



I. TECHNICAL FEATURE

BLOW-BY GAS CIRCULATOR

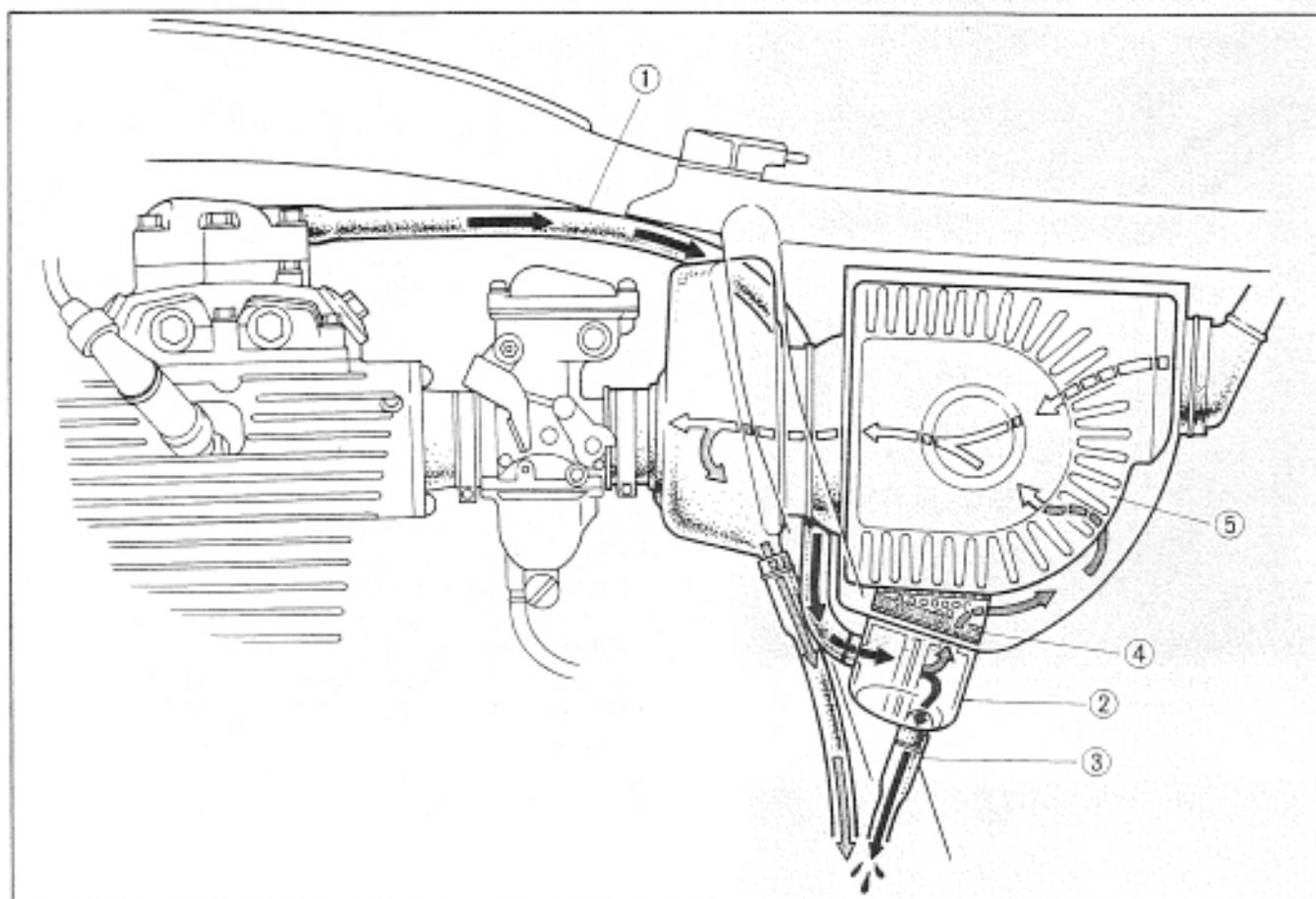


Fig. 1-1 ① Breather tube ③ Oil drain tube ③ Air cleaner element
② Breather case ④ Breather element

The blow-by gas from the inside of the cylinder head through breather tube enters the breather box, the oil is separated by the breather element and the gas is then led to the air cleaner. The gas enters the air cleaner and is filtered together with the fresh air by the air cleaner element and is then again led to the combustion chambers through the carburetors. Therefore, the blow-by gas is reduced by recombustion of the unburned gas.

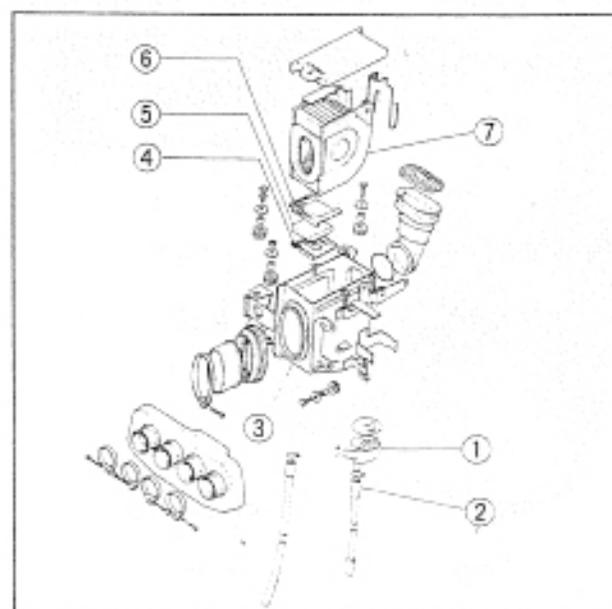


Fig. 1-2 ① Breather box ② Oil drain tube ③ Air cleaner case ④ Lower element holder ⑤ Breather element ⑥ Upper element holder ⑦ Air cleaner element

II. INSPECTION AND ADJUSTMENT

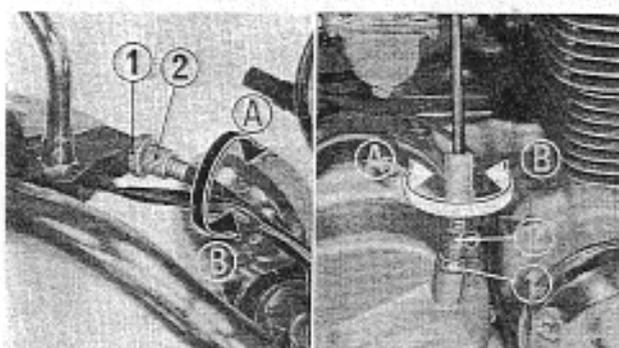


Fig. 2-1 ① Lock nut ② Clutch cable adjuster

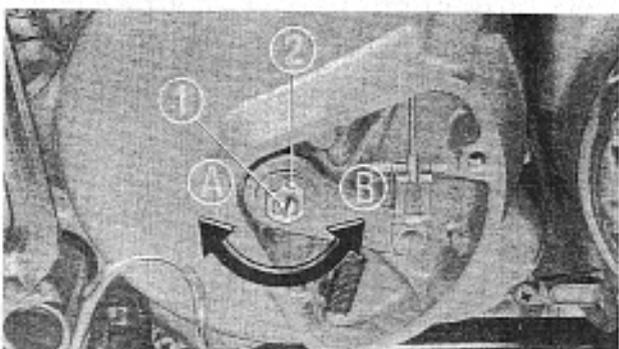


Fig. 2-2 ① Clutch adjusting screw
② Adjusting screw lock nut

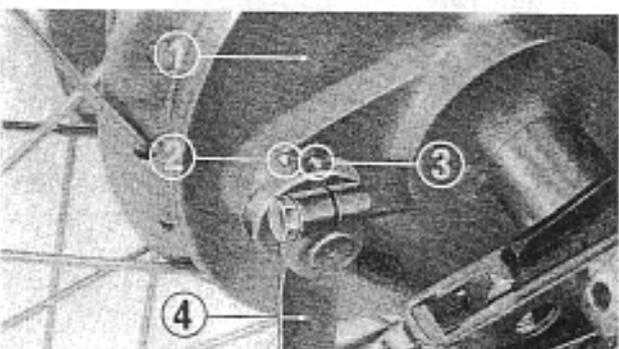


Fig. 2-3 ① Brake panel ② Reference mark
③ Arrow ④ Brake arm

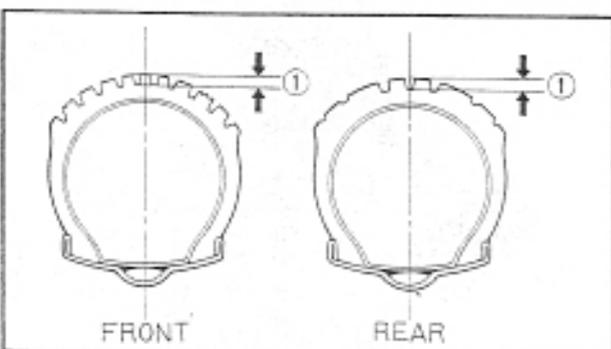


Fig. 2-4 ① Center tread depth

1. CLUTCH

1. Check the clutch lever for free play at its tip.
Standard play: 10-20 mm (0.4-0.8 in.)
2. Screw the clutch cable adjuster located at the clutch lever, all the way into (A) the clutch lever bracket.
3. Turn the clutch cable adjuster located at the clutch housing, in the direction (A) to loosen the clutch cable.
4. Remove the clutch cover. Loosen the clutch lifter adjusting screw lock nut (see Fig. 2-2), turn the clutch adjusting screw in the clockwise direction (A) until a slight resistance is felt. From this position, turn the adjusting screw in the counterclockwise direction (B) 1/4~1/2 turn. Tighten the lock nut.
5. Turn the clutch cable adjuster located at the clutch housing side of engine, in the (A) direction so that there is approximately 3/4" of free play at the end of the clutch lever, then tighten lock nut.
6. The remaining clutch lever free play is obtained by the clutch cable adjuster at the clutch lever.
7. After the adjustment has been made, check to see that the clutch is not slipping and that the clutch is properly disengaging.

After the engine starts, pull in the clutch lever and shift into gear, and make sure that the engine does not stall, and the motorcycle does not creep. Gradually release the clutch lever and open the throttle, the motorcycle should start smoothly and gradually accelerate.

2. REAR BRAKE

Brake shoes

1. Check the distance between the arrow adjacent to the brake arm and reference mark on the brake on the brake panel of full application of the brake.
2. If the arrow aligns with the reference mark on full application of the brake, replace the brake shoes and check the brake drum for wear.

3. WHEEL

Tire tread wear

Tire should be replaced when center tread depth is worn to the following limits.

Center tread depth:

Front — 1.5 mm (0.06-in.)

Rear — 2.0 mm (0.08-in.)

4. SPARK PLUG

1. Remove the spark plug cap from the spark plug. Unscrew the plug, using a 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, bristered 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 specification.

Specified plug gap: 0.7-0.8 mm (0.028-0.032-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 two steps; first, finger-tight, and then use a spark plug wrench to tighten the plug an additional 1/2 to 3/4 turn or until the sealing gasket is compressed.

5. FUEL FILTER

1. Place the fuel cock lever in the "OFF" position; disconnect the fuel tubes. Take out the fuel tank.
2. Loosen the fuel cock fixing nut and then remove the fuel cock and fuel filter from the fuel tank.
3. Check the gasket to see if it is not damaged. Replace with a new one, if found to be damaged too badly beyond use.
4. Wash the fuel filter in solvent and dry with compressed air. Any slightest damage can not be tolerated here. Also replace the filter with a new one if found to be clogged.
5. Install the fuel filter to the fuel cock with the fixing nut. Do not forget to install the gasket into the groove of the fixing nut.
6. Install the fuel cock to the fuel tank with the fixing nut.
7. Install the fuel tank in place on the frame; connect tubes and secure with the clips.
8. Fill the tank with fuel. With the fuel cock lever in the "ON" position, check for any leakage past the tube joints or connections.

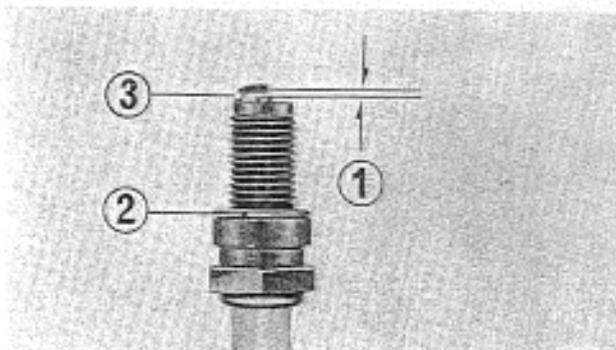


Fig. 2-5 ① Spark plug gap ③ Side electrode
② Gasket

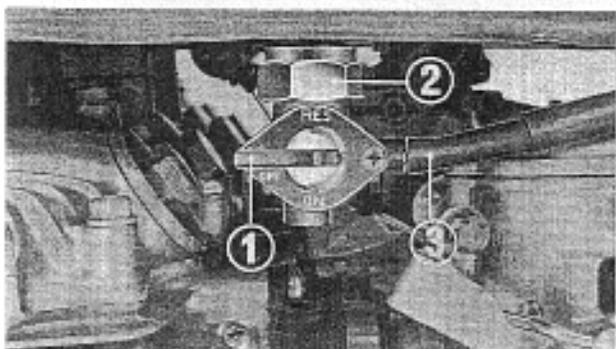


Fig. 2-6 ① Fuel cock lever ③ Fuel tube
② Fuel cock fixing nut

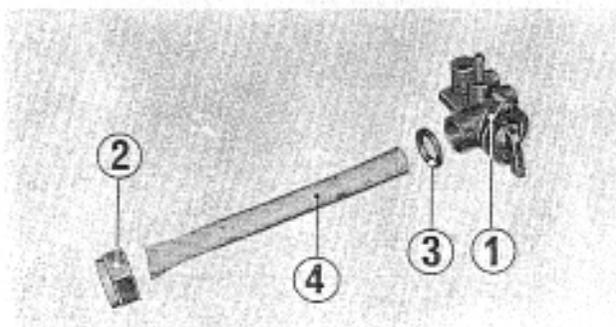


Fig. 2-7 ① Fuel cock ③ Gasket
② Fixing nut ④ Fuel filter

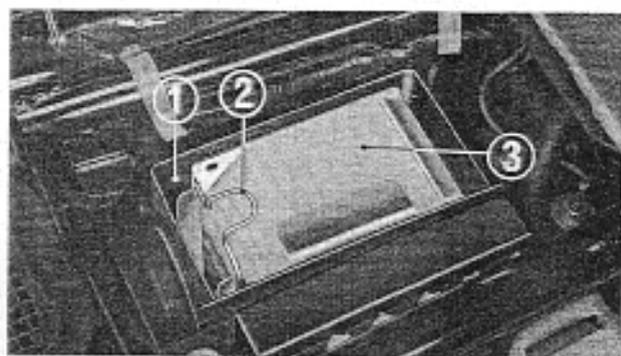


Fig. 2-8 ① Air cleaner case
② Retaining clip
③ Air cleaner element

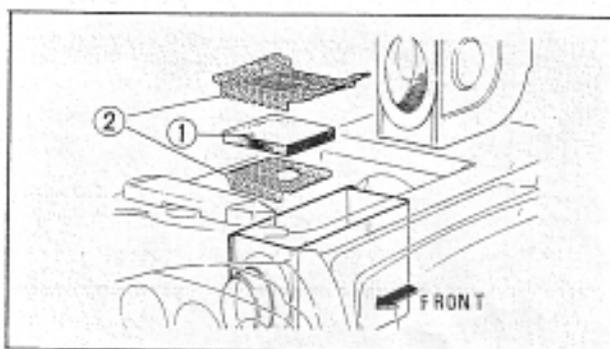


Fig. 2-9 ① Breather element ② Element holder

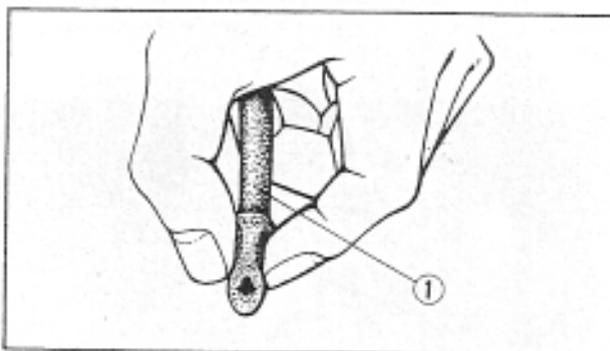


Fig. 2-10 ① Drain tube



Fig. 2-11 ① Checking front suspension

6. AIR CLEANER

1. Raise the seat and remove the tool compartment together with the air cleaner cover.
2. Lift out the air cleaner element retaining clip. Remove the air cleaner element.
3. Clean the air cleaner element by tapping it lightly to loosen dust. The remaining dust can be brushed from the outer element surface or blown away by applying compressed air from the inside of the element.

4. Remove the element holders and breather element
5. Wash the breather element in clean solvent. Squeeze out excess solvent and then dry the element thoroughly.

WARNING:

- Gasoline or low flash point solvents are highly flammable and must not be used to clean the breather element.
- Do not use acid, alkali or organic solvent for washing the breather element.

6. Squeeze to open lower end of the drain tube, and remove any oil or water which may have accumulated.
7. To reinstall the air cleaner, reverse the removal procedures.

7. FRONT SUSPENSION

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 hands. 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.

Changing front fork oil

1. Remove the drain plugs from the 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.

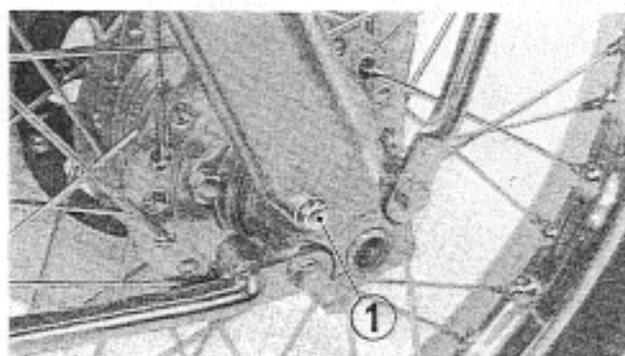


Fig. 2-12 ① Front fork drain plug

3. Remove the oil filler plugs and pour the specified amount of ATF (permanent quality automatic transmission fluid) into the holes.

Capacity: 145-150cc (4.8-4.9 ozs.)

NOTE:

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

Specified amount: 160-165cc (5.6-5.8 ozs.)

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

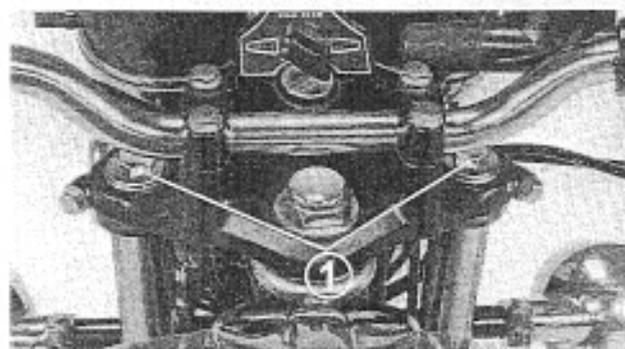


Fig. 2-13 ① Oil filler plug

8. REAR SUSPENSION

Inspection

1. Raise the rear wheel off the ground. Axially move the rear wheel in and out with force to see if the rear fork bushings are worn. If worn excessively beyond use, replace.
2. Check the suspension mountings for looseness.

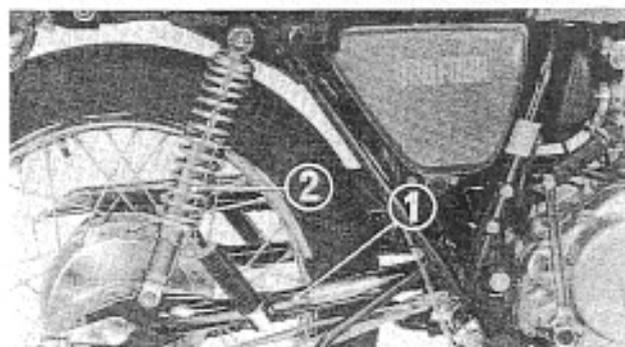


Fig. 2-14 ① Rear fork ② Rear shock absorber

Rear fork Bushing Lubrication

There is a lubrication point as shown in the figure. It is recommended that lubrication be performed every 6 months or 3,000 miles whichever occurs first. Use multipurpose grease, Type NLGI No. 2.

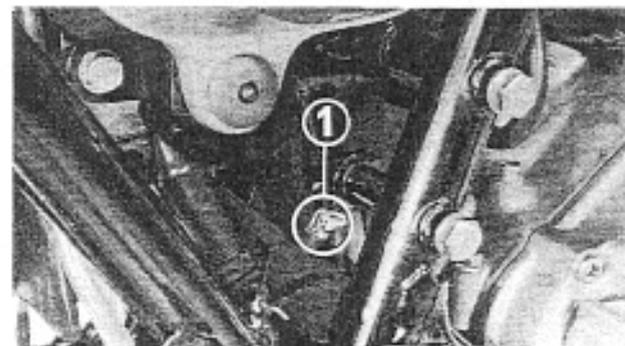


Fig. 2-15 ① Grease fitting

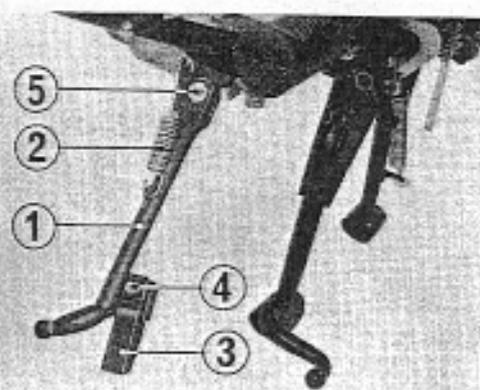


Fig. 2-16 ① Side stand bar ④ 6mm bolt
② Spring ⑤ Side stand
③ Rubber block pivot bolt

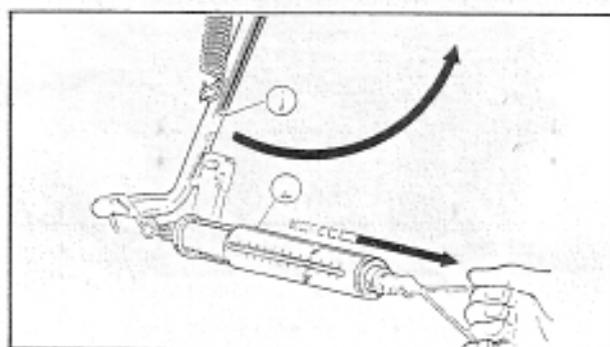


Fig. 2-17 ① Side stand bar ② Spring scale

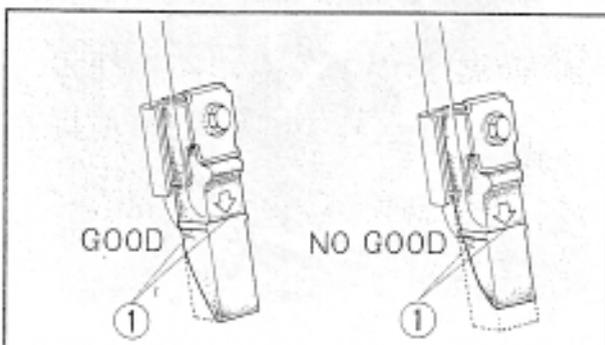


Fig. 2-18 ① Wear line

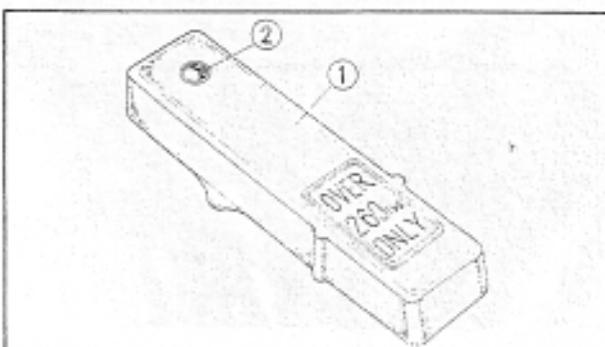


Fig. 2-19 ① Rubber block ② Collar

9. SIDE STAND

1. Check the entire stand assembly (side stand bar, bracket and rubber block) for installation, deformation or otherwise excessive damage.
2. Check the spring for freedom from damage or other defects.

3. Check the side stand for proper return operation:
 - a. With the side stand applied, raise the stand off the ground by using the main stand.
 - b. Attach a spring scale to the lower end of the stand and measure the force with which the stand is returned to its original position.
 - c. The stand condition is correct if the measurement falls within 2-3kg (4.4-6.6lbs.)

If the stand requires force exceeding the above limit, this might be due to neglected lubrication, overtightened side stand pivot bolt, worn stand bar or bracket, or otherwise excessive tension. Repair as necessary.

4. Check the rubber block for deterioration or wear. When the rubber block wear is excessive so that it is worn down to the wear line, replace it with a new one.

Rubber block replacement

1. Remove the 6mm bolt; separate the rubber block from the bracket at the side stand.
2. After making sure the collar is installed, put a new rubber block in place in the bracket with the arrow mark out.

NOTE:

Use rubber block having the mark "OVER 260 lbs. ONLY"

3. Secure the rubber block with the 6mm bolt.



1. PISTON RINGS

Assembly

- To install the oil ring, first place the spacer and then the rails in position. The spacer and rail gaps must be staggered 20-30 mm (0.8-1.2-in.).
- Install the second and top rings in this order in the piston with their markings facing upward.

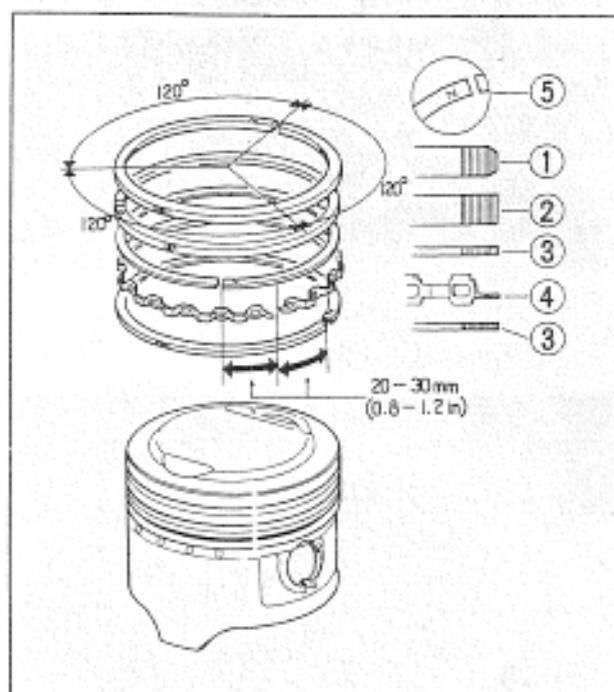
NOTE:

- Do not mix the top and second rings.
- After installing all rings in the piston, hand-rotate them and check to be sure they move smoothly without any sign of binding.
- The ring gaps must be staggered 120 deg. and must not be in the direction of the piston pin boss or at right angle to the pin.

NOTE:

On the gap of the three-piece type oil ring refer to that of the spacer.

Fig. 3-1 ① Top ring ④ Spacer
② Second ring ⑤ Piston ring marking
③ Rail



2. CLUTCH

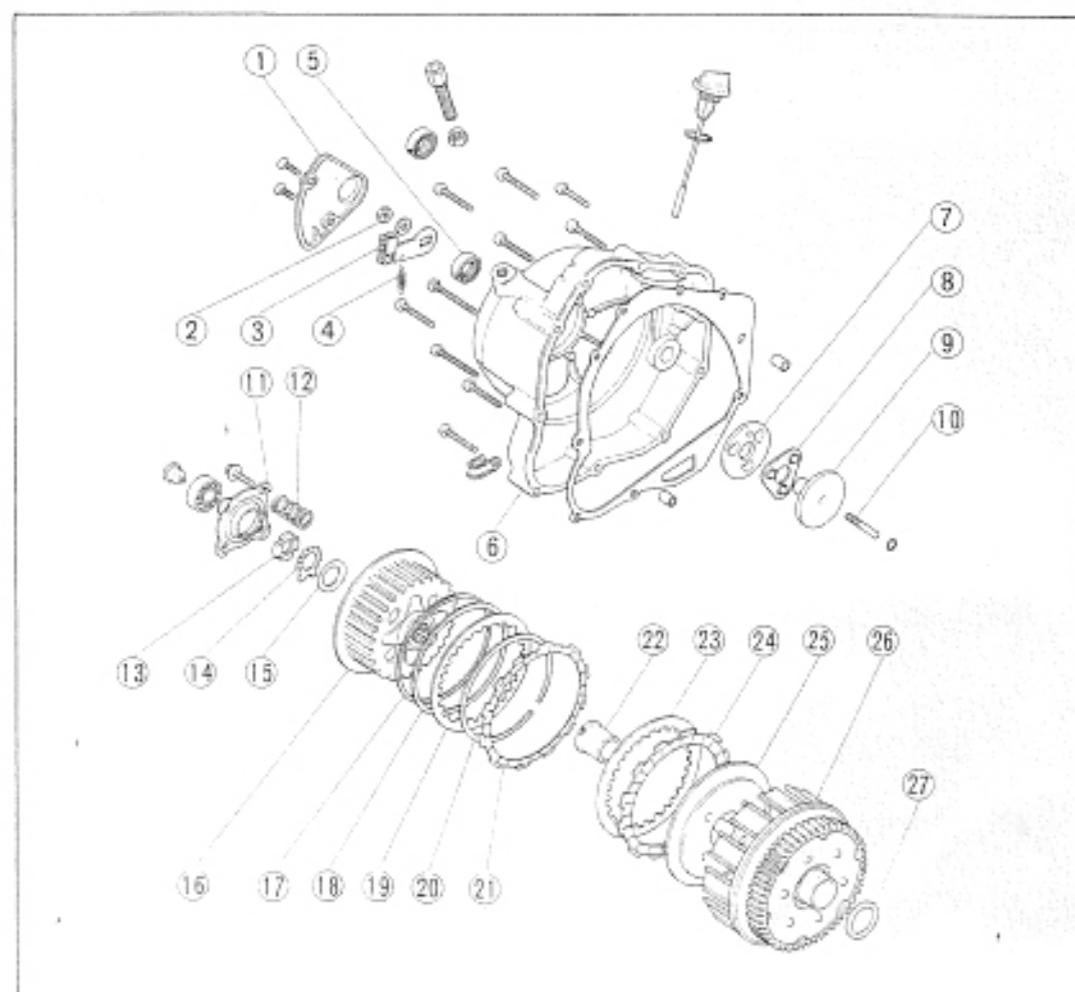


Fig. 3-2

- Clutch cover
- Lock nut
- Clutch lifter lever
- Clutch lever spring
- Oil seal
- Right crankcase cover
- Clutch cam plate
- Ball retainer
- Clutch lifter
- Clutch adjusting screw
- Clutch lifter plate
- Clutch spring
- Lock nut
- Lock washer
- Lock washer
- Clutch center
- Disc spring seat
- Clutch disc spring
- Clutch plate B
- Special set ring
- Clutch friction disc
- Collar
- Clutch plate (six)
- Clutch friction disc (six)
- Clutch pressure plate
- Clutch outer
- Thrust washer

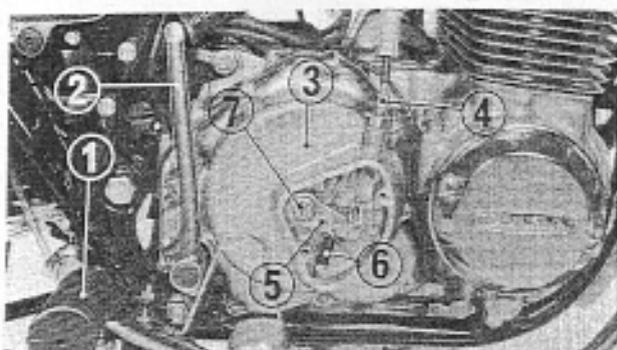


Fig. 3-3 ① Foot rest ⑤ Clutch lifter
 ② Kick starter pedal lever
 ③ Right crankcase ⑥ Spring
 cover ⑦ Lock nut
 ④ Clutch adjuster

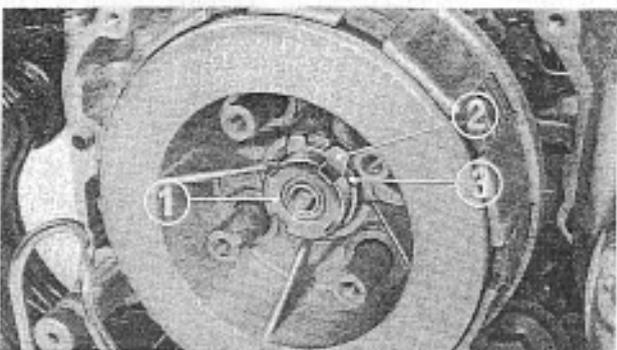


Fig. 3-4 ① 16mm lock nut ③ Lock washer
 ② Lock washer

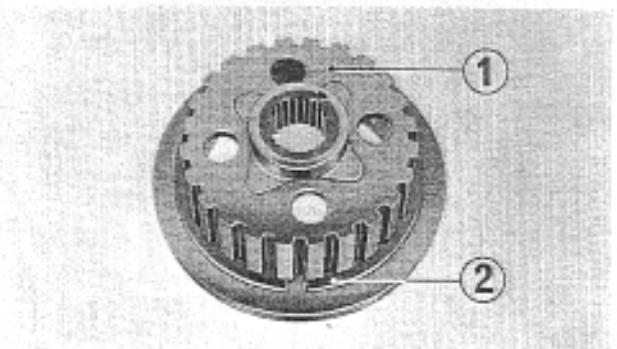


Fig. 3-5 ① Clutch center
 ② 92mm special set ring

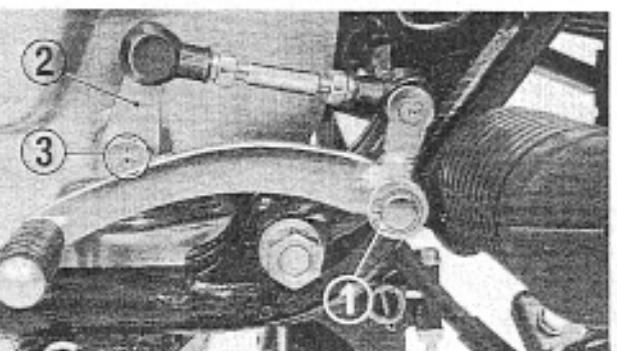


Fig. 3-6 ① Snap ring ③ Punch marks
 ② Gearshift lever

Disassembly

1. Drain the engine thoroughly by removing the drain plug.
2. Remove the rear brake adjusting nut.
3. Remove the right foot rest and kick starter pedal.
4. Remove the clutch cover from the right crankcase cover.
5. Turn the clutch adjusters to loosen the clutch cable.
6. Disconnect the clutch cable from the clutch lifter lever.
7. Remove the right crankcase cover.
8. Screw off the clutch adjusting screw lock nut and remove the clutch lifter lever and spring.
9. Remove the clutch cam plate, ball retainer, clutch lifter and adjusting screw from the right crankcase cover.
10. Screw off the bolts and remove the clutch lifter plate and clutch springs.
11. Using special tool "Lock Nut Wrench" (Tool No. 07916-6390000), loosen off the 16mm lock nut and remove the clutch assembly.
12. Remove the 92mm special set ring from the clutch center. Disassemble the clutch plate B, clutch disc spring and disc spring seat.

3. GEARSHIFT MECHANISM

Gearshift pedal

Removal

1. Pry off the snap ring and loosen off the gearshift lever locking bolt.

2. Remove the gearshift pedal assembly.

Installation

1. Install the gearshift pedal assembly with the punch mark on the gearshift lever lined up with that on the gearshift spindle.

2. Adjust the gearshift pedal position so that the pedal lever is in parallel with the gearshift lever on the spindle.

This adjustment is made by turning the adjuster after loosening the lock nuts. After adjustment, tighten the lock nuts firmly.

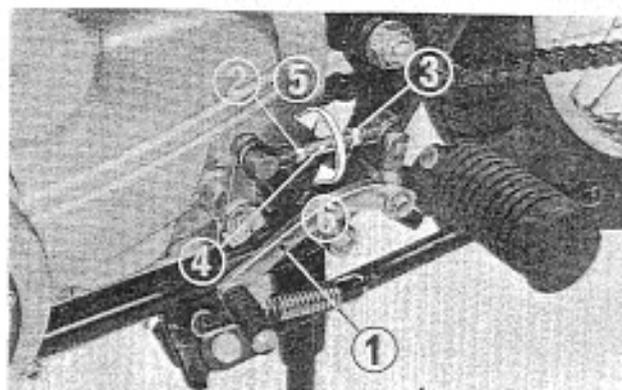
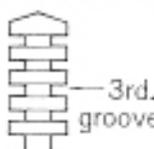


Fig. 3-7 ① Gearshift pedal ④ Adjuster
② Lock nut ⑤ To open
(left hand thread) ⑥ To close
③ Lock nut

4. CARBURETOR

Setting table

ITEM	
Setting number	054-A
Main jet	⌀ 75
Slow jet	⌀ 40
Jet needle setting	
Air screw opening	$2 \pm 1/2$
Float height (gauge)	21 mm (0.827-in.)

IV. FRAME

I. FRONT SUSPENSION

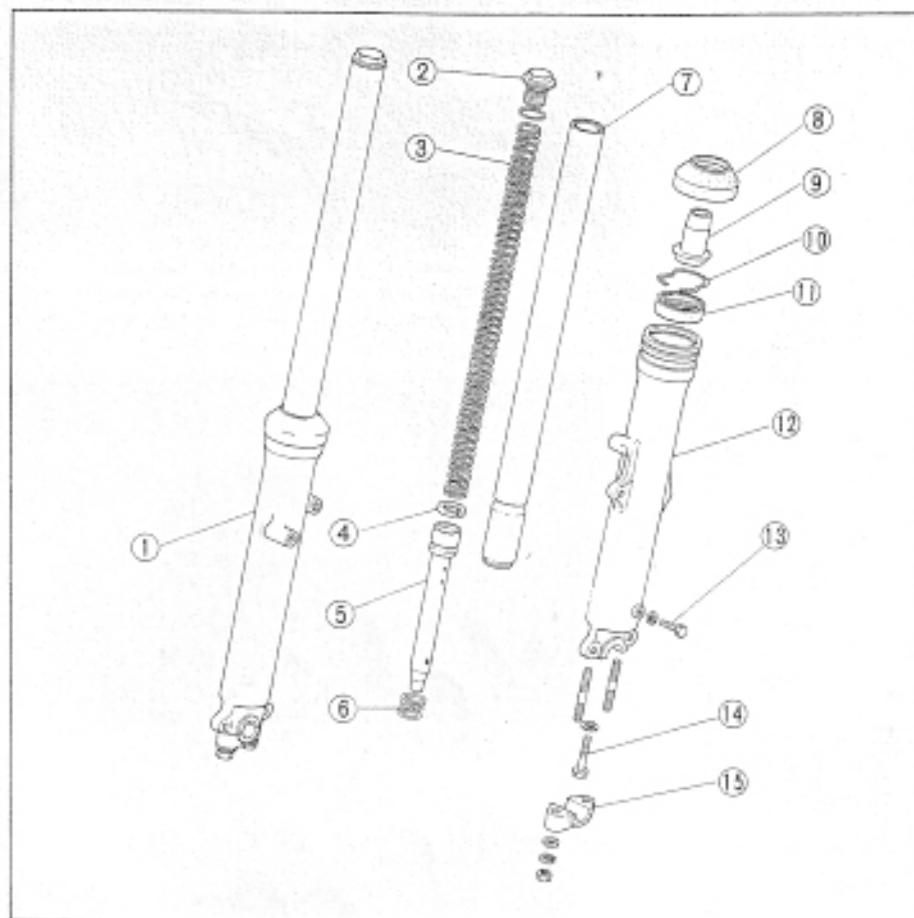


Fig. 4-1

- ① Right front shock absorber
- ② Fork bolt
- ③ Front shock absorber spring
- ④ Piston ring
- ⑤ Under seat pipe
- ⑥ Rebound spring
- ⑦ Front fork pipe
- ⑧ Bottom case cover
- ⑨ Oil lock piece
- ⑩ Oil seal stop
- ⑪ Oil seal
- ⑫ Bottom case
- ⑬ Drain bolt
- ⑭ Socket bolt
- ⑮ Front axle holder

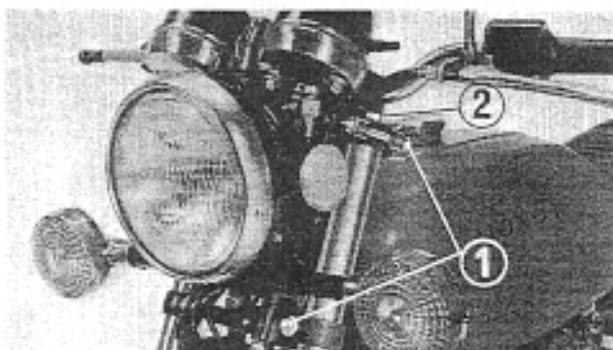


Fig. 4-2 ① Front fork securing bolt
② Front fork bolt

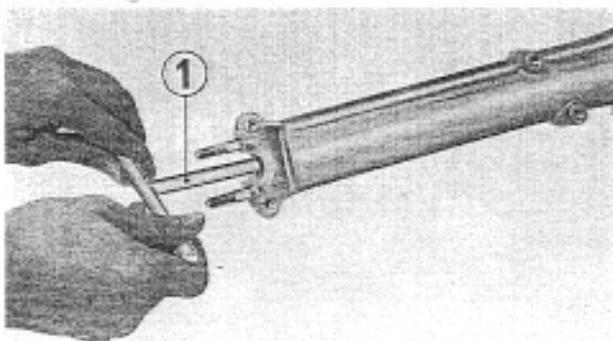


Fig. 4-3 ① Allen head wrench

Disassembly

1. Remove the front wheel.
2. Remove the caliper assembly from the left front fork.
3. 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.
4. Drain the front suspension oil.
5. Remove the rust on the front fork pipe, if any, with fine emery cloth.
6. Remove the socket bolt and separate the front fork pipe and oil lock piece from the bottom case. Use "Allen Head Wrench" (Tool No. 07917-3280000) to remove the socket bolt. Protect the shock absorber with rug when holding it on a vice. Remove the front fork bolt on top of the front fork pipe; remove the front shock absorber spring, under seat pipe and rebound spring.

- B. Remove the bottom case cover. Pry off the oil seal stop and remove the oil seal from the bottom case.

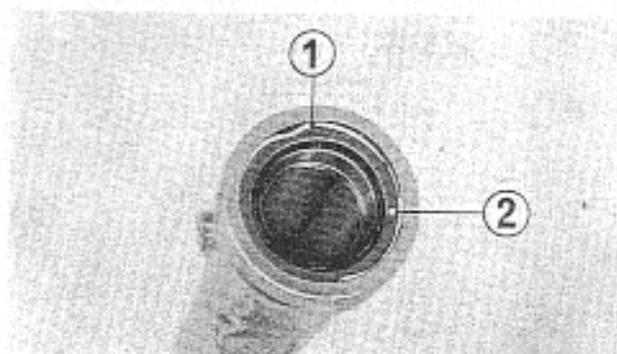


Fig. 4-4 ① Oil seal stop
② Oil seal

Inspection

1. Check the free length of the front shock absorber spring.
2. Check the seat pipe for wear on the piston ring.
3. Check the bottom case and fork pipe for wear, crack or any other defect.
4. Check the oil seal for wear or damage.

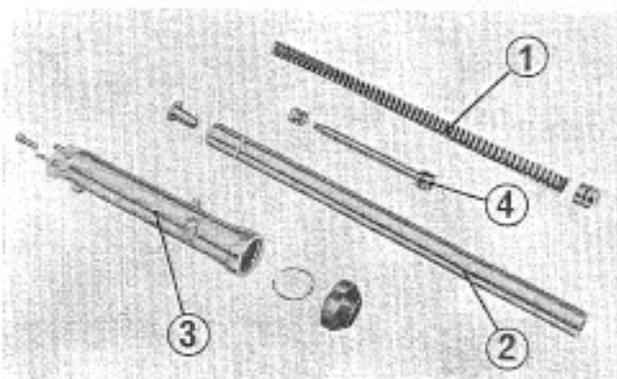


Fig. 4-5 ① Front shock absorber spring
② Front fork pipe
③ Bottom case
④ Piston ring

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. 97947-3330000). Install the oil seal stop and bottom case cover.
3. Install the rebound spring and seat pipe into the front fork pipe.
4. After installing the oil lock piece, insert 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 160-165cc (5.6-5.8ozs.) of ATF before installation.
6. Install the front fork assembly so that the chamfered edge on the fork pipe aligns with the upper surface of the fork top bridge as shown.
7. After all parts have been installed, check the action of the front shock absorbers by grasping the handlebar and jouncing the front forks up and down. Also, check the front forks for signs of leaks from the oil seal.

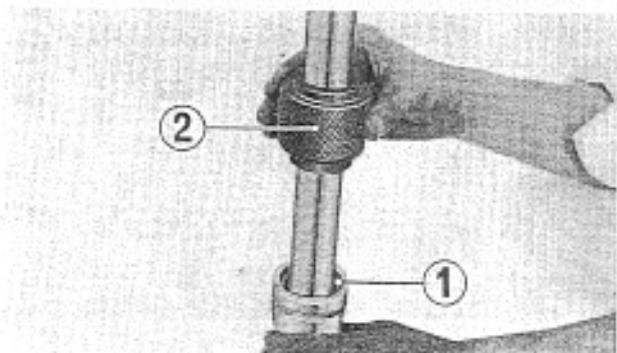


Fig. 4-6 ① Oil seal
② Fork seal driver

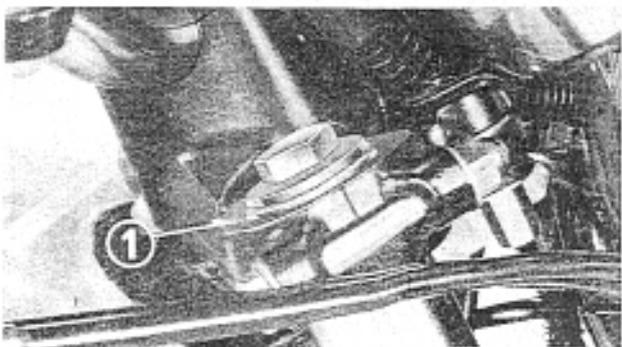
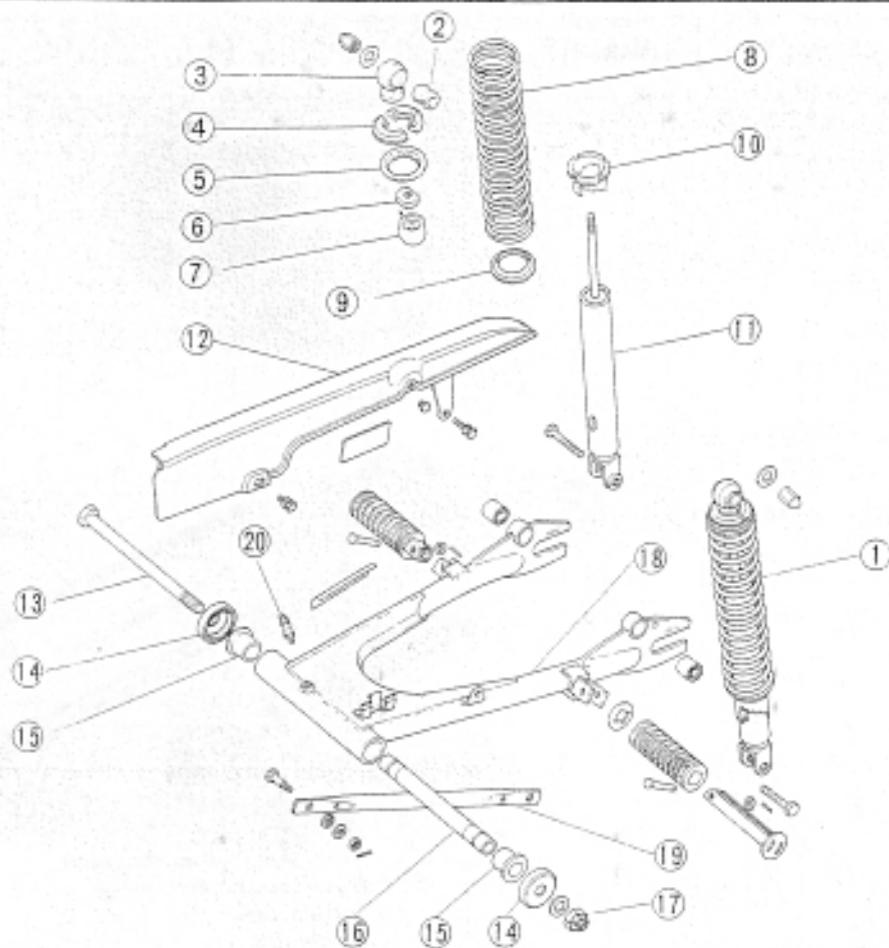


Fig. 4-7 Chamfered edge of front fork pipe

2. REAR SUSPENSION

Fig. 4-5

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



3. FRAME BODY

Fuel Cock

1. Place the fuel cock lever in the "OFF" position; disconnect the fuel tubes. Take out the fuel tank.
2. Loosen the fuel cock fixing nut and then remove the fuel cock and fuel filter from the fuel tank.
3. Disassemble the fuel cock. Loosen off the plate, washer, lever, spring, O-ring and valve from the fuel cock body.
4. Check the valve faces of the fuel cock for scores or any other damage. Replace with a new cock assembly, if necessary.
5. Check the gasket to see if it is not damaged. Replace with a new one, if found to be damaged too badly beyond use.
6. Wash the fuel filter in solvent and dry with compressed air. Any slightest damage can not be tolerated here. Also replace the filter with a new one if found to be clogged.
7. Install the fuel filter to the fuel cock with the fixing nut. Do not forget to install the gasket into the groove of the fixing nut.
8. Install the fuel cock to the fuel tank with the fixing nut.
9. Install the fuel tank in place on the frame; connect tubes and secure with the clips.
10. Fill the tank with fuel. With the fuel cock lever in the "ON" position, check for any leakage past the tube joints or connections.

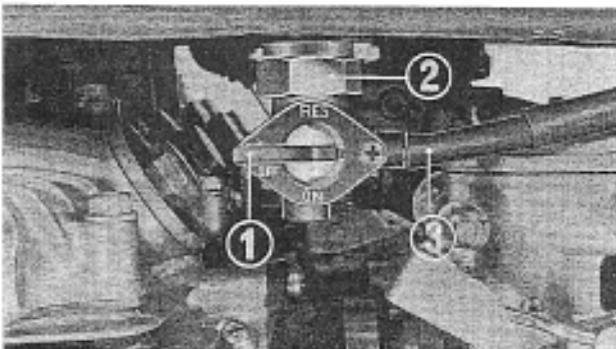
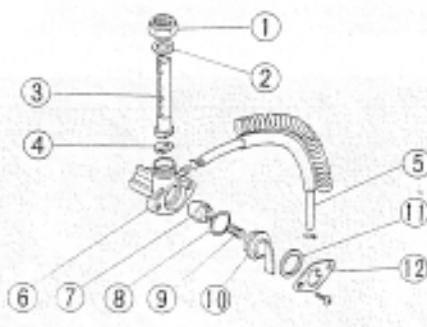
Fig. 4-9 ① Fuel cock lever ③ Fuel tube
② Fuel cock fixing nut

Fig. 4-10

- | | | |
|---------------|------------------|-----------------------|
| ① Nut | ⑤ Fuel tube | ⑨ Spring |
| ② Gasket | ⑥ Fuel cock body | ⑩ Cock lever |
| ③ Fuel filter | ⑦ Valve | ⑪ Washer |
| ④ Filter seat | ⑧ O-ring | ⑫ Lever setting plate |



Muffler**Removal**

1. Loosen off two bolts that secure the muffler to the frame.

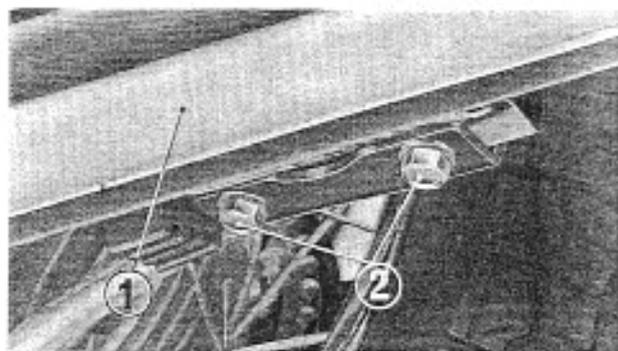


Fig. 4-11 ① Muffler
② Bolt

2. Loosen off eight joint nuts and remove the muffler assembly, exhaust pipe joints and joint collars.

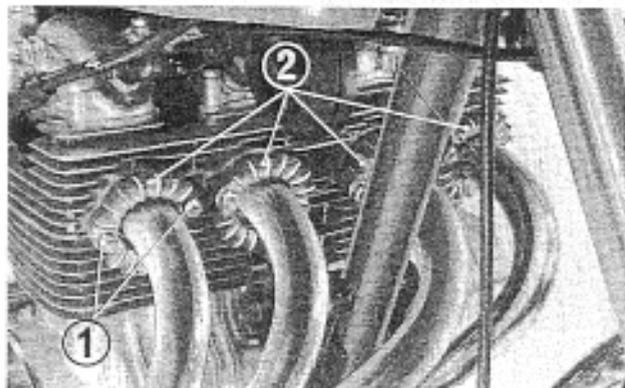


Fig. 4-12 ① Joint nut
② Exhaust pipe joint

3. Loosen the muffler band bolts and remove the two exhaust pipes and sealing gaskets from the muffler assembly.

Inspection

1. Check the exhaust pipe gaskets for damage.
2. Check the muffler sealing gaskets for damage.

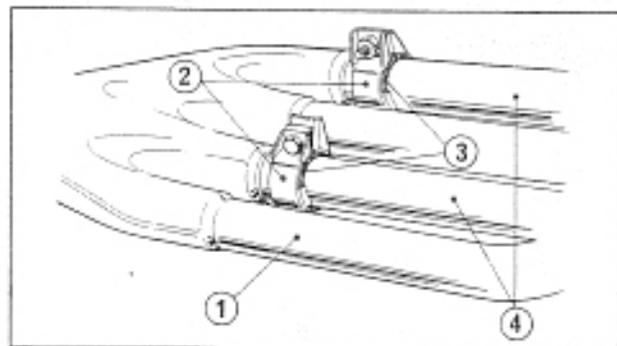


Fig. 4-13 ① Muffler assembly
② Band
③ Gasket
④ Exhaust pipe

Installation

1. Install the exhaust pipes to the muffler assembly through the sealing gaskets.
2. Tighten the muffler bands so that the bolts are at the upper part of the muffler.
3. Install the muffler assembly.