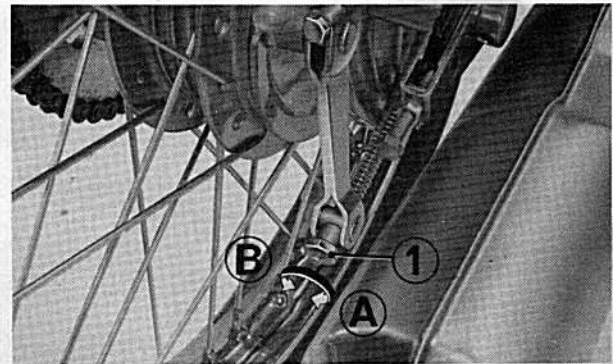


Fig. 2-21 (1) Rear brake adjusting nut

11. AIR CLEANER

1. Remove the right and left air cleaner covers.
2. Remove the nut and take out the air cleaner case.
3. Remove the bolts and the connecting tube fixing clip; take out the air cleaner element.

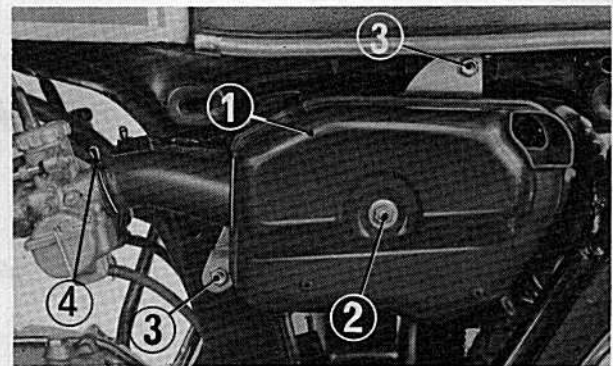


Fig. 2-22 (1) Air cleaner case
(2) Case attaching nut
(3) Element mounting bolt
(4) Tube fixing clip

4. Lightly tap the element to remove dust and dirt and blow with compressed air from the center of the element outward.

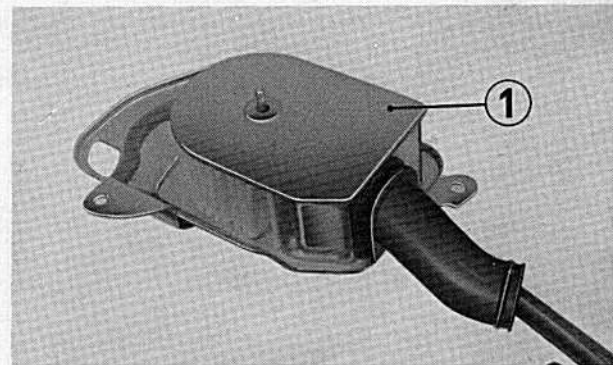


Fig. 2-23 (1) Air cleaner element

12. OIL FILTER

1. Drain the engine thoroughly.
2. Remove the right muffler and kick starter pedal.
3. Remove the screws and take out the right crankcase cover together with the gasket.
4. Remove the screws and take out the oil filter rotor cover from the filter rotor.

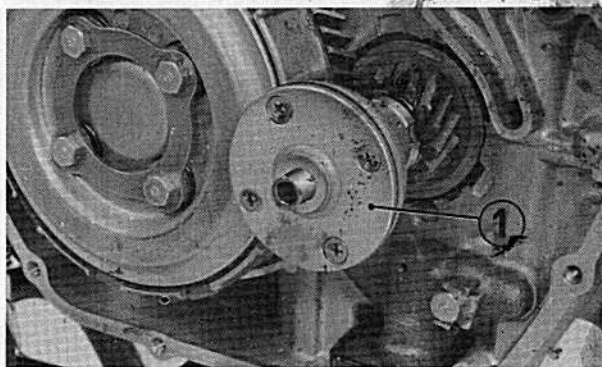


Fig. 2-24 (1) Oil filter rotor cover

5. Wipe clean sediments from around center of the rotor using a lint-free cloth.
6. Remove the screen filter and wash in clean solvent.
7. Assemble all removed parts in the reverse order of the removal. Be sure to replace the crankcase cover gasket.
8. Refill the engine.

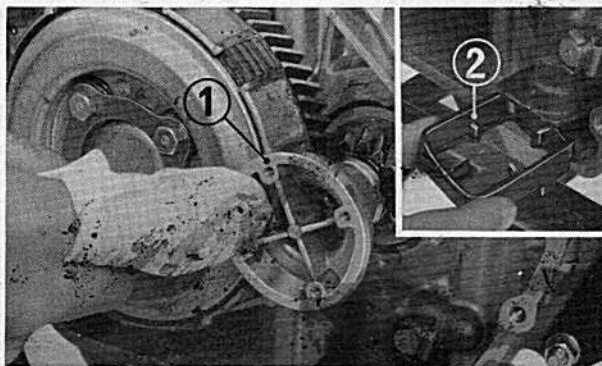


Fig. 2-25 (1) Oil filter rotor
(2) Screen filter

13. FUEL FILTER

1. Turn the fuel cock to the "S" position.
2. Loosen the filter cap; take out the cap, O-ring and filter screen from the cock.

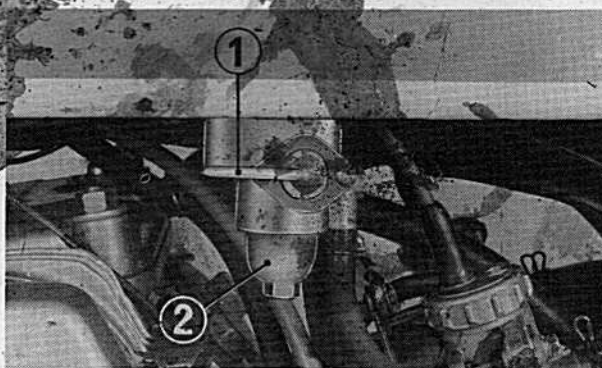


Fig. 2-26 (1) Fuel cock lever
(2) Filter cap

3. Clean the filter screen and cap in solvent and install in their respective positions.
4. Turn the fuel cock to the "ON" position, being sure that the fuel is not leaking.

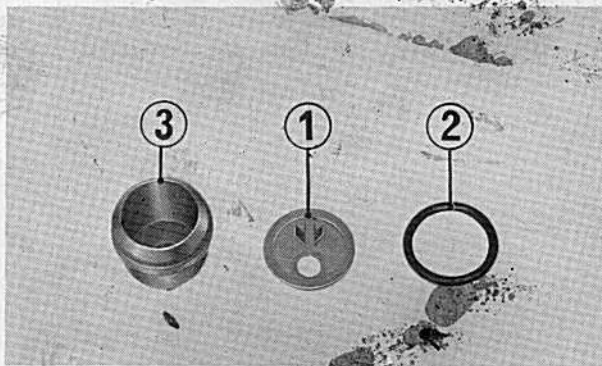


Fig. 2-27 (1) Filter screen
(2) O-ring
(3) Fuel filter cap

14. SPARK PLUG

1. Remove the spark plug cap from the spark plug. Unscrew the plug, using spark plug wrench, and remove the spark plug from the cylinder head.
2. Check the spark plug for deposits, electrode erosion and damaged gasket. A spark plug with burned electrodes, blistered insulator or damaged gasket should be replaced with a new one. Fouled spark plug can be cleaned in spark plug cleaner or with a wire brush.
3. Using a feeler gauge, adjust the gap to the specified dimension.

Specified plug gap: 0.6-0.7 mm (0.024-0.028-in.)

To adjust, bend the side electrode only.

4. Clean the plug seat in the cylinder head. Screw the plug into the thread hole in the head in two steps; first, finger-tight, and then use a spark plug wrench to tighten the plug an additional $\frac{1}{2}$ to $\frac{3}{4}$ turn or until the sealing gasket is compressed.

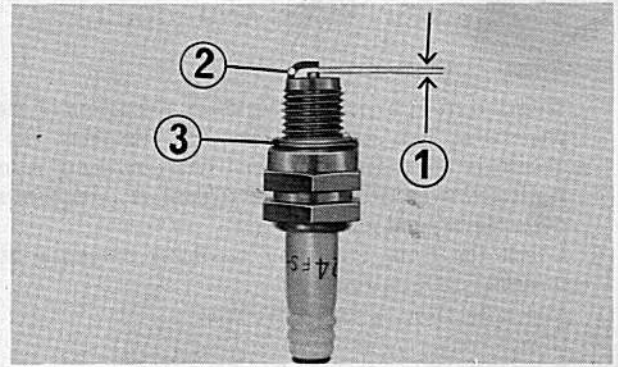


Fig. 2-28 (1) Spark plug gap
(2) Side electrode
(3) Gasket

15. DRIVE CHAIN

Chain tension

1. Raise the rear wheel off the ground with the main stand. Shift the transmission into neutral.
2. Check the tension of the drive chain. This can be made by applying a thumb pressure at a point midway between the sprockets and measure the slack.

Specified slack: 20 mm ($\frac{3}{4}$ -in.)

3. To adjust, loosen the rear brake adjusting nut, pry out the cotter pin, loosen the rear wheel axle nut and lock nuts, and turn the adjusting bolts in or out as necessary. The index mark on the right and left drive chain adjusters should be aligned with the identical notches on the side scales on the fork.
4. Tighten the rear axle nut and lock nuts.
5. Recheck the drive chain slack and, if the slack is correct, insert the cotter pin with the end through the axle.
6. Adjust the rear brake.

Lubrication

1. Using pliers, remove the retaining clip from the chain joint; take out the chain from the sprockets.
2. Wash the removed chain in solvent and dry with compressed air.
3. Check for excessive or abnormal wear of the chain and sprockets. Replace with a new one if worn or damaged too badly beyond use.
4. Lubricate the chain with lubricants.
5. Reinstall the drive chain. Make sure that the closed end of the retaining clip is in the normal direction of rotation.
6. Adjust the chain tension.

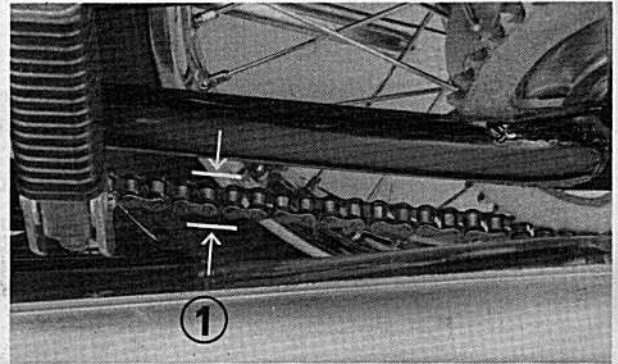


Fig. 2-29 (1) Drive chain slack

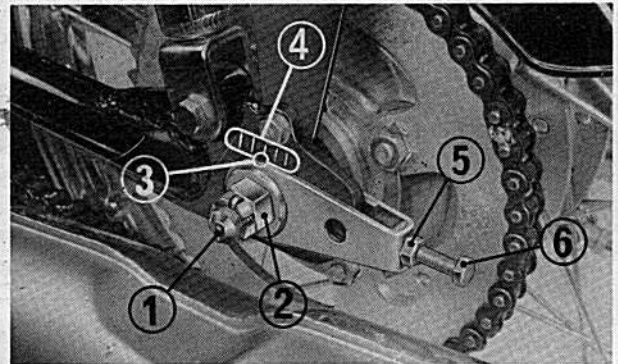


Fig. 2-30 (1) Cotter pin (2) Rear wheel axle nut (3) Index mark (4) Scale notch (5) Lock nut (6) Adjusting bolt

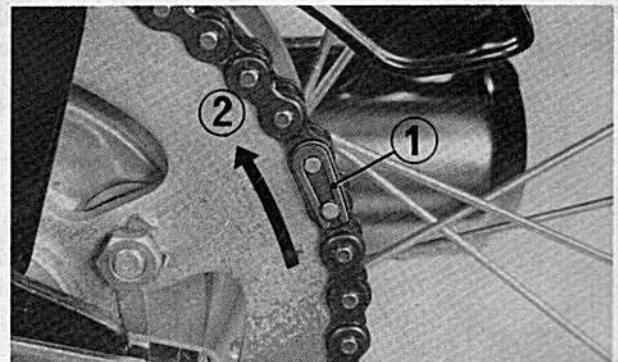


Fig. 2-31 (1) Retaining clip (2) Rotating direction

16. FRONT SUSPENSION AND WHEEL

Checking

1. With the front brake applied, check the action of the shock absorbers. This can be done by jouncing the shock absorbers up and down several times by hand. Also check for leaks, twist or bends, and replace, if any, parts worn or damaged beyond repair.
2. Check the front forks and handlebar mounting bolts for looseness.
3. Check the front wheel for wobble.
4. Check the tire pressure.

Specified pressure: 1.8 kg/cm² (26 psi.)

5. Check the tire for cracks, excessive wear or any other defects.
6. Check the tube valve for air leaks.

Changing front fork oil

1. Remove the drain plugs from both forks. Grasp the handlebar and jounce up and down several times to aid in draining the remaining oil.
2. Replace the drain plugs. Place a suitable stand under the engine to raise the front wheel off the ground.
3. Remove oil filler plugs and pour the specified amount of ATF (permanent quality automatic transmission fluid) into the vacant holes.

Capacity: 115–120 cc (4.0–4.2 ozs.)

NOTE:

Specified amount of fluid will be required to fill one fork whenever disassembled.

Specified amount: 128–134 cc (4.4–4.6 ozs.)

4. Replace the filler plugs and remove the stand under the engine.

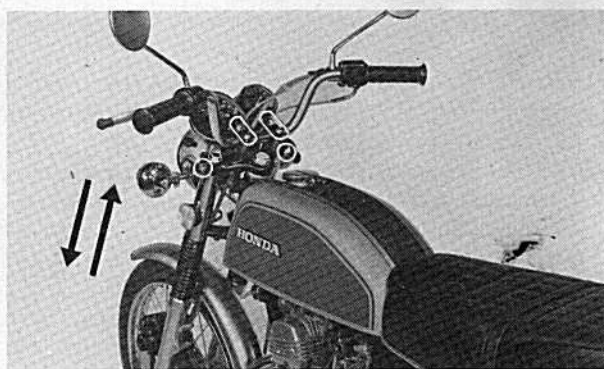


Fig. 2-32 Checking front suspension

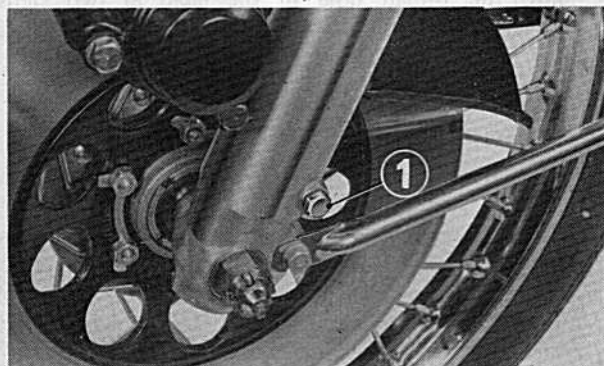


Fig. 2-33 (1) Front fork drain plug

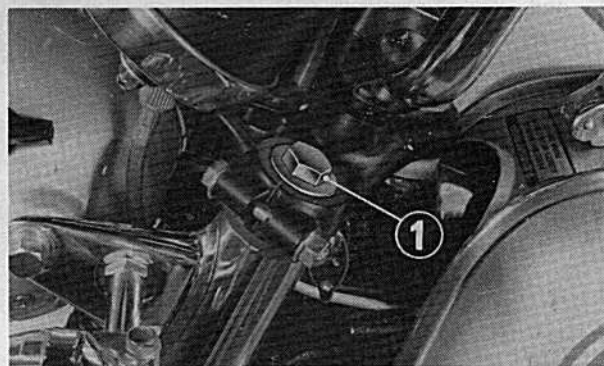


Fig. 2-34 (1) Oil filler plug

17. REAR SUSPENSION AND WHEEL

1. Raise the rear wheel off the ground. Axially move the rear wheel in and out with force to see if the bushings are worn. If worn excessively beyond use, replace.
2. Check the main and side stand springs for damage. Replace if damaged too badly beyond use.
3. Check the suspension mountings for looseness.
4. Check the tire pressure.

Specified tire pressure:

Driver only 2.0 kg/cm² (28 psi.)

Driver and passenger 2.2 kg/cm² (32 psi.)

5. Check the tire for cracks, excessive wear or any other defects.
6. Check the wheel for wobble.
7. Check the tube valve for air leaks.



Fig. 2-35 (1) Rear fork
(2) Rear shock absorber

III. ENGINE

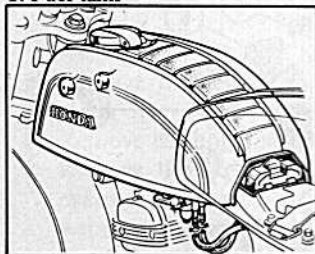
1. ON-FRAME SERVICING

Parts to be serviced	Ref. pages
Oil pump and oil filter	22
Clutch	25
Gearshift mechanism	27
Carburetor	33
Electrical system (generator, contact point and starting motor)	36

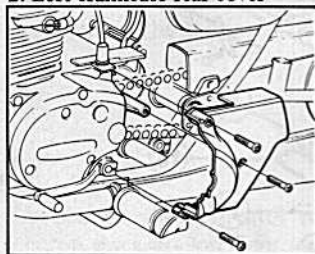
2. ENGINE REMOVAL AND INSTALLATION

Remove the engine in the order given below.
To install, reverse the removal procedure.

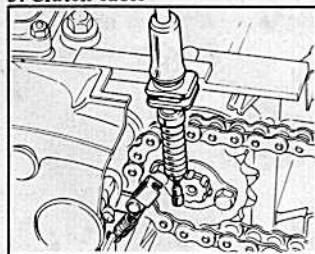
1. Fuel tank



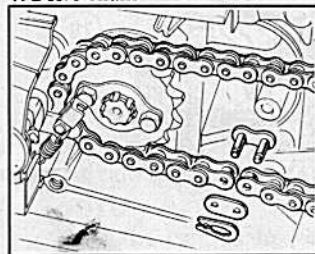
2. Left crankcase rear cover



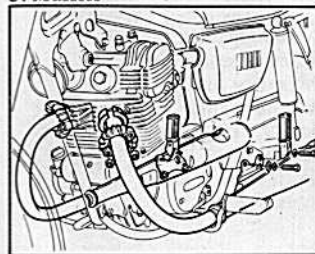
3. Clutch cable



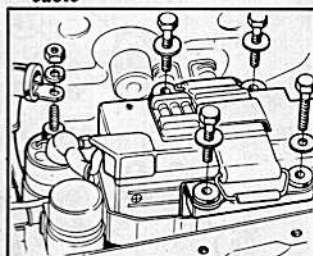
4. Drive chain



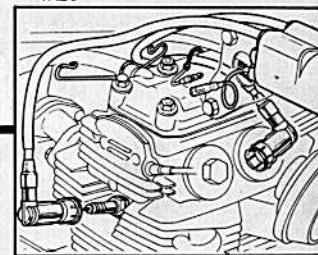
5. Muffler



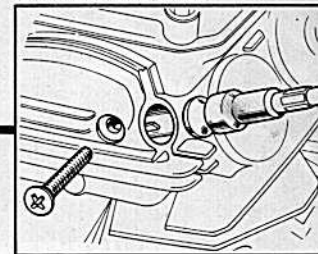
6. Battery case, starting motor cable



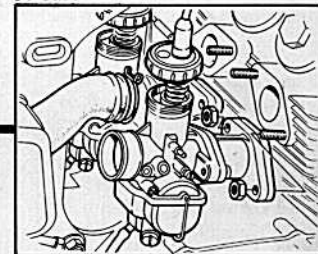
7. Spark plug cap, ignition coil wire



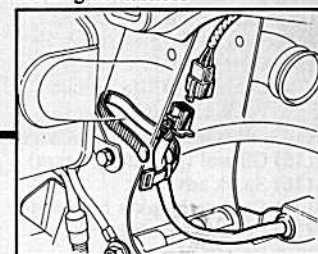
8. Tachometer cable



9. Carburetor



10. Engine harness



11. Hanger bolt

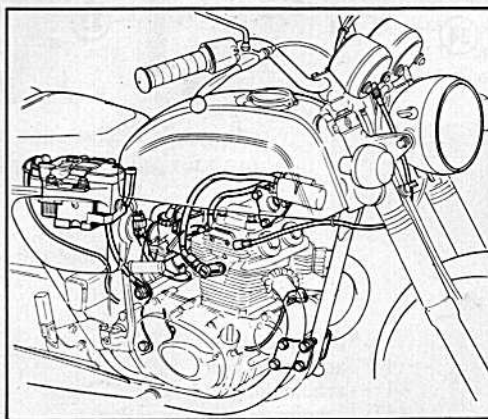
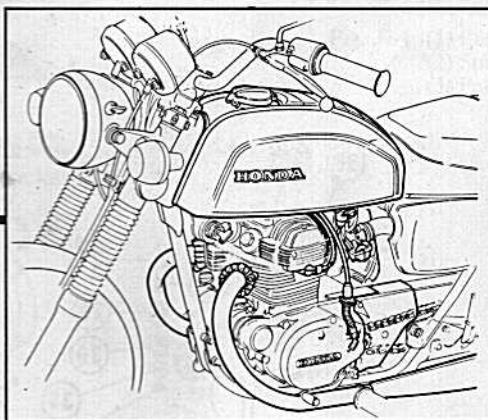
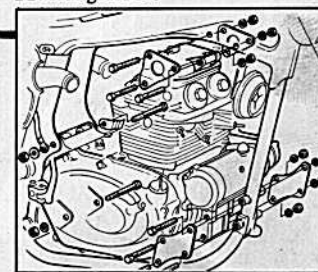


Fig. 3-1

3. VALVE MECHANISM

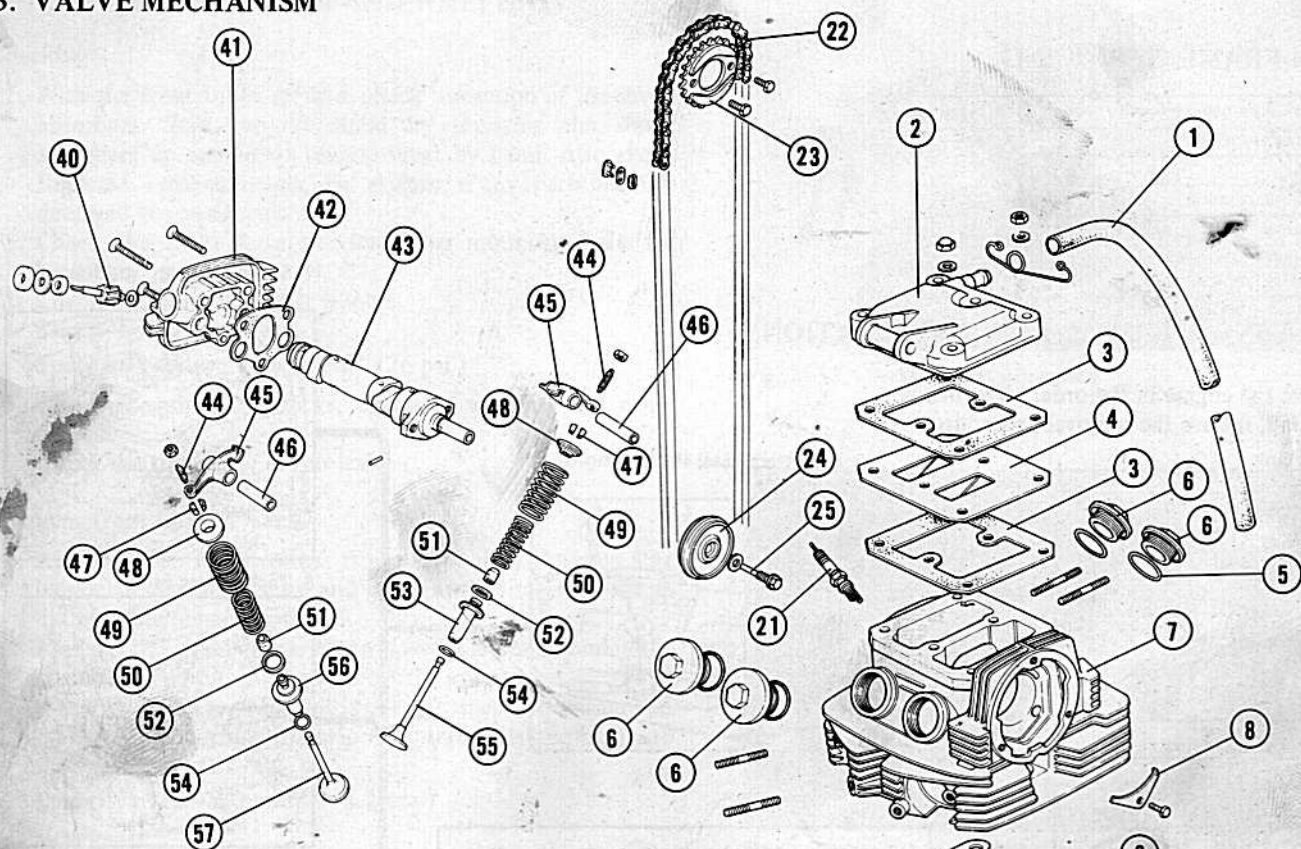


Fig. 3-2

- (1) Breather tube
- (2) Breather cover
- (3) Breather cover gasket
- (4) Breather sealed plate
- (5) O-ring (35.5 x 3 mm)
- (6) Tappet adjusting hole cap
- (7) Cylinder head
- (8) Rocker arm shaft stop
- (9) Cylinder head gasket
- (10) Cam chain chamber gasket
- (11) O-ring (10 x 1.6 mm)
- (12) Dowel pin (10 x 14 mm)
- (13) Point base gasket
- (14) Point base
- (15) Oil seal (15 x 24 x 5 mm)
- (16) Spark advancer
- (17) Contact breaker base plate
- (18) Contact breaker
- (19) Point cover gasket
- (20) Point cover
- (21) Spark plug
- (22) Cam chain
- (23) Cam sprocket
- (24) Cam chain guide roller
- (25) Cam chain guide roller pin
- (26) Tensioner push rod
- (27) Tensioner push rubber
- (28) Tensioner spring seat B
- (29) Tensioner spring B
- (30) Tensioner spring seat A
- (31) Tensioner spring guide
- (32) Snap ring (5 mm)
- (33) Cam chain tensioner spring
- (34) Tensioner plate A
- (35) Cam chain tensioner
- (36) Cam chain tensioner pot
- (37) Cam chain tensioner roller bushing
- (38) Cam chain tensioner roller

- (39) Tensioner plate B
- (40) Tachometer gear
- (41) Tachometer gear box
- (42) Tachometer gear box gasket
- (43) Camshaft
- (44) Tappet adjusting screw
- (45) Rocker arm
- (46) Rocker arm shaft
- (47) Valve cotter
- (48) Valve spring retainer
- (49) Valve outer spring

- (50) Valve inner spring
- (51) Valve stem seal
- (52) Valve spring seat
- (53) Intake valve guide
- (54) O-ring (9.0 x 1.6 mm)
- (55) Intake valve
- (56) Exhaust valve guide
- (57) Exhaust valve

Disassembly**Cylinder head and valve mechanism**

1. Loosen the clamp and remove the breather tube from the breather cover.
2. Remove the cap nuts and take out the breather cover, gasket and breather plate.
3. Remove the tappet adjusting hole caps and loosen the lock nut and tappet adjusting screws.
4. Remove the screws and take out the contact breaker point cover.
5. Remove the screws and take out the contact breaker base plate.
6. Remove the bolt and take out the spark advancer.
7. Remove the screws and take out the point base from the cylinder head.
8. Remove the screws and take out the right cylinder head cover from the cylinder head.
9. Remove the A-C generator cover.
10. Loosen the tensioner bolt.
11. Rotate the generator rotor until the cam chain joint is up on the sprocket; remove the cam sprocket bolts.

NOTE:

When removing, use care not to allow bolt to drop into the crankcase.

12. Remove the cam sprocket from the camshaft. Remove the retaining clip and cam chain joint from the chain; take out the cam sprocket.

NOTE:

Hold the cam chain with a wire or the like to prevent the chain from falling in the crankcase.

13. Remove the camshaft.

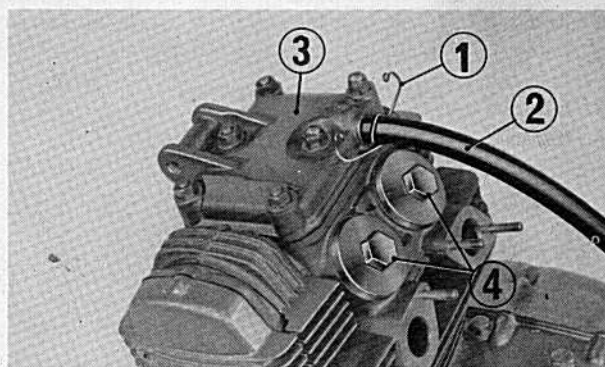


Fig. 3-3 (1) Clamp
(2) Breather tube
(3) Breather cover
(4) Tappet adjusting hole cap

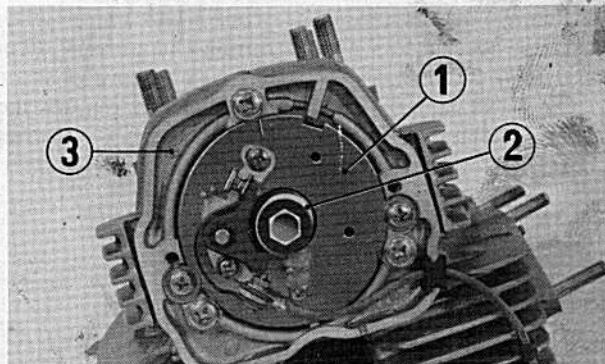


Fig. 3-4 (1) Contact breaker base plate
(2) Spark advancer
(3) Point base

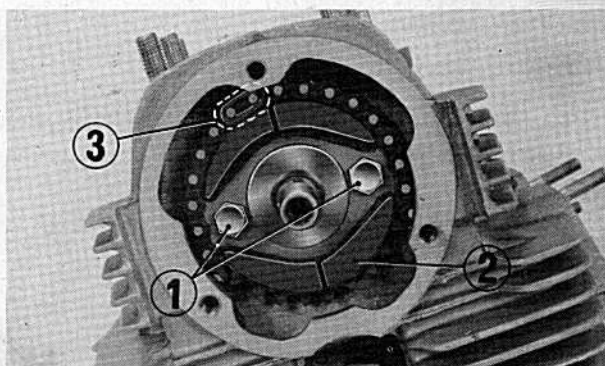


Fig. 3-5 (1) Cam sprocket bolt
(2) Cam sprocket
(3) Cam chain joint

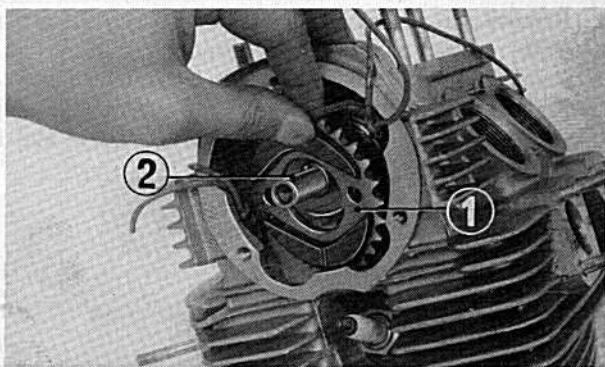


Fig. 3-6 (1) Cam sprocket
(2) Camshaft

14. Remove the bolt and take out the rocker arm shaft plate. Using a 8 mm bolt, pull out the rocker arm shaft; take out the rocker arm.
15. Remove the cylinder head.
16. Remove the spark plugs from the cylinder head.

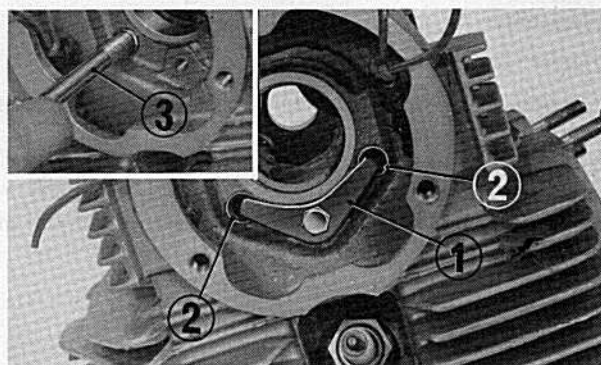


Fig. 3-7 (1) Plate
(2) Rocker arm shaft
(3) 8 mm bolt

17. Remove the valve from the cylinder head. Using special tool "Valve Spring Compressor" (Tool No. 07957-3290000), compress the valve springs and remove the valve cotters. Release the tool and remove the valve spring retainer, valve, valve spring seat and valve springs.

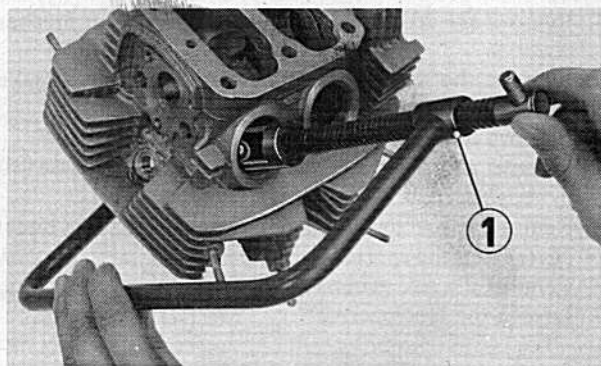


Fig. 3-8 (1) Valve spring compressor

Cam chain tensioner

1. Remove the cylinder head.
2. Remove the cylinder.
3. Remove the left crankcase cover and A-C generator rotor.
4. Remove the set plate and take out the starting chain together with the sprockets.
5. Remove the cam chain.

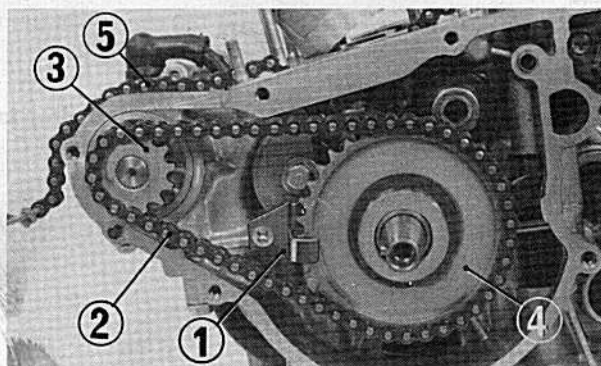


Fig. 3-9 (1) Set plate
(2) Starting chain
(3) Starting motor sprocket
(4) Starting sprocket
(5) Cam chain

6. Remove the screws and take out the cam chain tensioner plate; remove the cam chain tensioner.
7. Remove the bolt and take out the tensioner roller.
8. Remove the push bar hole plug and pry out the snap ring; take out the push rod, rubber, spring seat A and B, and tensioner spring.

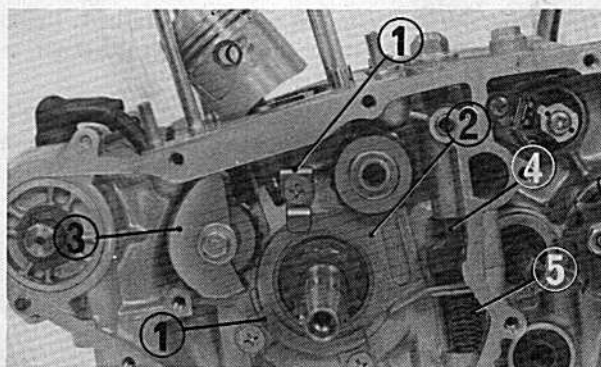


Fig. 3-10 (1) Plate
(2) Tensioner
(3) Tensioner roller
(4) Push rod
(5) Tensioner spring

9. Remove the bolt and take out the cam chain guide roller from the cylinder.

INSPECTION

1. Measure the height of each cam.

	Standard value	Service limit
Intake:	26.177 mm (1.0306-in.)	26.0 mm (1.0236-in.)
Exhaust:	25.740 mm (1.0134-in.)	25.5 mm (1.0039-in.)

2. Check the oil seal for wear or damage.
3. Check the clearance between the rocker arm and rocker arm shaft.

Standard value: 0.013–0.043 mm (0.0005–0.0017-in.)
Service limit: 0.08 mm (0.0032-in.)

4. Measure the outside diameter of the valve stem.

	Standard value	Service limit
Intake:	5.480–5.490 mm (0.2157–0.2161-in.)	5.46 mm (0.2150-in.)
Exhaust:	5.460–5.470 mm (0.2150–0.2154-in.)	5.44 mm (0.2142-in.)

5. Measure the valve-to-valve guide clearance.

	Standard value	Service limit
Intake:	0.015–0.035 mm (0.0006–0.0014-in.)	0.065 mm (0.0026-in.)
Exhaust:	0.035–0.055 mm (0.0014–0.0022-in.)	0.085 mm (0.0034-in.)

Replacing valve guide:

- If it is necessary to remove the valve guides because of excessive clearance between the valve stem and valve guide, drive out the guides from the cylinder head using "Valve Guide Remover" (Tool No. 07942–3290100).
- Use "Valve Guide Driver" (Tool No. 07942–3290200) when driving a new oversize valve guide. After driving, ream to size with "Valve Guide Reamer" (Tool No. 07984–2000000).

6. Measure the valve seat width.

Coat the valve seat with Prussian blue; then set the valve in place. Rotate the valve one turn with light pressure. Check and measure the valve seat width.

Standard width: 1.2 mm (0.0472-in.)
Service limit: 1.9 mm (0.0748-in.)

If the Prussian blue shows a band of uniform width all the way around both seat and valve, the valve contact is normal.

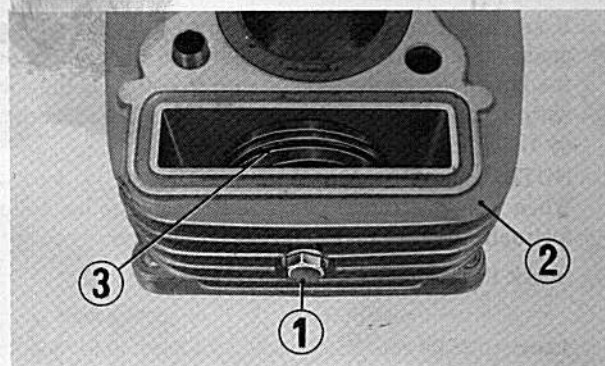


Fig. 3-11 (1) Bolt
(2) Cylinder
(3) Cam chain guide roller

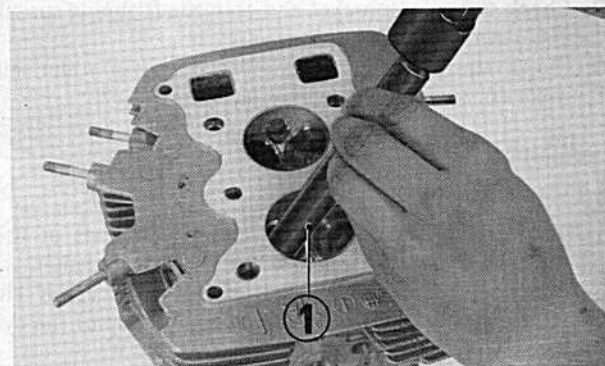


Fig. 3-12 (1) Valve guide remover

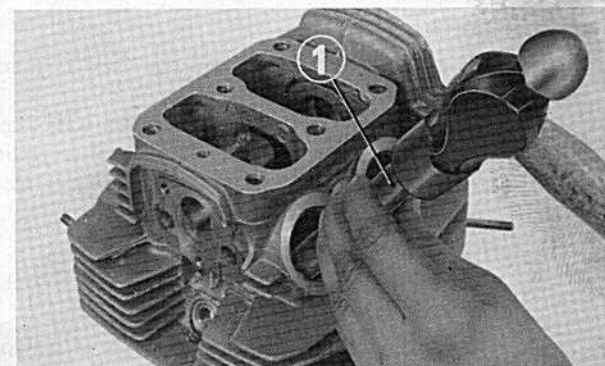


Fig. 3-13 (1) Valve guide driver

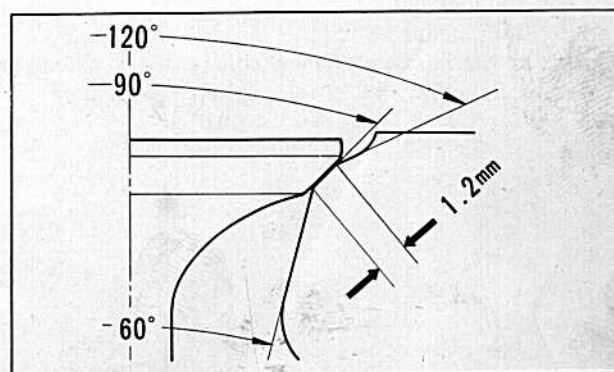


Fig. 3-14 Valve seat

If contact is improper, lightly lap in the valve with a finest grade lapping compound. Remove all the compound after the lapping operation. If still defective, reface the valve seat with a valve seat grinder, Model GVS-27A, recommended by HONDA.

NOTE:

When using a valve seat grinder, be sure to follow the instructions given by the tool manufacturer.

7. Check the free length of each valve spring.

	Standard value	Service limit
Inner:	23.05 mm (0.9075-in.)	21.5 mm (0.8465-in.)
Outer:	31.30 mm (1.2323-in.)	29.8 mm (1.1732-in.)

8. Check the cam chain for wear, damage or elongation.
9. Check the cam sprocket and crankshaft timing sprocket for excessive wear or any other damage.
10. Check the cam chain tensioner, tensioner roller and guide roller for wear or any other damage.

Assembly

Cylinder head

1. Install the valve so that the closed coil ends of the valve springs are placed against the valve spring seat side.
2. Place a new cylinder head gasket, cam chain chamber gasket, three dowel pins and O-ring on top of the cylinder. Install the cylinder head.

NOTE:

Do not damage the gasket surface of the cylinder head and gasket.

Valve timing

1. Rotate the generator rotor so as to align the "T" mark with the index mark on the generator stator.
2. Install the cam chain to the cam sprocket with the spark advancer knock pin facing upward and matching lines on the cam sprocket placed in parallel with the cylinder face. Connect the chain with the chain joint.

NOTE:

Make sure that the closed end of the joint retaining clip is in the normal direction of rotation.

3. Tighten the sprocket to the camshaft flange with two bolts.

Adjustment

1. After assembly, tighten the cam chain tensioner adjusting bolt and lock nut.
2. Refill the engine.
3. Adjust the tappet clearance, contact breaker point gap and ignition timing.

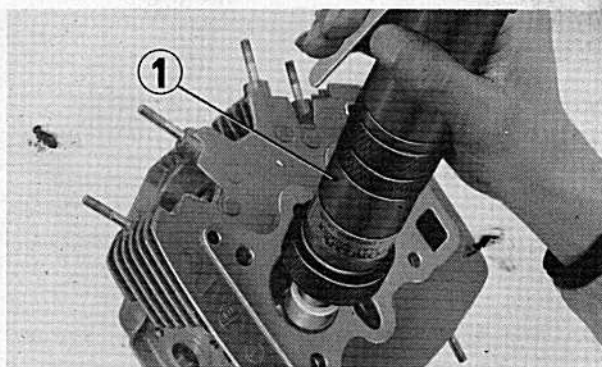


Fig. 3-15 (1) Valve seat grinder

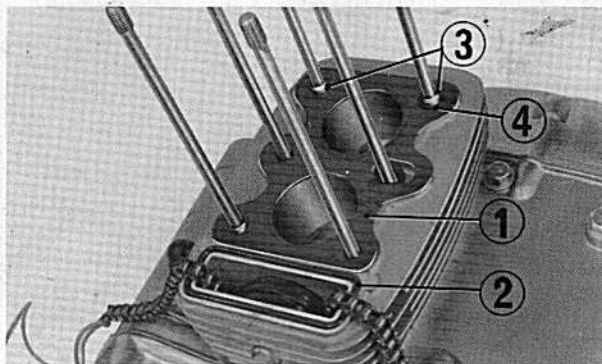


Fig. 3-16 (1) Cylinder head gasket
(2) Cam chain chamber gasket
(3) Dowel pin
(4) O-ring

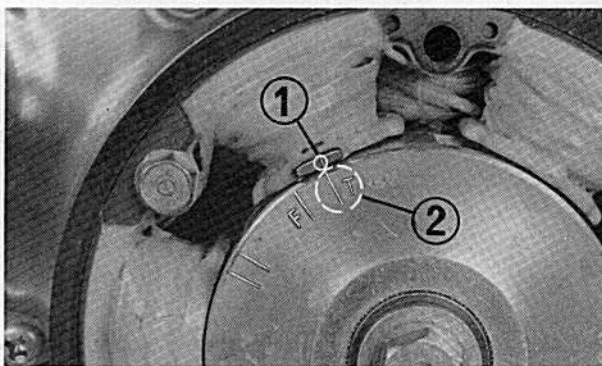


Fig. 3-17 (1) Index mark
(2) "T" mark

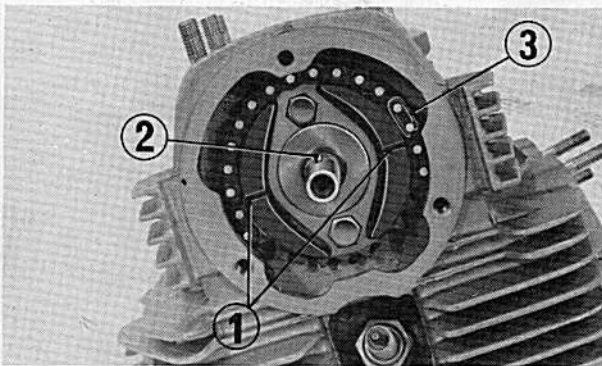
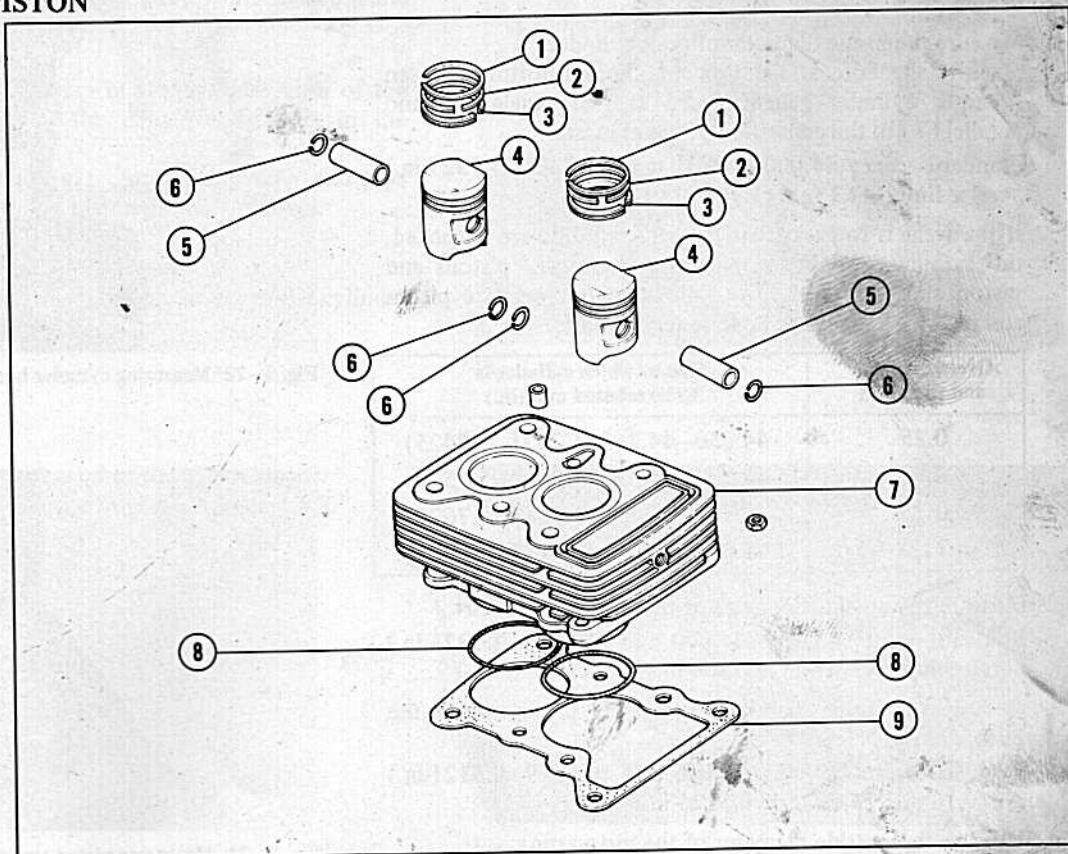


Fig. 3-18 (1) Matching line
(2) Knock pin
(3) Retaining clip

4. CYLINDER AND PISTON

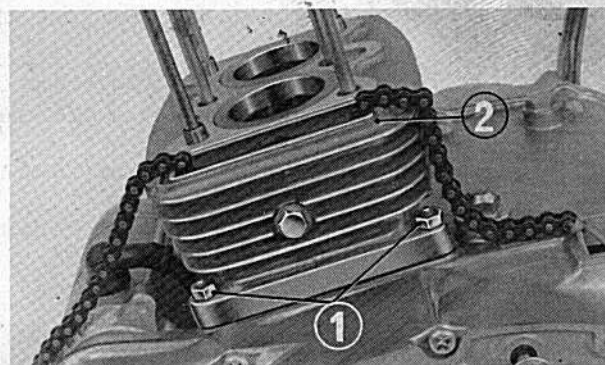
Fig. 3-19

- (1) Piston ring (Top)
- (2) Piston ring (Second)
- (3) Piston ring (Oil)
- (4) Piston
- (5) Piston pin
- (6) Piston pin clip
- (7) Cylinder
- (8) O-ring (46 x 2 mm)
- (9) Cylinder gasket



Disassembly

1. Remove the cylinder head. (See page 13.)
2. Remove the cylinder attaching nut and take out the cylinder.

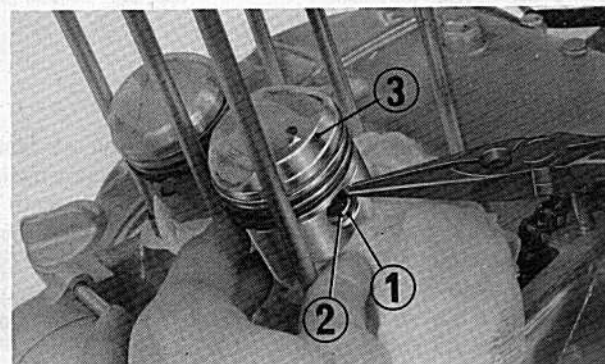
Fig. 3-20 (1) Cylinder attaching nut
(2) Cylinder

3. Pry out the piston pin clip from the end of the piston pin in the piston; withdraw the pin and remove the piston.

NOTE:

Place a rag under the piston to prevent the pin clip from falling in the crankcase.

4. Remove the piston rings from the piston.
Take care not to score the piston during service operation.

Fig. 3-21 (1) Piston pin clip
(2) Piston pin
(3) Piston

Inspection

1. Measure the inside diameter of each cylinder.

Measure the bore at the top, middle and bottom with an accurate cylinder gauge placed at right angle (X) and parallel (Y) to the centerline of the crankshaft.

Standard value: 44.000–44.010 mm (1.7323–1.7327-in.)

Service limit: 44.1 mm (1.7717-in.)

If the wear is so great that the service limits are exceeded, the cylinders should be rebored and oversize pistons and piston rings installed. The following four oversize piston and piston rings are available as service parts:

Oversize piston and rings mm	Size to which cylinder is to be rebored mm (in.)
0.25	44.250–44.260 (1.7421–1.7425)
0.50	44.500–44.510 (1.7520–1.7524)
0.75	44.750–44.760 (1.7618–1.7622)
1.00	45.000–45.010 (1.7717–1.7721)

2. Measure the outside diameter of the piston at its skirt.

Standard value: 43.980–44.000 mm (1.7315–1.7323-in.)

Service limit: 43.9 mm (1.7284-in.)

3. Measure the inside diameter of the piston pin hole in the piston.

Standard value: 13.002–13.008 mm (0.5119–0.5121-in.)

Service limit: 13.02 mm (0.5126-in.)

4. Measure the outside diameter of the piston pin.

Standard value: 12.994–13.000 mm (0.5016–0.5118-in.)

Service limit: 12.9 mm (0.5079-in.)

5. Check the clearance between the piston ring and ring groove.

	Standard value	Service limit
Top	0.35–0.65 mm (0.0138–0.0256-in.)	0.75 mm (0.0293-in.)
2nd	0.25–0.55 mm (0.0098–0.0217-in.)	0.65 mm (0.0256-in.)
Oil	0.25–0.55 mm (0.0098–0.0217-in.)	0.65 mm (0.0256-in.)

6. Check the piston ring end gap using a feeler gauge.

	Standard value	Service limit
Top	0.15–0.35 mm (0.0059–0.0138-in.)	0.65 mm (0.0256-in.)
2nd	0.15–0.35 mm (0.0059–0.0138-in.)	0.65 mm (0.0256-in.)
Oil	0.15–0.35 mm (0.0059–0.0138-in.)	0.65 mm (0.0256-in.)

Assembly

Piston ring

1. Use the piston rings of the same make in a set. Install the rings to the piston so that the markings are facing upward.
2. When a new ring is used, check it for smooth fit in the piston ring groove. It should slide freely around the entire ring circumference without binding.
3. Position the rings so that their gaps of the top, second and oil rings are staggered 120°, each being apart from the direction at right angles to the piston pin.

Piston

1. Install the piston with the arrow mark facing toward the front (exhaust side) or "IN" mark toward the rear (intake side) of the engine.

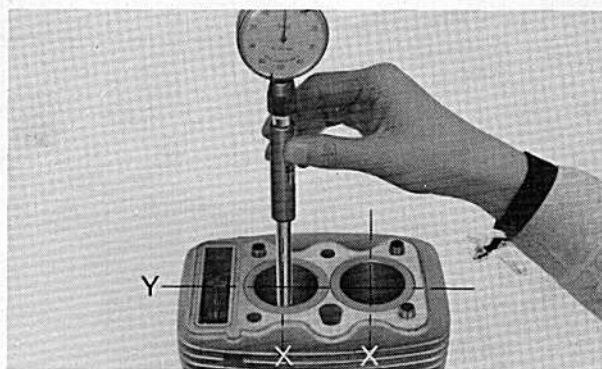


Fig. 3-22 Measuring cylinder bore

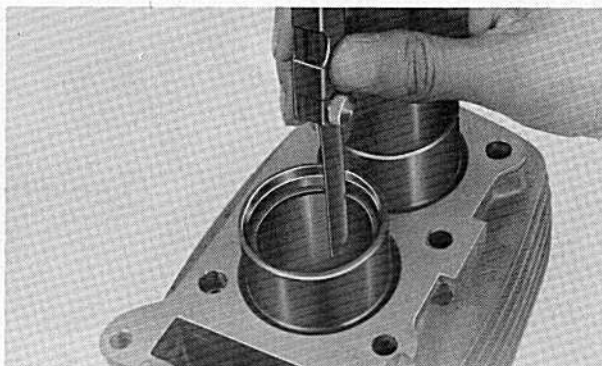


Fig. 3-23 Measuring piston ring end gap

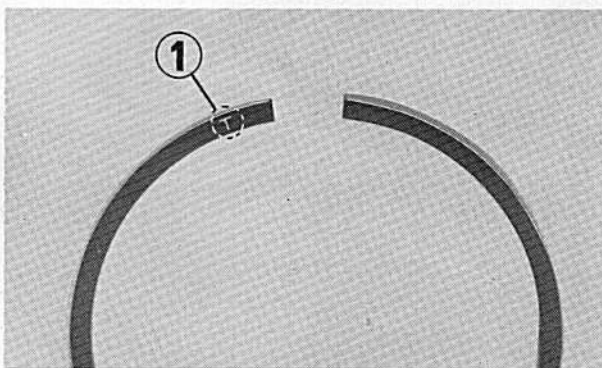


Fig. 3-24 (1) Piston ring top marking

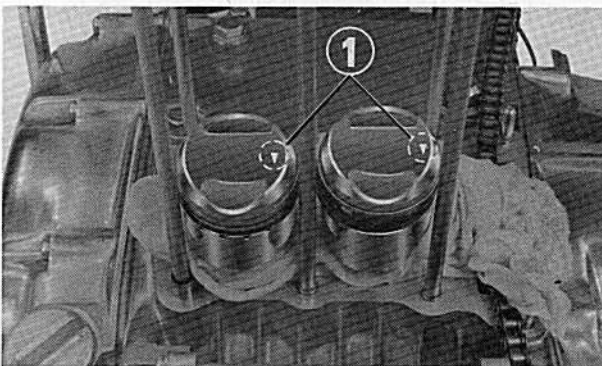


Fig. 3-25 (1) Piston head mark

2. Install the piston to the connecting rod with piston pin and new piston pin clips.

NOTES:

- a. Place a waste or the like in the cylinder bore of the crankcase to prevent the clips from falling in the crankcase.
- b. Install the piston pin clips, preventing their end gaps from lining up with the piston pin hole grooves.

Cylinder

1. Position two dowel pins and cylinder gasket to the cylinder surface of the crankcase.



Fig. 3-26 (1) Dowel pin
(2) Gasket

2. Apply a coat of clean engine oil to the piston rings. Make sure that the gaps of the rings are staggered 120°.

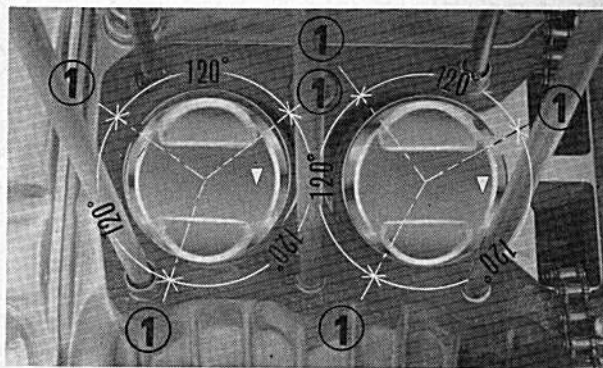


Fig. 3-27 (1) Piston ring gap

3. Place "Piston Base" (Tool No. 07958-2500000) between the pistons and crankcase. Passing the cam chain down through the cylinder, slowly lower the cylinder over the pistons. Hold the piston rings with "Piston Ring Compressor" (Tool No. 07954-2000000) while lowering the cylinder. Remove the Piston Bases and Compressors when the rings enter the cylinder bores.

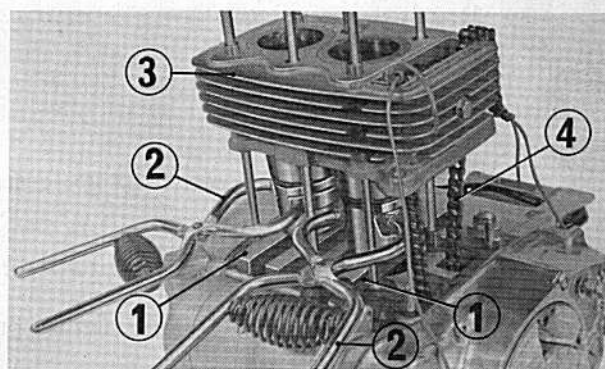


Fig. 3-28 (1) Piston base
(2) Piston ring compressor
(3) Cylinder
(4) Cam chain

5. CRANKSHAFT AND CRANKCASE

Fig. 3-29

- (1) Dowel pin (10x14mm)
- (2) Bolt (8 x 100mm)
- (3) Bolt (6x80mm)
- (4) Tensioner sealing bolt
- (5) Upper crankcase
- (6) Dowel pin (10x 14mm)
- (7) Oil separator bar
- (8) Oil separator
- (9) Connecting rod
- (10) Piston pin
- (11) Piston pin clip
- (12) Roller retainer
- (13) Roller (2.5x8.5 mm)
- (14) Crank pin
- (15) Crank pin sealing plug
- (16) Lock nut (16mm)
- (17) Lock washer (16mm)
- (18) Primary drive gear (16T)
- (19) Right bearing set plate
- (20) Main bearing roller retainer
- (21) Roller (5x10mm)
- (22) Right main bearing outer race
- (23) Knock pin
- (24) Right crankshaft
- (25) Crank pin weight
- (26) Left crankshaft
- (27) Flywheel knock pin
- (28) Left main bearing outer race
- (29) Timing sprocket (13T)
- (30) Lower crankcase
- (31) Bolt (6x32mm)
- (32) Bolt (6 x 50 mm)
- (33) Bolt (6 x 100 mm)
- (34) Bolt (8 x 130 mm)
- (35) Drain plug

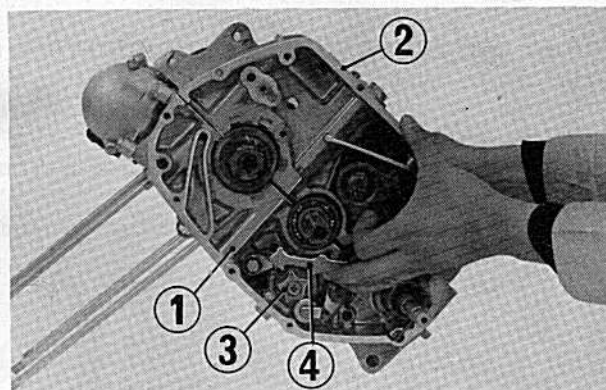
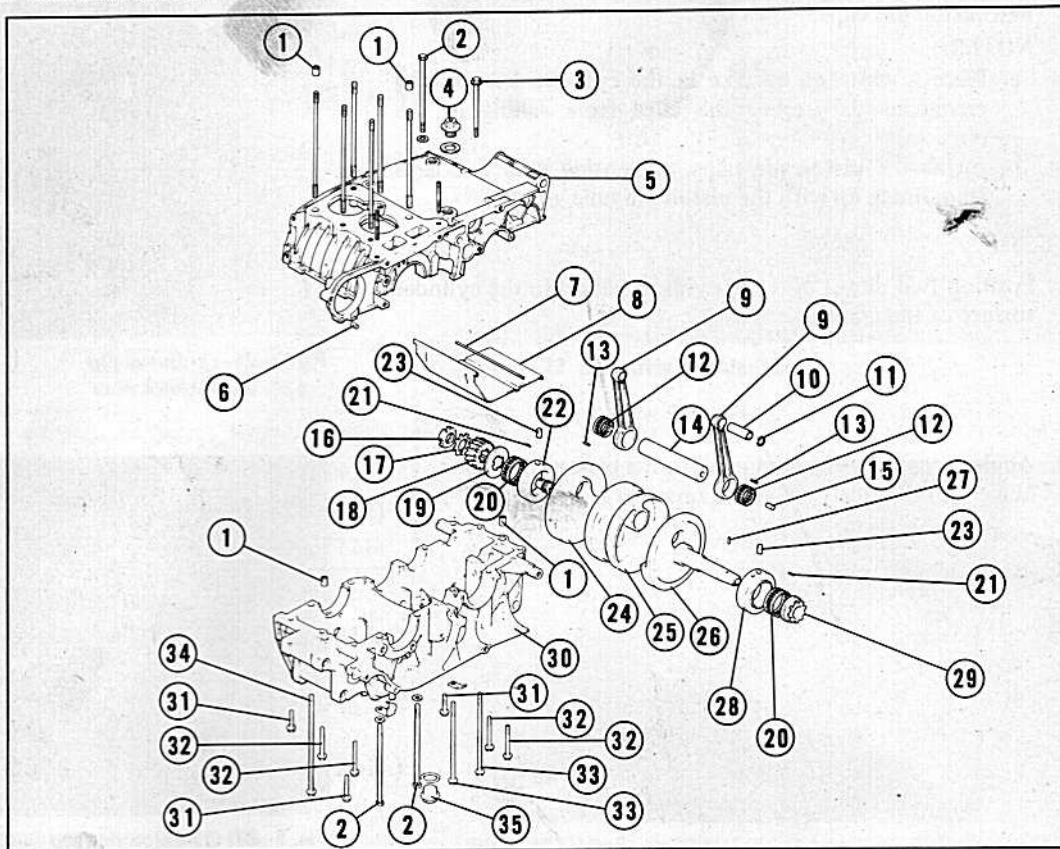


Fig. 3-30 (1) Upper crankcase
(2) Lower crankcase
(3) Shift drum
(4) Shift arm

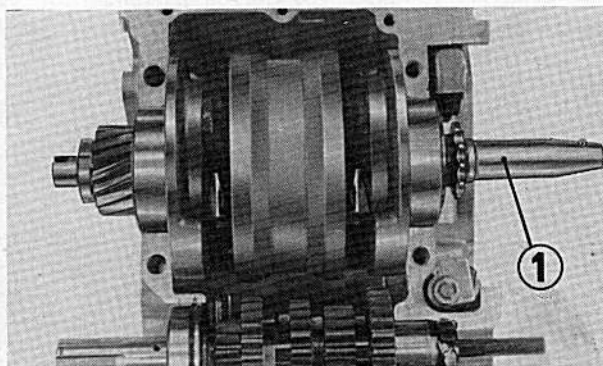


Fig. 3-31 (1) Crankshaft

Disassembly

1. Remove the cylinder head and cam chain tensioner. (See page 13 thru 15.)
2. Remove the cylinder and pistons. (See page 17.)
3. Remove the left crankcase cover and generator rotor. (See page 37.)
4. Remove the starting chain together with starting sprocket and motor sprocket.
5. Remove the right crankcase cover, oil filter, clutch and oil pump.
6. Loosen off one 6 mm bolt and one 8 mm bolt securing the upper crankcase to the lower crankcase.
7. With the upper crankcase facing down, loosen off ten 6 mm bolts and three 8 mm bolts securing the crankcases. Separate the lower crankcase from the upper crankcase while disengaging the hook of the gearshift arm from the gearshift drum.
8. Remove the crankshaft from the upper crankcase.

9. Push the oil separator and remove the bar; take out the separator from the lower crankcase.

Inspection

1. Check the crankshaft for runout.
Support the crankshaft on V-blocks at both bearings and measure the runout of both shaft ends with a dial gauge.
Standard value: 0.03 mm (0.0012-in.) max.
Service limit: 0.1 mm (0.0039-in.)
2. Check the side clearance of the connecting rod big end by using a feeler gauge.
Standard value: 0.05–0.35 mm (0.0020–0.0138-in.)
Service limit: 0.6 mm (0.0236-in.)
3. Measure the connecting rod big end bearing clearance.
To do this, bear the needle of a dial gauge on the big end from the top and move the rod up and down.
Standard value: 0.004–0.012 mm (0.0002–0.0005-in.)
Service limit: 0.020 mm (0.0008-in.)
4. Measure the inside diameter of the connecting rod small end bore.
Standard value: 12.988–13.033 mm (0.5113–0.5131-in.)
Service limit: 13.07 mm (0.5146-in.)
5. Check the crankcases for cracks, scratches or scores on the mating and bearing surfaces.
6. Check the crankcase oil passages for clogging.

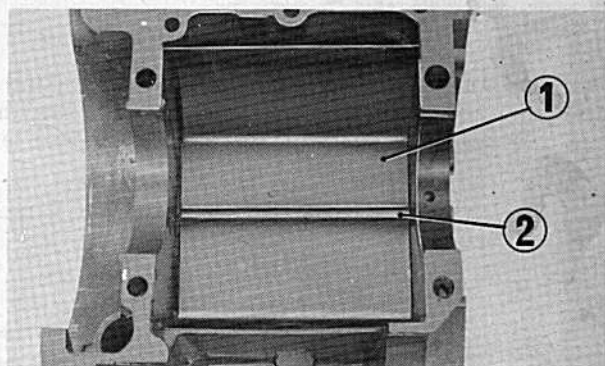


Fig. 3-32 (1) Oil separator
(2) Separator bar

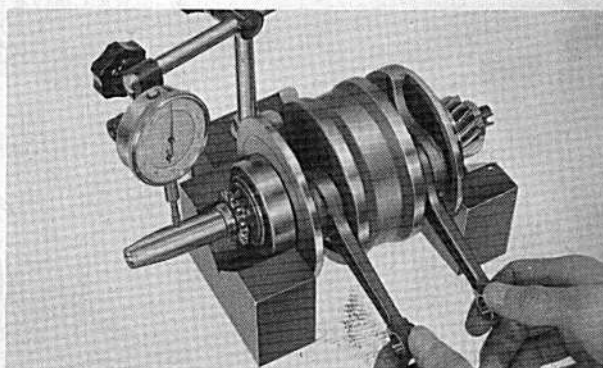


Fig. 3-33 Measuring crankshaft runout

Assembly

1. Install the crankshaft with the knock pin holes on the bearings fitted with the knock pins on the upper crankcase. To fit the pin hole to the knock pin, align the marks on the bearing with the crankcase mating surface.
2. Apply a uniform coating of proper sealing agent to the crankcase mating surfaces.
3. Make sure all dowel pins are properly installed in their respective positions.
4. Tighten eleven 6 mm bolts and four 8 mm bolts, starting at the center toward outside in a criss-cross pattern. Use care not to damage the starting motor cable while tightening.

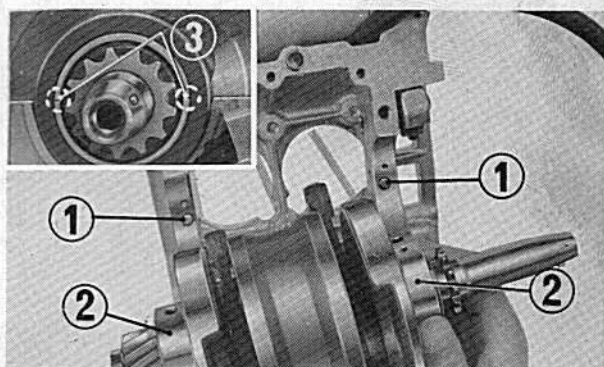


Fig. 3-34 (1) Knock pin
(2) Bearing
(3) Aligning mark on bearing

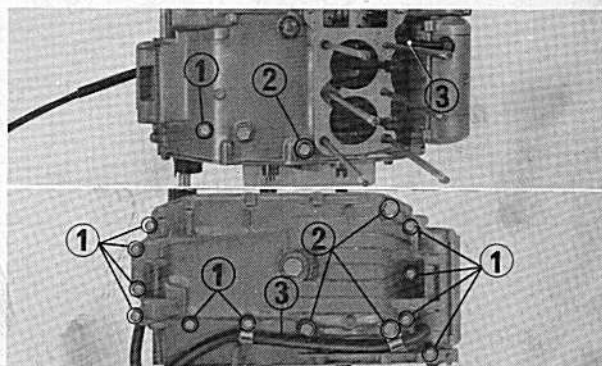


Fig. 3-35 (1) 6 mm bolt
(2) 8 mm bolt
(3) Starting motor cable

6. LUBRICATION SYSTEM

The oil pump is a plunger pump driven by the pump rod attached to the clutch outer. Oil is drawn through an oil filter screen by the pump and is delivered under pressure to the crankshaft bearings and other moving part of the engine. A centrifugal oil filter is added to provide cleanest possible oil to the crankshaft and its associated parts.

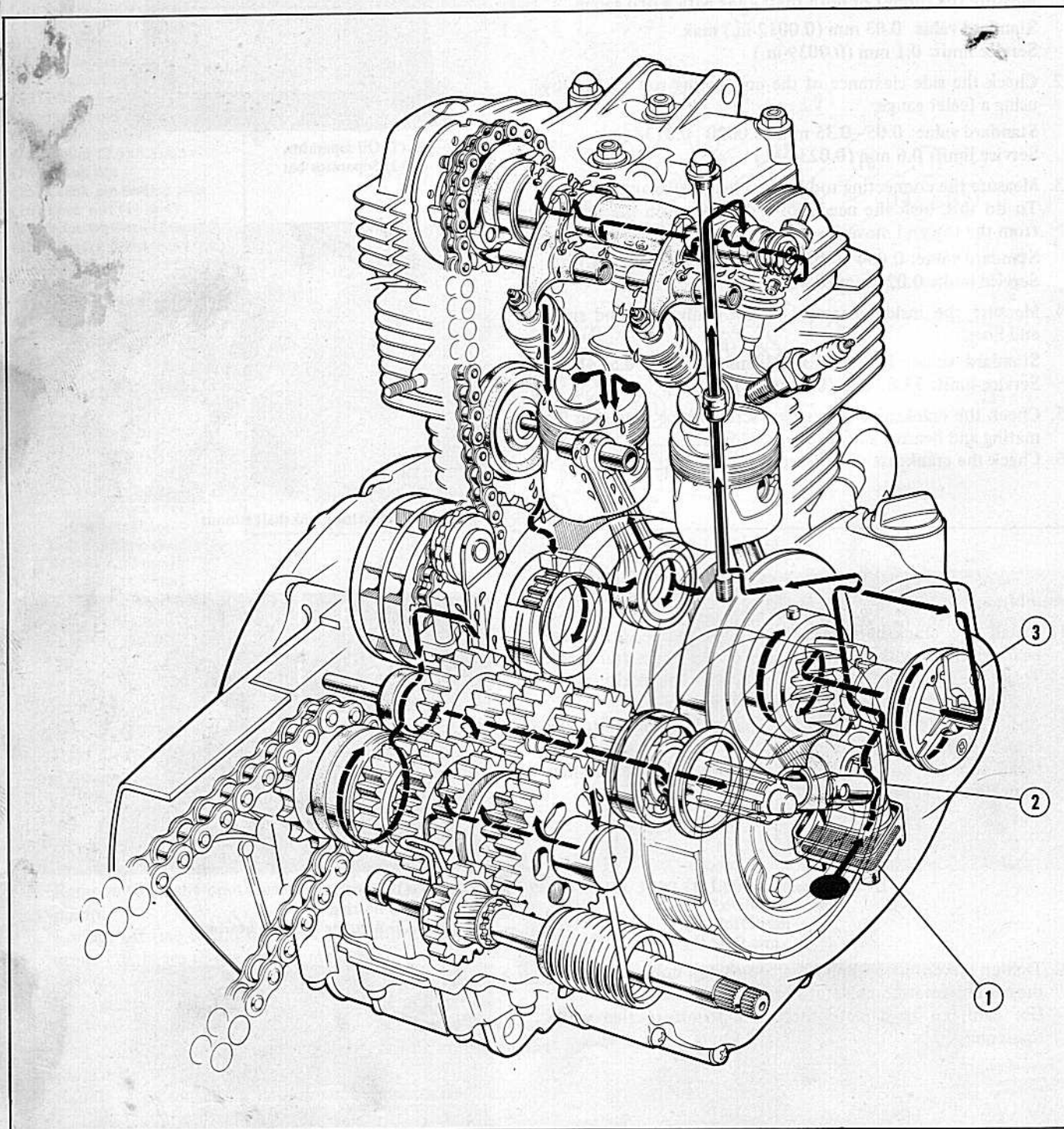


Fig. 3-36 (1) Oil filter screen (2) Oil pump (3) Centrifugal oil filter

Disassembly**Oil filter**

1. Drain the engine thoroughly by removing the drain plug.
2. Remove the right muffler and kick starter pedal.
3. Remove the screws and take out the right crankcase cover and gasket.
4. Remove the screws and take out the oil filter cap from the filter rotor.
5. Withdraw the oil filter rotor from the crankshaft.

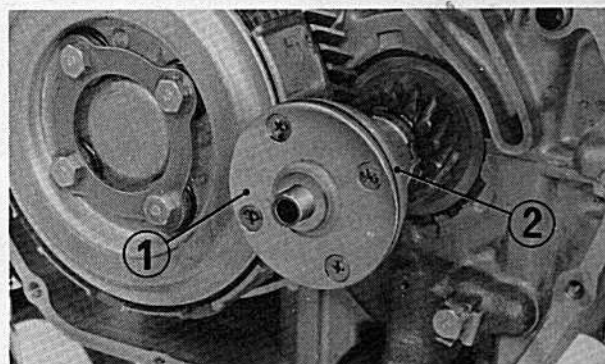


Fig. 3-37 (1) Oil filter cap
(2) Oil filter rotor

Oil pump

1. Remove the oil filter. Follow the step 1 thru 5 above.
2. Remove four bolts and take out the clutch lifter plate and clutch springs.
3. Remove the clutch pressure plate, lifter joint piece, friction discs, clutch plates and clutch lifter rod.

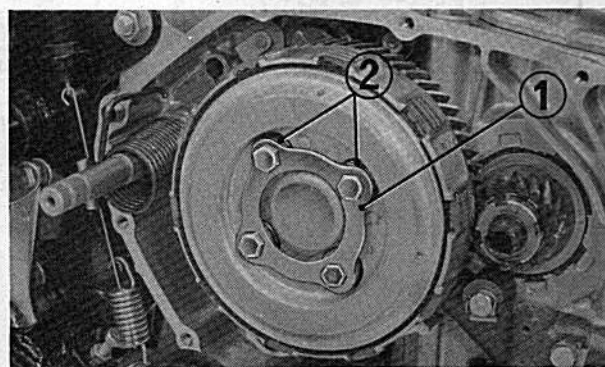


Fig. 3-38 (1) Clutch lifter plate
(2) Clutch spring

4. Pry out the snap ring and take out the clutch center.
5. Straighten the tabs of the lock washers and remove the oil pump attaching bolts. Take out the oil pump with the clutch outer.

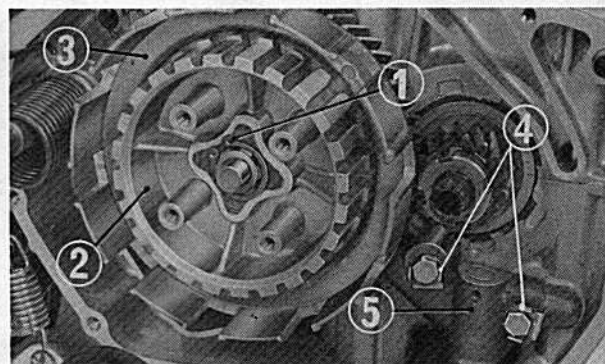


Fig. 3-39 (1) Snap ring (4) Lock washer
(2) Clutch center (5) Oil pump
(3) Clutch outer

6. Pry out the snap ring from the clutch outer and remove the pump rod and side washer.
7. Pull out the pump plunger pin; remove the plunger from the pump rod.

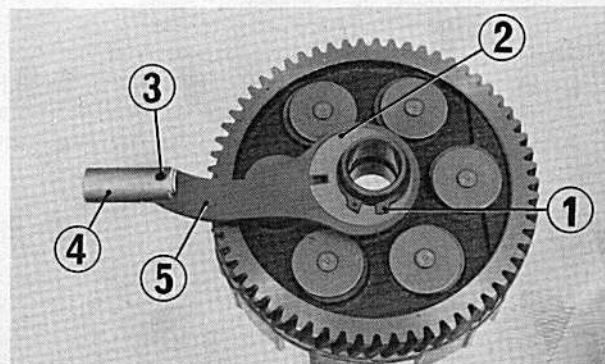


Fig. 3-40 (1) Snap ring (4) Plunger
(2) Side washer (5) Pump rod
(3) Plunger pin

8. Remove the pump screen filter from the oil pump.

Inspection

1. Measure the pump rod-to-clutch outer clearance.
Standard value: 0.025–0.075 mm (0.0010–0.0030-in.)
Service limit: 0.15 mm (0.0059-in.)
2. Check the pump body-to-plunger clearance.
Standard value: 0.025–0.145 mm (0.0010–0.0057-in.)
Service limit: 0.2 mm (0.0079-in.)
3. Check the action of the steel ball.

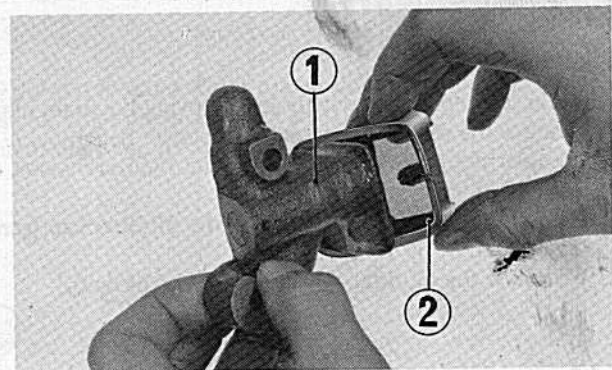


Fig. 3-41 (1) Oil pump body
(2) Screen filter

Assembly

1. Fill the oil pump plunger bore with engine oil before installation.
2. Be sure to install the gasket under the pump when installing the pump to the crankcase.
3. To assemble the clutch, refer to the relative descriptions under CLUTCH in Item 7.
4. Install the oil filter rotor to the crankshaft after making sure the O-ring is installed in groove of the filter rotor.

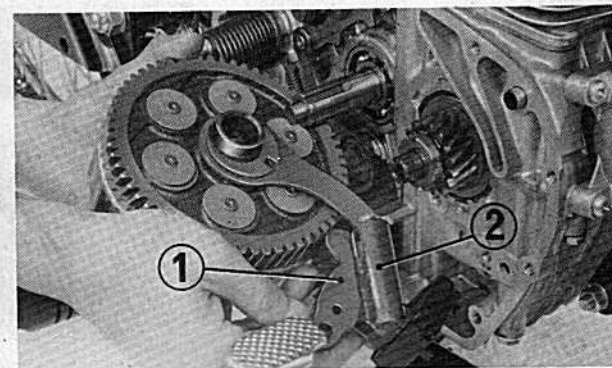


Fig. 3-42 (1) Pump body gasket
(2) Pump body

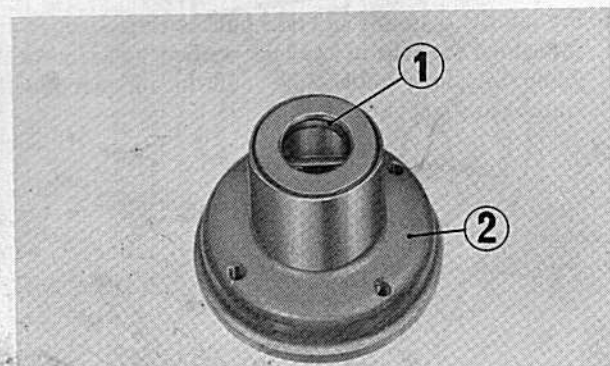


Fig. 3-43 (1) O-ring
(2) Oil filter rotor

5. Inspect the oil pump operation.
After assembling, start the engine and allow it to run at the specified idle speed. Loosen the cylinder head cover securing cap nut, (Fig. 3-44) and see if oil is seeping out from the bolt hole. If so, it is a good indication that the pump is operating properly.

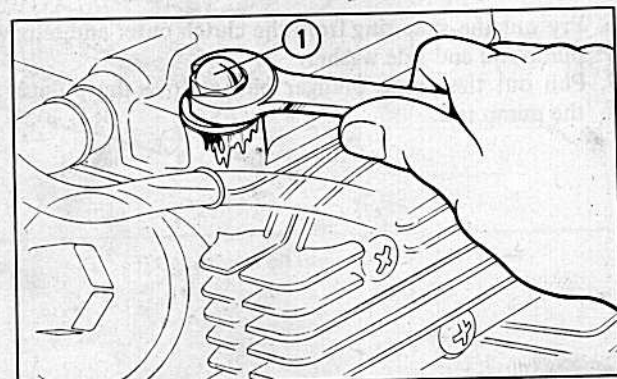
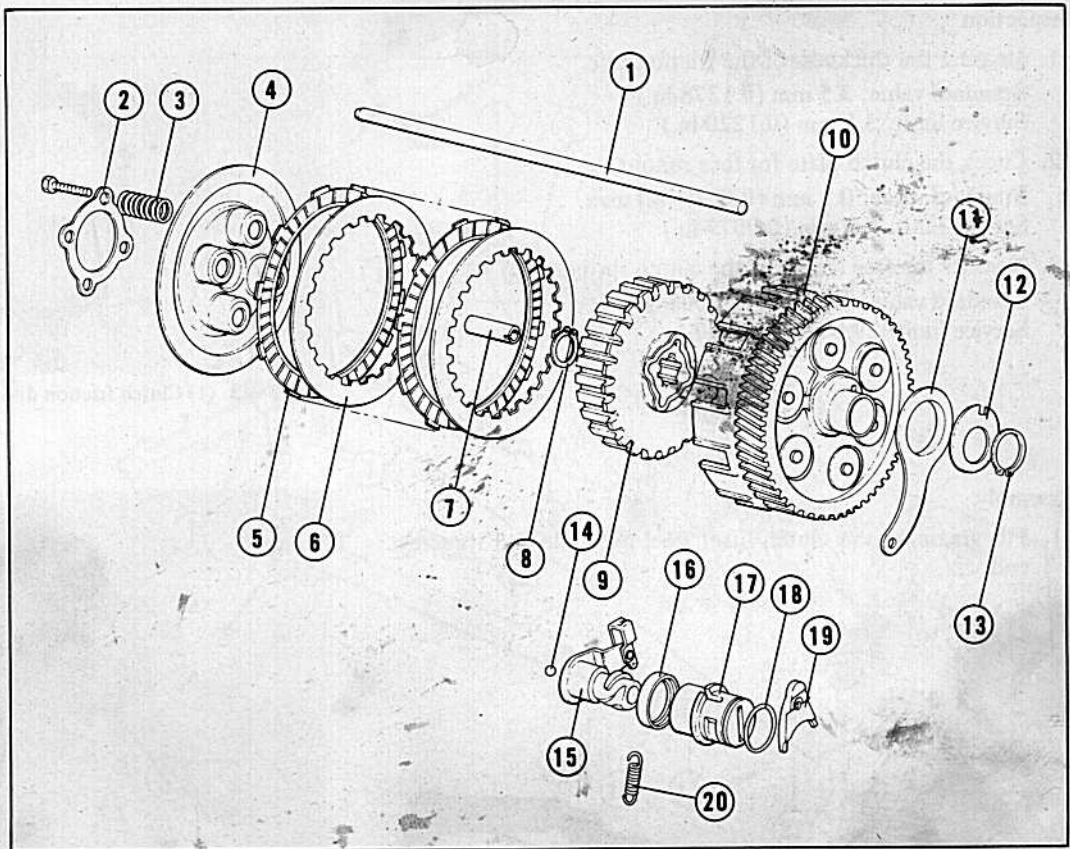


Fig. 3-44 (1) Cap nut

7. CLUTCH

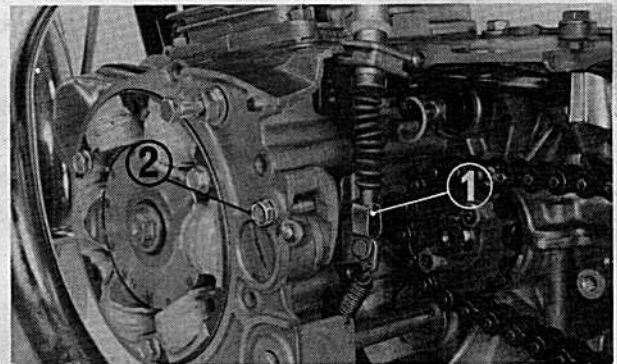
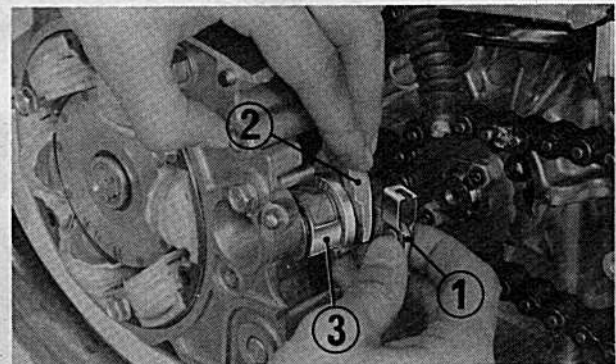
Fig. 3-45

- (1) Clutch lifter rod
- (2) Clutch lifter plate
- (3) Clutch spring
- (4) Clutch pressure plate
- (5) Clutch friction disc
- (6) Clutch plate
- (7) Clutch lifter joint piece
- (8) Snap ring (20 mm)
- (9) Clutch center
- (10) Clutch outer
- (11) Pump rod
- (12) Pump rod side washer
- (13) Snap ring (26 mm)
- (14) Steel ball (5/16-in.)
- (15) Clutch lifter
- (16) Oil seal (22x26x8mm)
- (17) Clutch adjuster
- (18) O-ring (23 mm)
- (19) Adjuster fixing piece
- (20) Clutch lever spring



Disassembly

1. Follow the steps 1 thru 6 used in removing the oil pump since the clutch can be removed together with the oil pump.
2. Remove the generator cover, left crankcase rear cover and left crankcase cover.
3. Disconnect the clutch cable from the clutch lifter. Remove the clutch locking bolt from the left crankcase cover.
4. Remove the fixing piece, clutch adjuster, spring, clutch lifter and steel ball from the left crankcase.

Fig. 3-46 (1) Clutch cable
(2) Locking boltFig. 3-47 (1) Clutch lifter
(2) Fixing piece
(3) Clutch adjuster

Inspection

1. Measure the thickness of the friction disc.
Standard value: 3.5 mm (0.1378-in.)
Service limit: 3.1 mm (0.1220-in.)
2. Check the clutch plate for face runout.
Standard value: 0.1 mm (0.0039-in.) max.
Service limit: 0.2 mm (0.0079-in.)
3. Measure the free length of the clutch spring.
Standard value: 30.5 mm (1.2008-in.)
Service limit: 29.0 mm (1.1417-in.)

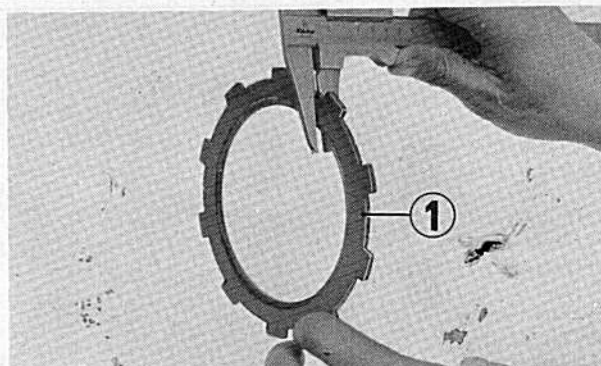


Fig. 3-48 (1) Clutch friction disc

Assembly

1. Fill grease in the clutch lifter steel ball hole and its screw end.

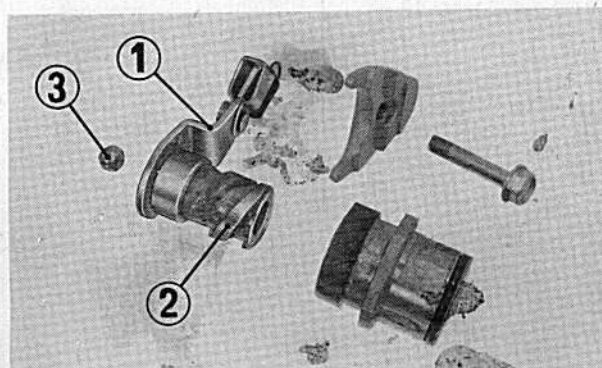


Fig. 3-49 (1) Clutch lifter
(2) Screw end
(3) Steel ball

2. After installing the snap ring, check the operation of the clutch center. It should rotate freely without binding.
3. After assembling, adjust the clutch properly.

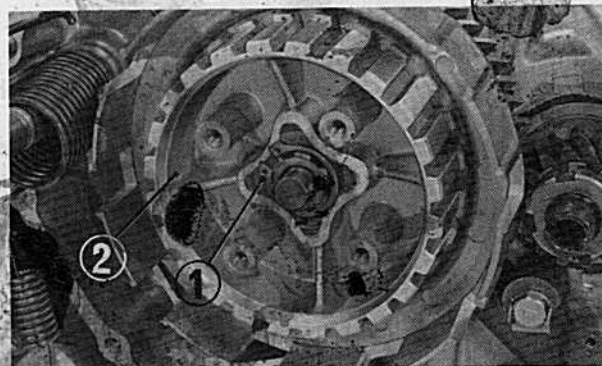


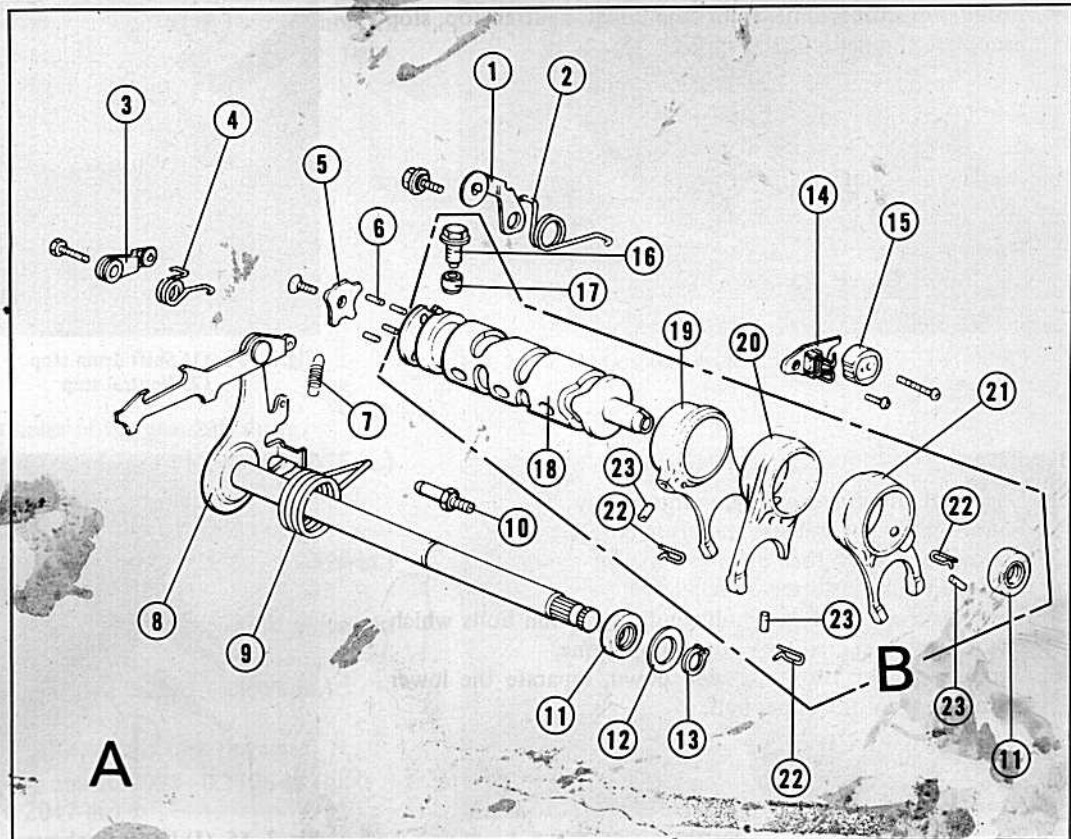
Fig. 3-50 (1) Snap ring
(2) Clutch center

8. GEARSHIFT MECHANISM

Fig. 3-51

A group: On-frame servicing
B group: Off-engine servicing

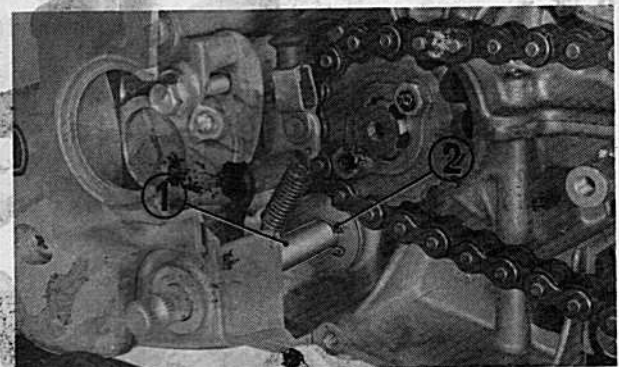
- (1) Shift drum stop
- (2) Shift drum stop spring
- (3) Neutral stop
- (4) Neutral stop spring
- (5) Shift drum stop plate
- (6) Gearshift drum pin
- (7) Gearshift arm spring
- (8) Gearshift spindle
- (9) Gearshift return spring
- (10) Return spring pin
- (11) Oil seal (12x25x4.5 mm)
- (12) Gearshift spindle stop
- (13) Snap ring (12 mm)
- (14) Neutral switch stator
- (15) Neutral switch rotor
- (16) Shift drum guide screw
- (17) Shift drum guide collar
- (18) Gearshift drum
- (19) Right gearshift fork
- (20) Center gearshift fork
- (21) Left gearshift fork
- (22) Gearshift fork guide pin clip
- (23) Gearshift fork guide pin



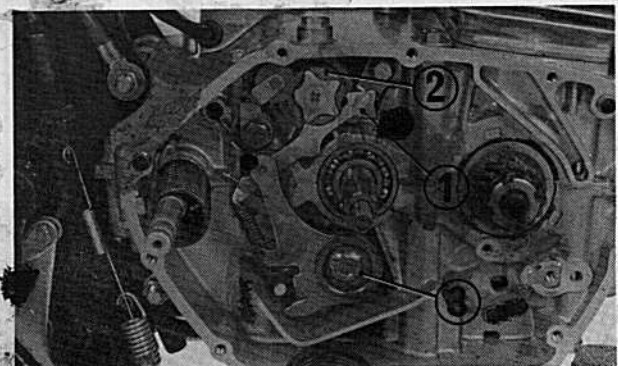
Disassembly

A group

1. Drain the engine thoroughly.
2. Remove the right muffler, kick starter pedal and step bar.
3. Remove the left crankcase rear cover and disconnect the clutch cable from the clutch lifter.
4. Remove the right crankcase cover.
5. Remove the oil filter, clutch and oil pump.
6. Remove the gear change pedal. Pry out the snap ring that secures the gearshift spindle.

Fig. 3-52 (1) Gearshift spindle
(2) Snap ring

7. Withdraw the gearshift spindle while disengaging the gearshift arm hook from the gearshift drum.

Fig. 3-53 (1) Gearshift arm
(2) Gearshift drum
(3) Gearshift spindle

8. Screw off the bolts and remove the shift drum stop, shift drum stop spring, shift drum stop collar, neutral stop, stop arm plate and neutral stop spring.

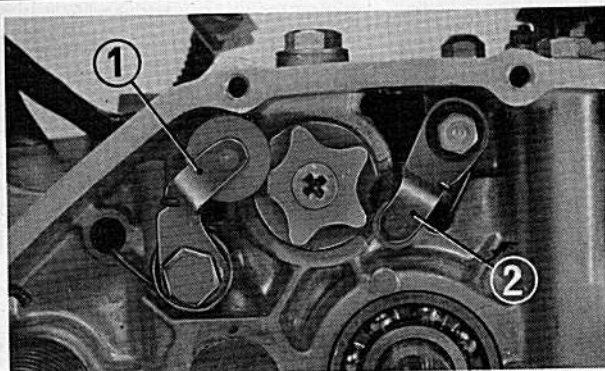


Fig. 3-54 (1) Shift drum stop
(2) Neutral stop

B group

1. Dismount and drain the engine thoroughly.
2. Remove the right and left crankcase covers.
3. Follow the steps 5 thru 8 above.
4. Remove the kick starter spring.
5. Loosen off eleven 6 mm bolts and four 8 mm bolts which secure the lower crankcase to the upper one.
6. With the upper crankcase side down, separate the lower crankcase from the upper half.

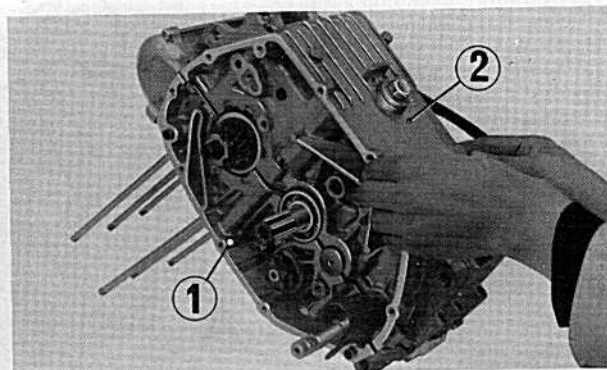


Fig. 3-55 (1) Upper crankcase
(2) Lower crankcase

7. Take out the transmission mainshaft and countershaft.

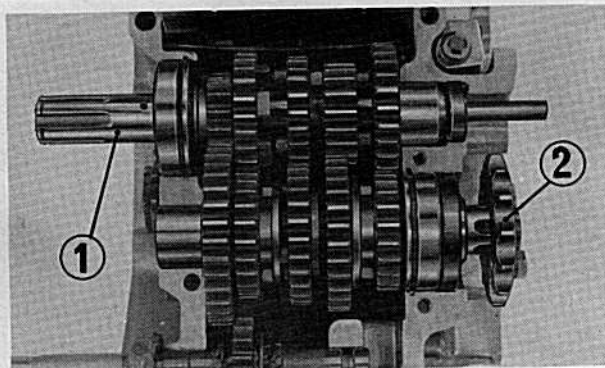


Fig. 3-56 (1) Mainshaft assembly
(2) Countershaft assembly

8. Remove the shift drum guide screw and then remove the guide collar from the guide screw.
9. Loosen off the 6 mm screws and remove the neutral switch stator and rotor.

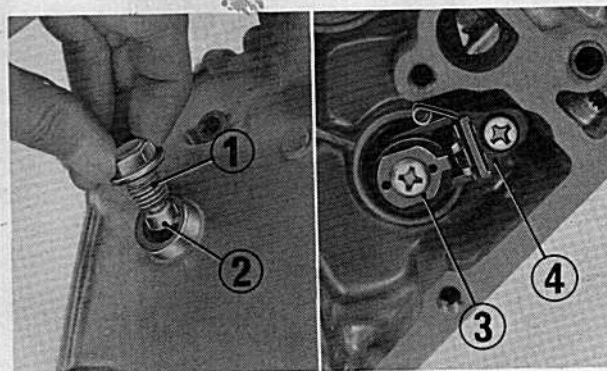


Fig. 3-57 (1) Shift drum guide screw
(2) Shift drum guide collar
(3) Neutral switch rotor
(4) Neutral switch stator

10. Remove the guide clips and pull off the gearshift fork guide pins. To pull off, screw a 3 mm bolt in the tapped hole in the pins. Withdraw the gearshift drum to the right crankcase cover side.

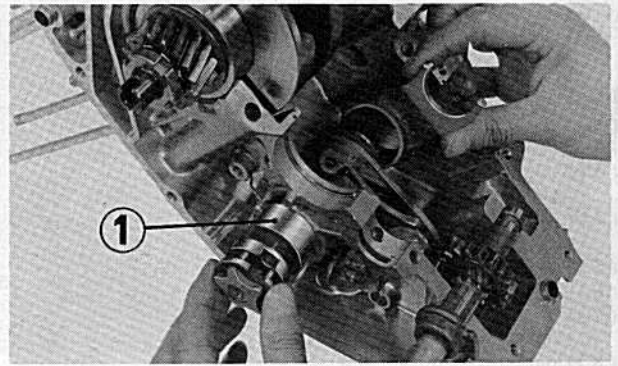


Fig. 3-58 (1) Gearshift drum

Inspection

1. Measure the outside diameter of the gearshift drum.
Standard value: 33.950–33.975 mm (1.3366–1.3376-in.)
Service limit: 33.8 mm (1.3307-in.)
2. Measure the inside diameter of the gearshift fork.
Standard value: 34.000–34.025 mm (1.3386–1.3396-in.)
Service limit: 34.075 mm (1.3415-in.)
3. Check the clearance between the gearshift fork guide pin and gearshift drum groove.
Standard value: 0.11–0.228 mm (0.0043–0.0090-in.)
Service limit: 0.5 mm (0.0197-in.)
4. Measure the thickness of the gearshift fork fingers.
Standard value: 5.33–5.40 mm (0.2098–0.2126-in.)
Service limit: 5.2 mm (0.2047-in.)

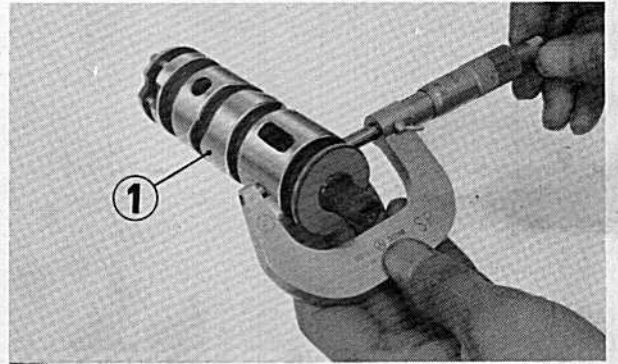


Fig. 3-59 (1) Gearshift drum

Assembly

1. Install the gearshift forks properly in their respective positions. They are provided with the marks "R", "C" and "L" for identification.
2. Insert the shift fork guide pin clips properly as shown in Fig. 3-60.

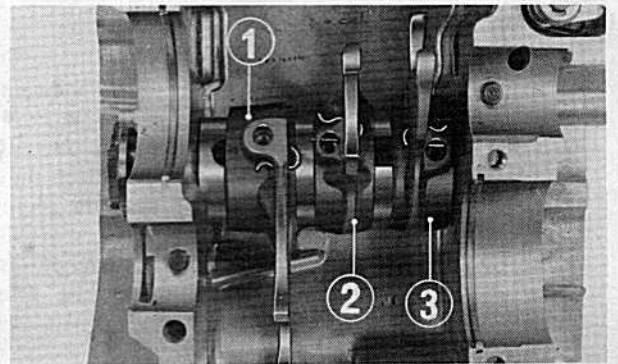


Fig. 3-60 (1) Right gearshift fork
(2) Center gearshift fork
(3) Left gearshift fork

3. Check the stop arms to see if they are in their proper positions; also check for operation.
4. Operate the gearshift pedal to see if each related part is operating properly.

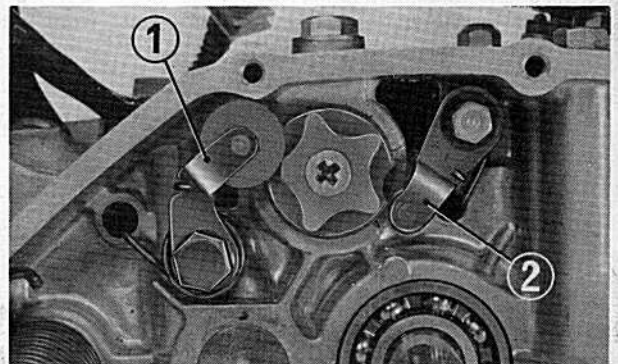
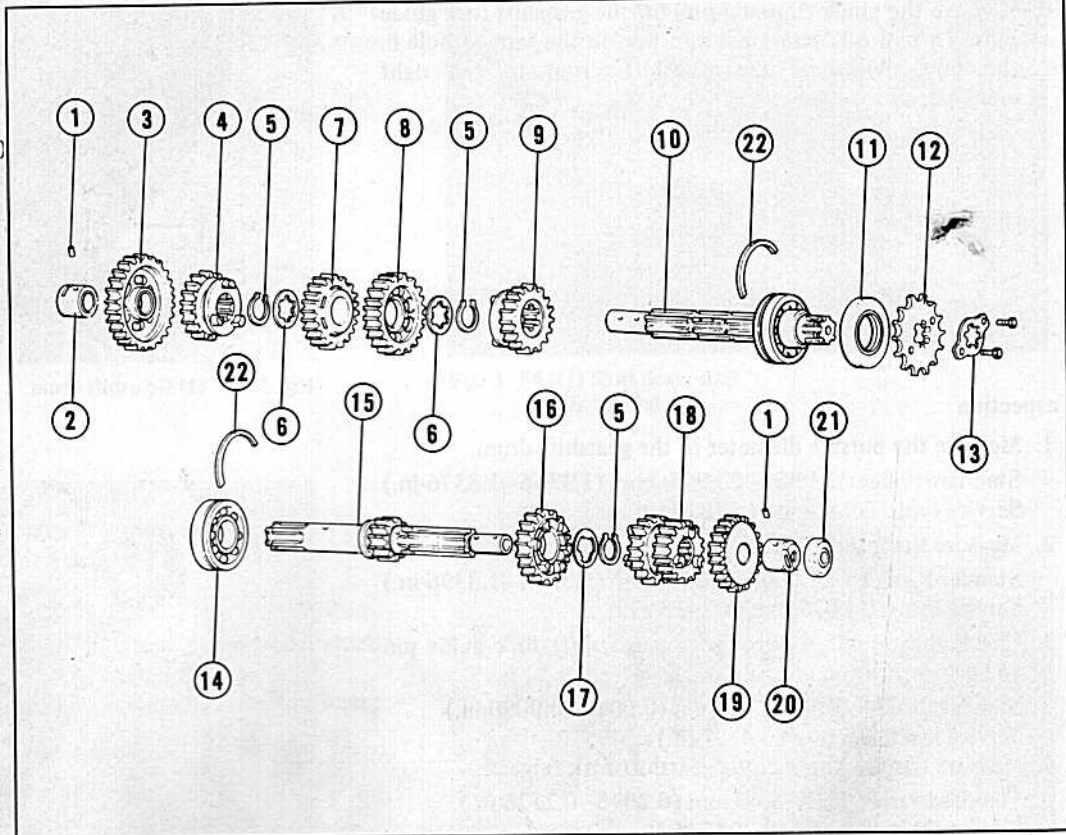


Fig. 3-61 (1) Shift drum stop arm
(2) Neutral stop arm

9. TRANSMISSION

Fig. 3-62

- (1) Knock pin (6 x 9 mm)
- (2) Bearing bushing B (15 mm)
- (3) Countershaft low gear (34T)
- (4) Countershaft fourth gear (23T)
- (5) Snap ring (20 mm)
- (6) Thrust washer A
- (7) Countershaft third gear (26T)
- (8) Countershaft second gear (29T)
- (9) Countershaft fifth gear (21T)
- (10) Transmission countershaft
- (11) Oil seal (28 x 47 x 7 mm)
- (12) Drive sprocket (14T)
- (13) Drive sprocket fixing plate
- (14) Ball bearing (6204HS)
- (15) Transmission mainshaft
- (16) Mainshaft fourth gear (24T)
- (17) Thrust washer A
- (18) Mainshaft second and third gear (18 x 22T)
- (19) Mainshaft fifth gear (26T)
- (20) Bearing bushing A (15 mm)
- (21) Oil seal (8 x 25 x 8 mm)
- (22) Ball bearing retaining ring



Disassembly

1. Drain the engine thoroughly.
2. Remove the cylinder head, cylinder, piston and cam chain.
3. Remove the oil filter, clutch and oil pump.
4. Remove one 6 mm bolt and one 8 mm bolt securing the upper crankcase to the lower crankcase. Place the engine with the upper crankcase side down and remove the crankcase securing bolts.

While lightly tapping around with a soft hammer, disengage the gearshift arm hook from the gearshift drum and separate the lower crankcase from the upper half.

5. Remove the mainshaft and countershaft from the upper crankcase.

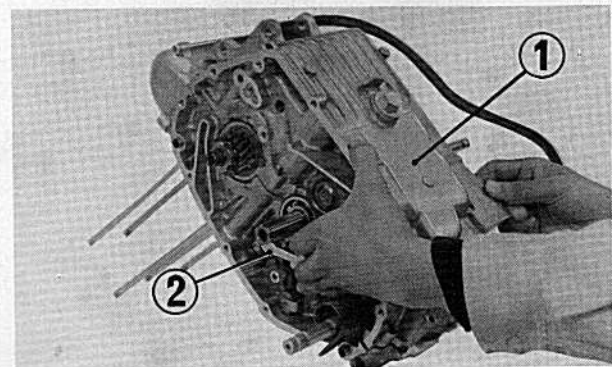


Fig. 3-63 (1) Lower crankcase
(2) Gearshift arm

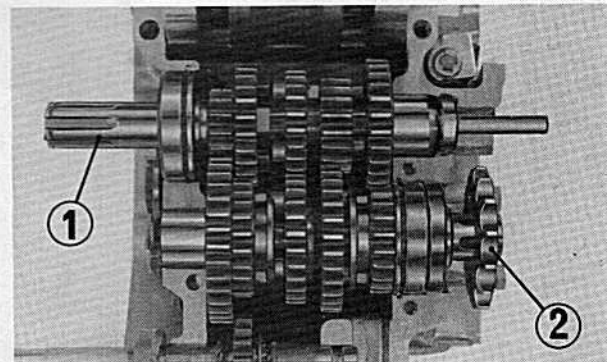
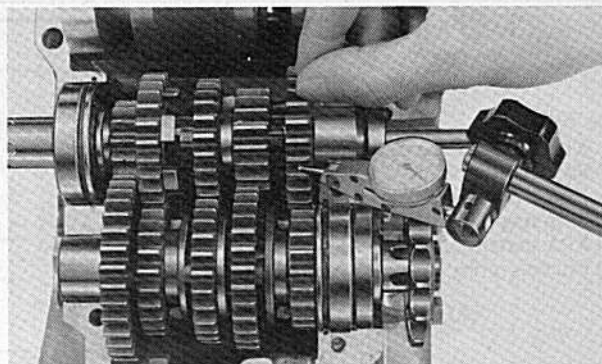


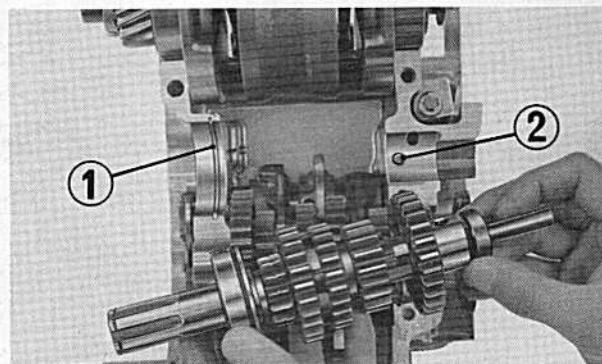
Fig. 3-64 (1) Mainshaft
(2) Countershaft

Inspection

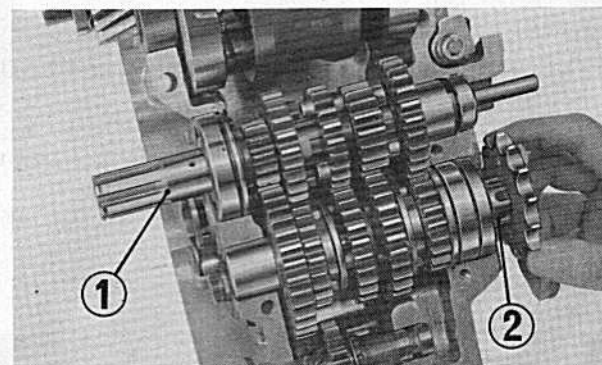
1. Measure the gears for backlash.
Service limit: 0.2 mm (0.0079-in.)
2. Replace any gear if its dogs are excessively worn or damaged.
3. Check the gears for smooth sliding on the shaft splines.

**Fig. 3-65** Measuring gear backlash**Assembly**

1. Install the ball bearing retaining rings and knock pins to the upper crankcase. Install the mainshaft and countershaft with the bearing grooves and pin holes fitted to the retaining rings and guide pins.

**Fig. 3-66** (1) Ball bearing retaining ring
(2) Knock pin

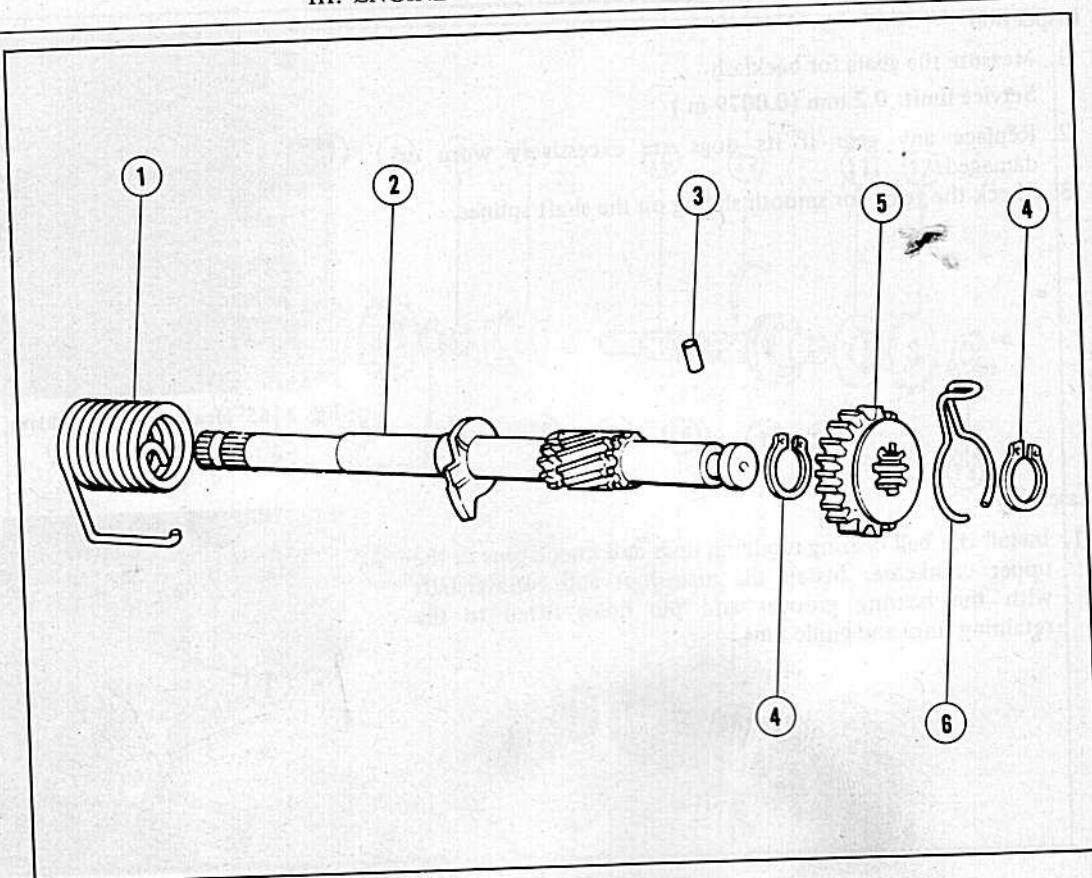
2. With transmission in neutral position, rotate the each shaft by hand to see if it rotates freely without binding.

**Fig. 3-67** (1) Mainshaft
(2) Countershaft

10. KICK STARTER

Fig. 3-68

- (1) Kick starter spring
- (2) Kick starter spindle
- (3) Knock pin (4 x 15 mm)
- (4) Snap ring (20 mm)
- (5) Kick starter pinion
- (6) Friction spring



Disassembly

1. Separate the lower crankcase from the upper crankcase. (See page 20.)
2. Remove the kick starter spring.
3. Remove the kick starter spindle assembly from the upper crankcase.
4. Disassemble the spindle assembly by removing the snap ring.

Inspection

1. Check the kick starter pinion for smooth operation.
2. Check the kick starter spring for weak tension.

Assembly

1. Install the friction spring in the groove in the upper crankcase.
2. Engage the starter spring to the spindle hook; attach the other end to the crankcase.

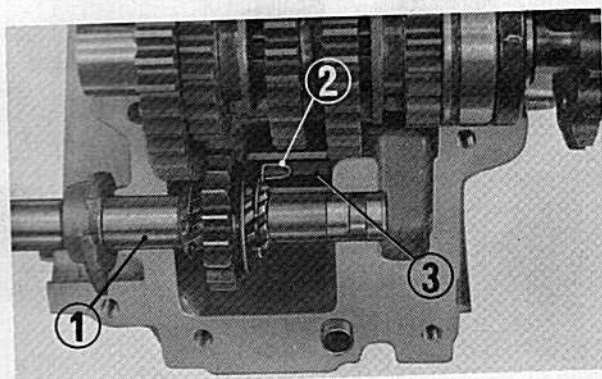


Fig. 3-69 (1) Kick starter spindle
(2) Friction spring
(3) Friction spring set groove

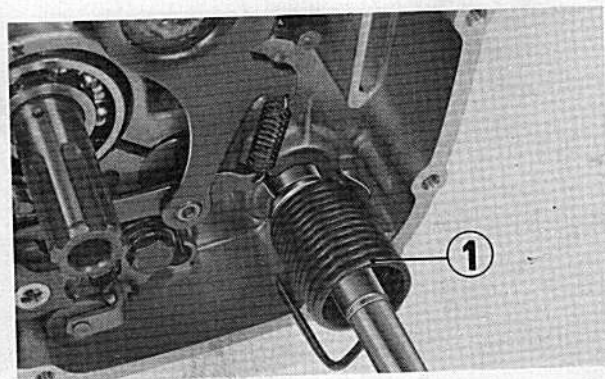
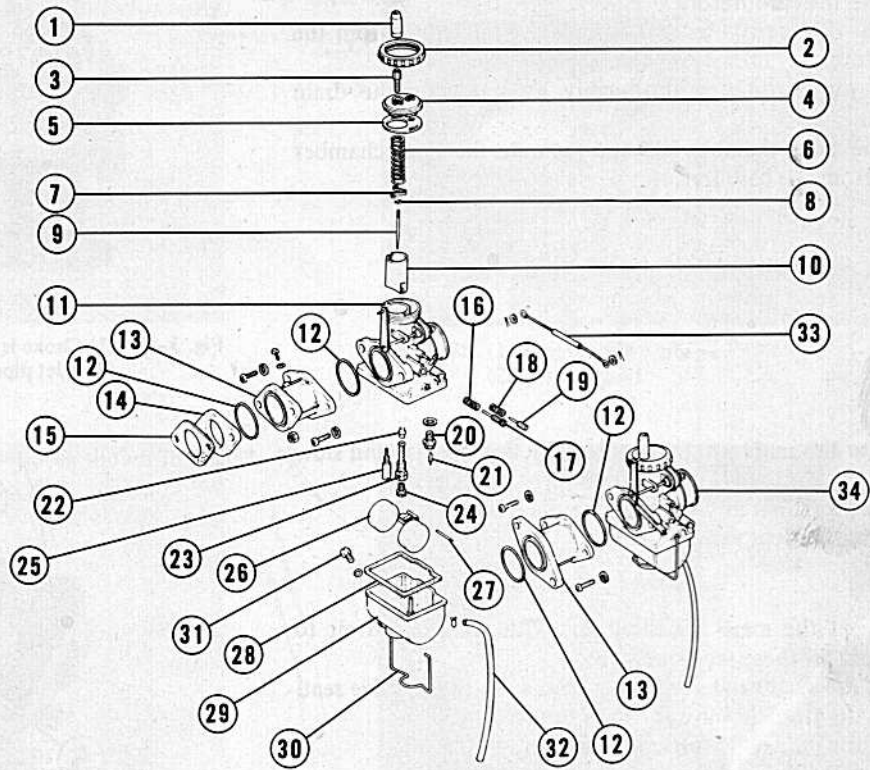


Fig. 3-70 (1) Kick starter spring

11. CARBURETOR

Fig. 3-71

- (1) Rubber cap
- (2) Cap
- (3) Cable adjuster
- (4) Carburetor top
- (5) Top gasket
- (6) Throttle valve spring
- (7) Needle clip plate
- (8) Clip
- (9) Jet needle
- (10) Throttle valve
- (11) Carburetor body
- (12) O-ring
- (13) Inlet pipe
- (14) Carburetor insulator
- (15) Insulator gasket
- (16) Throttle stop screw spring
- (17) Throttle stop screw
- (18) Air screw spring
- (19) Air screw
- (20) Float valve seat
- (21) Float valve
- (22) Needle jet
- (23) Needle jet holder
- (24) Main jet (#95)
- (25) Slow jet (#38)
- (26) Float
- (27) Float arm pin
- (28) Carburetor gasket
- (29) Float chamber
- (30) Float chamber clip
- (31) Drain bolt
- (32) Overflow tube



Disassembly

1. Clean around the carburetor.
2. Position the fuel cock lever to "S". Disconnect the fuel tubes from the fuel cock.
3. Loosen off the carburetor flange nuts and move the air cleaner connecting clips to the air cleaner side; take out the carburetors.
4. Loosen the carburetor top and separate from the carburetor body.

NOTE:

If the carburetor top is not serviceable, place a sheet of nylon over the top to prevent air-borne dust and dirt from entering inside.

5. Disconnect the throttle cable end from the throttle valve. Remove the throttle valve spring and jet needle from the throttle valve.

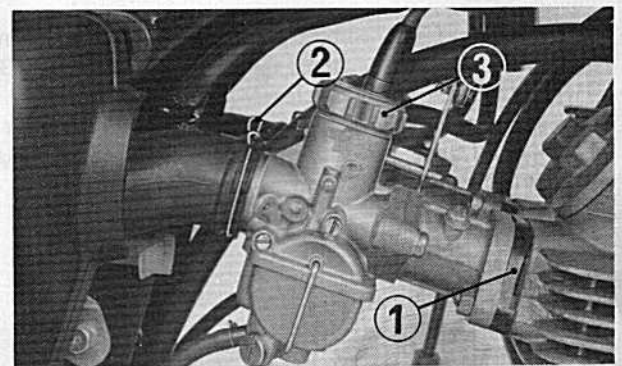


Fig. 3-72 (1) Carburetor insulator
(2) Clip
(3) Carburetor top

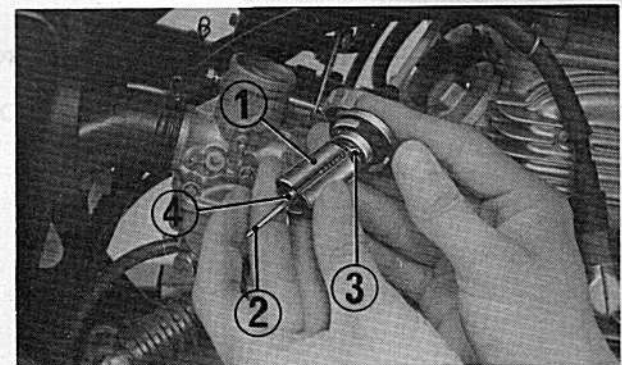


Fig. 3-73 (1) Throttle valve
(2) Jet needle
(3) Throttle valve spring
(4) Throttle cable wire end

6. Pry out the cotter pins and remove the choke lever linkage; separate the carburetors.
7. Loosen off the screws and remove the inlet pipe from the carburetor.
8. Drain the carburetor thoroughly by removing the drain bolt.
9. Pry the float chamber clip and separate the float chamber body from the carburetor.

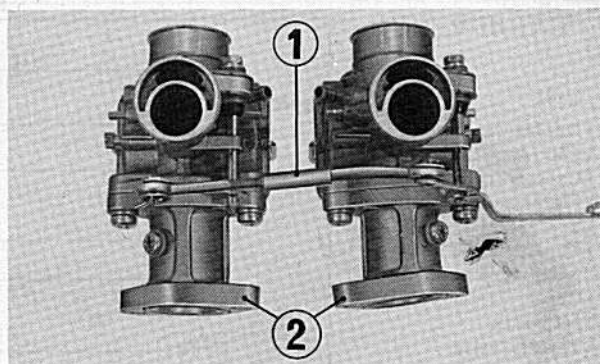


Fig. 3-74 (1) Choke lever link
(2) Inlet pipe

10. Remove the main jet, jet needle holder, needle jet and slow jet.
11. Pull out the float arm pin; remove the float.
12. Remove the float valve.

Inspection

1. Blow out the main and slow jets with compressed air to determine if these are not clogged.
2. Check the float valve for proper contact with the valve seat.
3. Check the throttle valve for scores or wear.
4. Check the jet needle for scores or wear.
5. Measure the float level.

Hold the carburetor with its main bore in a vertical position, so that the float arm tang will just close the float valve, without compressing the spring loaded plunger in the end of the valve. Measure the float height with a float level gauge.

Float height (distance between the carburetor body and the opposite edge of the float) should be 26.5 mm (1.0433-in.) when the float valve just closes.

To adjust, carefully bend the float arm tang toward or away from the float valve until the specified float height is obtained. Replace any damaged or leaking float.

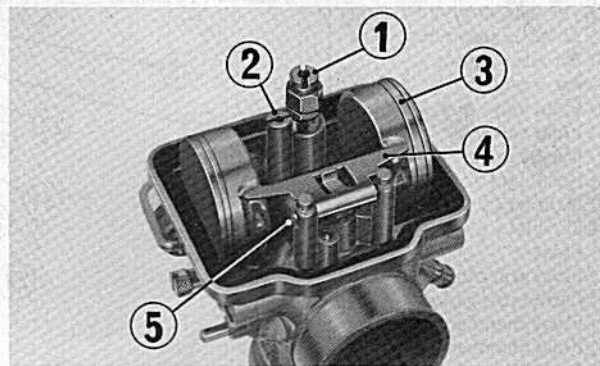


Fig. 3-75 (1) Main jet (4) Float arm pin
(2) Slow jet (5) Float arm
(3) Float

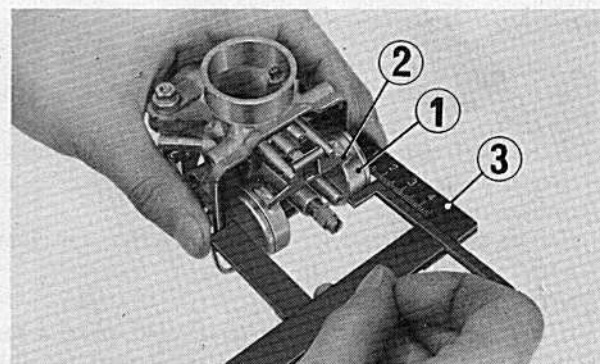


Fig. 3-76 (1) Float
(2) Float arm
(3) Float level gauge

Assembly

1. It is important that all carburetor parts be handled carefully since rough handling will damage them easily.
2. Install the inlet pipe to the carburetor through the O-ring.

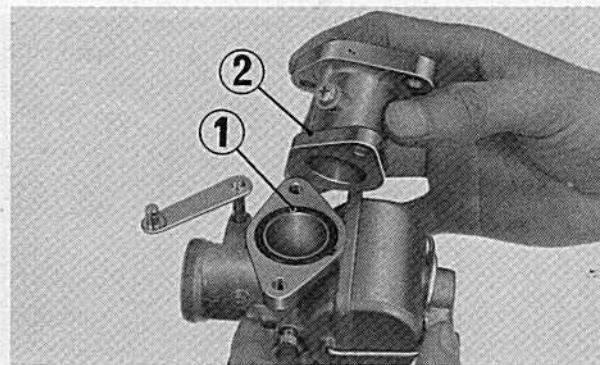


Fig. 3-77 (1) O-ring
(2) Inlet pipe

3. Install the carburetor top so that the throttle valve groove aligns with the concave part on the carburetor body.

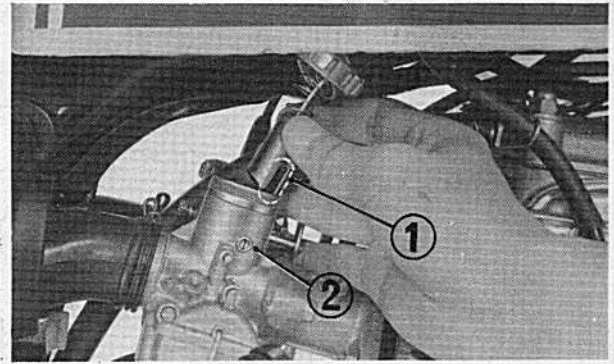


Fig. 3-78 (1) Throttle valve groove
(2) Concave part

4. Route the overflow tube properly as shown in Fig. 3-79.

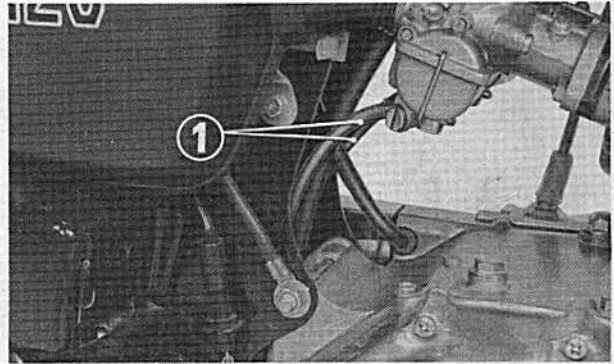
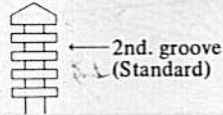


Fig. 3-79 (1) Overflow tube

Carburetor setting

Item	
Setting number	673A
Main jet	#95
Slow jet	#38
Jet needle setting	
Air screw opening	$1 \frac{1}{8} \pm 3/8$
Float height	26.5 mm (1.0433-in.)

12. ENGINE ELECTRICAL

Charging system

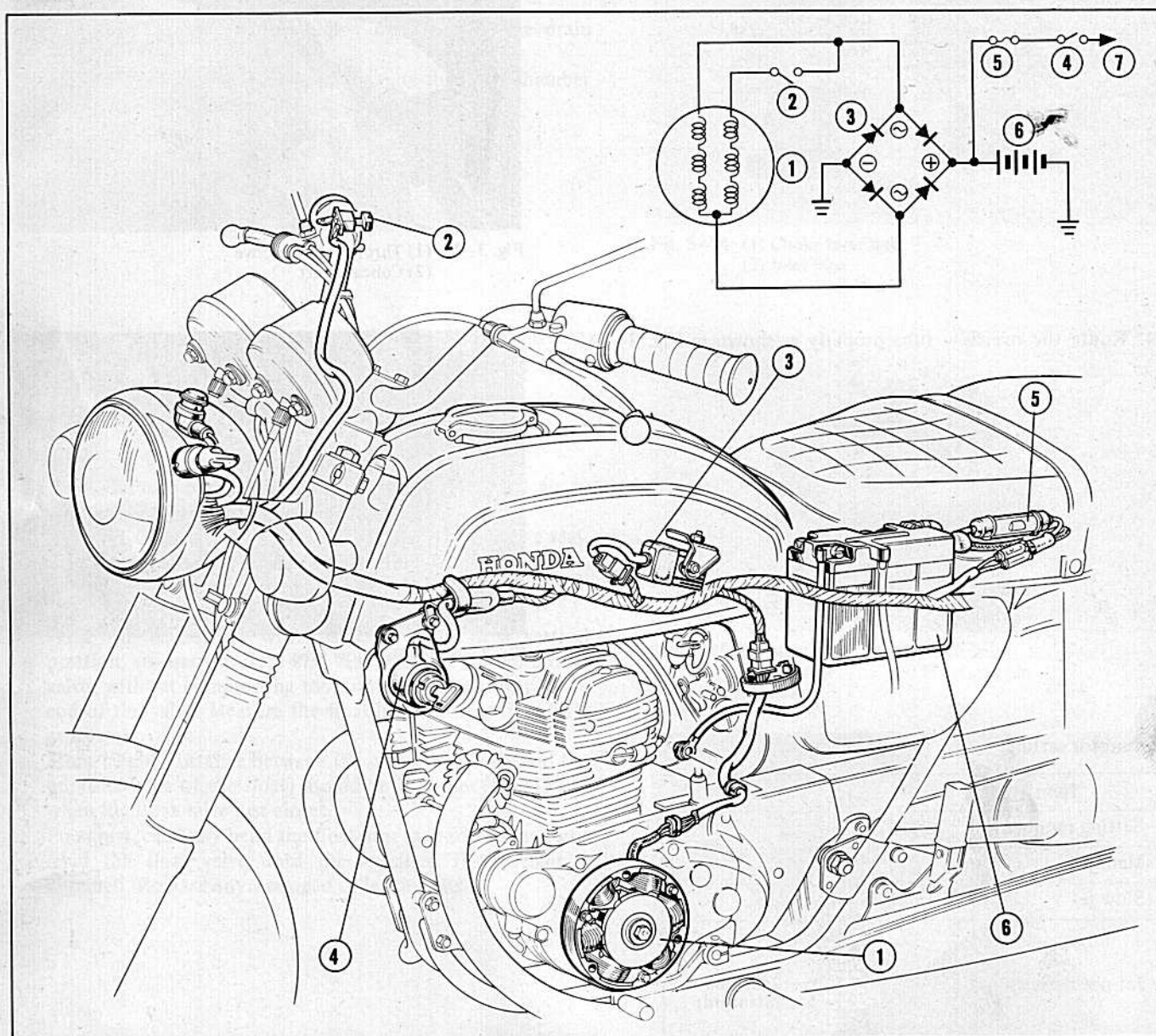


Fig. 3-80 (1) A-C generator (2) Lighting switch (3) Silicon diode rectifier (4) Main switch (5) Fuse (6) Battery (7) Load

Charging test

1. Test should be made with a fully charged 6V battery. (The specific gravity of electrolyte in each cell must be 1.26-1.28 at 20°C or 68°F)
2. Connect the positive lead of the ammeter to the harness, and negative lead to the positive terminal of the battery.
3. Connect the positive lead of the voltmeter to the positive terminal of the battery, and the negative lead to the negative terminal.
4. Run the engine under either condition of NIGHTTIME RIDING and DAYTIME.

If the readings are not within the specifications shown in the following table, the generator, battery or rectifier should be checked for condition.

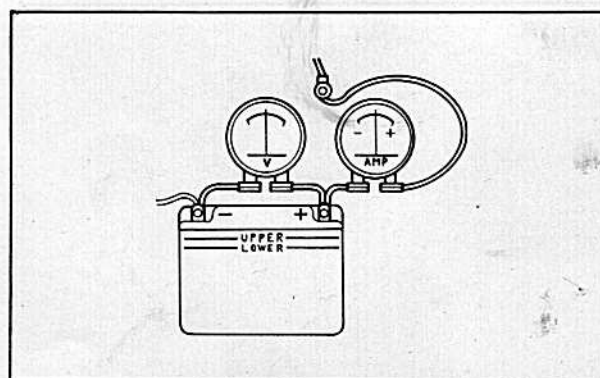
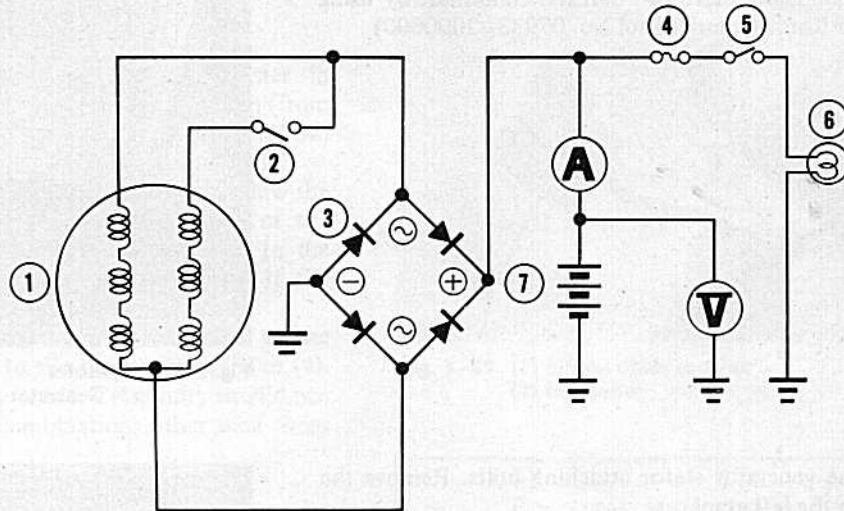


Fig. 3-81 Charging test

Fig. 3-82

Charging test circuit

- (1) A-C generator
 (2) Lighting switch
 (3) Silicon diode rectifier
 (4) Fuse
 (5) Main switch
 (6) Load
 (7) Battery



Charging characteristics

			Initial charging rpm		3,000 rpm		5,000 rpm		10,000 rpm	
Lighting switch	Dimmer switch		rpm	Battery voltage	Charging current	Battery voltage	Charging current	Battery voltage	Charging current	Battery voltage
Daytime	OFF	—	1,100 max.	6.3V	3.0A min.	6.7V	4.0A min.	7V	6.0A max.	8.3V
Nighttime	II	L (Low beam)	1,800 max.	6.3V	1.2A min.	6.7V	2.0A min.	7V	4.0A max.	8.3V

A-C generator

Removal

1. Drain the engine thoroughly.
2. Disconnect the wire harness connector to the generator.
3. Remove the A-C generator cover and left crankcase rear cover.
4. Disconnect the clutch cable from the clutch lifter.

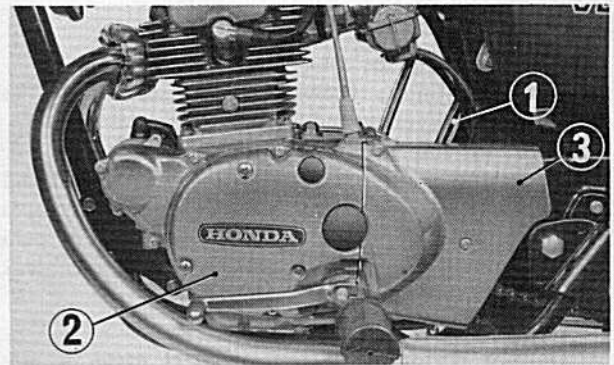


Fig. 3-83 (1) Wire harness
 (2) A-C generator cover
 (3) Left crankcase rear cover

5. Remove the drive chain and shift the transmission into drive position. Using "Drive Sprocket Holder" (Tool No. 07922-35700), loosen off the rotor securing bolt.

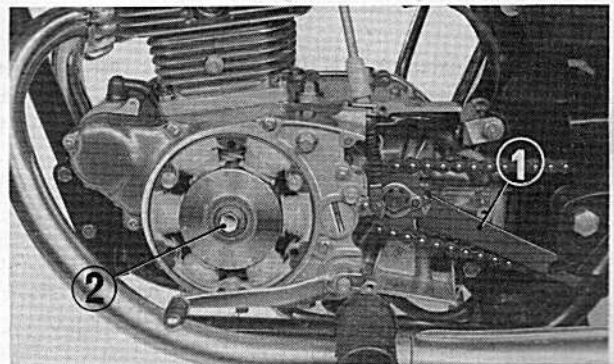


Fig. 3-84 (1) Drive sprocket holder
 (2) Bolt

6. Remove the generator rotor from the crankshaft by using "Generator Rotor Puller" (Tool No. 07933-2000000)

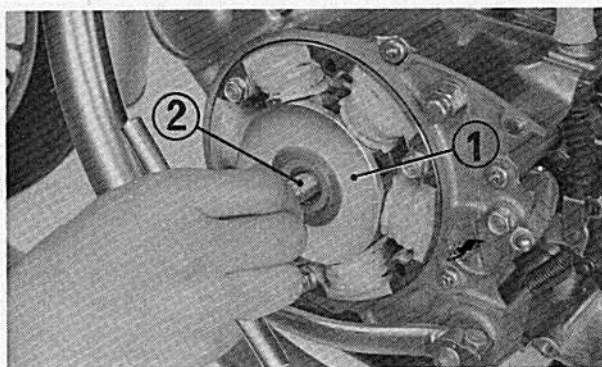


Fig. 3-85 (1) Rotor
(2) Generator rotor puller

7. Remove the generator stator attaching bolts. Remove the stator from the left crankcase cover.

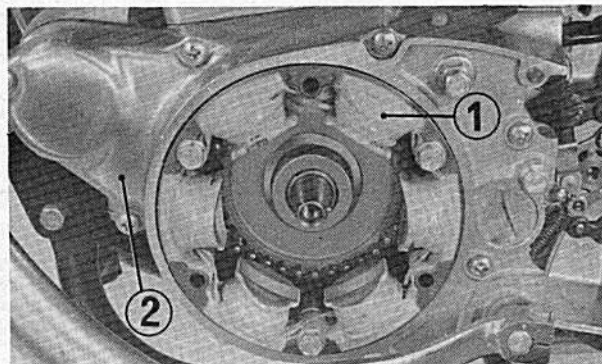


Fig. 3-86 (1) A-C generator stator
(2) Left crankcase cover

Inspection

1. Check field coil for continuity.
Check continuity between three leads of the field coil (pink, white/yellow and yellow) with a radio tester.
2. Check the stator coil for continuity.
Check for continuity between the yellow lead and stator core with a radio tester. If there is continuity, it is a sure indication that the coil has a short-circuit, calling for replacement. Also check the stator coil for breakage or cracked insulation.

NOTE:

Do not perform this test on steel plate or any other conductive material.

3. Check the stator coil lead wire for breakage.

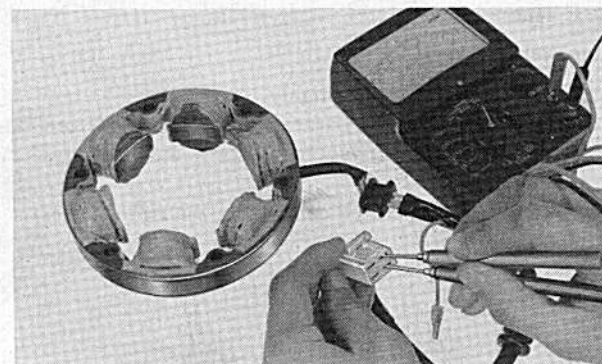


Fig. 3-87 Checking stator coil

Installation

1. Prior to installing the rotor, check the inside of the rotor for magnetized screw, bolt, washer or any other metal.
2. Install the generator lead grommet in the groove of the left crankcase properly.
3. Route the generator lead wire properly as shown in Fig. 3-88.

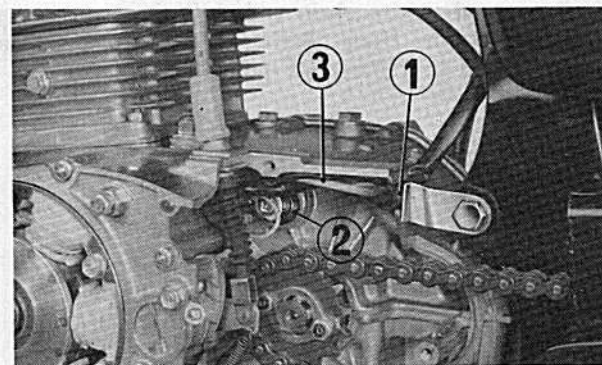


Fig. 3-88 (1) Grommet
(2) Neutral switch
(3) A-C generator lead

Silicon diode rectifier

Inspection

Check each diode for continuity with a radio tester in high-reading range. If current flows only in one direction (from cathode to anode), the diode is normal. Current flow in both direction or no current is a sign of malfunction of the diode.

To determine that the rectifier is in good condition, follow the instruction given below. Connect the negative probe of the tester to the terminal (1) (green), and positive probe to the terminal (2) (Red/white), (3) (Yellow) or (4) (pink). If the needle swings, it is an indication that the diode is normal.

In like manner as above, connect the positive probe to the terminal (2), and negative probe to the terminal (1), (3) or (4). The diode is correct if continuity exists. Continuity should not exist between any terminals of combinations other than those described above.

NOTES:

- Do not use a megger as a high voltage generated in the megger will damage the diodes.
- Make sure of proper battery polarity when making connections. Connection in reverse polarity will shorten the battery service life or cause a high current flow throughout the electrical system, resulting in damage to the diodes or burning up the harness.

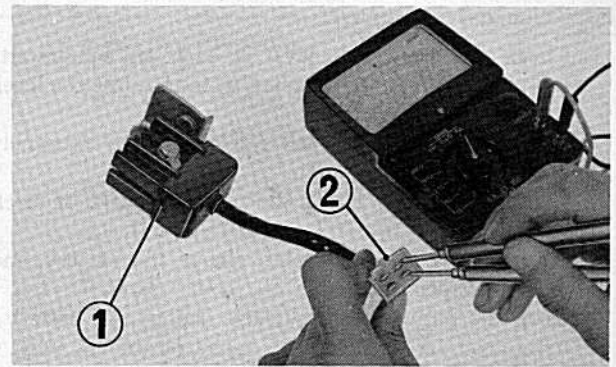


Fig. 3-89 (1) Silicon diode rectifier
(2) Connector

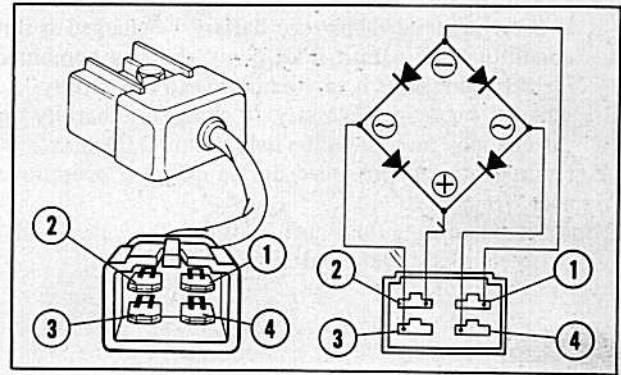


Fig. 3-90 (1) Green lead
(2) Red/white lead
(3) Yellow lead
(4) Pink lead

Battery

Type: B-54-6A
Voltage: 6V
Capacity: 12AH
Charging current: 0.6A

Specific gravity of electrolyte when full charged: 1.260-1.280 at 20°C or 68°F

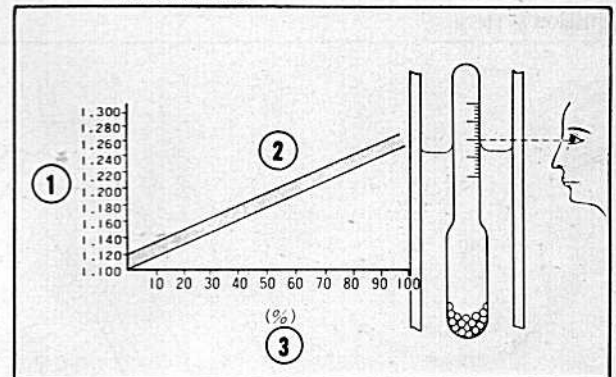


Fig. 3-91 (1) Specific gravity
(2) Relationship between specific gravity and residual charge
(3) Residual charge

Measuring specific gravity of electrolyte

Measure the specific gravity of electrolyte in each cell with a hydrometer. Recharge the battery when the reading taken is below 1.200 at 20°C or 68°F. When measuring with a hydrometer, hold the gauge vertically and take the highest level as shown.

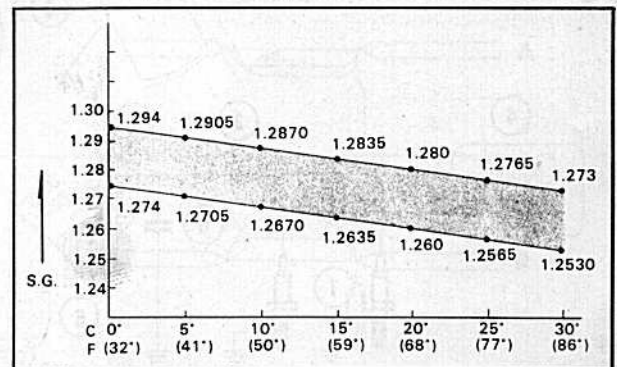


Fig. 3-92 Relationship between specific gravity and atmospheric temperature

Inspection and maintenance

1. Check the electrolyte level in each cell semi-monthly or monthly. If low, add distilled water to raise the level up to the upper level mark.
2. If the fluid level in each cell should get extremely low, check the charging system.
3. It is important to check the specific gravity of electrolyte regularly.
After adding distilled water, charge the battery, and then check the specific gravity.
4. Keep the battery, battery cable clamps and battery terminals clean. After cleaning, apply petroleum jelly to the battery clamps and terminals to retard corrosion.
Check for separated paste and for sulfation.

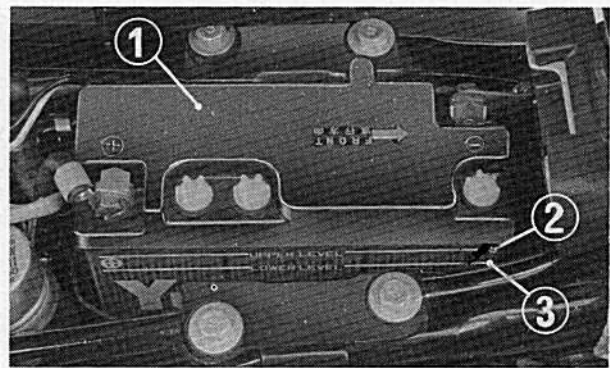


Fig. 3-93 (1) Battery
(2) Upper level mark
(3) Lower level mark

Charging battery

1. It is recommended that the battery be charged as slowly as conditions will permit since quick charging combined with high charging rates is very damaging to the battery.
When it becomes necessary to charge the battery quickly, the charging rate should be held within 2.0A max.
2. Hydrogen gas is produced during charging operation. Keep away from fire.
3. After charging, flush off with clear water and apply petroleum jelly to the battery terminals.

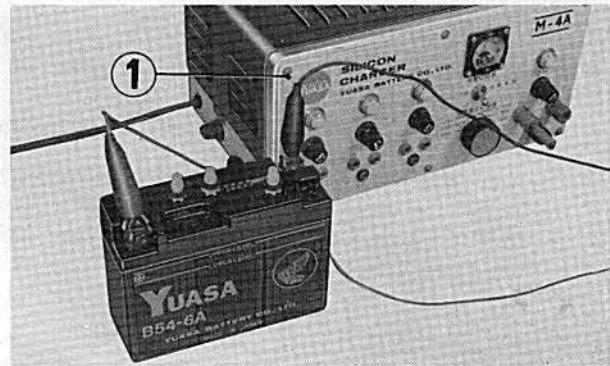


Fig. 3-94 (1) Battery charger

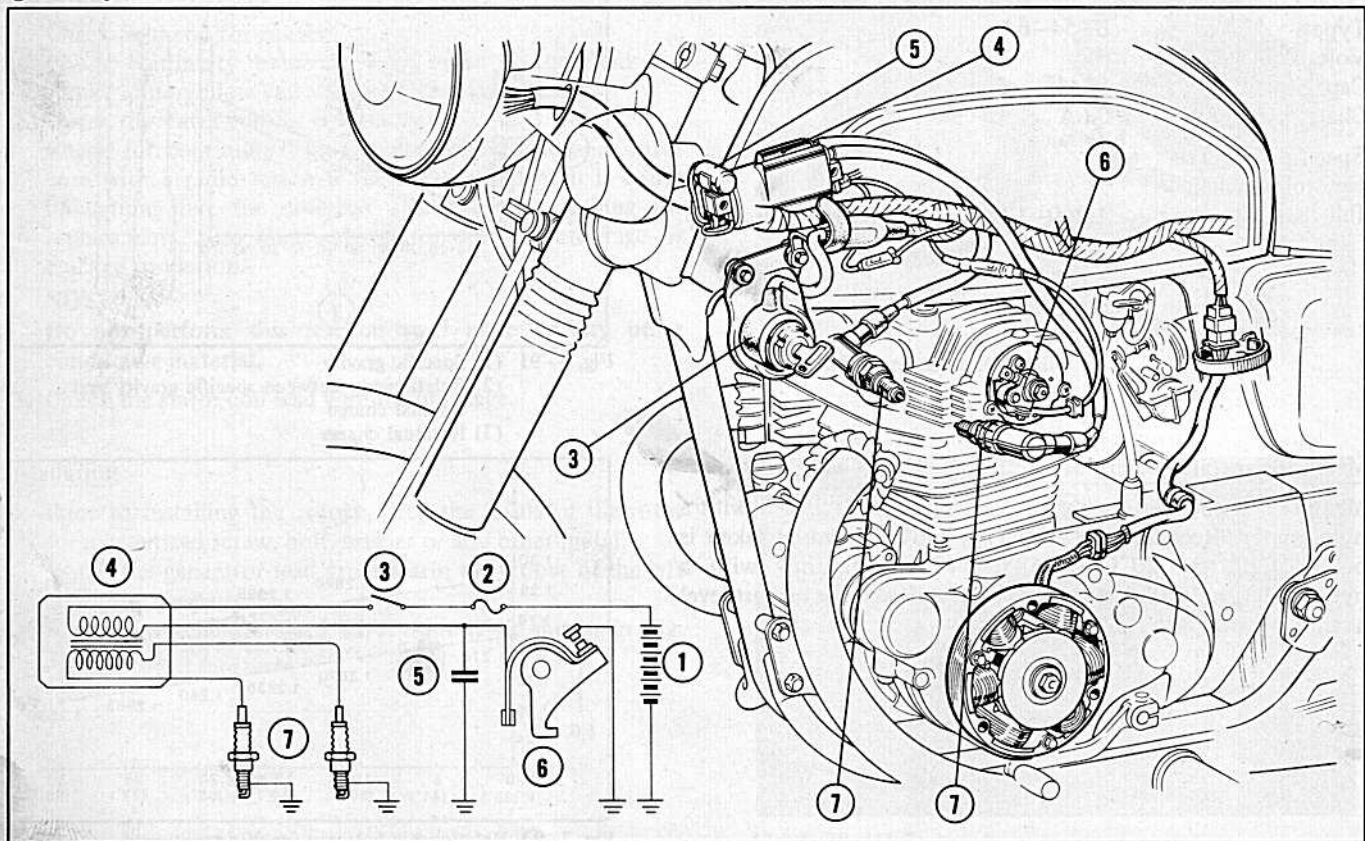
Ignition system

Fig. 3-95 (1) Battery (3) Main switch (5) Condenser (7) Spark plug
(2) Fuse (4) Ignition coil (6) Contact breaker

Ignition coil	3-point spark gap opening	6 mm (0.24-in.) min.
Spark plug	Type Plug gap	NGK D8HS or ND X24FS 0.6–0.7 mm (0.024–0.028-in.)
Contact breaker	Spring force Point gap	650–850 gr. (22.93–30.00 ozs.) 0.3–0.4 mm (0.012–0.016-in.)
Condenser	Capacity Insulation resistance	0.22 μ F \pm 10% 10M Ω min. (1,000V with a megger)
Spark advancer	1° advance (crankshaft rpm) Full advance (crankshaft rpm)	1,150–1,350 rpm 2,000–2,300 rpm

Ignition coil

1. Check the continuity of the primary coil.
Check for continuity between the two terminals of the primary winding with a radio tester. (Black/white lead wire and blue lead wire)
2. Check the continuity of the secondary coil.
Check for continuity between the two terminals of the secondary coil.
If there is no continuity, the coil has an open-circuit and must be replaced.

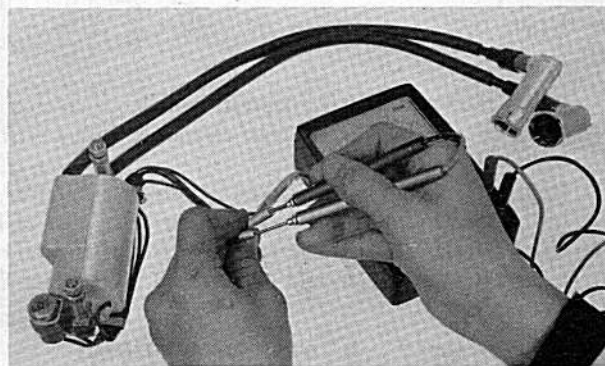


Fig. 3-96 Checking ignition coil for continuity

3. Check the ignition coil for performance.
The coil may sometimes deteriorate in such a way as to produce weak spark at the spark plug gap. This can be checked by the service tester as follows:
Connect the tester power supply cable to the positive and negative terminals of the fully charged 6V battery. Make connections of the tester following the instructions furnished by the tester manufacturer.
Measure the maximum distance where spark jumps across the gap regularly.

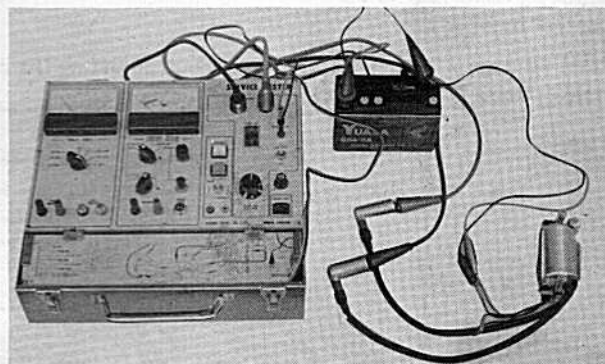


Fig. 3-97 Checking ignition coil performance

NOTE:

Reverse the polarity of the spark plug cables if spark occurs as "B" in Fig. 3-98. Sketch "A" shows the normal test condition.

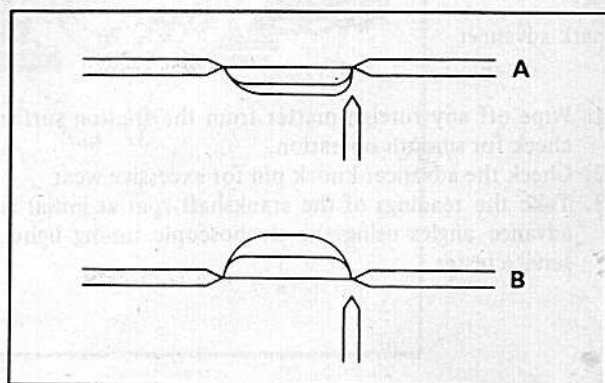


Fig. 3-98 3-point spark tester

Condenser

Test the capacitance of the condenser using the service tester. Also check for broken insulation.

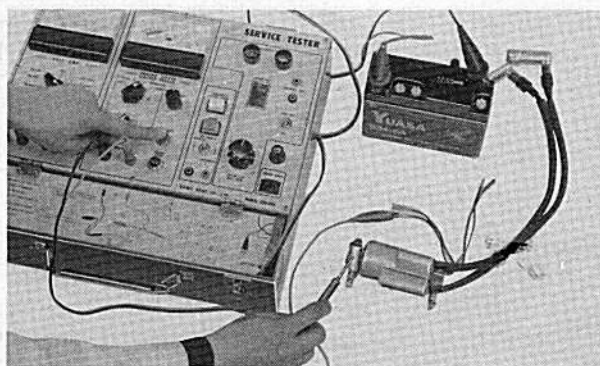


Fig. 3-99 Checking condenser

Spark plug

Check the spark plug for deposits and electrode erosion.

1. Clean the plugs on a sand blast cleaner or with a bristle wire brush when they are fouled.
2. Replace if found with cracked or broken insulators, badly pitted electrodes, damaged gasket, or other sign of failure.
3. Using a feeler gauge, measure the electrode gap, and regap if necessary. The gap should be adjusted by bending the side electrode.

Specified gap: 0.6–0.7 mm (0.024–0.028-in.)

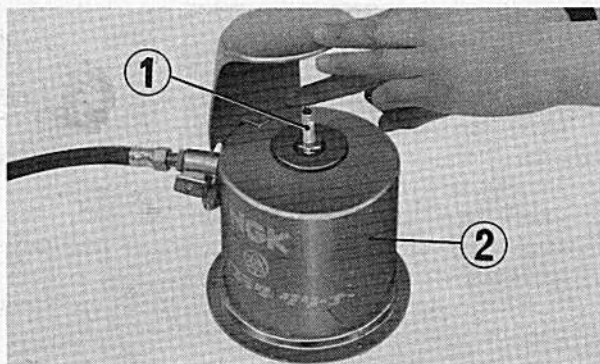


Fig. 3-100 (1) Spark plug
(2) Plug cleaner

Contact breaker

Refer to page 2 thru 3 for instructions on adjusting the contact breaker point gap and ignition timing.

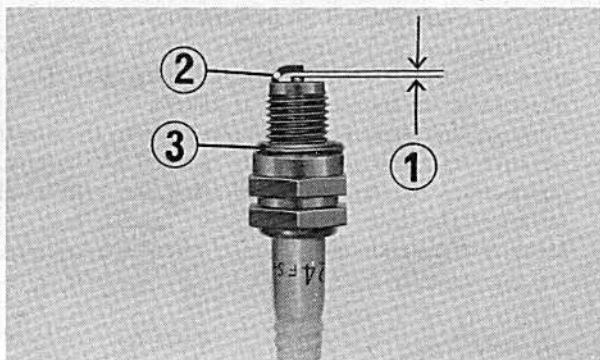


Fig. 3-101 (1) Spark plug gap
(2) Side electrode
(3) Gasket

Spark advancer

1. Wipe off any foreign matter from the friction surfaces and check for smooth operation.
2. Check the advancer knock pin for excessive wear.
3. Take the readings of the crankshaft rpm at initial and full advance angles using the stroboscopic timing light in the service tester.

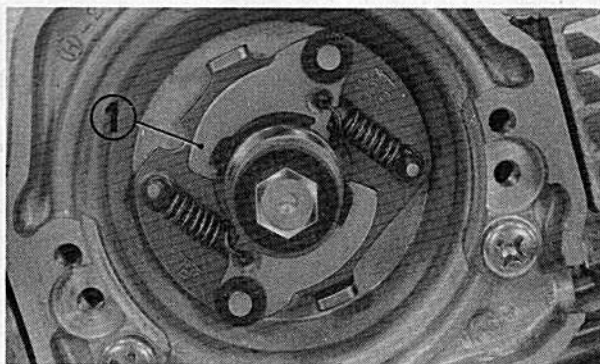


Fig. 3-102 (1) Spark advancer

Starting system

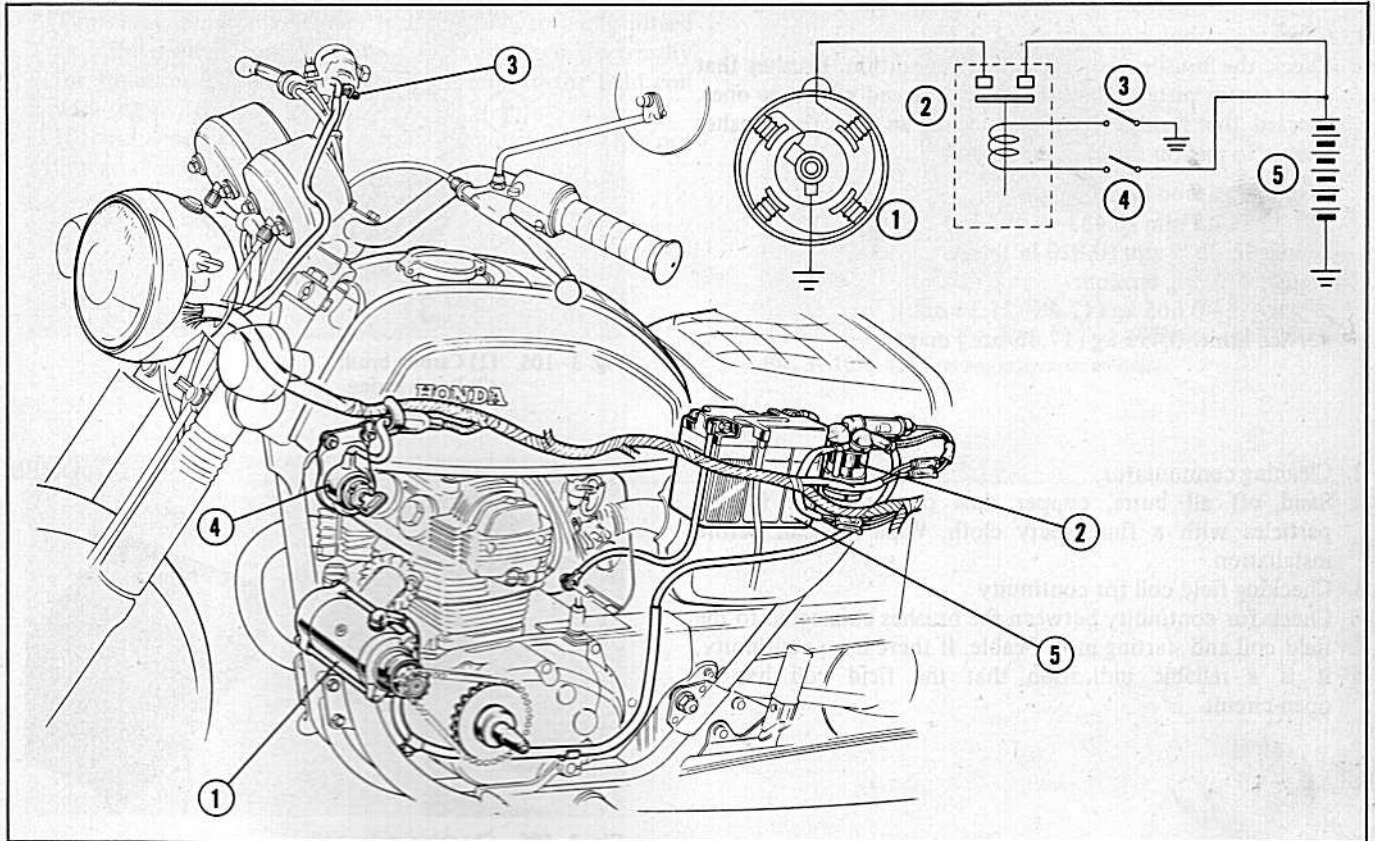


Fig. 3-103 (1) Starting motor (2) Starting magnetic switch (3) Starting switch (4) Main switch (5) Battery

Starting motor

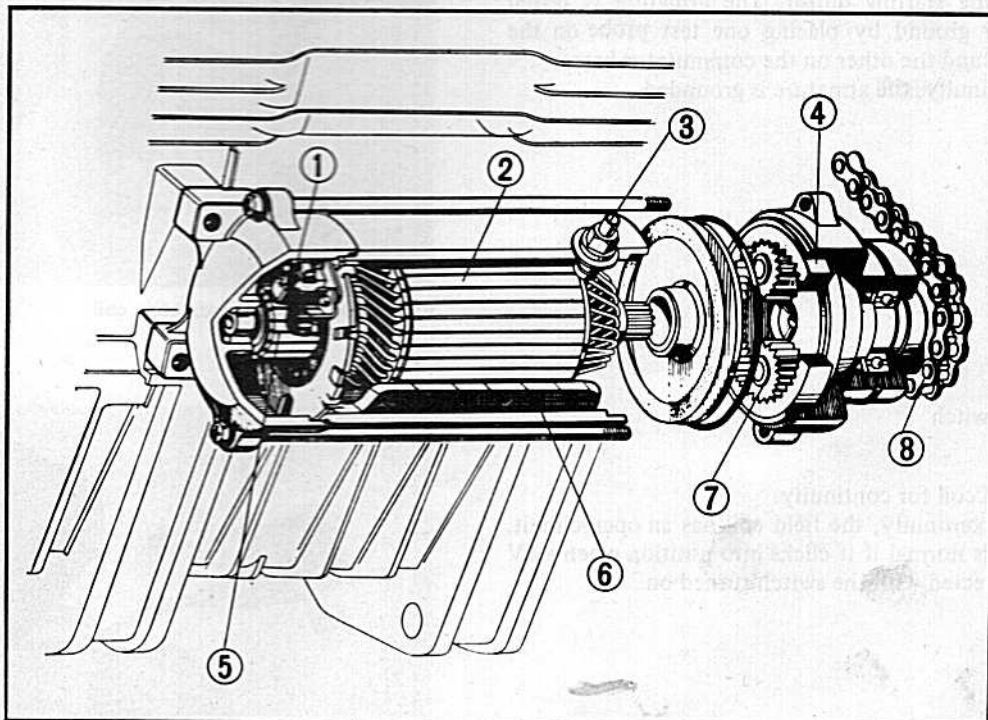


Fig. 3-104 (1) Carbon brush (2) Armature (3) Terminal (4) Inner gear (5) Commutator (6) Field coil (7) Planetary gear (8) Starting chain

1. Checking carbon brushes

Check the brushes and springs for condition. Brushes that are worn or pitted badly should be replaced with new ones. Discard the springs if they are weak so that the brushes are unable to rest on the commutator.

Standard carbon brush length:

11–12.5 mm (0.433–0.492-in.)

Service limit: 5 mm (0.020-in.) max.

Standard spring tension:

0.495–0.605 kg (17.46–21.34 ozs.)

Service limit: 0.495 kg (17.46 ozs.) max.

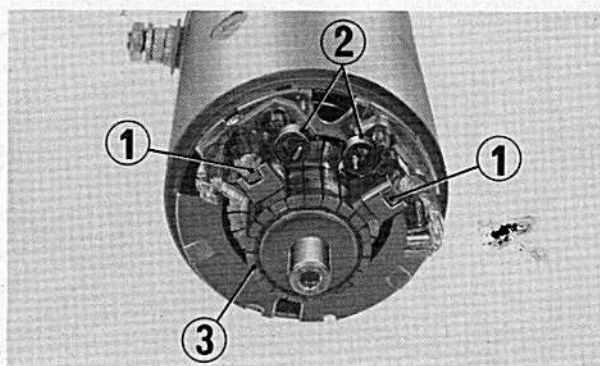


Fig. 3-105 (1) Carbon brush
(2) Brush spring
(3) Commutator

2. Cleaning commutator

Sand off all burrs, copper dust or any other foreign particles with a fine emery cloth. Wipe it clean before installation.

3. Checking field coil for continuity

Check for continuity between the brushes connected to the field coil and starting motor cable. If there is no continuity, it is a reliable indication that the field coil has an open-circuit.

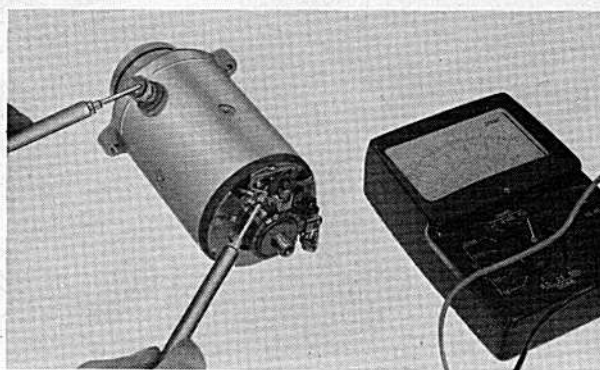


Fig. 3-106 Checking stator coil

4. Checking armature coil for continuity

A shorted or grounded armature would affect the proper operation of the starting motor. The armature is tested electrically for ground by placing one test probe on the laminated core and the other on the commutator bars. If there is continuity, the armature is grounded.

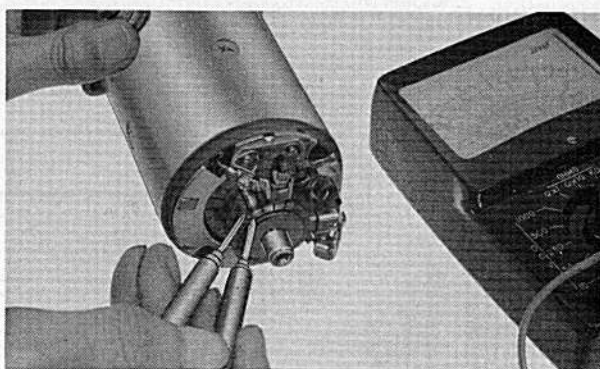


Fig. 3-107 Checking armature coil

Starting magnetic switch

1. Check the field coil for continuity.

If there is no continuity, the field coil has an open-circuit. The field coil is normal if it clicks into position when a 6V battery is connected with the switch turned on.

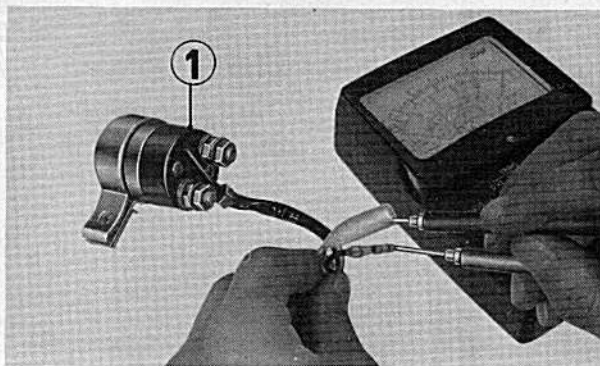


Fig. 3-108 (1) Starting magnetic switch

2. Check the operation of the magnetic switch.

Time may sometimes render it useless due to badly pitted or burnt switch contacts. The switch is tested electrically for function by connecting a 6V battery to the field coil with the switch turned on.

If there is no continuity, it is a signal that the switch is not in a good condition.

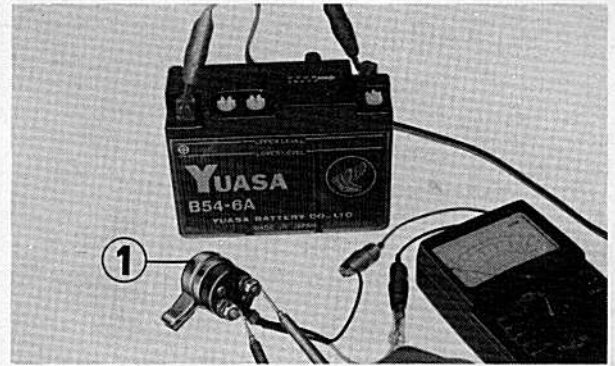


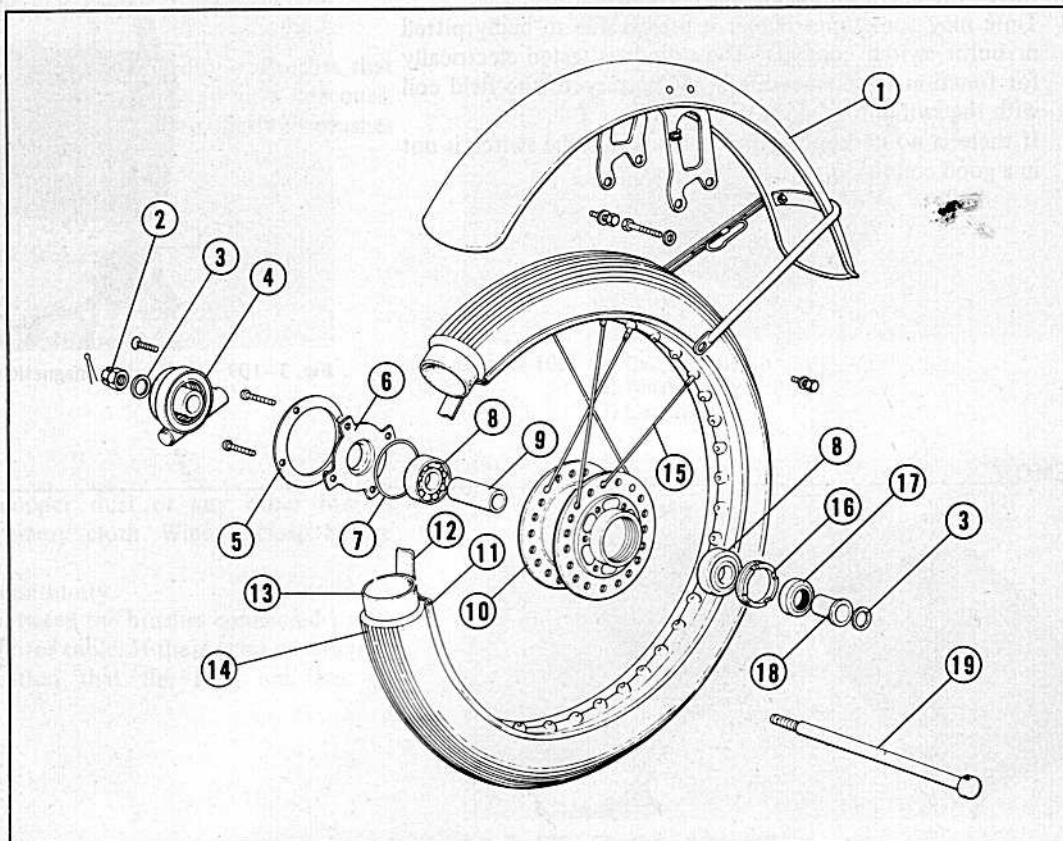
Fig. 3-109 (1) Starting magnetic switch

MEMO

1. FRONT WHEEL

Fig. 4-1

- (1) Front fender
- (2) Front wheel axle nut (14 mm)
- (3) Washer (15.2 x 25 mm)
- (4) Speedometer gear box
- (5) Gear box retainer cover
- (6) Gear box retainer
- (7) O-ring (47 mm)
- (8) Ball bearing (6302)
- (9) Front axle spacer collar
- (10) Front wheel hub
- (11) Front wheel rim
- (12) Tire flap
- (13) Front wheel tube
- (14) Front wheel tire
- (15) Spoke
- (16) Front wheel bearing retainer
- (17) Oil seal (22 x 36 x 8 mm)
- (18) Front side collar
- (19) Front wheel axle



Disassembly

1. Place a suitable stand under the engine to raise the front wheel off the ground.
2. Remove the set screw securing the speedometer cable in place; disconnect the cable from the front brake panel.
3. Pull out the cotter pin and remove the axle nut. The front wheel can then be taken out by pulling out the front wheel axle.

NOTE:

Do not apply the brake lever with the front wheel off the machine, as this would abnormally advance the automatic brake adjustment and cause difficulty in inserting the brake disc between the brake pads.

To correct, remove the caliper cover and turn out the adjusting bolt as necessary. (One full rotation of the adjusting bolt increases clearance by 2 mm (0.0787-in.)). After assembly, have the brake self adjusted by operating the brake lever several times.

4. Remove the wheel side collar from the wheel hub oil seal.
5. Straighten the lugs of the lock washers and loosen off the nuts. Remove the brake disc from the wheel hub.

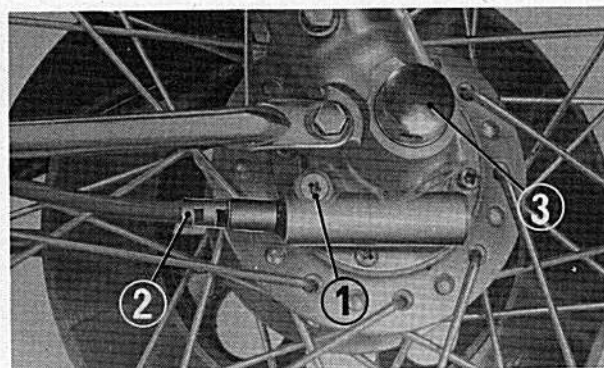


Fig. 4-2 (1) Set screw
(2) Speedometer cable
(3) Front wheel axle

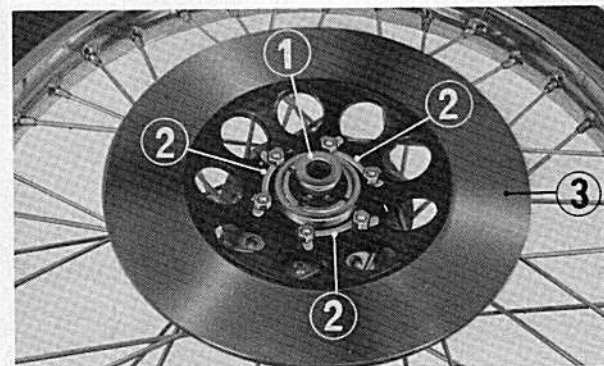


Fig. 4-3 (1) Side collar
(2) Lock washer
(3) Brake disc

6. Remove the speedometer gear box from the hub.
7. Remove the screws and take out the gear box retainer cover, gear box retainer and O-ring.
8. Remove the oil seals from the wheel hub and speedometer gear box.

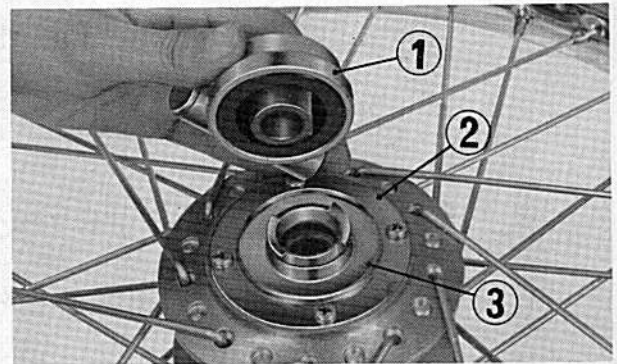


Fig. 4-4 (1) Speedometer gear box
(2) Gear box retainer cover
(3) Gear box retainer

9. Using "Bearing Retainer Wrench" (Tool No. 07910-3230101), remove the bearing retainer.
10. Remove the ball bearings and spacer collar from the wheel hub.

Inspection

1. Check the front wheel axle for bending.
Standard value: 0.01 mm (0.0004-in.) max.
Service limit: 0.15 mm (0.0059-in.)
2. Check the front wheel rim for face runout. (Before disassembly)
Standard value: 0.5 mm (0.0197-in.) max.
Service limit: 3.0 mm (0.1181-in.)
3. Check the spokes for looseness, bend or any other defects.
4. Check the brake disc for warpage.
Place the brake disc on a surface plate with the indicating needle of a dial gauge resting against the brake disc. Measurements should be taken in several places over the brake disc by moving the indicator needle as necessary.
Standard value: 0.05 mm (0.0020-in.) max.
Service limit: 0.2 mm (0.0079-in.)
5. Check the brake disc for face runout.
With the disc installed, hold the front wheel axle and measure the face runout of the disc with a dial gauge.
Standard value: 0.05 mm (0.0020-in.) max.
Service limit: 0.3 mm (0.0118-in.)
6. Measure the thickness of the brake disc.
Standard value: 4.9-5.1 mm (0.1929-0.2008-in.)
Service limit: 4.0 mm (0.1575-in.)

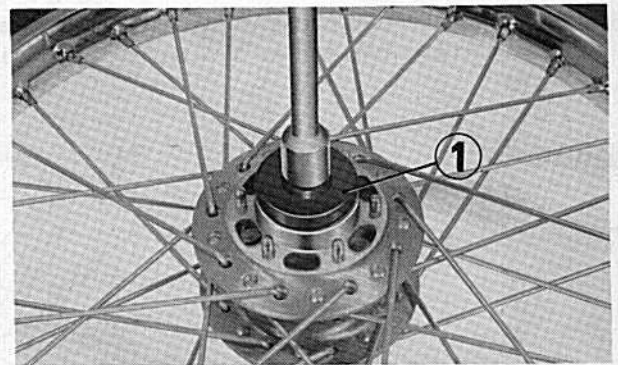


Fig. 4-5 (1) Bearing retainer wrench

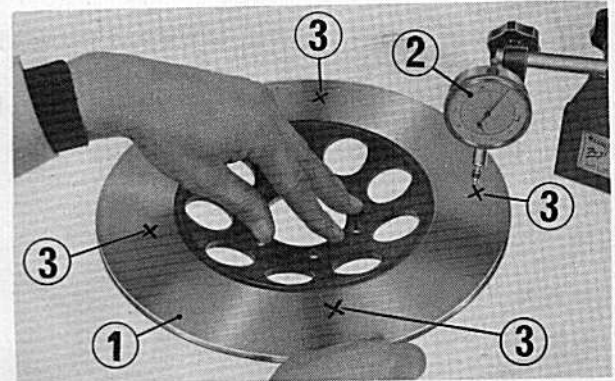


Fig. 4-6 (1) Brake disc
(2) Dial gauge
(3) Measuring points

Assembly

1. Hand pack the wheel bearings and wheel hub with recommended grease. Drive the ball bearings into place in the hub using "Bearing Driver Attachment" (Tool No. 07946-3640000) and "Driver Handle" (Tool No. 07949-6110000).

NOTES:

- a. Do not forget to install the spacer collar.
- b. Install the bearings with the seal side toward the outside.

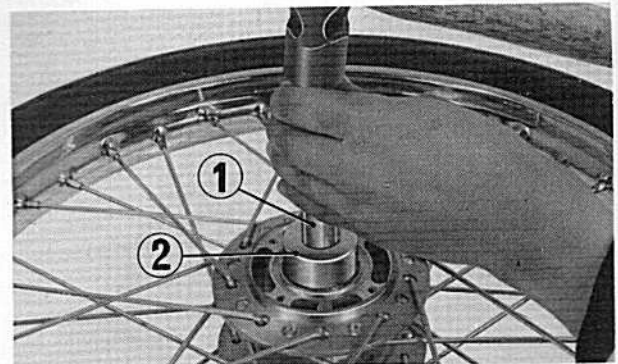


Fig. 4-7 (1) Driver handle
(2) Bearing driver attachment

2. Install the bearing retainer and stake at two places as shown.

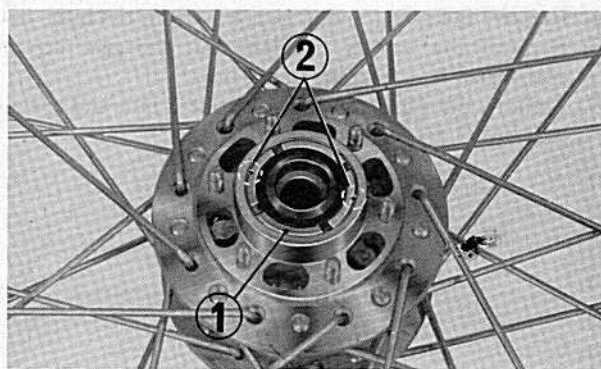


Fig. 4-8 (1) Bearing retainer
(2) Stake

3. Being sure that the O-ring is installed in the wheel hub, install the gear box retainer and retainer cover with the screws.

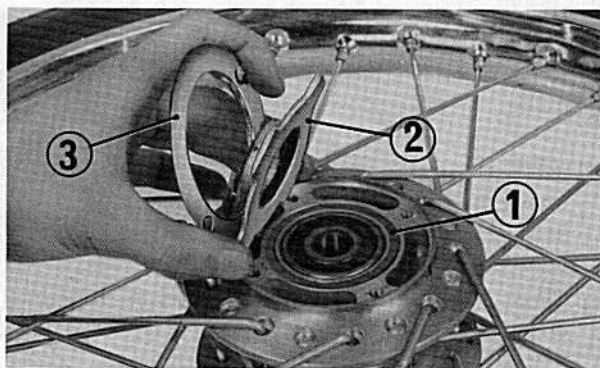


Fig. 4-9 (1) O-ring
(2) Gear box retainer
(3) Retainer cover

4. Place the brake disc to the wheel hub and secure with the bolts and new lock washers.
5. Install the speedometer gear box, aligning it with the groove in the gear box retainer.
6. Check and adjust the brake if necessary.

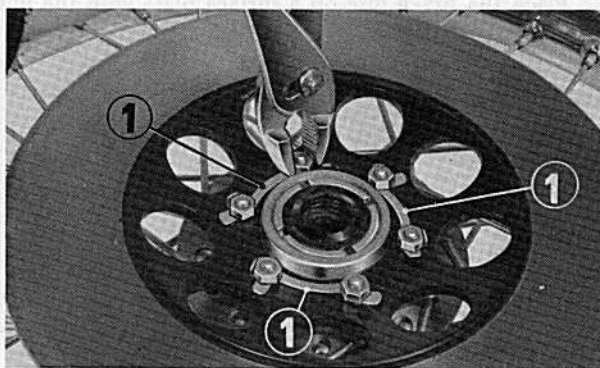
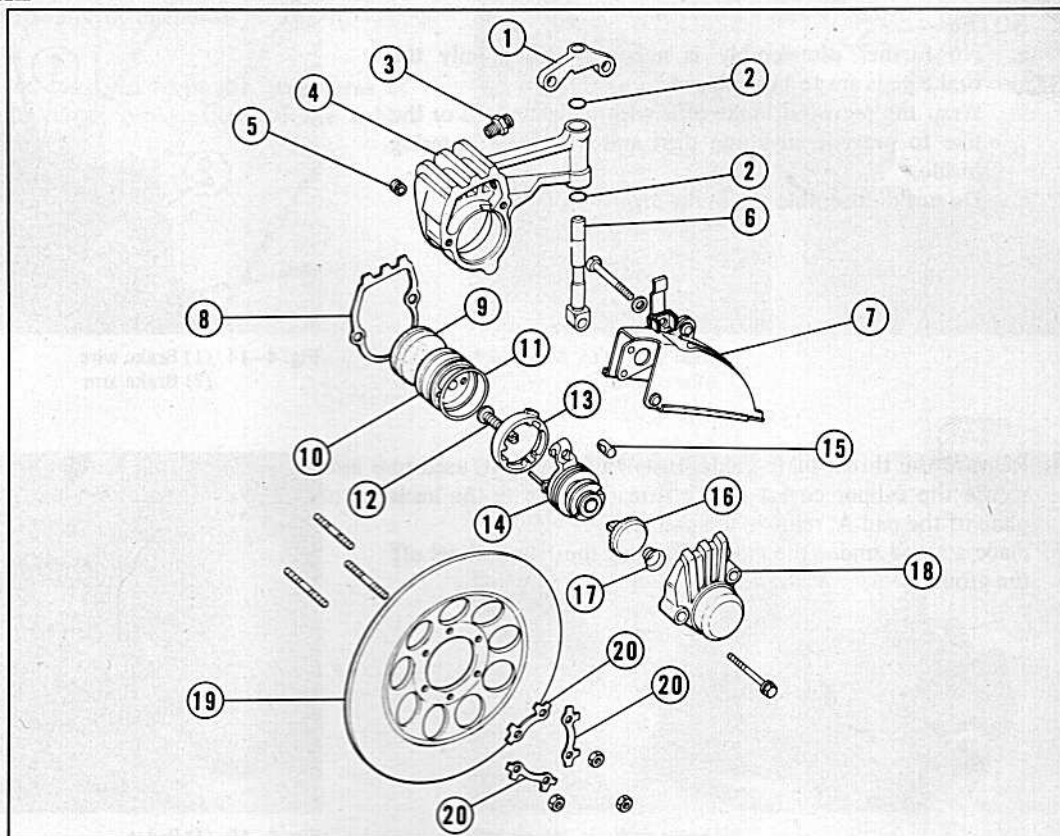


Fig. 4-10 (1) Lock washer

2. FRONT DISC BRAKE

Fig. 4-11

- (1) Caliper joint
- (2) O-ring (8.5 x 1.7 mm)
- (3) Brake cable bolt
- (4) Caliper body
- (5) Pad grommet
- (6) Caliper pin
- (7) Disc cover
- (8) Caliper gasket
- (9) Pad B
- (10) Pad A
- (11) O-ring (42 x 2.4 mm)
- (12) Adjusting bolt
- (13) Thrust plate guide
- (14) Brake arm
- (15) Cable end pin
- (16) Adjusting ratchet
- (17) Ratchet fixing spring
- (18) Caliper cover
- (19) Brake disc
- (20) Lock washer (6 mm)



Disassembly

1. Wash the caliper and brake disc with clean water. Push up the cable boot to expose the cable adjusting bolt. Turn in the adjusting bolt all the way until it will no longer go.

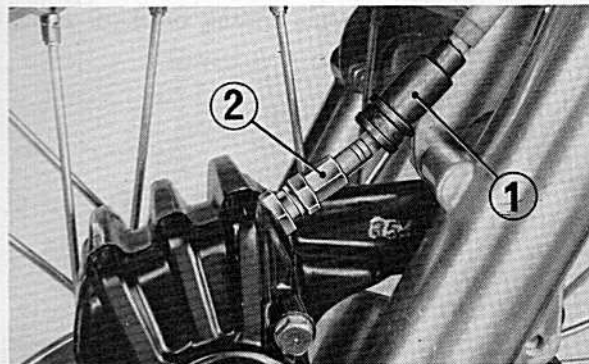


Fig. 4-12 (1) Cable boot
(2) Cable adjusting bolt

2. Remove the three 6 mm bolts securing the caliper cover in place; remove the cover.

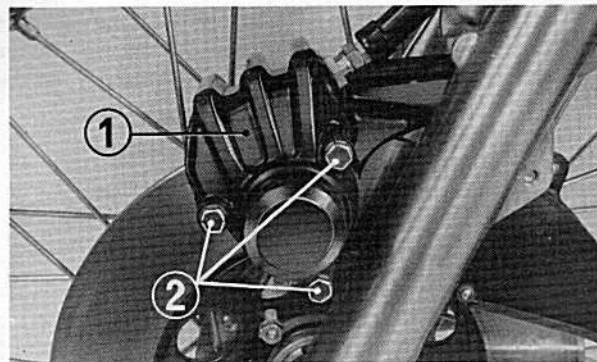


Fig. 4-13 (1) Caliper cover
(2) 6 mm bolt

3. Separate the brake wire from the brake arm.

NOTES:

- a. No further disassembly is necessary when only the brake pads are to be replaced.
 - b. Wrap the removed brake arm with a clean cloth or the like to prevent air-borne dust and dirt from entering inside.
 - c. Do not disassemble the brake arm.
4. Remove the thrust plate guide. Install a 6 mm bolt, used to secure the caliper cover, in the threaded hole in the back plate of the pad A; remove the pad A.
 5. Place a stand under the engine to raise the front wheel off the ground.

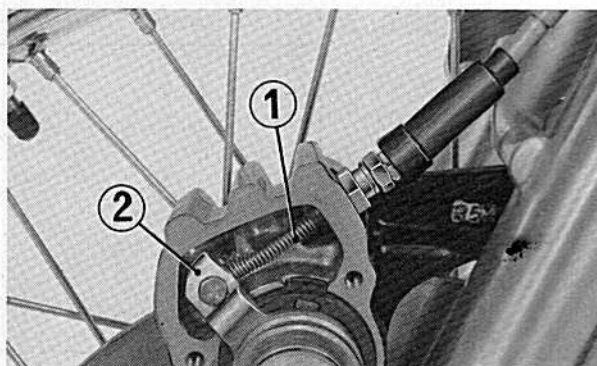


Fig. 4-14 (1) Brake wire
(2) Brake arm

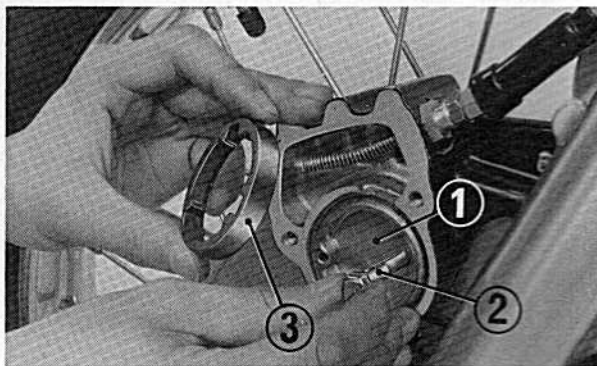


Fig. 4-15 (1) Pad A
(2) 6 mm bolt
(3) Thrust plate guide

6. Remove the pad B while pressing on the lock pin with a suitable screwdriver.

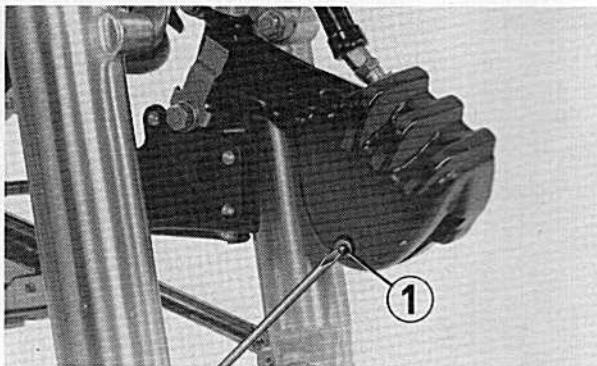


Fig. 4-16 (1) Lock pin

7. The pad B should be removed from the side from which the pad A was taken out. The pad B, however, may be removed from the disc side when it is worn down to the red line.

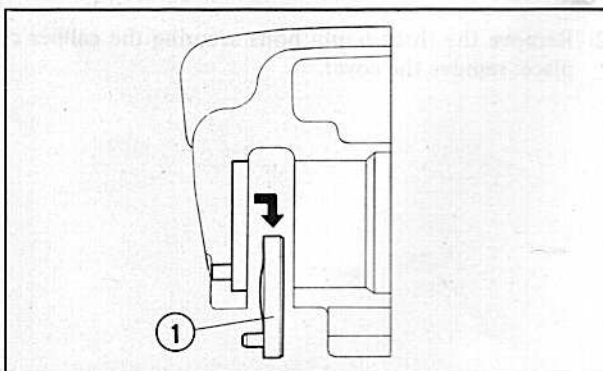


Fig. 4-17 (1) Pad B

8. Remove the lever boot and disconnect the brake wire from the lever. Pull the wire toward the caliper to remove it.

NOTE:

The brake cable can be removed from the brake arm at cable end. This permits single replacement of the cable without removing the wheel.

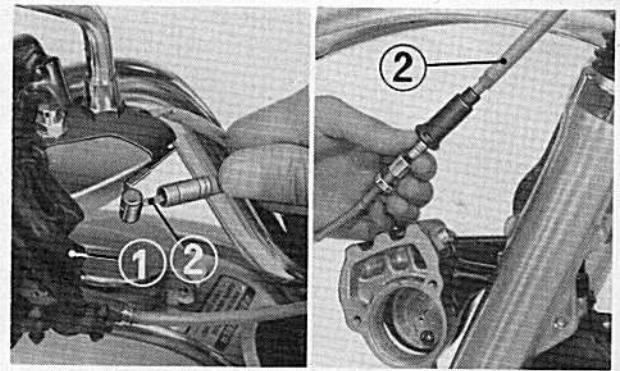


Fig. 4-18 (1) Lever boot
(2) Brake wire

9. Remove two 6 mm bolts and a 8 mm bolt; disassemble the disc cover, caliper body, caliper joint and caliper pin from each other.

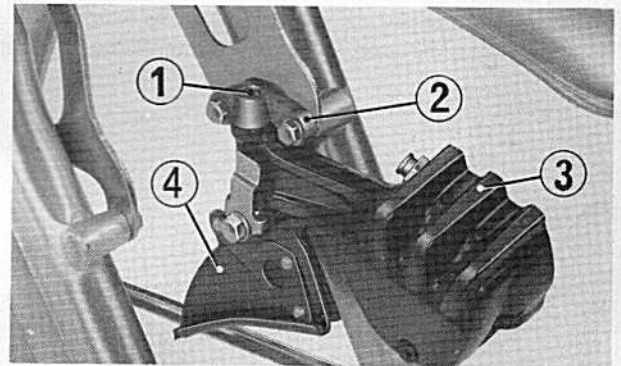


Fig. 4-19 (1) Disc cover
(2) Caliper body
(3) Caliper joint
(4) Caliper pin

Inspection

Check the pads A and B for excessive or abnormal wear. Discard the pad if it is worn down to the red-line wear limit.

NOTE:

Replace both pads if any one pad shows excessive wear reaching the red-line limit.

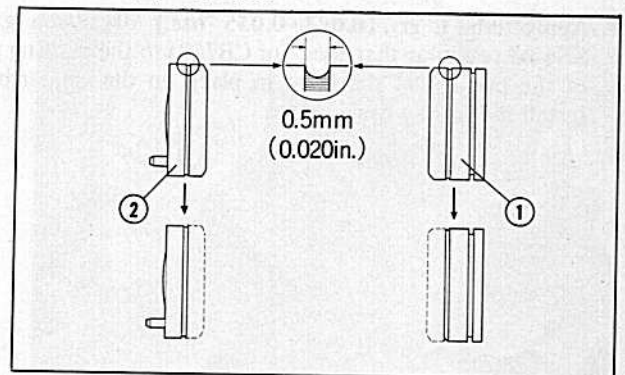


Fig. 4-20 (1) Pad A
(2) Pad B

Assembly

Avoid oily or greasy substances getting on the pads and disc, as this would affect the proper operation of the brake. Wash them in solvent when oil soaked.

1. Install the caliper body, caliper pin, disc cover and caliper joint.

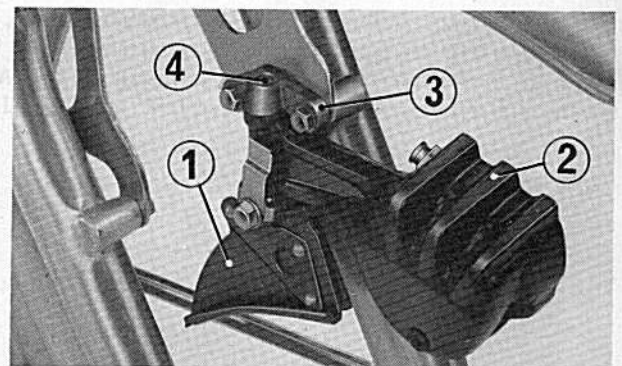


Fig. 4-21 (1) Caliper pin
(2) Caliper joint
(3) Caliper body
(4) Disc cover

2. Install the brake cable. Insert the wire end in the brake cable bolt and screw in the adjust bolt all the way.

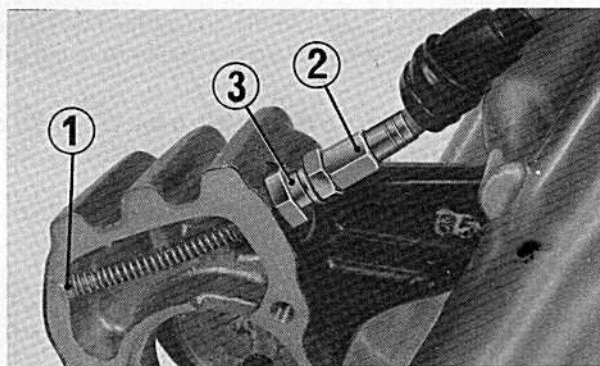


Fig. 4-22 (1) Wire end
(2) Adjusting bolt
(3) Brake cable bolt

3. Wipe clean the pad sliding surfaces of the caliper. Solvent may be used to remove accumulated dust and dirt.

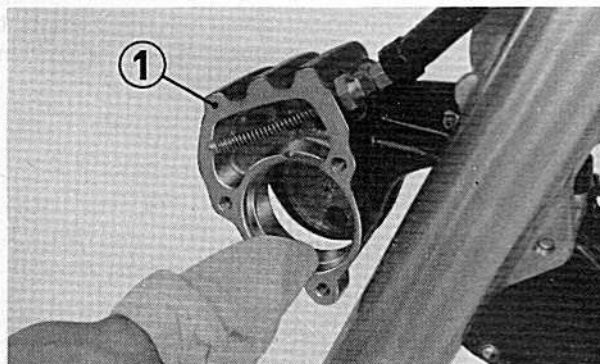


Fig. 4-23 (1) Caliper

4. Apply 0.6–1 gr. (0.023–0.035 ozs.) of silicon grease KS62M (same as that used for CB750) to the backing plate of the pad B; set the plate in place on the caliper body. Install the front wheel.

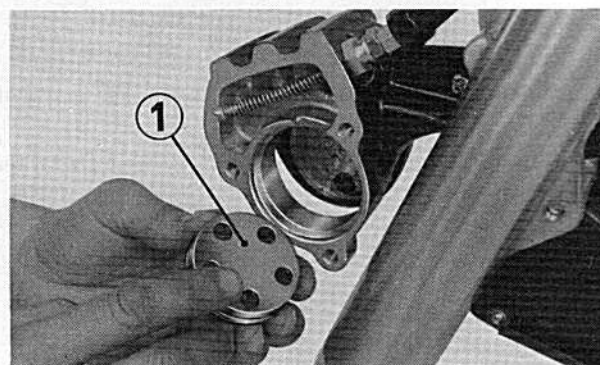


Fig. 4-24 (1) Applying silicon grease KS62M to pad B

5. Put the O-ring on the pad A. In like manner as above, apply 0.5 gr. (0.02 ozs.) of the same silicon grease KS62M to the entire circumference of the pad A. Install the pad A with the matching marks on the caliper body properly aligned.

NOTE:

Be sure to use a new O-ring.

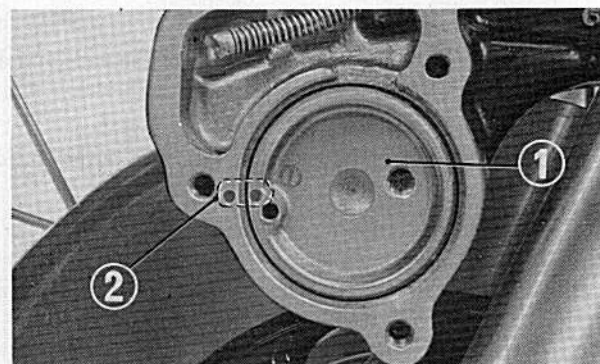


Fig. 4-25 (1) Pad A
(2) Matching mark

6. Connect the wire end to the brake arm and install the thrust plate guide in position.

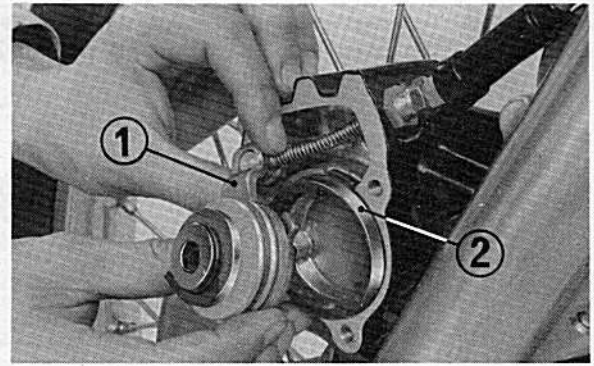


Fig. 4-26 (1) Brake arm
(2) Thrust plate guide

7. Disengage the ratchet from the brake arm. Using a standard screwdriver, turn out the adjusting bolt until it is lightly opposed by the stop. Make sure that the adjusting bolt rotates freely with light pressure. (With the brake pads worn down to the red-line wear limit, the bolt will be stopped when rotated five to six turns.)

NOTE:

Disregard this operation when only the brake wire is replaced.

8. Install the ratchet and check for proper operation.
9. Install the brake arm in the caliper.

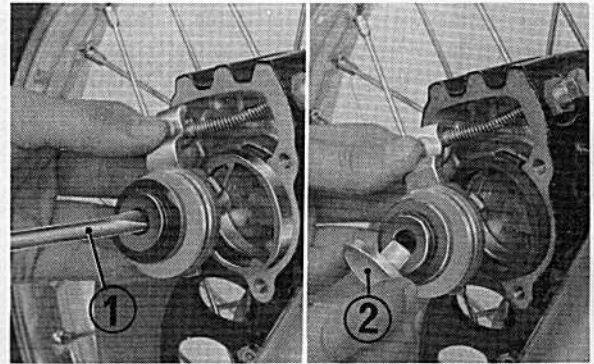


Fig. 4-27 (1) Standard screwdriver
(2) Ratchet

10. Install the caliper cover with the gasket under it; install three 6 mm bolts in the holes in the cover and tighten securely.

NOTE:

Be sure to renew the gasket.

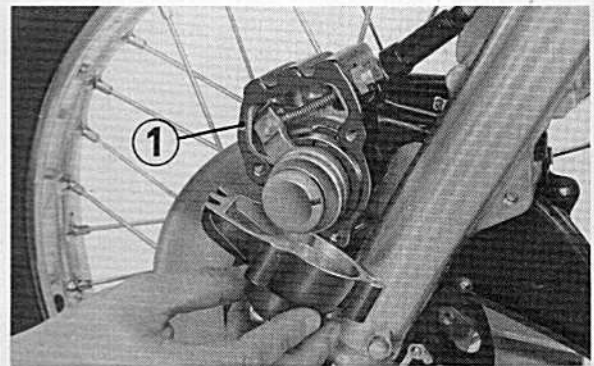


Fig. 4-28 (1) Caliper cover gasket

11. To assure complete returning of the brake lever, first loosen the brake cable adjusting bolt all the way. Then, turn in the adjusting bolt until it is in the fully released position. Finally, turn out the bolt 2 to 3 full turns and secure with the lock nut.

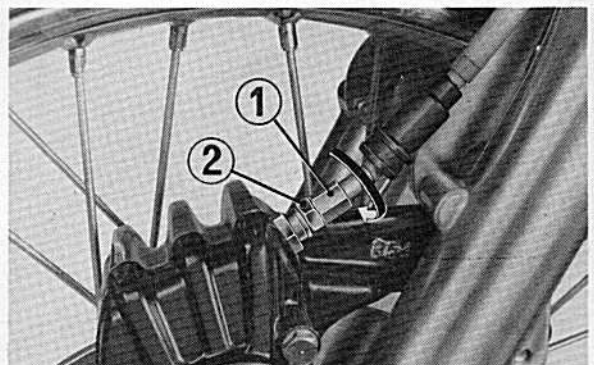


Fig. 4-29 (1) Cable adjusting bolt
(2) Lock nut

12. Operate the brake lever about 10 times to permit the brake self adjust. The lever should have a proper play of 20–30 mm (0.8–1.2-in.) automatically.

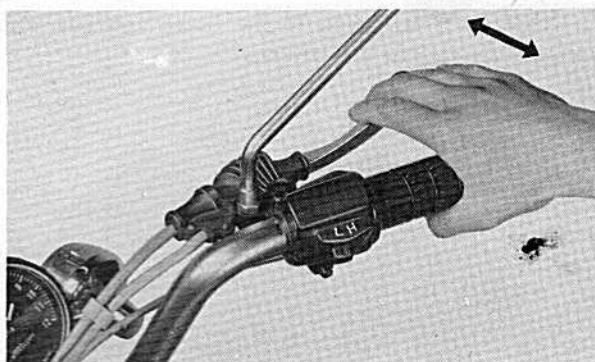


Fig. 4–30 Brake self adjustment

13. After adjustment, put the cable boot over the cable adjusting bolt. With the front wheel raised off the floor, make sure that the wheel rotates freely without drag.

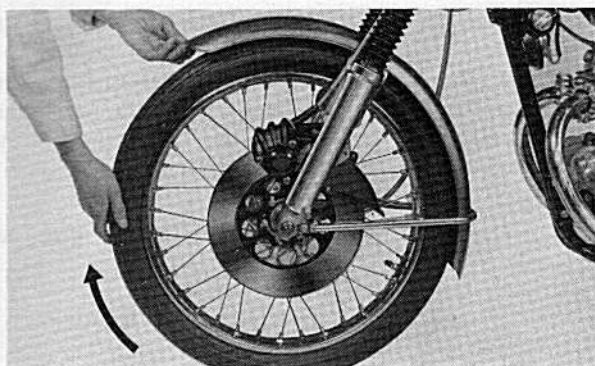


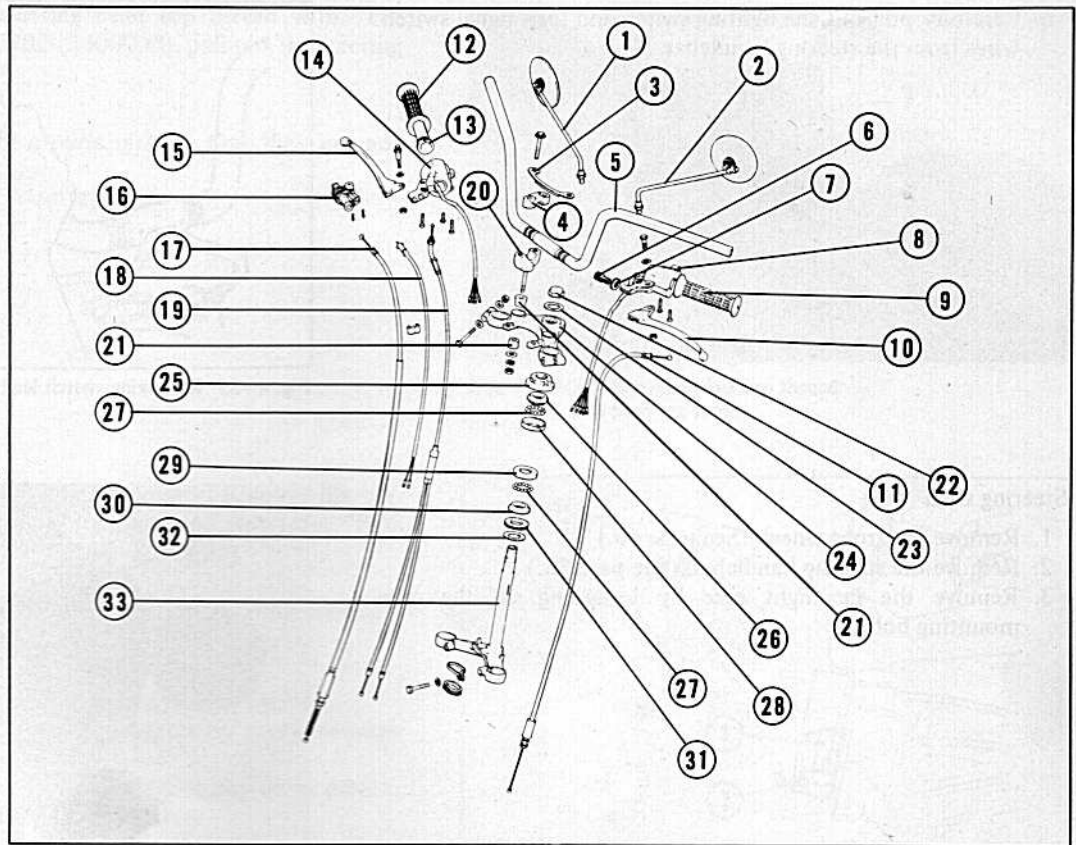
Fig. 4–31 Checking brake drag

MEMO

3. STEERING

Fig. 4-32

- (1) Right rear view mirror
- (2) Left rear view mirror
- (3) Cable holder
- (4) Upper holder
- (5) Steering handlebar
- (6) Clutch cable upper adjuster
- (7) Lock nut
- (8) Turn signal and horn switch
- (9) Left grip rubber
- (10) Clutch lever
- (11) Clutch cable
- (12) Right rubber grip
- (13) Grip pipe
- (14) Starter and dimmer switch
- (15) Brake lever
- (16) Right handle cover
- (17) Brake cable
- (18) Front stop switch
- (19) Throttle cable
- (20) Lower holder
- (21) Handlebar cushion
- (22) Steering stem nut
- (23) Steering stem nut washer
- (24) Fork top bridge
- (25) Steering head top thread
- (26) Steering top cone race
- (27) # 8 steel ball
- (28) Steering top ball race
- (29) Steering bottom ball race
- (30) Steering bottom cone race
- (31) Steering head dust seal



(32) Steering head dust seal washer

(33) Steering stem

Disassembly

Steering handlebar

1. Disconnect the clutch cable from the clutch lever.
2. Disconnect the brake cable from the brake lever.
3. Remove the screws securing the dimmer and starter switch in place; disconnect the throttle cable from the throttle grip pipe.
4. Remove the headlight unit from the case and disconnect the wirings at the harness in the case.

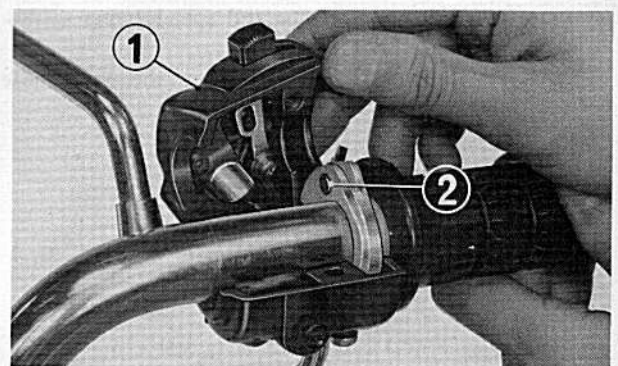


Fig. 4-33 (1) Switch case
(2) Throttle cable end

5. Remove the bolts securing the upper holders. Take out the holders and steering handlebar.

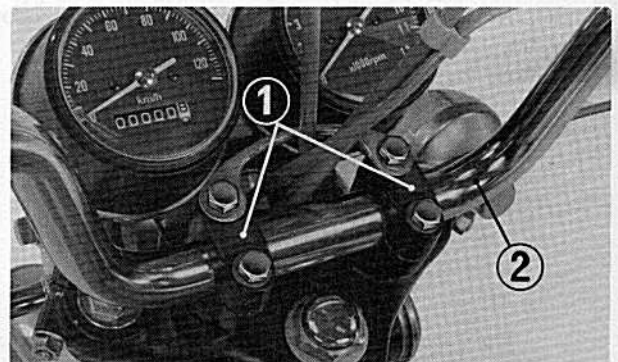


Fig. 4-34 (1) Upper holder
(2) Steering handlebar

6. Carefully pull out the lighting switch and turn signal switch wires from the steering handlebar.

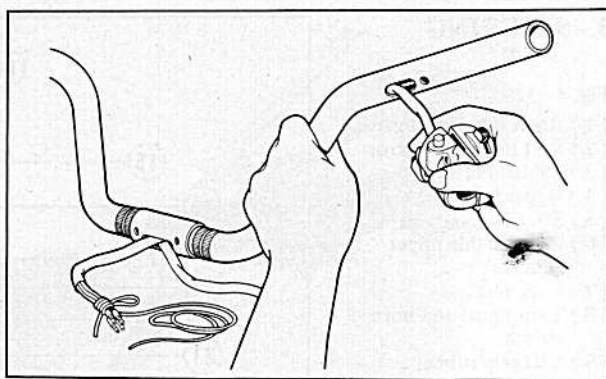


Fig. 4-35 Removing switch leads

Steering stem

1. Remove the front wheel. (See page 46.)
2. Remove the steering handlebar. (See page 55.)
3. Remove the headlight case by loosening off the case mounting bolts.

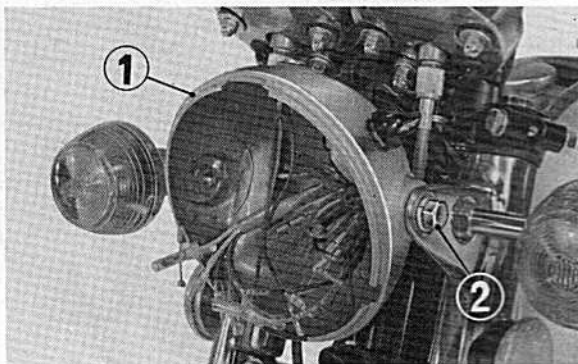


Fig. 4-36 (1) Headlight case
(2) Bolt

4. Disconnect the tachometer and speedometer cables at the meters.
5. Remove the nuts and take out the tachometer and speedometer.

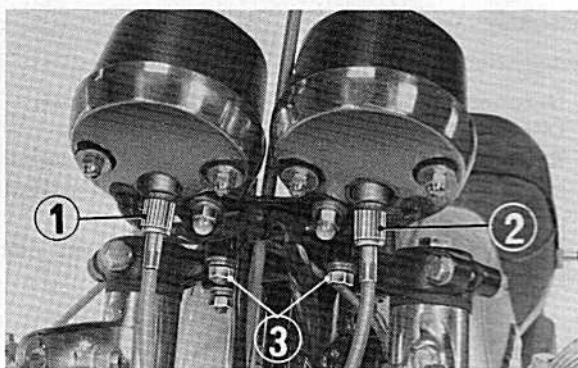


Fig. 4-37 (1) Tachometer cable
(2) Speedometer cable
(3) Meter mounting bolt

6. Remove the steering stem nut and take out the fork top bridge.
7. Remove the front shock absorbers.

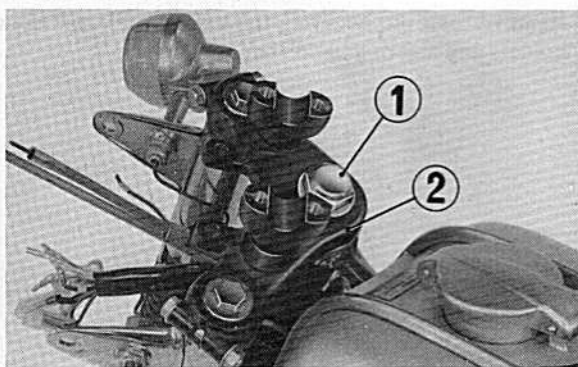


Fig. 4-38 (1) Steering stem nut
(2) Fork top bridge

8. After removing the steering head top thread with "Pin Spanner" (Tool No. 07902-2400000), pull out the steering stem toward bottom.

NOTE:

Keep the steel balls in a parts rack so that they are not scattered and lost.

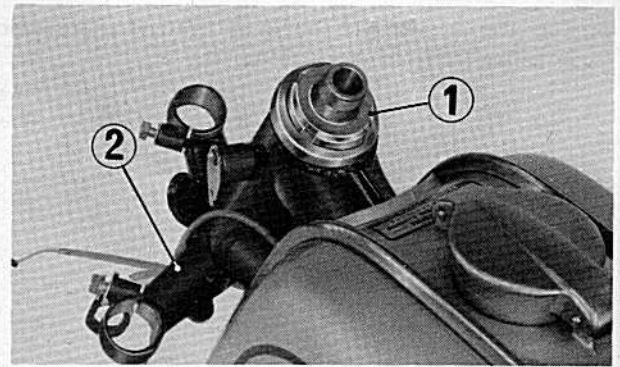


Fig. 4-39 (1) Steering head top thread
(2) Steering stem

9. If the ball race replacement is necessary, Remove the top and bottom races from the steering head pipe using "Ball Race Remover" (Tool No. 07946-3290200).

Inspection

1. Check the steering handlebar for twist or any other damage.
2. Check each wiring for breakage or any other defect.
3. Check each cable for damage.
4. Check the steering stem for bend or any other defect.
5. Check the steering top and bottom races for excessive wear or any other damage.
6. Check the steel balls for wear, damage or any other defect.
7. Check the steering head dust seal for wear.
8. Check the steering stopper for crack or deformation.

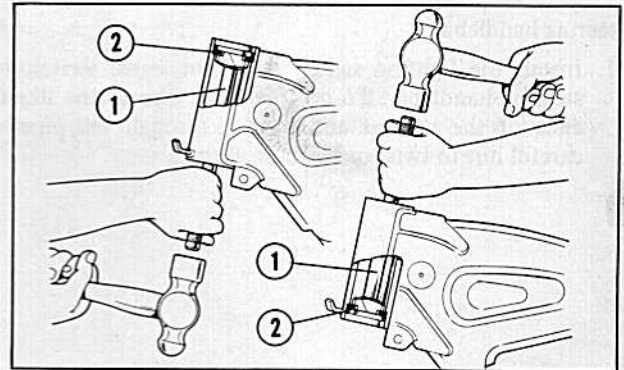


Fig. 4-40 (1) Ball race remover
(2) Ball race

Assembly**Steering stem**

1. Evenly drive fit the ball race in the steering head pipe using "Ball Race Driver Attachment" (Tool No. 07946-3290000) and "Driver Handle" (Tool No. 07949-6110000).

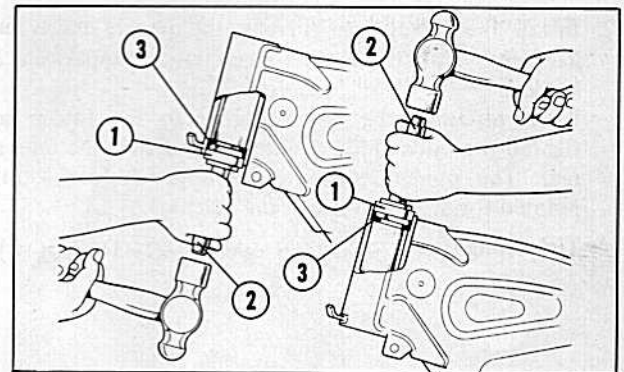


Fig. 4-41 (1) Ball race driver attachment
(2) Driver handle
(3) Ball race

2. Drop the steel balls (upper: 18 pcs. and bottom: 18 pcs.) to each race properly. Install the steering stem through the steering head pipe and hand-tighten the head thread so that it rotates freely without rattle. Any slightest amount of play in axial direction can not be tolerated here.

NOTE:

Clean the corn races, ball races and steel balls in cleaning solvent and apply a coat of grease before installation.

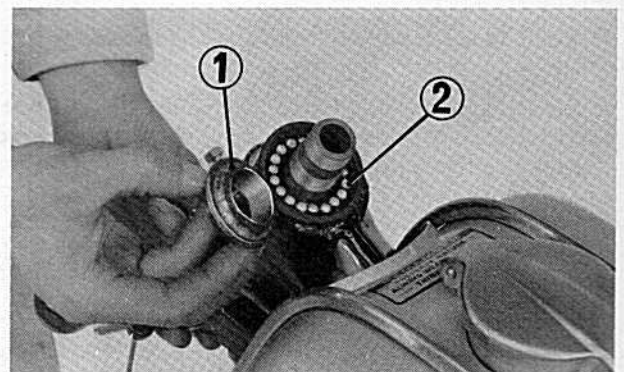


Fig. 4-42 (1) Top corn race
(2) Steel ball

3. The steering stem nut should be tightend after temporarily installing the front shock absorbers.

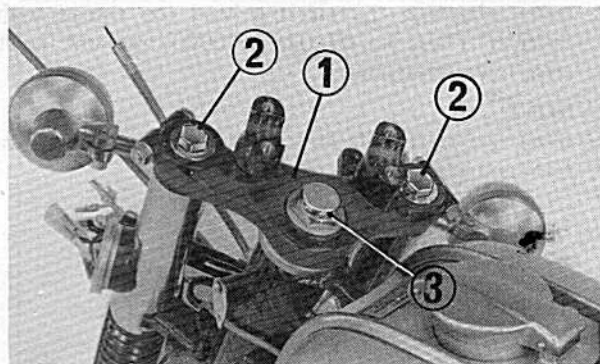


Fig. 4-43 (1) Fork top bridge
(2) Front shock absorber
(3) Steering stem nut

Steering handlebar

1. Install the lighting switch and turn signal switch to the steering handlebar. To do this, tie a wire or the like to the ends of the wirings and pass it through the pipe, being careful not to twist or kink the wirings.

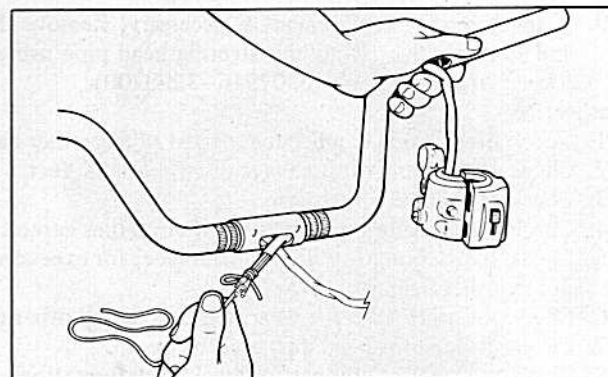


Fig. 4-44 Passing wire through handlebar

2. Install the handlebar, aligning the punch marks on the handlebar with the mating edges of the upper and lower holders.

When fastening the upper holder to the lower holder, tighten the bolts at the front first and then the ones at the rear. The punch mark on the upper holder should be pointed toward the front of the machine.

Tightening torque: 180–250 kg-cm (13.1–18.1 lbs-ft.)

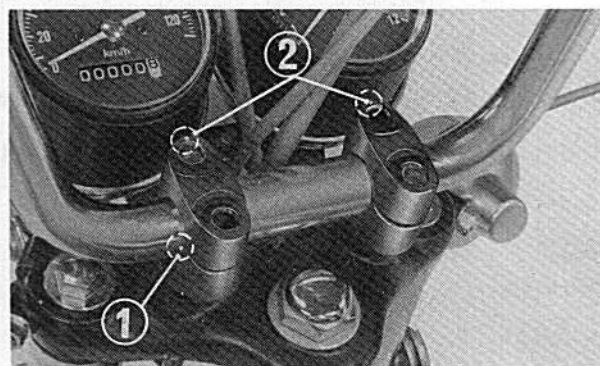


Fig. 4-45 (1) Punch mark on handlebar
(2) Punch mark on upper holder

3. Route the each cable and wiring properly as shown.

NOTE:

Check to be sure that each cable and wiring is free from binding or twisting when turning the steering handlebar fully to either left or right side.

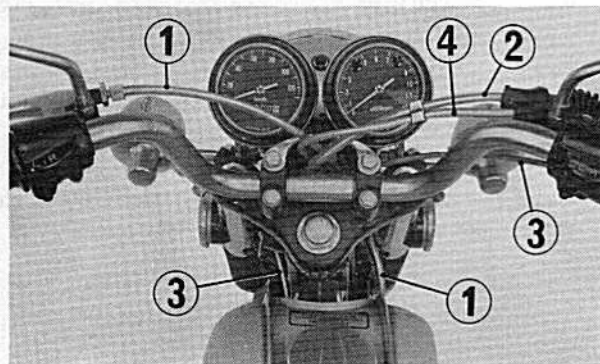
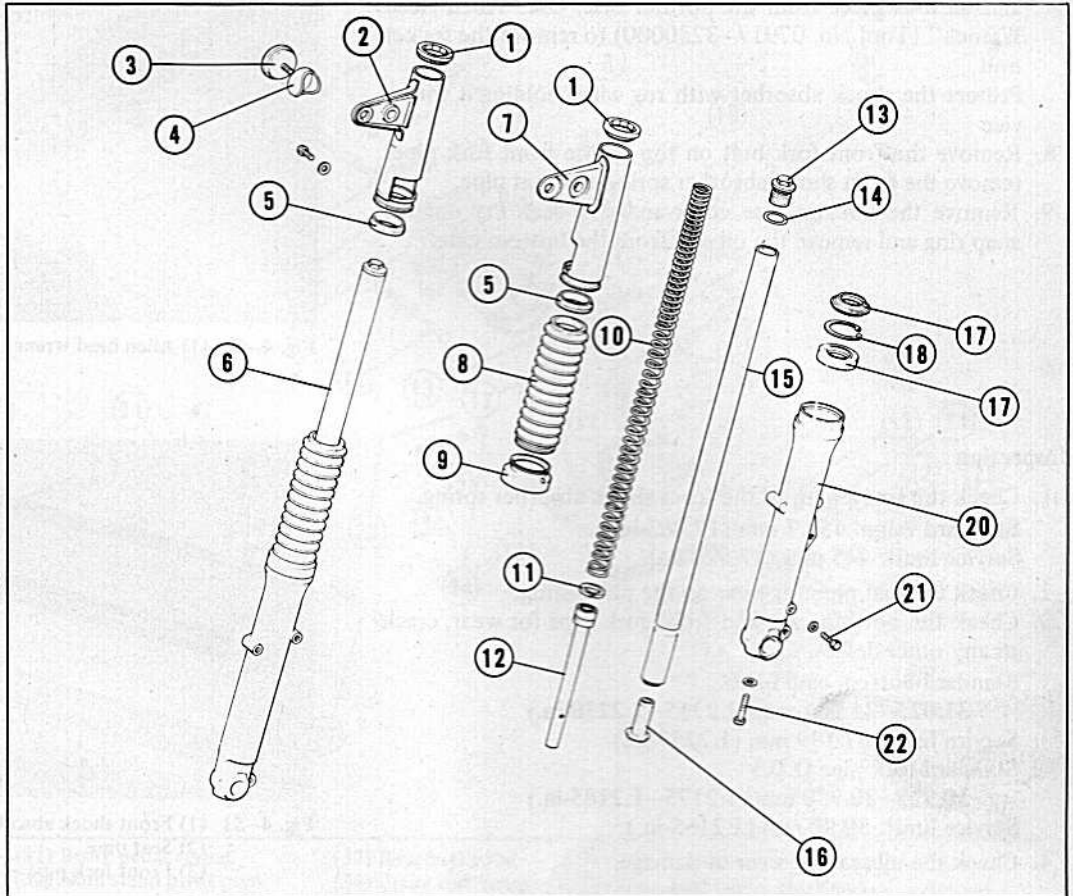


Fig. 4-46 (1) Clutch cable
(2) Brake cable
(3) Throttle cable
(4) Stop light switch wire lead

4. FRONT SUSPENSION

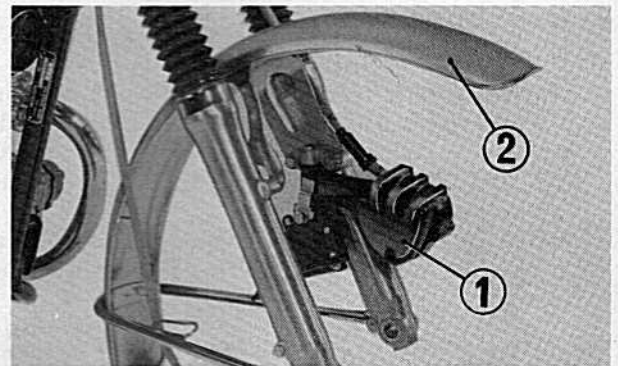
Fig. 4-47

- (1) Cover cushion A
- (2) Right front fork cover
- (3) Front reflex reflector
- (4) Reflex reflector base
- (5) Cover cushion B
- (6) Front shock absorber (front fork) assembly
- (7) Left front fork cover
- (8) Front fork boot
- (9) Bottom case cover
- (10) Front shock absorber spring
- (11) Piston ring
- (12) Seat pipe
- (13) Front fork bolt
- (14) O-ring (23 x 2.4 mm)
- (15) Front fork pipe
- (16) Oil lock piece
- (17) Dust seal
- (18) Snap ring (45 mm)
- (19) Oil seal (31 x 43 x 10 mm)
- (20) Bottom case
- (21) Drain bolt (8 x 6 mm)
- (22) Socket bolt (8 mm)

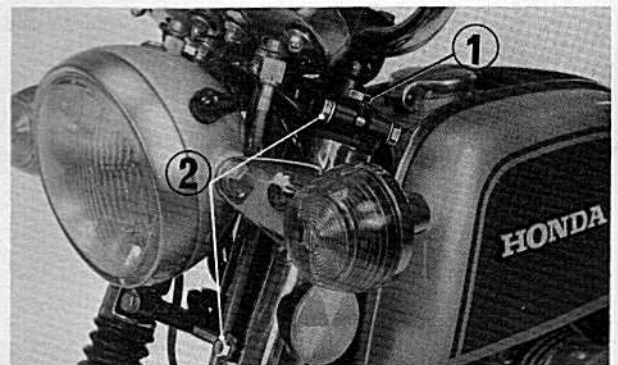


Disassembly

1. Remove the front wheel.
2. Remove the caliper assembly from the left front fork.
3. Remove the front fender by removing the attaching bolts.

Fig. 4-48 (1) Brake caliper
(2) Front fender

4. With the front fork bolt loosened, loosen the bolts at the fork top bridge and steering stem, which secure the front fork. Pull the front fork toward the bottom.
5. Drain the front suspension oil.
6. Remove rust on the front fork pipe, if any, with fine emery cloth.

Fig. 4-49 (1) Front fork bolt
(2) Fork securing bolt

7. Remove the socket bolt and separate the front fork pipe and oil lock piece from the bottom case. Use "Allen Head Wrench" (Tool No. 07917-3230000) to remove the socket bolt.

Protect the shock absorber with rug when holding it with a vice

8. Remove the front fork bolt on top of the front fork pipe; remove the front shock absorber spring and seat pipe.
9. Remove the bottom case cover and dust seal. Pry out the snap ring and remove the oil seal from the bottom case.

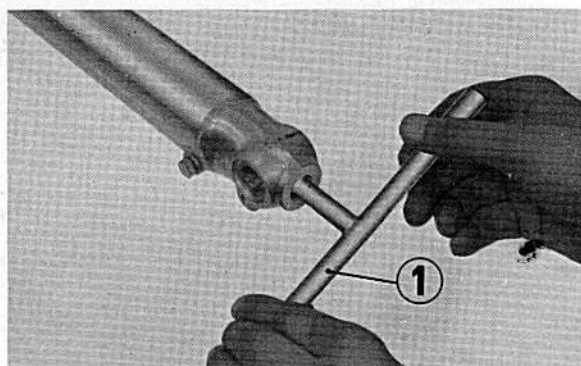


Fig. 4-50 (1) Allen head wrench

Inspection

1. Check the free length of the front shock absorber spring.
Standard value: 453.7 mm (17.863-in.)
Service limit: 445 mm (17.520-in.)
2. Check the seat pipe for wear on the piston ring.
3. Check the bottom case and front fork pipe for wear, crack or any other defect.
Standard bottom case I.D.:
31.025-31.064 mm (1.2215-1.2230-in.)
Service limit: 31.139 mm (1.2259-in.)
Standard fork pipe O.D.:
30.925-30.950 mm (1.2175-1.2185-in.)
Service limit: 30.90 mm (1.2165-in.)
4. Check the oil seal for wear or damage.

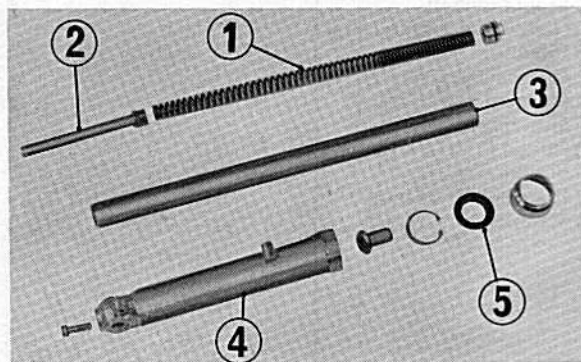


Fig. 4-51 (1) Front shock absorber spring (4) Bottom case
(2) Seat pipe (5) Dust seal
(3) Front fork pipe

Assembly

1. Clean all parts in solvent before assembly.
2. Apply a coating of ATF (automatic transmission fluid) to the entire surface of a new oil seal. Install the oil seal to the bottom case. Drive fit the oil seal using "Fork Seal Driver" (Tool No. 07947-3550000). Install the snap ring and drive the dust seal to the bottom case.
3. Insert the front shock absorber spring into the front fork pipe so that the end with the large pitch is at the bottom.

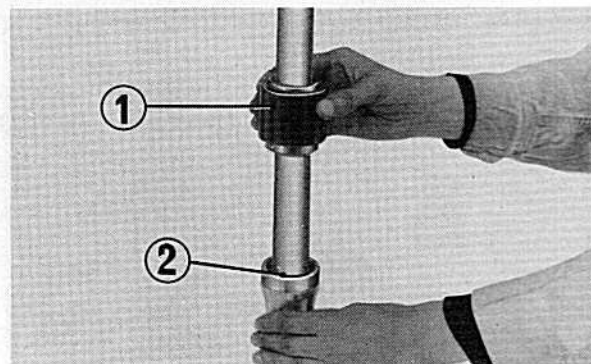


Fig. 4-52 (1) Fork seal driver
(2) Oil seal

4. Install the front fork pipe to the bottom case and secure with the socket bolt.

NOTE

Apply liquid sealant to the threads of the socket bolt.

5. Fill each front fork with 128-134 cc (4.4-4.6 ozs.) of ATF before installation.

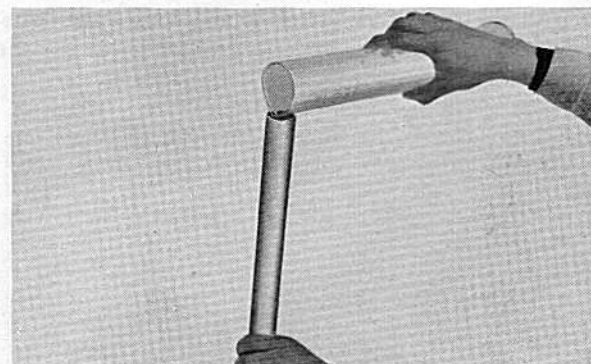
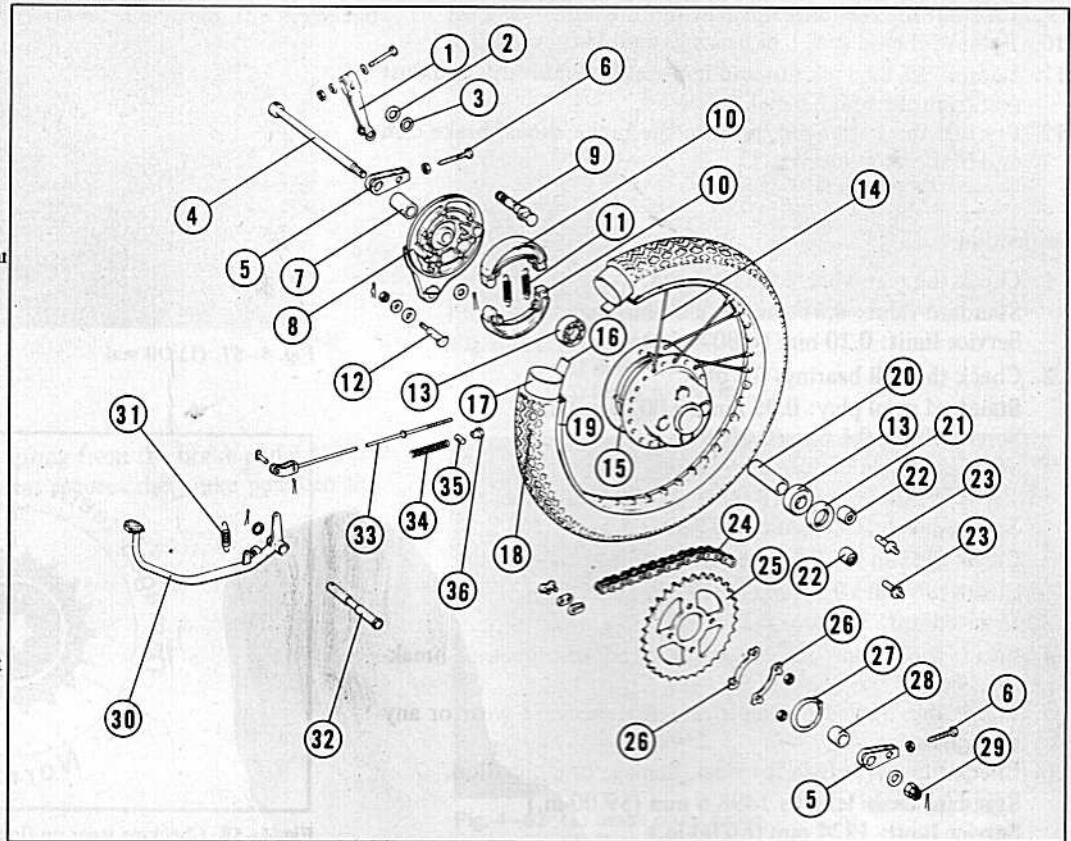


Fig. 4-53 Filling ATF

5. REAR WHEEL AND REAR BRAKE

Fig. 4-54

- (1) Rear brake arm
- (2) Plain washer (14 mm)
- (3) Brake cam dust seal
- (4) Rear wheel axle
- (5) Chain adjuster
- (6) Drive chain adjusting bolt
- (7) Rear brake panel side collar
- (8) Rear brake panel
- (9) Brake cam
- (10) Brake shoe
- (11) Brake shoe spring
- (12) Rear brake panel stop bolt
- (13) Ball bearing (6302)
- (14) Spoke
- (15) Rear wheel hub
- (16) Tire flap
- (17) Rear wheel tube
- (18) Rear wheel tire
- (19) Rear wheel rim
- (20) Rear axle spacer collar
- (21) Oil seal (28 x 42 x 7 mm)
- (22) Rear wheel damper bushing
- (23) Driven sprocket fixing bolt
- (24) Drive chain
- (25) Driven sprocket
- (26) Lock washer
- (27) Snap ring (58 mm)
- (28) Rear wheel side collar
- (29) Rear wheel axle nut (14 mm)
- (30) Rear brake pedal



- (31) Brake pedal spring
- (32) Main stand pivot pipe

- (33) Rear brake rod
- (34) Brake rod spring

- (35) Rear brake arm joint
- (36) Rear brake adjusting nut

Disassembly

1. Remove the mufflers.
2. Remove the rear brake adjusting nut and disconnect the brake rod from the brake arm.
3. Remove the lock pin nut and bolt; separate the rear brake stopper arm from the brake panel.
4. Pull off the cotter pin and remove the rear wheel axle nut. Loosen the lock nut and drive chain adjusting bolts.

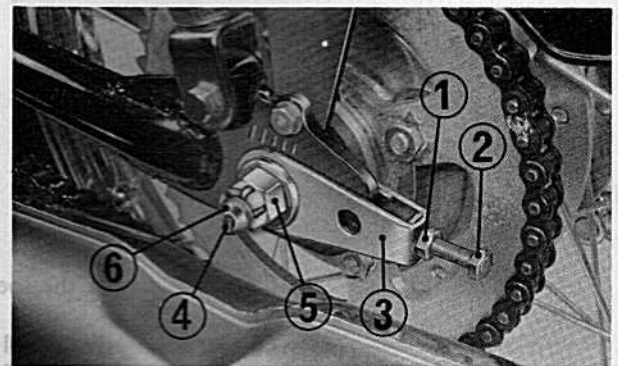


Fig. 4-55 (1) Lock nut (5) Rear wheel axle nut
 (2) Drive chain adjusting bolt (6) Rear wheel axle
 (3) Drive chain adjuster
 (4) Cotter pin

5. Remove the drive chain from the final driven sprocket by removing the retaining clip at the chain joint.
6. Withdraw the rear wheel axle. This permits removal of the rear wheel.
7. After removing the snap ring, pry the sprocket out of place from the rear hub using a wood block as shown.

NOTE:

Always handle the fixing bolts as a set.

No removal of the lock washer is necessary. Be sure to renew the washers whenever disassembled.

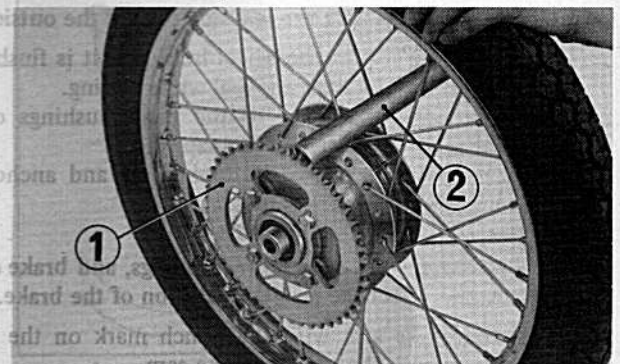


Fig. 4-56 (1) Final driven sprocket
 (2) Wood block

8. Remove the side collar from the rear hub oil seal.
9. Take out the rear brake panel from the hub.
10. Remove the oil seal, ball bearings and spacer collar.
11. Loosen off the lock nut and remove the brake arm and dust seal from the brake panel.
12. Pry out the cotter pin; remove the brake shoes, brake cam and brake shoe springs.

Inspection

1. Check the rear wheel axle for bend.
Standard value: 0.01 mm (0.0004-in.) max.
Service limit: 0.20 mm (0.0079-in.)
2. Check the ball bearings for play.
Standard axial play: 0.05 mm (0.0020-in.) max.
Service limit: 0.1 mm (0.0039-in.)
Standard radial play:
0.002–0.007 mm (0.0001–0.0003-in.) max.
Service limit: 0.05 mm (0.0020-in.)
3. Check the rim for face runout. (Before disassembly)
Standard value: 0.5 mm (0.0197-in.) max.
Service limit: 3.0 mm (0.1181-in.)
4. Check the spokes for looseness, bend or otherwise breakage.
5. Check the final driven sprocket for excessive wear or any other damage.
6. Check the drive chain for wear, damage or elongation.
Standard chain length: 1498.6 mm (59.00-in.)
Service limit: 1524 mm (60.00-in.)
7. Check the brake lining for wear.
Standard value: 3.9–4.1 mm (0.1535–0.1614-in.)
Service limit: 2.0 mm (0.0787-in.)
8. Check the brake panel for damage or crack.
9. Check the brake drum for wear or damage.
Standard brake drum I.D.:
129.08–130.02 mm (5.0819–5.1189-in.)
Service limit: 131 mm (5.1575-in.)
10. Check the oil seals for wear or damage.

Assembly

1. Hand pack the ball bearings and hub with the specified grease.
Using "Bearing Driver Attachment" (Tool No. 07946–3640000) and "Driver Handle" (Tool No. 07949–6110000), drive fit the bearings into the wheel hub through the spacer collar.

NOTE:

Install the bearings with the seal side toward the outside.

2. Drive a new oil seal in the wheel hub until it is flush with the hub end. Do not angle the seal while driving.
3. Install the driven sprocket to the pivot bushings of the wheel hub; then secure with the snap ring.
4. Sparingly apply grease to the brake cam and anchor pin before installing the brake shoes.

NOTE:

Avoid grease getting on the brake linings, and brake drum, as this would affect the proper operation of the brake.

5. Install the brake arm with the punch mark on the brake arm lined up with that on the brake cam.
6. Adjust the drive chain tension and brake.

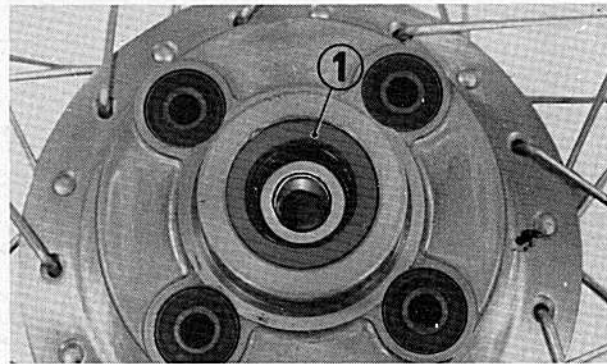


Fig. 4-57 (1) Oil seal

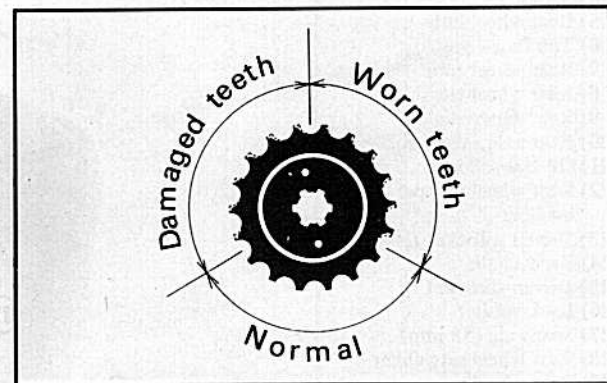


Fig. 4-58 Checking wear on final driven sprocket

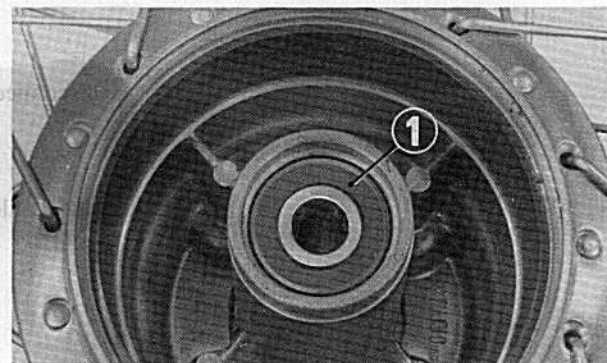


Fig. 4-59 (1) Seal side of ball bearing

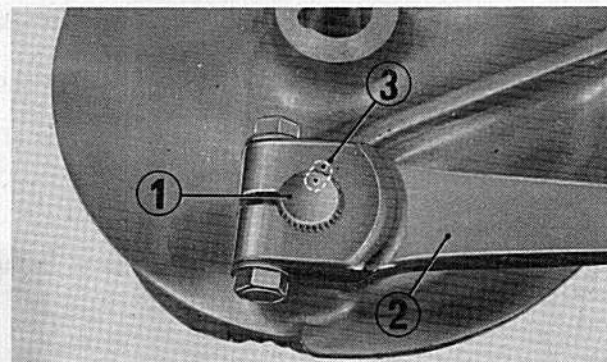


Fig. 4-60 (1) Brake cam
(2) Brake arm
(3) Punch mark

Rear brake linkage

1. Remove the brake adjusting nut and separate the brake rod from the brake arm.
2. Remove the right muffler.

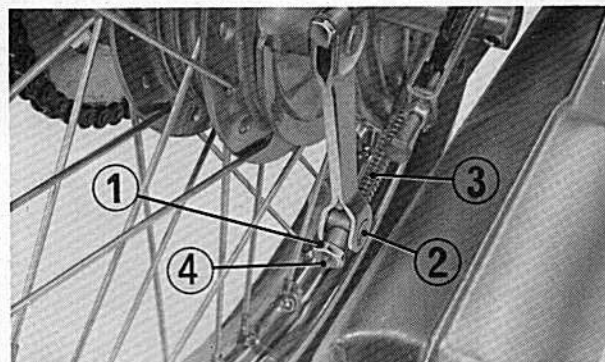


Fig. 4-61 (1) Adjusting nut
(2) Brake arm joint
(3) Brake rod spring
(4) Brake rod

3. Remove the brake pedal spring from the brake pedal.
4. Pull out the cotter pin that secures the brake pedal to the main stand pivot pipe.

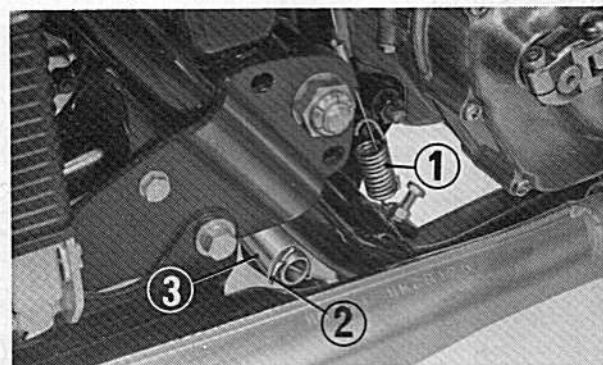


Fig. 4-62 (1) Brake pedal spring
(2) Cotter pin
(3) Brake pedal

5. Loosen the main stand lock bolts. Withdraw the pivot pipe and remove the brake pedal.
6. Remove the brake rod from the brake pedal.

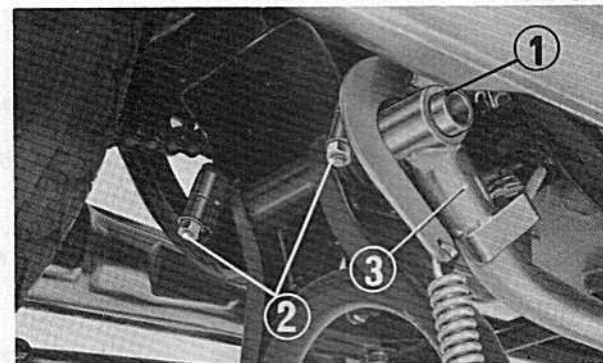


Fig. 4-63 (1) Main stand pivot pipe
(2) Lock bolt
(3) Brake pedal

7. To assemble the brake linkage, reverse the disassembly procedures after applying a coat of grease to the main stand pivot pipe.
8. Adjust the brake pedal free play and free height.

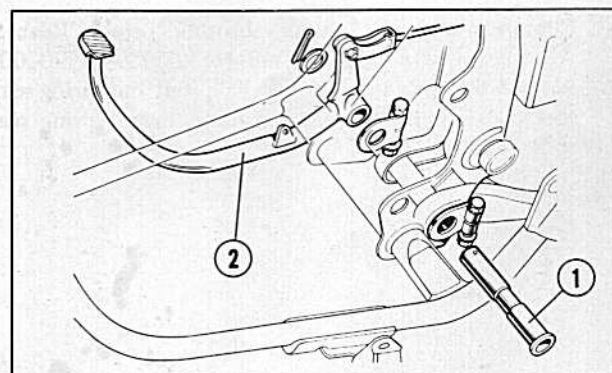
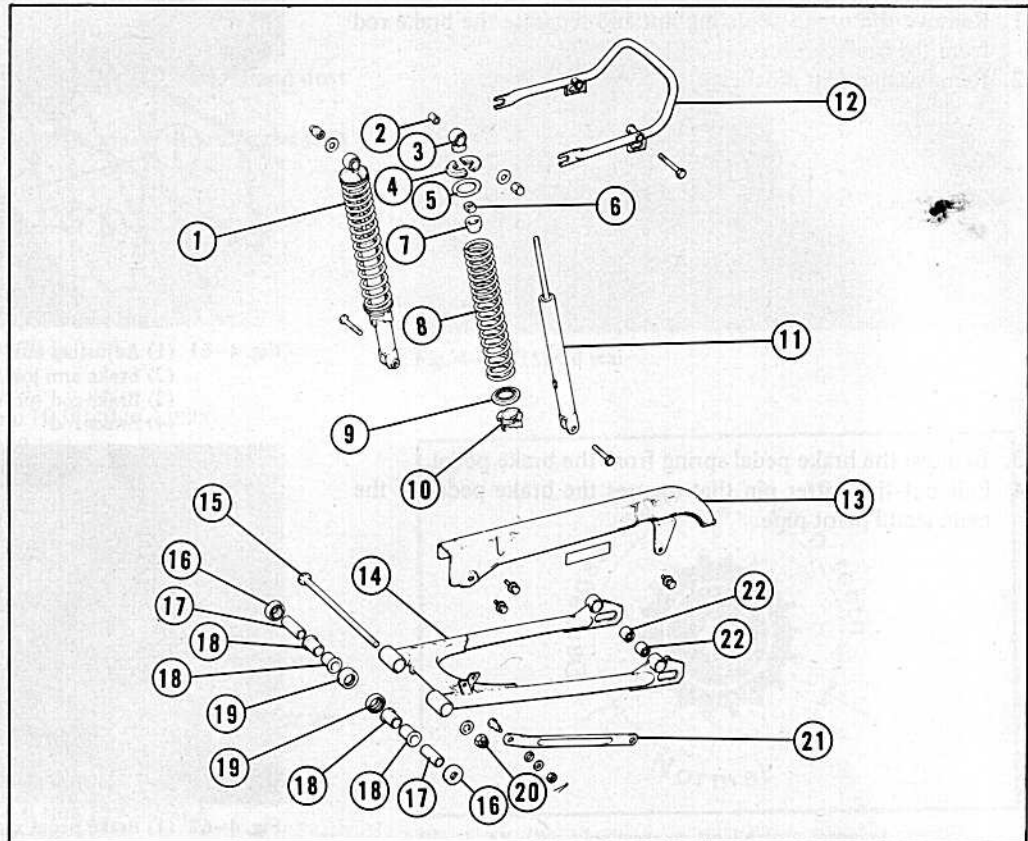


Fig. 4-64 (1) Main stand pivot pipe
(2) Brake pedal

6. REAR SUSPENSION

Fig. 4-65

- (1) Rear shock absorber assembly
- (2) Rubber joint
- (3) Upper joint
- (4) Spring seat stop
- (5) Spring upper seat
- (6) Lock nut (9 mm)
- (7) Rubber stop
- (8) Rear shock absorber spring
- (9) Lower spring seat
- (10) Spring adjuster
- (11) Rear damper
- (12) Rear pipe bumper
- (13) Drive chain case
- (14) Rear fork
- (15) Rear fork pivot bolt
- (16) Dust seal cap
- (17) Rear fork center collar
- (18) Rear fork pivot bushing
- (19) Dust seal rubber cap
- (20) Self-locking nut (14 mm)
- (21) Rear brake stop arm
- (22) Lower rubber bushing



Disassembly

Rear shock absorber

1. Remove the bolts securing the rear pipe bumper in place. Remove the rear shock absorber attaching cap nut.
2. Remove the rear shock absorber by removing the bolt at the bottom.
3. Compress the rear shock absorber using "Rear Shock Absorber Compressor" (Tool No. 07959-3290000) and remove the spring seat stops. Take out the spring seat, rear shock absorber spring, spring joint, lower spring seat and spring adjuster.

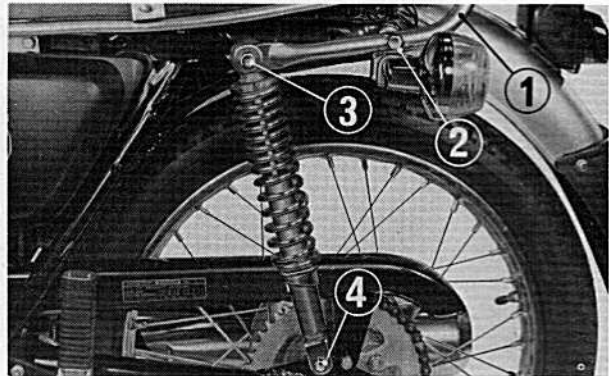


Fig. 4-66 (1) Rear pipe bumper
(2) Rear pipe bumper bolt
(3) Cap nut
(4) Bolt

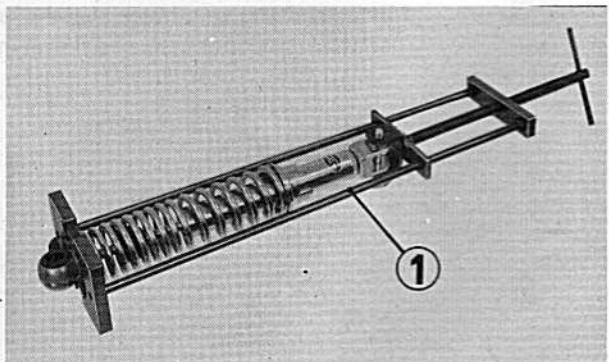


Fig. 4-67 (1) Rear shock absorber compressor

Rear fork

1. Remove the rear wheel. (See page 61.)
2. Remove the rear shock absorbers. (See page 64.)
3. Remove the bolts securing the drive chain case in place; take out the chain case.
4. Unscrew the self-locking nut; withdraw the rear fork pivot bolt. Remove the rear fork from the frame.
5. Remove the dust seal cups, rubber dust seals and rear fork collars from the rear fork.

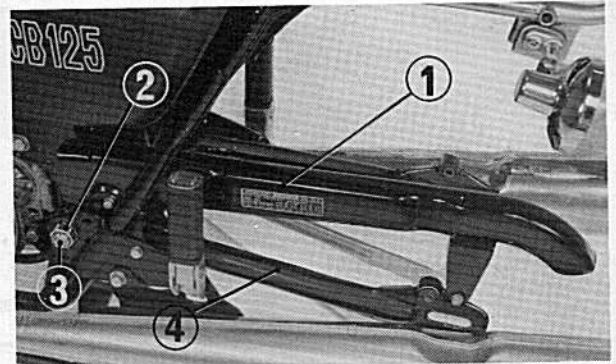


Fig. 4-68 (1) Drive chain case
(2) Self-locking nut
(3) Pivot bolt
(4) Rear fork

Inspection

1. Check the free length of the rear shock absorber spring.
Standard value: 453.7 mm (17.863-in.)
Service limit: 445 mm (17.520-in.)
2. Check the rear damper for distortion or oil leaks.
3. Check the rear rubber stop for cracks or damage.
4. Check the rear fork center collar-to-bushing clearance.
Standard value: 0.08–0.13 mm (0.0031–0.0051-in.)
Service limit: 0.3 mm (0.0118-in.)
5. Check the rear fork for bend.

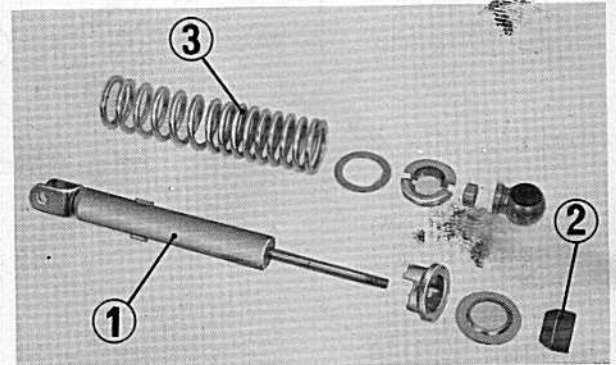


Fig. 4-69 (1) Rear shock absorber damper
(2) Rear rubber stop
(3) Rear shock absorber spring

Assembly

1. Apply a coating of grease to the rear fork center collar before installation. Install the rear fork to the frame.
2. Reaching from the right side, install the rear fork pivot bolt in the fork pivot; secure with the self-locking nut.



Fig. 4-70 (1) Rear fork pivot bolt

3. Using "Rear Shock Absorber Compressor" (Tool No. 07959-3290000), compress the rear shock absorber spring and pull up the upper joint. Install the spring seat stop to secure the spring.

NOTE:

Install the shock absorber spring so that the end with the large pitch is at the bottom.

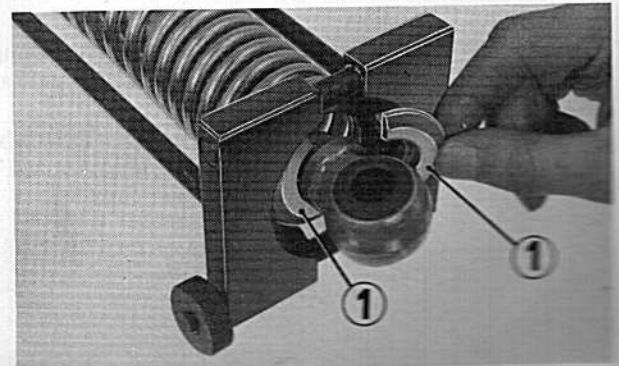
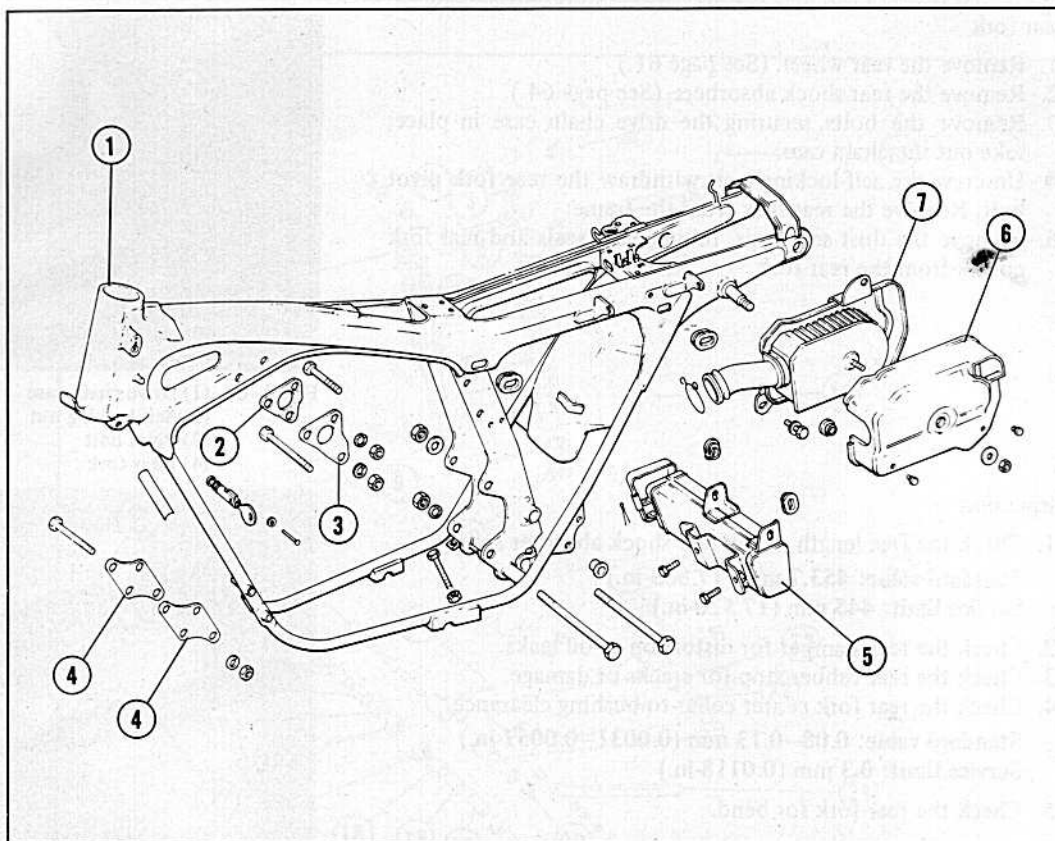


Fig. 4-71 (1) Spring seat stop

7. FRAME BODY

Fig. 4-72

- (1) Frame body
- (2) Right engine hanger upper plate
- (3) Left engine hanger upper plate
- (4) Front engine hanger plate
- (5) Tool box
- (6) Air cleaner case
- (7) Air cleaner element



Disassembly

1. Remove the seat.
2. Remove the fuel tank.
3. Remove the air cleaner covers. Remove the bolts and clamps securing the hoses leading to the carburetors. Take out the air cleaner assembly.
4. Remove the front wheel, front forks, steering handlebar and steering stem.
5. Remove the rear wheel, rear shock absorbers and rear fork.
6. Dismount the battery.
Disconnect the ground (-) cable first, and then remove the cable at the positive terminal.
7. Dismount the engine.
8. Remove the rear fender by loosening off the attaching nuts. Disconnect the wire leads of the turn signal and tail/stop lamp before removing the fender.
9. Disconnect each wiring at the connector. Remove the starter magnetic switch, turn signal relay, silicon diode rectifier, main switch, horn and ignition coil.

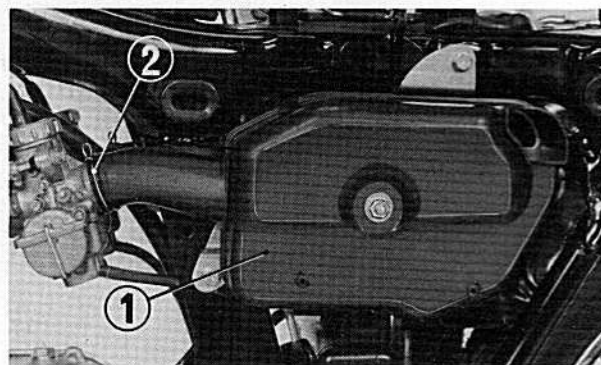


Fig. 4-73 (1) Air cleaner assembly
(2) Hose clip

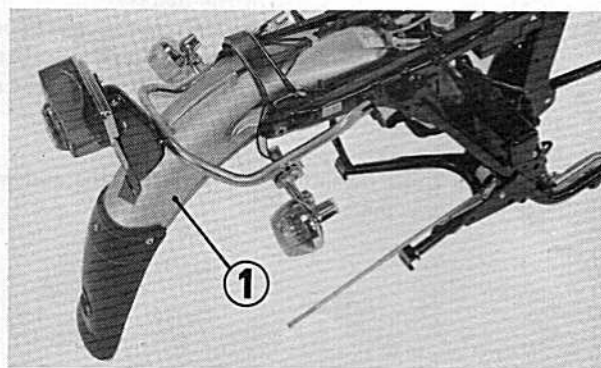


Fig. 4-74 (1) Rear fender

10. Remove the wire harness from the frame.
11. Remove the battery box.
12. Remove the brake pedal, stop light switch and main stand.
13. Remove the side stand.

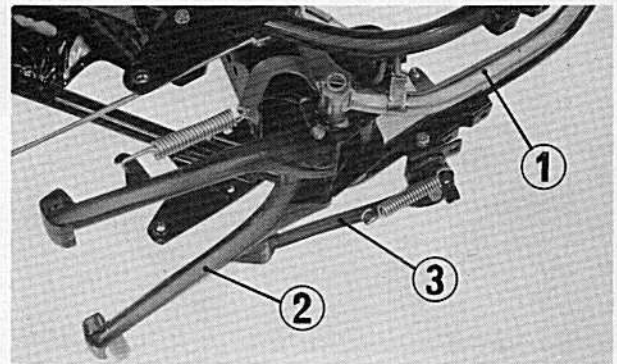


Fig. 4-75 (1) Brake pedal
(2) Main stand
(3) Side stand

Inspection

1. Check the entire frame for distortion, damage, crack or any other defect.
2. Check the steering head pipe for misalignment or deformation.
3. Check the wire harness, connectors for breakage, proper connection, damage or any other defect.
4. Check the fuel tube for deterioration; also for cracks or any other imperfections.
5. Check the fuel filler cap for clogging.
6. Check the fuel tank for deformation, cracks or otherwise signs of leaks. Also check the interior and, if necessary, clean.

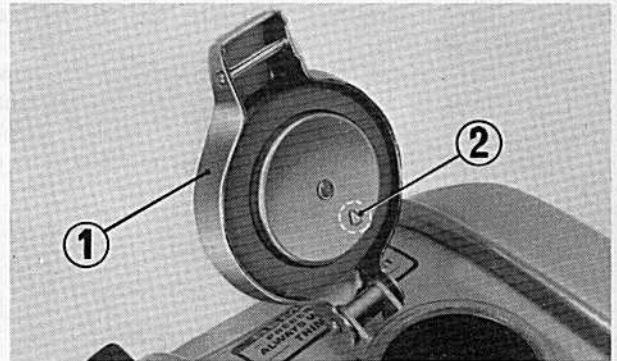


Fig. 4-76 (1) Fuel filler cap
(2) Fuel filler cap hole

Assembly

1. Connect the wire harness, routing the wirings properly. Secure with clips. Make sure that the connector is firmly fixed.
2. Install the battery.
Connect the positive terminal first. Route the battery vent tube properly.

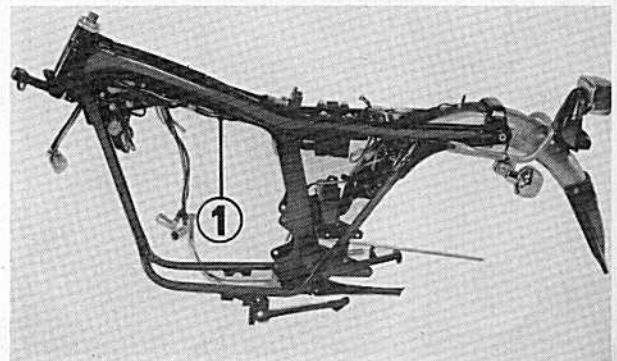


Fig. 4-77 (1) Wire harness

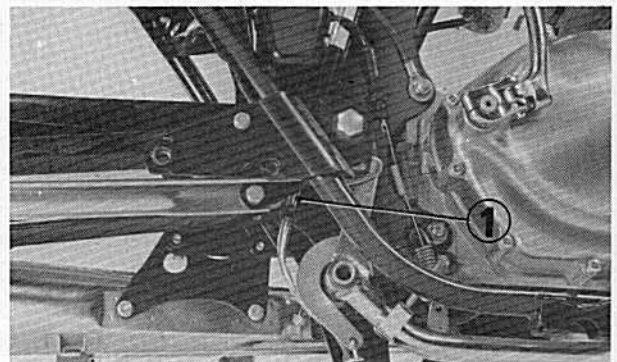


Fig. 4-78 (1) Battery vent tube

3. Apply a coat of grease to the main stand pivot pipe before installing the main stand and brake pedal.

NOTE:

Do not overtighten the main stand locking bolts.

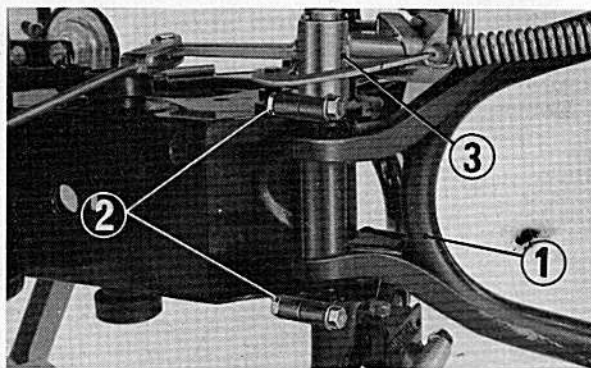


Fig. 4-79 (1) Main stand
(2) Main stand bolt
(3) Brake pedal

4. Install the air cleaner case. Clean the filtering element before installation.
 - a. Lightly tap the element to remove dust and blow with compressed air from the center of the element outward.
 - b. Be sure that the water drain hole in the bottom of the cleaner case is not clogged.

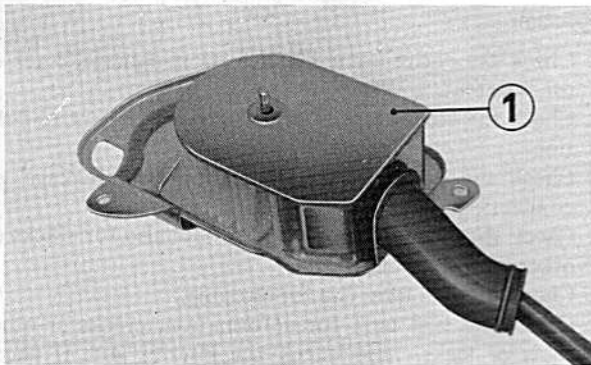


Fig. 4-80 (1) Air cleaner element

8. ELECTRICAL EQUIPMENT

Main switch

With the key in either ON or OFF, check the main switch for continuity. The switch is normal if continuity exists in the circuit (○—○). Discard the switch if there is any continuity in other circuits shown below.

Terminal		BAT	IG	TL1	TL2
Wire color		Red	Black	Brown/white	Brown
Key	OFF				
Position	I	○—○	○—○	○—○	○—○
	II	○—○	○—○	○—○	○—○

Front stop switch

Put the tester probes on the terminals of the front stop switch leads (black and green/yellow). Operate the brake lever to check for continuity. The stop light should come on when the brake lever is moved 10–20 mm (0.4–0.8-in.) as measured at the lever tip.

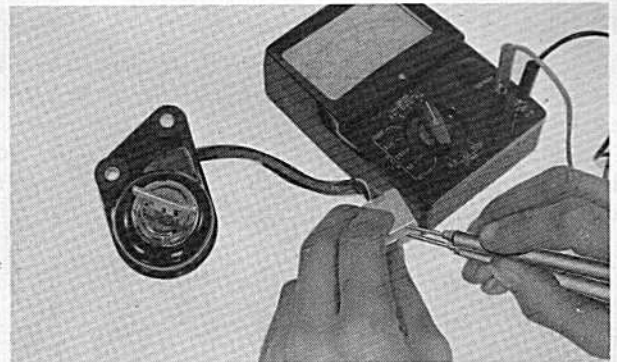


Fig. 4-81 Checking main switch for continuity

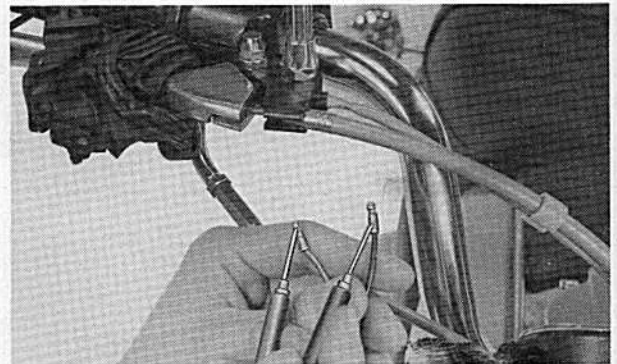


Fig. 4-82 Checking front stop light switch

Rear stop light switch

The only operation that is necessary, is to see whether or not there exists continuity between the black lead and green/yellow lead of the switch. Test should be made with the switch spring pulled to the end of the switch stroke. Discard if there is no continuity. Adjustment is made by turning the adjusting nut either in or out as necessary.

Turn the adjusting nut in a clockwise direction (A) if stop light comes on too late and in a counterclockwise direction (B) if it comes on too early.

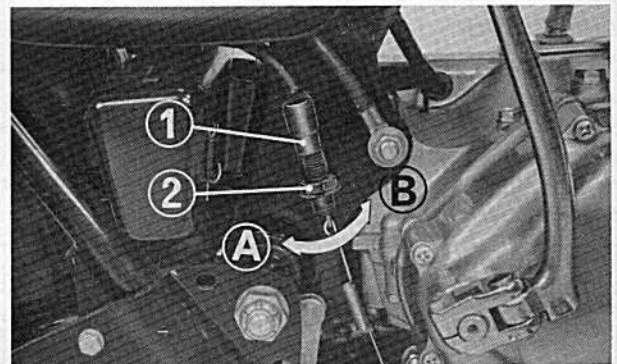


Fig. 4-83 (1) Rear stop light switch
(2) Adjusting nut

Horn

Disconnect the horn leads at the terminals. Connect the black lead to the positive terminal of a 6V battery, and light green lead to the negative terminal, noting if the horn sounds.

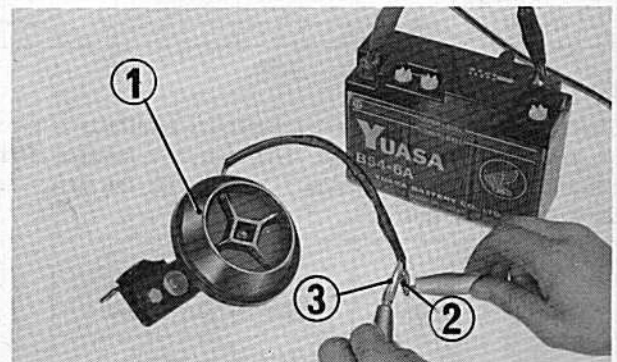


Fig. 4-84 (1) Horn
(2) Black lead
(3) Light green lead

Horn button

Disconnect the terminal of the horn button switch lead in the headlight case. Check for continuity between the light green lead and steering handlebar.

Continuity should exist only when the button is depressed. File the switch contacts with an oil stone if continuity is intermittent. Discard if damaged too badly beyond repair.

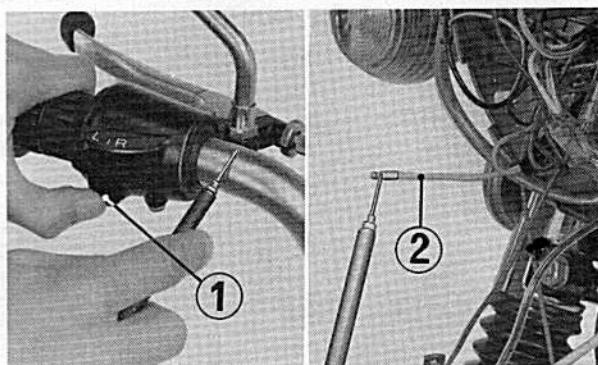


Fig. 4-85 (1) Horn button switch
(2) Light green lead

Turn signal control switch

Disconnect the leads of the turn signal control switch in the headlight case. Check for continuity between the circuits (○—○) as shown in the table immediately below.

Terminal	BAT	R	L
Wire color	Gray	Blue	Orange
R	○—○		
OFF			
L	○—○		○—○

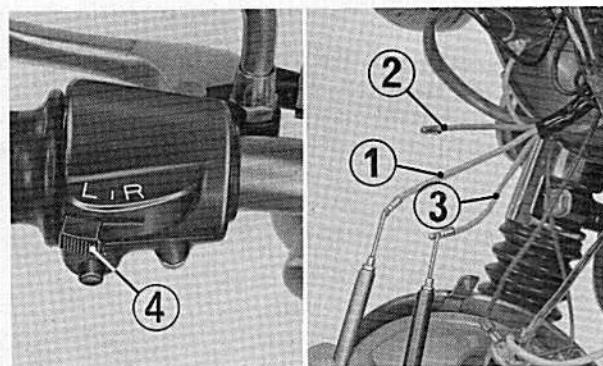


Fig. 4-86 (1) Gray lead
(2) Blue lead
(3) Orange lead
(4) Turn signal control switch

Lighting switch

Check for continuity between the respective terminals of the switch leads in the headlight case. The switch is in good condition if there is continuity in the circuits (○—○) with the switch selector knob set in each position.

Any continuity in other circuits shown below is the symptom of malfunction of the switch.

Terminal	IG	TL	HL	DY	SE
Wire color	Black	Brown/white	Brown/blue	White/yellow	Yellow
OFF					
1 (Evening)	○—○				
2 (Night)	○—○	○—○	○—○	○—○	○—○

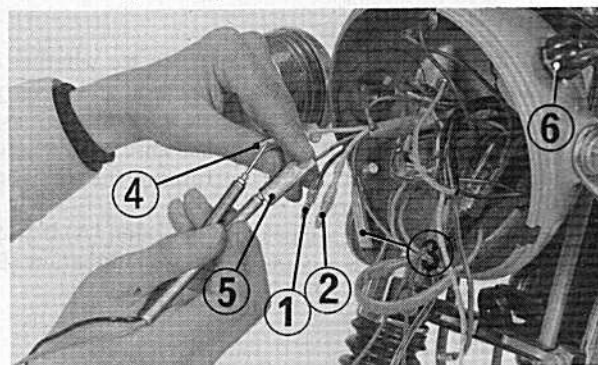


Fig. 4-87 (1) Black
(2) White/yellow
(3) Brown/blue
(4) Yellow
(5) Brown/white
(6) Lighting switch

Dimmer switch

Check for continuity between respective terminals of the switch leads in the headlight case. The switch is normal if there is continuity as specified below (○—○) with the switch selector knob set in each position.

Terminal	H	L	IG
Wire color	Blue	White	Brown/blue
L		○—○	○—○
(N)	○—○	○—○	○—○
H	○—○		○—○

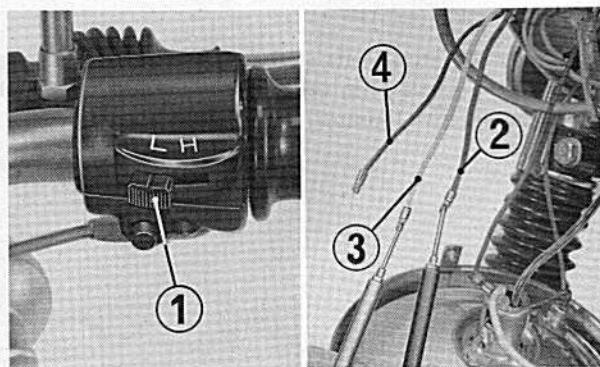


Fig. 4-88 (1) Dimmer switch
(2) Blue lead
(3) White lead
(4) Brown/blue lead

Starting switch

Disconnect the terminal of the starting switch lead in the headlight case. Touch one probe of a tester to the switch lead and the other probe to the frame body with the switch set in each position. The switch is in good condition if continuity exists in the circuit (○—○) shown below.

Terminal	ST	Frame body
Wire color	Yellow/red	
OFF		
ON	○—○	○—○

Neutral switch

With the transmission in neutral, touch the neutral switch lead and engine with a pair of test probes. The switch is normal if continuity exists.

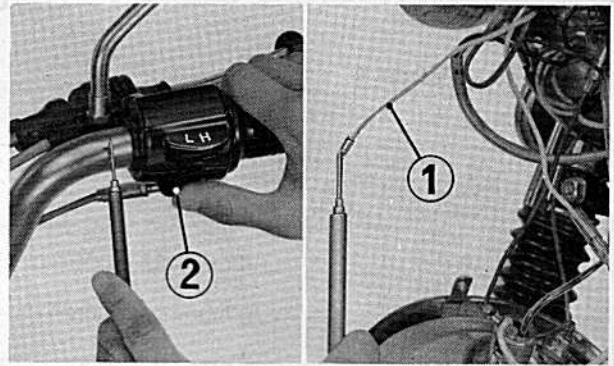


Fig. 4-89 (1) Yellow/red
(2) Starting switch

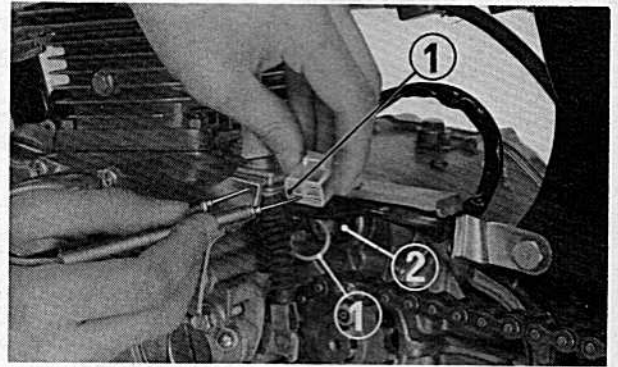


Fig. 4-90 (1) Light green/red lead
(2) Neutral switch

V. SERVICE DATA

1. SPECIAL TOOLS

No.	Tool No.	Description
	07900-3510000	CB125B6 Special tool set
1	07902-2400000	Pin spanner (46 mm)
2	07908-3290000	Tappet adjusting wrench
3	07910-3230101	Bearing retainer wrench
4	07916-6390000	Lock nut wrench (16 mm)
5	07917-3230000	Allen head wrench (6 mm)
6	07922-3570000	Drive sprocket holder
7	07933-2000000	Rotor puller
8	07942-3290200	Valve guide driver
9	07942-3290100	Valve guide remover
10	07945-3230200	Transmission bearing inner race driver
11	07946-3640000	Bearing driver attachment
12	07946-3290000	Ball race driver attachment
13	07946-3290200	Ball race remover
14	07947-3550000	Fork seal driver
15	07949-6110000	Driver handle
16	07954-2000000	Piston ring compressor
17	07957-3290000	Valve spring compressor
18	07958-2500000	Piston base
19	07959-3290000	Shock absorber compressor
20	07984-2000000	Valve guide reamer
21	07797-2920300	Special tool case

2. MAINTENANCE SCHEDULE

This maintenance schedule is based upon average riding conditions. Machines subjected to severe use, or ridden in unusually dusty areas, require more frequent servicing.	INITIAL SERVICE PERIOD	REGULAR SERVICE PERIOD Perform at every indicated month or mileage interval, whichever occurs first.			
		1 month	3 months	6 months	12 months
	500 miles	500 miles	1,500 miles	3,000 miles	6,000 miles
	1,000 km	1,000 km	2,500 km	5,000 km	10,000 km
ENGINE OIL—Change.	●		○		
CENTRIFUGAL OIL FILTER—Clean.					○
OIL FILTER SCREEN—Clean.					○
SPARK PLUGS—Clean and adjust gap or replace if necessary.				○	
*CONTACT POINTS AND IGNITION TIMING—Clean, check, and adjust or replace if necessary.	●			○	
*VALVE TAPPET CLEARANCE—Check, and adjust if necessary.	●			○	
*CAM CHAIN TENSION—Adjust.	●			○	
PAPER AIR FILTER ELEMENT—Clean.	(Service more frequently if operated in dusty areas)			○	
PAPER AIR FILTER ELEMENT—Replace.					○
*CARBURETORS—Check, and adjust if necessary.	●			○	
THROTTLE OPERATION—Inspect cable. Check, and adjust free play,	●			○	
FUEL FILTER SCREEN—Clean.				○	
FUEL LINES—Check.				○	
*CLUTCH—Check operation, and adjust if necessary.	●			○	
DRIVE CHAIN—Check, lubricate, and adjust if necessary.	**●	○			
*BRAKE SHOES AND PADS—Inspect, and replace if worn.				○	
BRAKE CONTROL LINKAGE—Check linkage, and adjust free play if necessary.	●			○	
*WHEEL RIMS AND SPOKES—Check. Tighten spokes and true wheels, if necessary.	●			○	
TIRES—Inspect and check air pressure.	●	○			
FRONT FORK OIL—Drain and refill.	***●				○
FRONT AND REAR SUSPENSION—Check operation.	●			○	
REAR FORK BUSHING—Grease. Check for excessive looseness.				○	
*STEERING HEAD BEARINGS—Adjust.					○
BATTERY—Check electrolyte level, and add water if necessary.	●		○		
LIGHTING EQUIPMENT—Check and adjust if necessary.	●	○			
ALL NUTS, BOLTS, AND OTHER FASTENERS—Check security and tighten if necessary.	●	○			

Items marked * should be serviced by an authorized Honda dealer, unless the owner has proper tools and is mechanically proficient. Other maintenance items are simple to perform and may be serviced by the owner.

** INITIAL SERVICE PERIOD 200 MILES.

*** INITIAL SERVICE PERIOD 1,500 MILES.

3. TORQUE SPECIFICATIONS

Engine

Tightening point	Thread dia. (mm)	Torque	
		Kg-cm	lbs-ft.
Crankcase cover	6, P1.0	70-100	5.1- 7.2
Cylinder head cover	8, P1.25	180-250	13.1-18.1
Carburetor insulator-to-cylinder head	6, P1.0	80-120	5.8- 8.7
Cam sprocket	7, P1.0	160-200	11.6-14.5
A.C. generator rotor	8, P1.25	350-450	25.3-32.5
Tappet adjusting nut	5, P0.5	70-100	5.1-7.2
Upper and lower crankcases	6, P1.0	80-120	5.8- 8.7
	8, P1.25	180-250	13.1-18.1

Frame

Tightening point		Thread dia. (mm)	Torque	
			Kg-cm	lbs-ft.
Steering stem nut		24, P1.0	800-1,000	57.9-72.3
Front fork lock bolt		8, P1.25	180-250	13.1-18.1
Handlebar holder		8, P1.25	180-250	13.1-18.1
Spoke	Front	—	25-30	1.9- 2.2
	Rear	—	20-25	1.5- 1.9
Rear fork pivot bolt		14, P1.5	600-700	43.7-50.6
Front wheel axle nut		14, P1.5	600-800	43.7-57.9
Front brake disc		6, P1.0	80-100	5.9- 7.3
Engine hanger bolt		8, P1.25	180-250	13.1-18.1
		10,P1.25	300-400	21.7-29.0
Rear wheel axle nut		14, P1.5	600-800	43.7-57.9
Final driven sprocket		8, P1.25	200-250	14.5-18.1
Brake arm		6, P1.0	80-100	5.9- 7.3
Rear shock absorber		8, P1.25	180-250	13.1-18.1
		10. P1.25	300-400	21.7-29.0
Step bar		8, P1.25	180-250	13.1-18.1
Gear change pedal and kick arm		6, P1.0	150-200	10.9-14.5

4. SERVICE DATA

Engine

Item	Unit	Standard value	Service limit
Rocker arm-to-rocker arm shaft clearance	mm (in.)	0.013–0.043 (0.0005–0.0017)	0.08 (0.0032)
Cam height	mm (in.)	26.177 (1.0306)	26.0 (1.0236)
Exhaust	mm (in.)	25.740 (1.0134)	25.5 (1.0039)
Valve seat width	mm (in.)	1.2 (0.0472)	1.9 (0.0748)
Valve stem O.D.	mm (in.)	5.480–5.490 (0.2157–0.2161)	5.46 (0.2150)
Exhaust	mm (in.)	5.460–5.470 (0.2150–0.2154)	5.44 (0.2142)
Valve-to-valve guide clearance	mm (in.)	0.015–0.035 (0.006–0.0014)	0.065 (0.0026)
Exhaust	mm (in.)	0.035–0.055 (0.0014–0.0022)	0.085 (0.0034)
Valve spring free length	mm (in.)	23.05 (0.9075)	21.5 (0.8465)
Inner	mm (in.)	31.30 (1.2323)	29.8 (1.1732)
Cylinder bore I.D.	mm (in.)	44.000–44.010 (1.7323–1.7327)	44.1 (1.7717)
Piston skirt O.D.	mm (in.)	43.980–44.000 (1.7315–1.7323)	43.9 (1.7284)
Piston pin hole I.D.	mm (in.)	13.002–13.008 (0.5119–0.5121)	13.02 (0.5126)
Piston pin O.D.	mm (in.)	12.994–13.000 (0.5016–0.5118)	12.9 (0.5079)
Piston ring-to-piston ring groove clearance	mm (in.)	0.35–0.65 (0.0138–0.0256)	0.75 (0.0293)
Top ring	mm (in.)	0.25–0.55 (0.0098–0.0217)	0.65 (0.0256)
Second ring	mm (in.)	0.25–0.55 (0.0098–0.0217)	0.65 (0.0256)
Oil ring	mm (in.)	0.15–0.35 (0.0059–0.0138)	0.65 (0.0256)
Piston ring end gap	mm (in.)	0.15–0.35 (0.0059–0.0138)	0.65 (0.0256)
Top ring	mm (in.)	0.15–0.35 (0.0059–0.0138)	0.65 (0.0256)
Second ring	mm (in.)	0.15–0.35 (0.0059–0.0138)	0.65 (0.0256)
Oil ring	mm (in.)	0.15–0.35 (0.0059–0.0138)	0.65 (0.0256)
Clutch outer-to-oil pump rod clearance	mm (in.)	0.025–0.075 (0.0010–0.0030)	0.15 (0.0059)
Clutch friction disc thickness	mm (in.)	3.5 (0.1378)	3.1 (0.1220)
Clutch plate face runout	mm (in.)	0.1 (0.0039) max.	0.2 (0.0079)
Clutch spring free length	mm (in.)	30.5 (1.2008)	29.0 (1.1417)
Gearshift fork thickness	mm (in.)	5.33–5.40 (0.2098–0.2126)	5.2 (0.2047)
Gearshift drum O.D.	mm (in.)	33.950–33.975 (1.3366–1.3376)	33.8 (1.3307)
Gearshift fork I.D.	mm (in.)	34.000–34.025 (1.3386–1.3396)	34.075 (1.3415)
Gearshift fork guid pin-to-gearshift drum groove clearance	mm (in.)	0.11–0.228 (0.0043–0.0090)	0.5 (0.0197)
Transmission gear backlash	mm (in.)	—	0.2 (0.0079)
1st, 2nd. and 3rd.	mm (in.)	—	0.2 (0.0079)
4th. and 5th.	mm (in.)	—	0.2 (0.0079)
Crankshaft runout	mm (in.)	0.03 (0.0012) max.	0.1 (0.0039)
Connecting rod small end I.D.	mm (in.)	12.988–13.033 (0.5113–0.5131)	13.07 (0.5146)
Connecting rod big end side clearance	mm (in.)	0.05–0.35 (0.0020–0.0138)	0.6 (0.0236)
Connecting rod big end bearing clearance	mm (in.)	0.004–0.012 (0.0002–0.0005)	0.020 (0.0008)
Oil pump body-to-plunger clearance	mm (in.)	0.025–0.145 (0.0010–0.0057)	0.2 (0.0079)

Frame

Item	Unit	Standard value	Service limit
Brake disc warpage	mm (in.)	0.05 (0.0020) max.	0.2 (0.0079)
Brake disc face runout	mm (in.)	0.05 (0.0020) max	0.3 (0.0118)
Brake disc thickness	mm (in.)	4.9–5.1 (0.1929–0.2008)	4.0 (0.1575)
Wheel rim face runout	mm (in.)	0.5 (0.0197) max.	3.0 (0.1181)
Front wheel axle bend	mm (in.)	0.01 (0.004) max.	0.15 (0.0059)
Rear wheel axle bend	mm (in.)	0.01 (0.0004) max.	0.20 (0.0079)
Rear brake lining thickness	mm (in.)	3.9–4.1 (0.1535–0.1614)	2.0 (0.0787)
Rear brake drum I.D.	mm (in.)	129.08–130.02 (5.0819–5.1189)	131 (5.1575)
Front shock absorber spring free length	mm (in.)	453.7 (17.863)	445 (17.520)
Rear shock absorber spring free length	mm (in.)	196.7 (7.745)	185 (7.283)
Rear fork pivot bushing-to-center collar clearance	mm (in.)	0.08–0.13 (0.0031–0.0051)	0.3 (0.0118)
Front fork bottom case I.D.	mm (in.)	31.025–31.064 (1.2215–1.2230)	31.139 (1.2259)
Front fork pipe O.D.	mm (in.)	30.925–30.950 (1.2175–1.2185)	30.90 (1.2165)
6302 ball bearing axial play	mm (in.)	0.05 (0.0020)	0.1 (0.0039)
6302 ball bearing radial play	mm (in.)	0.002–0.007 (0.0001–0.0003)	0.05 (0.0020)
Drive chain length	mm (in.)	1498.6 (59.000)	1524 (60.000)

5. TROUBLE SHOOTING

Engine

Trouble	Probable Cause	Remedies
Engine does not start	<ol style="list-style-type: none"> 1. Excessive wear of piston ring or cylinder. 2. Seized valve in valve guide. 3. Seized piston. 4. Faulty valve timing. 5. Low or lack of compression pressure. Pressure leak 6. Blown out cylinder head gasket. 7. Warped gasketing surface of the cylinder and cylinder head. 	Replace. Replace. Replace. Adjust. Lap the valve to obtain good valve seating or replace. Replace. Repair or replace.
Poor engine idling	<ol style="list-style-type: none"> 1. Incorrect tappet clearance. 2. Low or lack of compression pressure. 3. Excessive valve guide clearance. 	Adjust to standard value. Repair. Replace valve and guide
Loss of power	<ol style="list-style-type: none"> 1. Valve sticking open. 2. Incorrect seating of valve. 3. Weak or broken valve spring. 4. Faulty valve timing. 5. Blown out cylinder head gasket. 6. Excessive wear of cylinder and piston. 7. Worn, weak or broken piston ring. 8. Loose spark plug. 	Replace. Lap valve. Replace. Adjust. Replace. Replace. Replace. Retighten.
Overheating	<ol style="list-style-type: none"> 1. Heavy carbon deposit on combustion chamber and piston head. 2. Lean fuel mixture. 3. Retarded ignition timing. 4. Low oil level, poor quality. 5. Extended operation in low gear. 	Remove carbon. Adjust the carburetor. Adjust ignition timing. Add or change with good grade oil.
Backfire	<ol style="list-style-type: none"> 1. Incorrect seating of inlet valve. 2. Faulty valve timing. 3. Incorrect ignition timing. 4. Excessive spark plug gap. 5. Improper fuel. 	Check the valve seating. Adjust. Adjust. Adjust the gap to 0.024–0.028-in. (0.6–0.7 mm) Use good quality fuel.
White exhaust smoke	<ol style="list-style-type: none"> 1. Excessive wear of cylinder and piston. 2. Overfilled engine oil. 3. Excessively high oil pressure. 4. Poor quality oil. 	Replace the piston. Adjust the oil level. Check the breather. Replace with good quality oil.
Black exhaust smoke	<ol style="list-style-type: none"> 1. Rich fuel mixture. 	Adjust the carburetor.
Difficult gear shifting	<ol style="list-style-type: none"> 1. Improper clutch disengagement. 2. Damaged gear or foreign object lodged in the gear. 3. Gearshift fork inoperative. 4. Incorrect operation of the gearshift drum stop and change pedal. 5. Mainshaft and countershaft out of alignment. 6. High oil viscosity. 	Adjust the clutch. Replace the defective parts. Repair or replace. Repair or replace. Repair or replace. Change the oil.
Excessive high gear noise	<ol style="list-style-type: none"> 1. Excessive gear backlash. 2. Worn main and countershaft bearing. 	Repair or replace. Repair or replace.

Trouble	Probable Cause	Remedies
Gear slip out	<ol style="list-style-type: none"> 1. Worn fingers on gearshift fork. 2. Worn gear dog hole. 3. Worn spline. 	Replace. Replace. Replace.
Clutch slippage	<ol style="list-style-type: none"> 1. No play in the clutch lever. 2. Weak or none uniform clutch spring. 3. Worn or grazed friction disc. 	Adjust the clutch. Replace the weak spring. Replace.
Poor clutch engagement	<ol style="list-style-type: none"> 1. Excessive play of clutch lever. 2. Warped friction disc. 3. Warped pressure plate. 4. Bent mainshaft. 	Adjust clutch lever play. Replace. Replace. Replace.
Pedal does not return	<ol style="list-style-type: none"> 1. Faulty return spring. 2. Unhook return spring. 	Replace. Hook return spring.
Kick starter gear does not rotate	<ol style="list-style-type: none"> 1. Excessive wear of kick starter pawl. 	Replace.
Engine does not start	Carburetor <ol style="list-style-type: none"> 1. Choke fully open. 2. Carburetor air screw improperly set. 3. Air leaking into the cylinder head. 4. Clogged carburetor slow jet. 5. Clogged fuel cock or piping. 6. Clogged vent hole in the fuel tank cap. 7. No fuel in the tank. 	Close choke. Adjust air screw. Retighten carburetor connecting tube. Clean or replace. Clean. Clean. Fill tank with gasoline.
Poor engine idling	Carburetor <ol style="list-style-type: none"> 1. Clogged or loose carburetor slow jet. 2. Improper float level. 3. Incorrect air screw adjustment. 4. Throttle cable malfunction. 5. Air leaks. 	Clean or replace. Adjust. Adjust. Adjust. Tighten all air passage connection.
Improper running of engine	Carburetor <ol style="list-style-type: none"> 1. Jet size too small. 2. Improper float level. 3. Clogged carburetor main jet. 4. Throttle cable malfunction. 5. Air leaks. 	Replace with correct size jet. Adjust. Clean or replace. Adjust. Tighten all air passage connection.

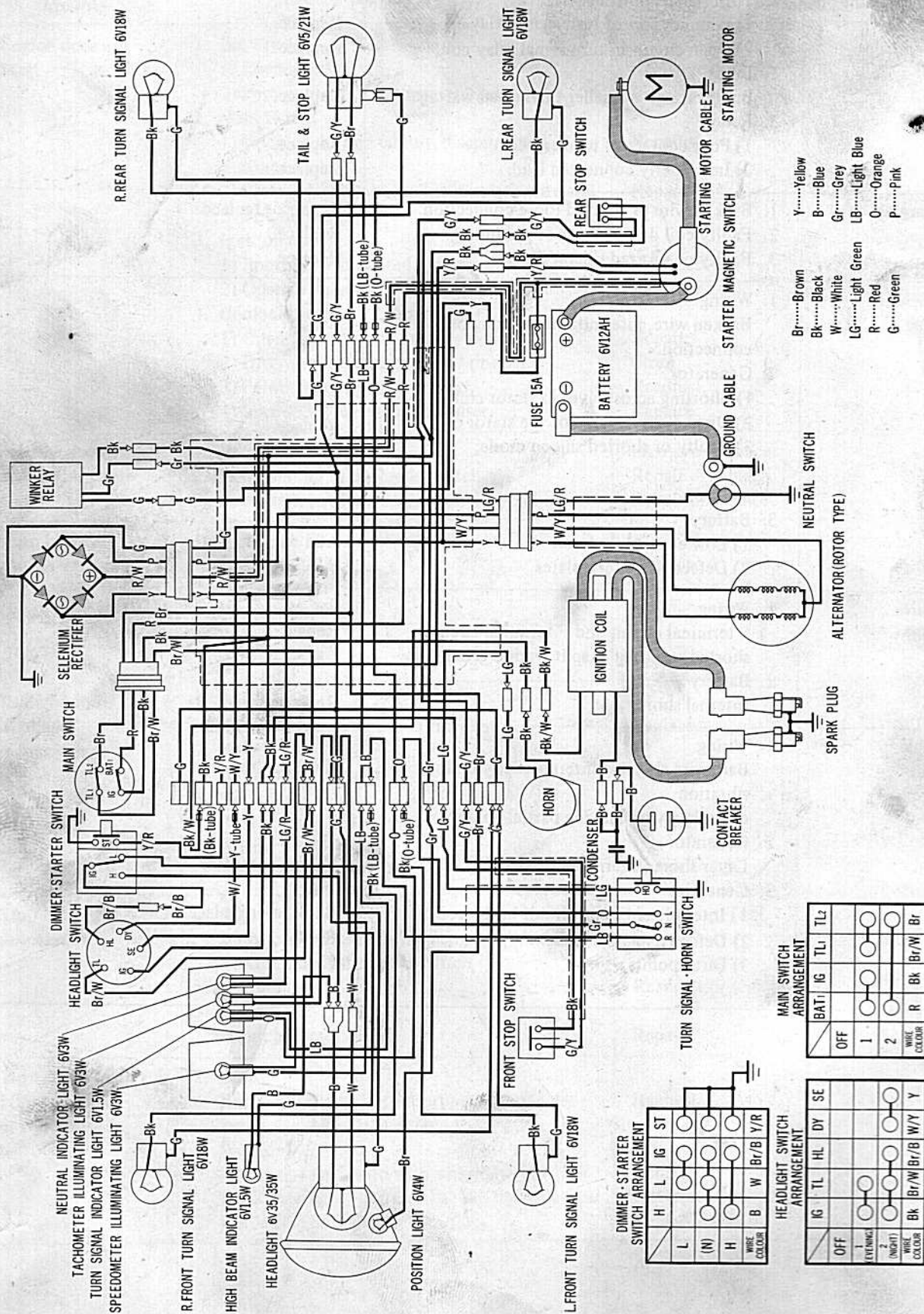
Trouble	Probable Cause	Remedies
Heavy steering	<ol style="list-style-type: none"> 1. Steering stem excessively tightened. 2. Damaged steering stem steel balls. 3. Bent steering. 4. Low front tire pressure. 	Adjust. Replace. Replace. Add air to the specified pressure.
Front and rear wheel wobble	<ol style="list-style-type: none"> 1. Loose steering stem mounting bolt. 2. Worn front and rear wheel bearings. 3. Front or rear wheel runout or distorted. 4. Loose spoke. 5. Defective tire. 	Retighten. Replace bearing. Repair or replace. Retighten. Replace.
Soft suspension	<ol style="list-style-type: none"> 1. Loss of shock absorber. 2. Excessive load. 	Replace.
Hard suspension	<ol style="list-style-type: none"> 1. Ineffective front fork damper. 2. Ineffective rear damper. 	Repair. Replace.
Suspension noise	<ol style="list-style-type: none"> 1. Front case or rear damper rubbing. 2. Interference between shock absorber case and spring. 3. Faulty fork stop rubber. 4. Insufficient front fork oil. 	Repair or replace. Repair or replace. Replace. Add ATF.
Defective brake	<ol style="list-style-type: none"> 1. Front brake. <ol style="list-style-type: none"> 1) Worn brake pad. 2) Worn or distorted brake disc. 3) Brake lever out of adjustment. 2. Rear brake. <ol style="list-style-type: none"> 1) Worn brake lining. 2) Worn brake shoe or poor contacts. 3) Worn brake cam. 4) Wet brake from water or oil. 5) Worn brake anchor pin. 6) Brake pedal out of adjustment. 	Replace pad. Replace disc. Readjust. Replace. Replace. Replace. Clean. Replace. Readjust.

Electrical

Trouble	Probable Cause	Remedies
Engine does not Start	<ol style="list-style-type: none"> Battery <ol style="list-style-type: none"> Discharged. Poor contact of battery terminals. Main switch <ol style="list-style-type: none"> Open or shorted circuit, disconnected connections. Poor contact between main switch wire and wire harness. Ignition coil <ol style="list-style-type: none"> Improperly insulated high tension coil. Open or shorted circuit in ignition coil. Contact breaker <ol style="list-style-type: none"> Open circuit in the primary coil. Dirty ground point with oil or dust. Point gap out of adjustment. Improperly charged condenser. 	Recharge or replace. Repair. Repair. Repair. Replace. Replace. Repair. Clean. Readjust. Replace.
Starting motor does not operate	<ol style="list-style-type: none"> Defective battery. Poor contact of magnetic switch. Poor contact of starting motor carbon brush. 	Charge or replace. Repair or replace. Repair or replace.
Horn inoperative, poor sound or too weak sound	<ol style="list-style-type: none"> Horn Cracked diaphragm. Horn button. Poor grounding. Wiring Poor contact. 	Replace. Repair. Repair.
Taillight and headlight inoperative	<ol style="list-style-type: none"> Fuse Blown fuse or burnt bulb filament. Bulb Burnt bulb filament. Switch Poor contact of lighting switch. Wiring Poor contact of leads. 	Replace. Replace. Repair. Repair
Stop light inoperative	<ol style="list-style-type: none"> Bulb Burnt or broken bulb filament. Front and tail stop light switch Malfunction of switch. Wiring Poor contact of leads. 	Replace. Readjust or replace. Repair.
Turn signal lamp blinks too fast or too slow	<ol style="list-style-type: none"> Bulb Blinks unusually fast: improperly connected relay. Wiring Blinks too fast: bulb with unsuitable wattage. Blinks too slow: burnt or broken bulb filament. Defective relay. 	Replace. Replace. Replace. Replace.

Trouble	Probable Cause	Remedies
Turn signal lamp operative	1. Turn signal control switch 1) Poor contact of turn signal relay. 2) Open circuit in turn signal relay coil. 2. Bulb Bulb wattage is smaller than rated wattage. 3. Relay 1) Poor contact of winker relay. 2) Improperly connected lead.	Replace. Replace. Replace. Replace. Replace.
No charging	1. Broken wire or shorted loose connection. 2. Faulty coil due to short or grounding. 3. Faulty or shorted silicon diode.	Repair or replace. Replace. Replace.
Insufficient charging	1. Wiring Broken wire, intermittent shorting or loose connection. 2. Generator 1) Shorting across layer in stator coil. 2) Open circuit in one of the stator coil. 3) Faulty or shorted silicon diode. 3. Battery 1) Low electrolyte level. 2) Defective battery plates.	Repair. Replace. Replace. Replace. Add distilled water. Replace.
Excessive charging	1. Wiring P terminal circuit and F terminal circuit shorted resulting in split wound generator. 2. Battery Internal short.	Repair. Replace.
Unstable charging voltage	1. Wiring Bare wire shorting intermittently under vibration or broken wire making partial contact. 2. Generator Layer short (intermittent shorting). 3. Generator 1) Intermittent open circuit in the coil. 2) Defective main switch 3) Dirty points.	Repair or replace. Repair or replace. Replace or replace. Replace. Clean.

6. WIRING DIAGRAM



7. SPECIFICATIONS

Item	
DIMENSION	
Overall Length	1,965 mm (77.4-in.)
Overall Width	715 mm (28.2-in.)
Overall Height	1,030 mm (40.6-in.)
Wheel Base	1,280 mm (50.4-in.)
Seat Height	775 mm (30.5-in.)
Ground Clearance	140 mm (5.5-in.)
Dry Weight	120 kg (265 lb.)
FRAME	
Type	Semi-double cradle
F. Suspension, Travel	Telescopic fork, travel 105 mm (4.1-in.)
R. Suspension, Travel	Swing arm, travel 67.8 mm (2.7-in.)
F. Tire Size, Type	2.50-18-4PR, Rib pattern, tire air pressure 1.8 kg/cm ² (26 psi.)
R. Tire Size Type	3.00-18-6PR, Block pattern, tire air pressure 2.2 kg/cm ² (32 psi.)
F. Brake	Disk brake
R. Brake	Internal expanding shoes
Fuel Capacity	9.0 lit. (2.4 U.S. gal., 2.0 Imp. gal.)
Fuel Reserve Capacity	2.5 lit. (0.7 U.S. gal., 0.6 Imp. gal.)
Caster Angle	64°
Trail Length	86 mm (3.4-in.)
ENGINE	
Type	Air cooled 4-stroke O.H.C. engine
Cylinder Arrangement	Twin parallel 8° inclined from vertical
Bore and Stroke	44.0 x 41.0 mm (1.732 x 1.614-in.)
Displacement	124 cc (7.6 cu in.)
Compression Ratio	9.4 : 1
Maximum Horsepower	12 PS/10,500 rpm (DIN)
Maximum Torque	0.89 kg-m/9,000 rpm
Oil Capacity	1.2 lit. (1.3 U.S. qt., 1.1 Imp. qt.)
Lubrication System	Forced and wet sump
Valve Tappet Clearance	IN, EX: 0.05 mm (0.002-in.)
Idle Speed	1,200 rpm
DRIVE TRAIN	
Clutch	Wet multi plate type
Transmission	5-speed constant mesh
Primary Reduction	3.875
Gear Ratio I	2.615
Gear Ratio II	1.611
Gear Ratio III	1.182
Gear Ratio IV	0.958
Gear Ratio V	0.808
Final Reduction	3.357, drive sprocket 14T, driven sprocket 47T
Gear Shift Pattern	Left foot operated return system
ELECTRICAL	
Ignition	Battery and ignition coil
Starting System	Starting motor and kick starter
Alternator	A.C. generator, 0.072 kw/5,000 rpm
Battery Capacity	6V-12AH
Spark Plug	NGK D8HS, ND X24FS



HONDA
HONDA MOTOR CO., LTD. TOKYO, JAPAN

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