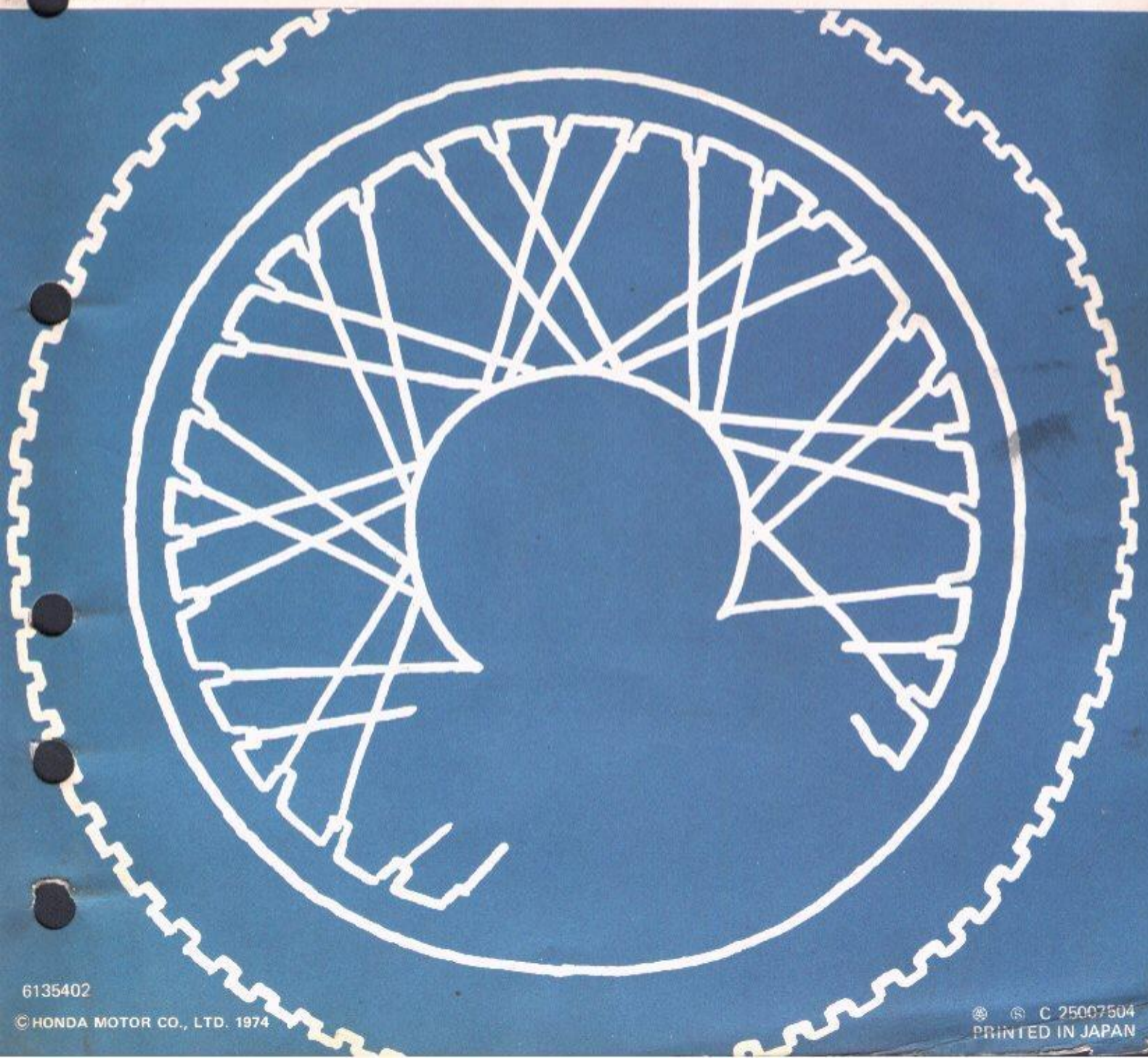


SHOP MANUAL

HONDA

CB200-CL200





PREFACE

This SERVICE MANUAL has been prepared as a "SERVICE GUIDE" for the mechanic responsible for the upkeep of the HONDA CB-CL200.

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

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

This SERVICE MANUAL is based on CB200, with added explanation and photos on CL200 except for minor differences.

All information, illustrations and specifications contained herein are based on the 1973 model.

HONDA reserves the right to make changes at any time without notice and obligation.

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Service Publications Office

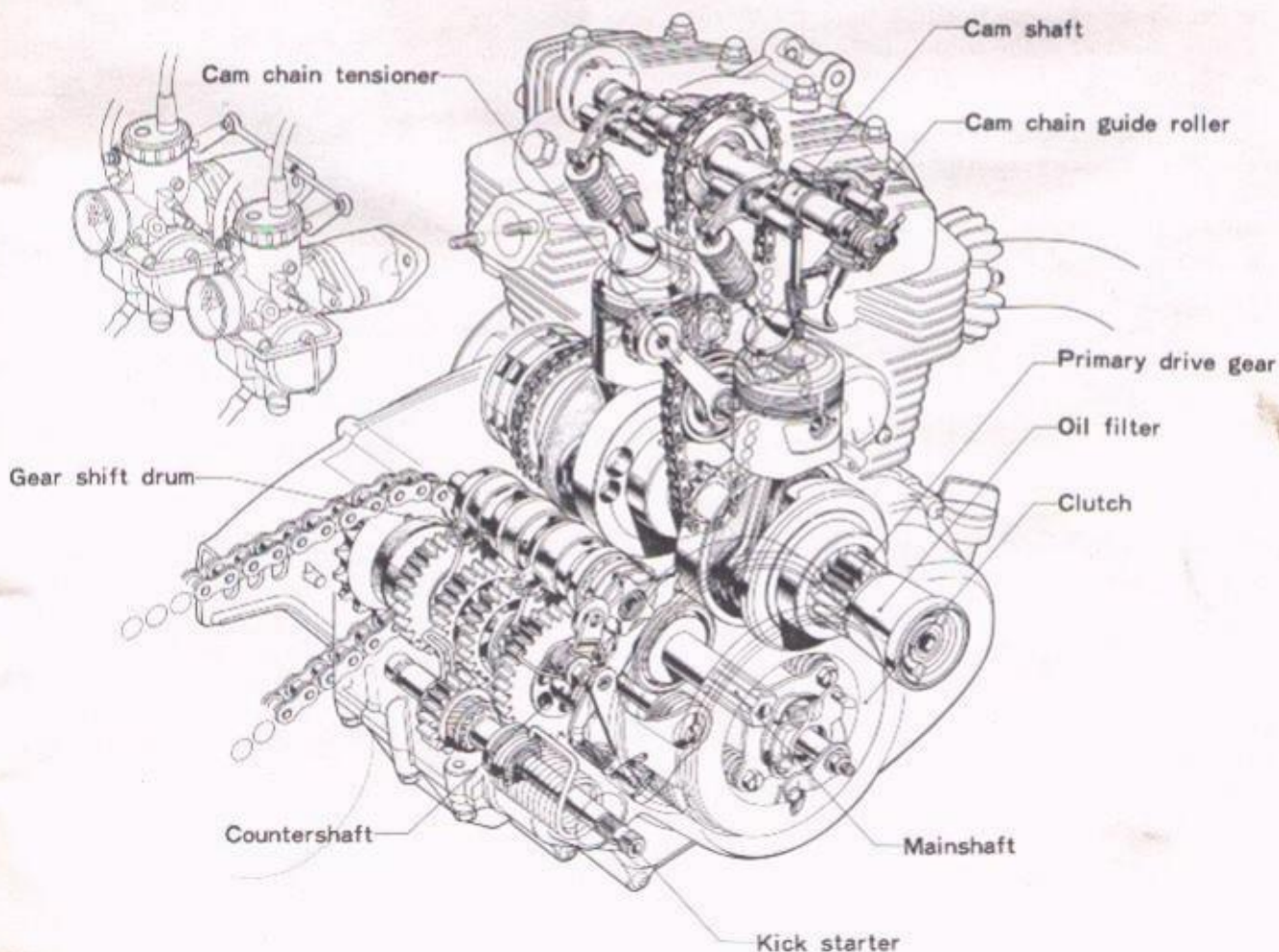
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1. Always replace gaskets, O-rings and cotter pins whenever reassembling.
2. When tightening bolts or nuts for which sequence is not specified, begin on center or larger diameter bolts and tighten them in a criss-cross pattern to specified torque in two or more steps if necessary.
3. Use genuine HONDA parts and lubricants or those recommended by HONDA.
4. Use special service tool where use of such a tool is 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. Follow the reverse of disassembling procedures carefully observing the titles "Reassembly points" in each section.



This section describes the inspection and adjustment procedures for the important items of the periodical maintenance of the HONDA 200 Model CB·CL200. Cross-refer to PERIODICAL MAINTENANCE SCHEDULE on page 76. 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 starts 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	Intake valve: 0.05mm (0.002 in.)
Clearance	Exhaust valve: 0.05mm (0.002 in.)

NOTE:

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

6. Rotate the generator rotor one full turn until the marks align. Apply the same technique as above to the remaining valves.

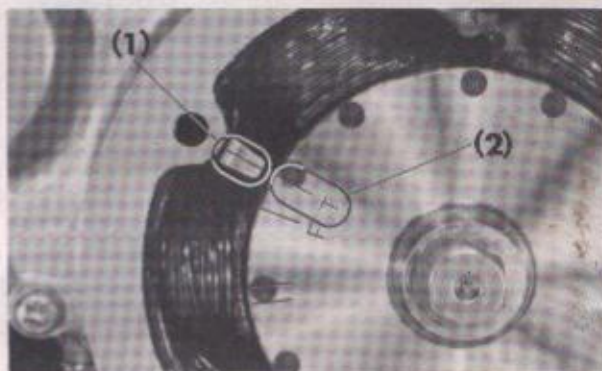


Fig. 2-1 (1) Index mark (2) "T" mark

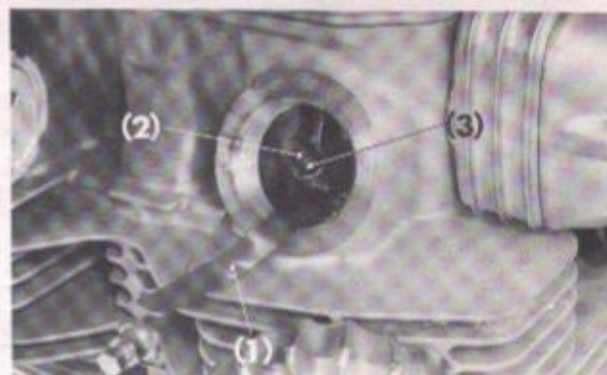


Fig. 2-2 (1) Feeler gauge (2) Tappet adjusting screw (3) Lock nut

2. BREAKER POINT GAP AND IGNITION TIMING

Breaker point gap

1. Remove the generator and point covers.
2. Using a 17mm wrench, turn the generator rotor counterclockwise and check the point gap when it is at its maximum.

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

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

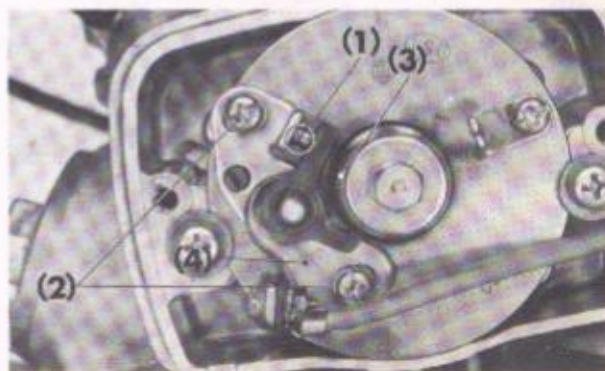


Fig. 2-3 (1) Contact breaker point (2) Contact breaker locking screw (3) Point cam (4) Contact point plate

Ignition timing

To assure efficient operation of the engine, the timing should be checked with a stroboscopic timing light or a test lamp (12V-3W). Make sure that the point gap is adjusted properly before checking the ignition timing.

*** With stroboscopic timing light**

1. Connect the timing light.
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 rotate the base plate in either direction. Rotating the plate clockwise will advance the timing. Rotation of the plate in 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 advance marks.

*** With test lamp**

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

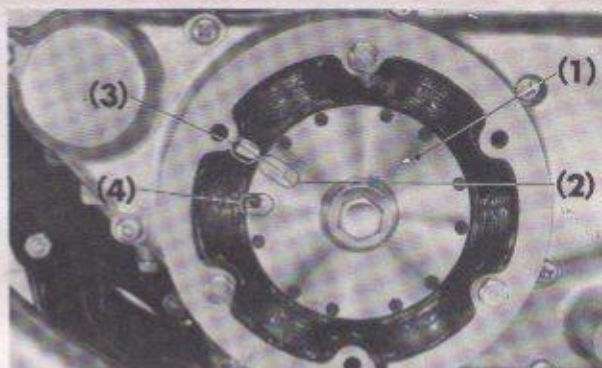


Fig. 2-4 (1) Generator rotor (2) "F" mark
(3) Index mark (4) Advance mark

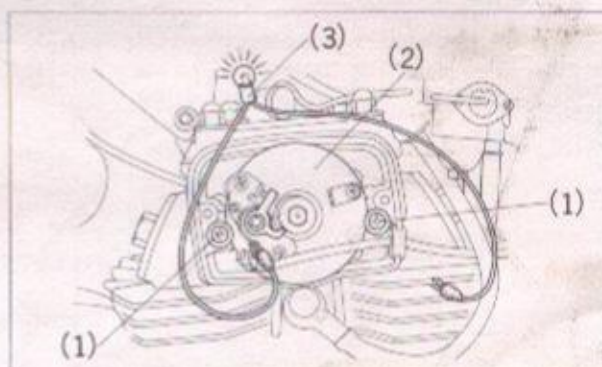


Fig. 2-5 (1) Base plate locking screw
(2) Base plate (3) Test lamp

3. CARBURETOR

Make adjustments with the engine warmed up.

1. Set the engine at an idle speed of 1,200 rpm by turning the throttle stop screw. Rotation of the throttle stop screw in a clockwise direction will increase the idle speed, and vice versa.
2. Turn the air screw either in or out to obtain the highest idle speed. (Correct idle speed will be obtained by turning the air screw all the way in and then backing it out $1\frac{1}{4}$ turns).
3. If idle speed is increased or decreased above or below the specified setting, readjust by the throttle stop screw.

Specified idle speed: 1,200 rpm

4. THROTTLE GRIP PLAY

1. The throttle grip should be adjusted to have 10–15° play of the grip rotation.
To adjust, loosen the lock nut and turn the grip play adjuster either in or out as necessary.

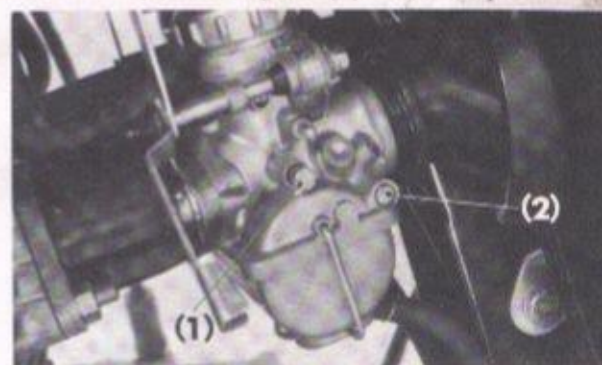


Fig. 2-6 (1) Stop screw (2) Air screw

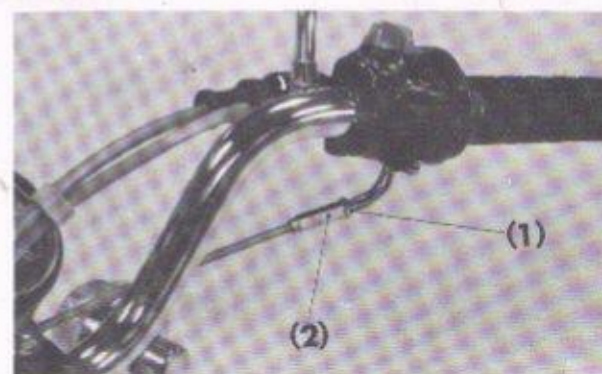


Fig. 2-7 (1) Lock nut
(2) Grip play adjuster

2. Check the throttle cable for twisting or interference with adjacent parts; also for proper routing, while turning the handlebar between two extremes.

5. CLUTCH

1. Check the clutch lever for free play at its tip.
Specified play: 10–20mm (0.4–0.8 in.)
2. To adjust the play, loosen the lock nut and turn the upper adjuster in the direction "A" all the way until it will no longer go.
3. Turn the lower adjuster in the direction "A" as far as it will go. This loosens the cable.
4. Remove the clutch cover and loosen the clutch adjuster lock nut. Turn the adjuster in the direction "A" until a resistance is felt, and then back it out 1/4–1/2 turns. Tighten the lock nut to secure the adjustment.
5. Rotate the clutch cable lower adjuster until the play at the tip of the clutch lever is 10–20mm (0.4–0.8 in.). Tighten the lock nut.
6. Minor adjustment is done by turning the clutch cable upper adjuster.
7. 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 start, 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. 2-8 (1) Throttle cable

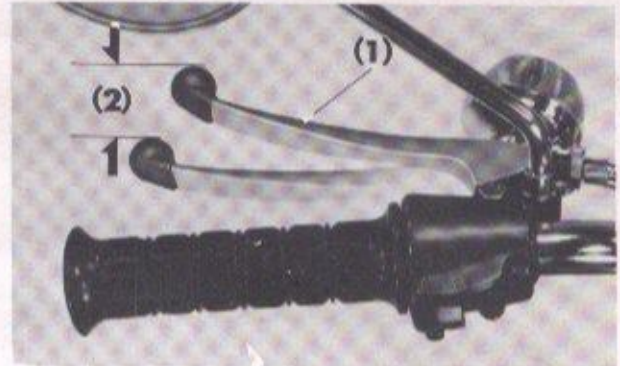


Fig. 2-9 (1) Clutch lever (2) Free play

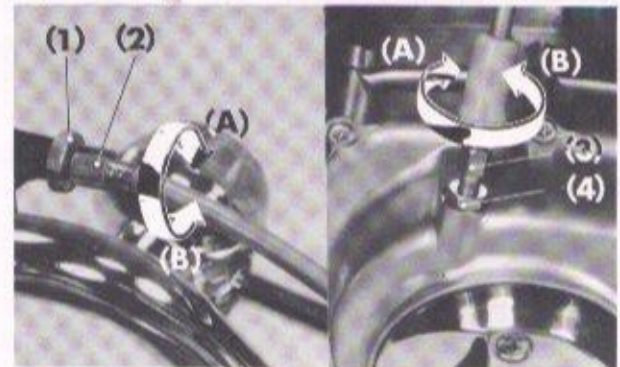


Fig. 2-10 (1) Clutch cable upper adjuster lock nut
(2) Clutch cable upper adjuster
(3) Clutch cable lower adjuster
(4) Clutch cable lower adjuster lock nut



Fig. 2-11 (1) Clutch adjuster
(2) Clutch adjuster lock nut

6. 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.
3. Loosen the lock nut and the cam chain tensioner setting bolt. The cam chain will be automatically tensioned properly when the setting bolt is loosened.
4. Tighten the setting bolt and secure with the lock nut.

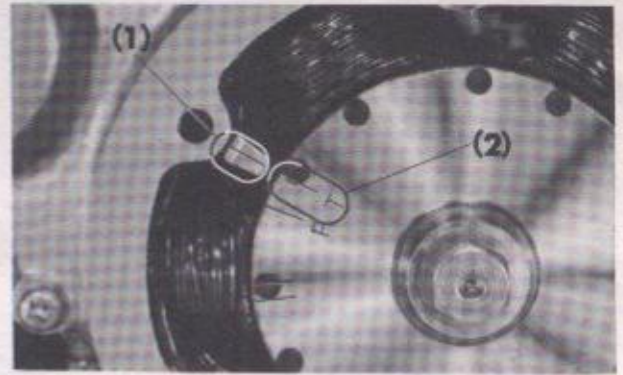


Fig. 2-12 (1) Index mark (2) "T" mark

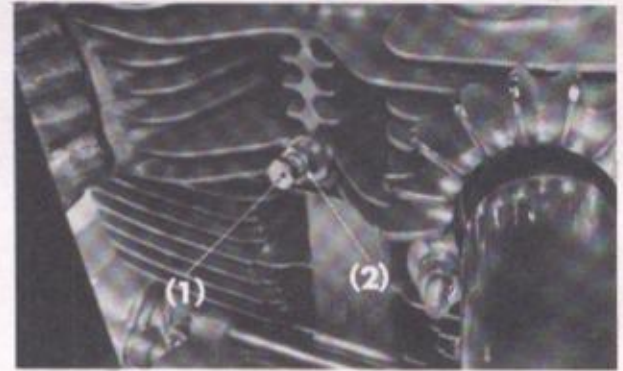


Fig. 2-13 (1) Tensioner setting bolt
(2) Lock nut

7. ENGINE OIL

Checking oil level

1. Insert the oil level gauge (oil filler cap) into the right engine crankcase to determine the oil level in the crankcase. Oil should be up to the upper level mark on the gauge. If the level is low, add oil to the crankcase. Do not screw in the gauge when measuring the oil level.

Changing oil

1. Warm up the engine, stop the engine and remove the oil filler cap.
2. Remove the drain plug from the bottom of the engine crankcase. Operate the kick starter several times to drain all oil which may be left in the crankcase.
3. Replace the drain plug and refill with the specified oil up to the proper level.

Capacity: 1.7 liter (1.8 US qt.)

Specified oil viscosity

General, all temperatures

SAE 10W-40 or SAE 10W-30

Alternate:

Above 59°F (15°C)	SAE 30
32° to 59°F (0° to 15°C)	SAE 20 or 20W
Below 32°F (0°C)	SAE 10W

API Classification SE

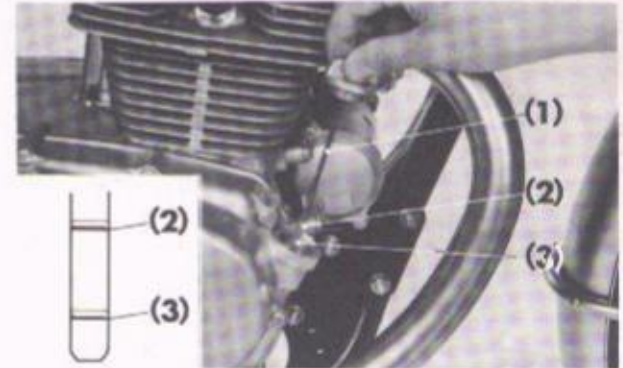


Fig. 2-14 (1) Filler cap (2) Upper level mark
(3) Lower level mark

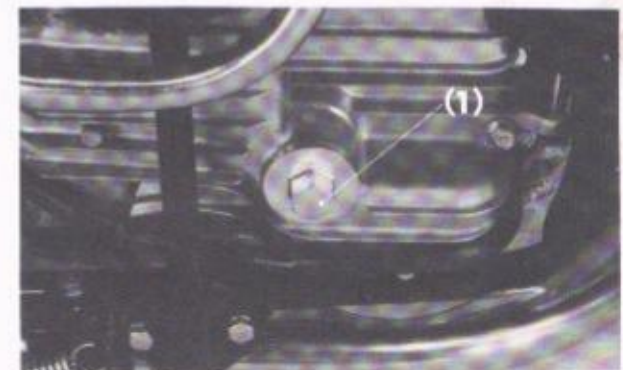


Fig. 2-15 (1) Oil drain plug

8. FRONT DISC BRAKE

Brake pad

1. Check the brake pads for excessive wear. Discard if worn down to the red wear line. Always replace both brake pads if either is unserviceable.

Adjustment

No front brake adjustment is necessary as the brake is self adjusted. When the brake pads are to be replaced with new ones, however, 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.

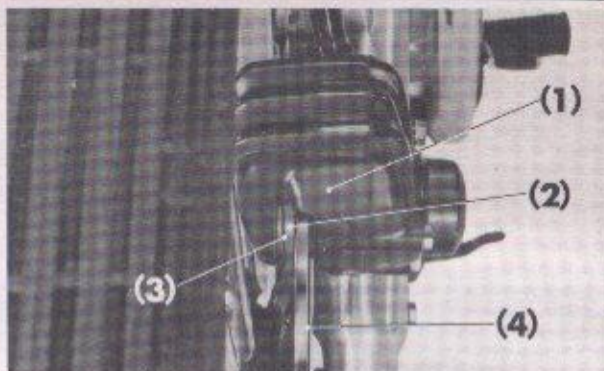


Fig. 2-16 (1) Brake caliper (2) Brake pad
(3) Wear line (red) (4) Brake disc



Fig. 2-17 (1) Front brake cable adjusting bolt
(2) Lock nut

2. Operate the brake lever about 10 times to have the brake self adjusted. The lever will 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.

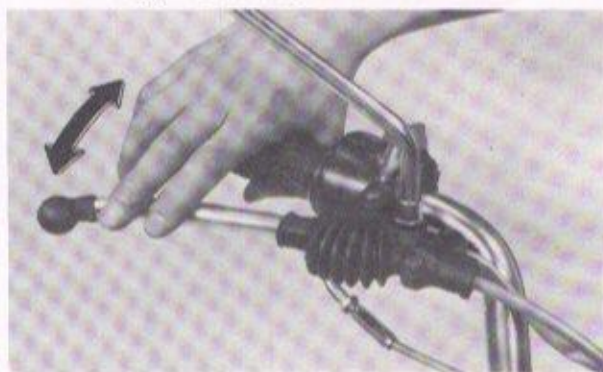


Fig. 2-18 Brake self adjustment

9. FRONT DRUM BRAKE

1. Check the front brake lever play:

Standard play: 20–30mm (0.8–1.2-in.)

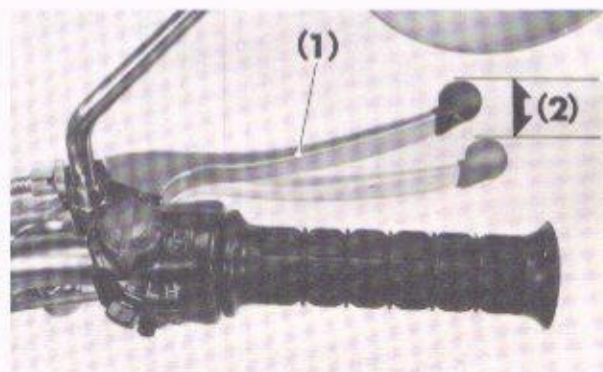


Fig. 2-19 (1) Front brake lever
(2) Free play

2. Major adjustment of the front brake can be made with the front wheel adjuster. To adjust, loosen the lock nut and turn the adjusting nut either in or out as necessary. Rotation of the adjusting nut in the direction (A) decreases the play, and vice versa.

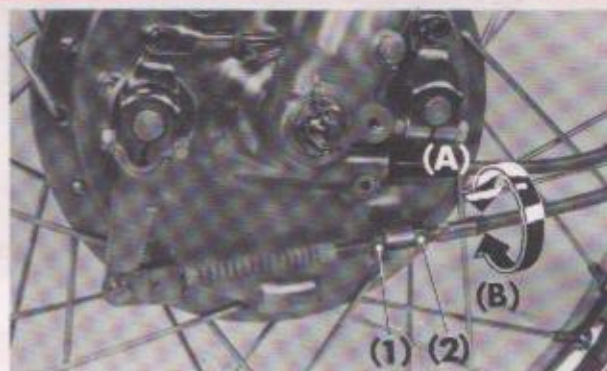


Fig. 2-20 (1) Lock nut
(2) Front brake adjusting nut

3. Minor adjustment is done by turning the front brake cable adjuster. To adjust, loosen the lock nut and turn the adjuster in the direction (A) to decrease the play. Turning the adjuster in the direction (B) increases the play.

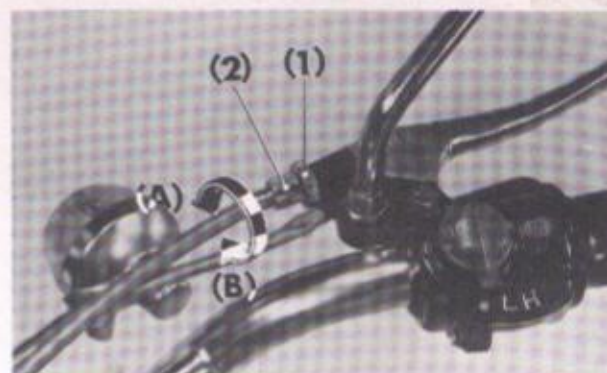


Fig. 2-21 (1) Lock nut
(2) Front brake cable adjuster

10. REAR BRAKE

1. Check the brake pedal play.
Standard play: 20–30mm (0.8–1.2-in.)
2. To adjust the play, loosen the lock nut and adjust the pedal free height with the brake pedal stopper bolt.

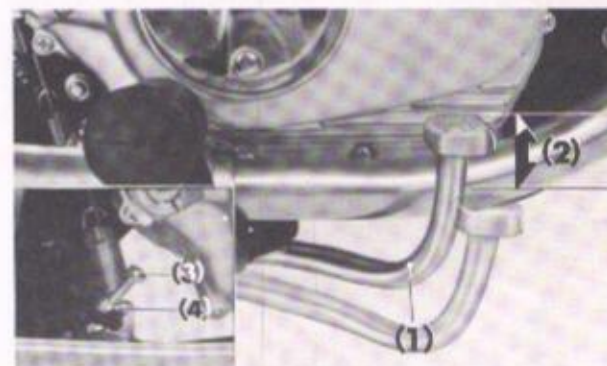


Fig. 2-22 (1) Rear brake pedal (2) Free play
(3) Pedal stopper bolt (4) Lock nut

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.



Fig. 2-23 (1) Rear brake adjusting nut

11. AIR CLEANER

1. Remove the right and left air cleaner covers. On CL200, remove the left air cleaner cover after taking out the muffler.
2. Remove the nut and take out the air cleaner case.
3. Remove the bolts and disconnect the connecting tube fixing clip; take out the filtering element.
4. Shake dust and dirt off the element and blow from the center of the element outward.

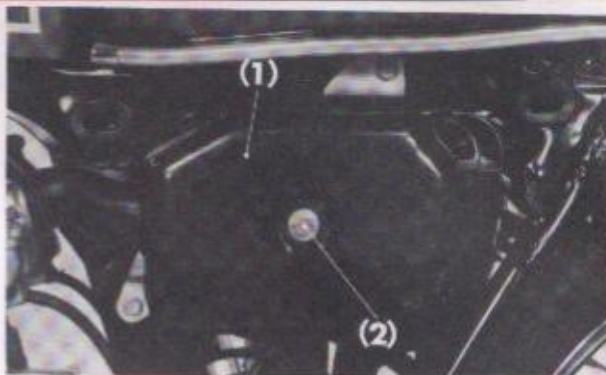


Fig. 2-24 (1) Air cleaner case
(2) Case mounting nut

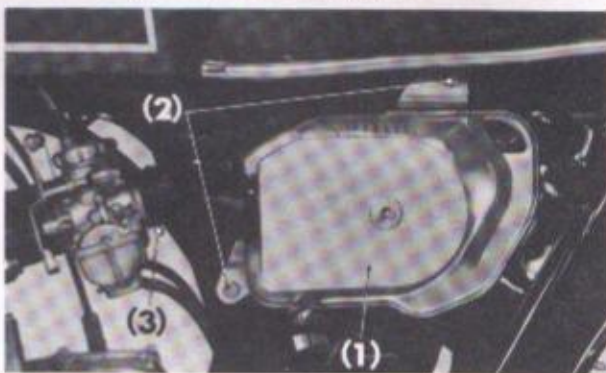


Fig. 2-25 (1) Air cleaner element
(2) Filter element attaching bolts
(3) Connecting tube fixing clip

12. OIL FILTER

1. Drain the engine thoroughly.
2. Remove the right foot rest, muffler (CB200 only) and kick starter pedal.
3. Remove the screws and take out the right crankcase cover together with the gasket.

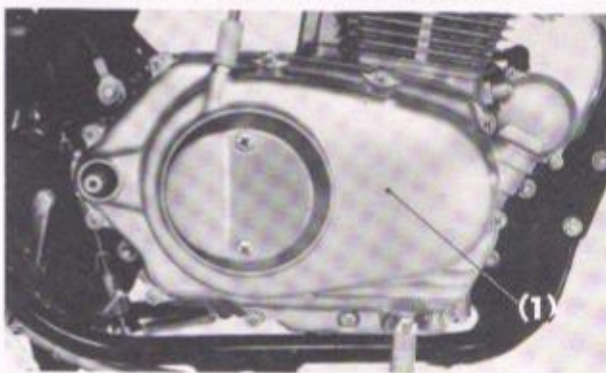


Fig. 2-26 (1) Crankcase cover

4. Remove the oil filter cover from the oil filter rotor with pliers.

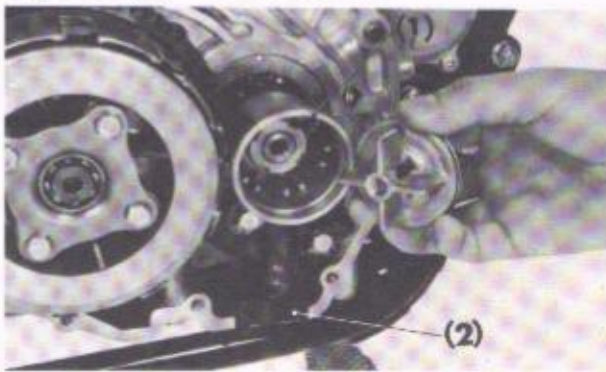


Fig. 2-27 (1) Centrifugal oil filter rotor
(2) Screen filter

5. Remove all dust and other foreign particles from the center of the rotor.
6. Remove the screen filter and wash in clean solvent.

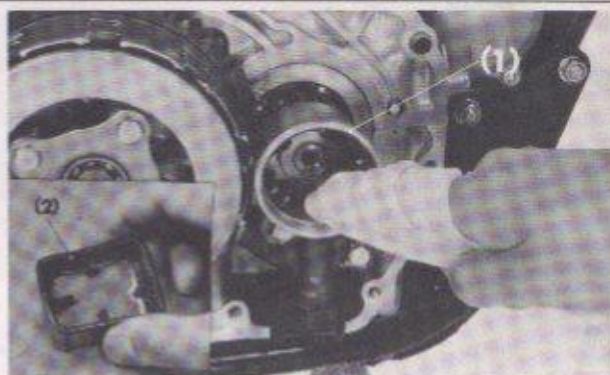


Fig. 2-28 (1) Oil filter rotor
(2) Screen filter

7. Align the tab of the filter cap with the mark on the filter rotor; press the cap into place in the rotor.
8. Install all removed parts in the reverse order of the removal. Replace the crankcase cover gasket if found to be worn too badly beyond use.

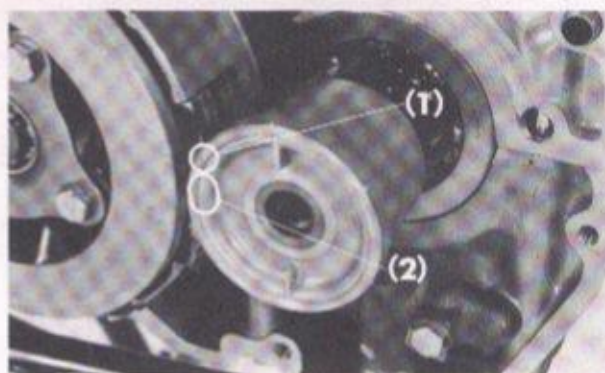


Fig. 2-29 (1) Index mark (2) Tab

13. FUEL FILTER

1. Position the fuel valve to "S".
2. Loosen the filter cap and remove the cap, O-ring and screen filter from the fuel valve.

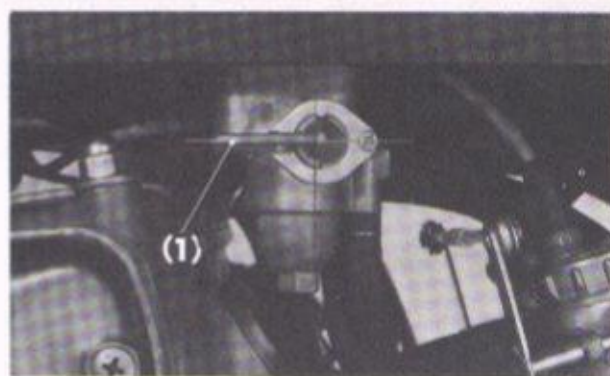


Fig. 2-30 (1) Position "S"

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

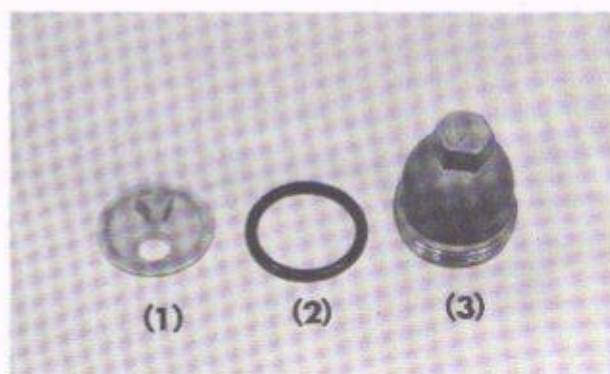


Fig. 2-31 (1) Filter screen (2) O-ring
(3) Fuel filter cap

14. SPARK PLUG

1. Remove the spark plug cap from the spark plug. Unscrew the plug, using a spark plug wrench, and remove the spark plug from the cylinder head.
2. Check the spark plug for deposits and electrode erosion. A spark plug with burned electrodes or blistered insulator 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 specification. **Specified spark plug gap: 0.6–0.7mm (0.024–0.028-in.)** To adjust, bend the side electrode only.
4. Clean the plug seat and screw the plug into the threaded hole in the cylinder head.

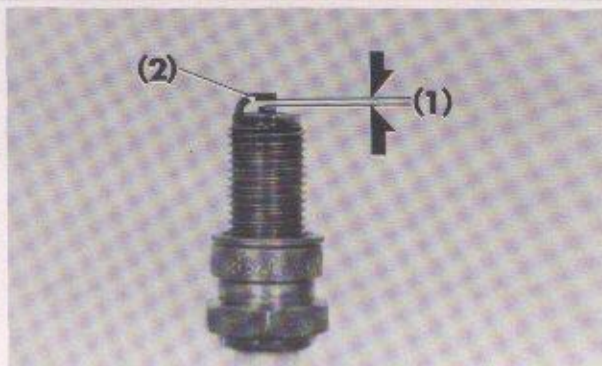


Fig. 2-32 (1) Spark plug gap
(2) Side electrode

15. DRIVE CHAIN

Checking drive 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 measuring the sag. **Specified sag: 20mm (3/4-in.)**
3. To adjust, pry out the cotter pin, loosen the rear axle nut and lock nuts, and turn the adjusting bolts in or out as necessary. The index marks on the right and left drive chain adjusters should be aligned with the same notches in the side scales on the rear fork.
4. Tighten the rear axle nut. Insert the cotter pin with the end through the axle and secure with the lock nut.
5. Check the rear brake pedal play and, if necessary, adjust.

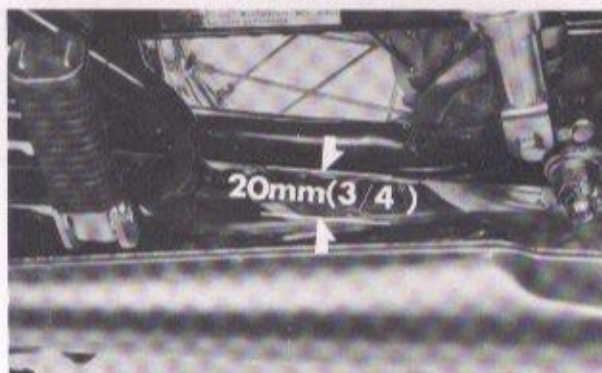


Fig. 2-33 Drive chain sag

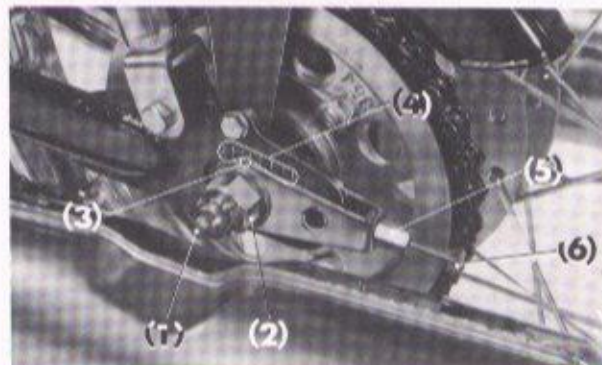


Fig. 2-34 (1) Cotter pin (2) Rear axle nut
(3) Index mark (4) Scale notch
(5) Lock nut (6) Adjusting bolt

Drive chain 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 a compressed air.
3. Check for excessive or abnormal wear to 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.

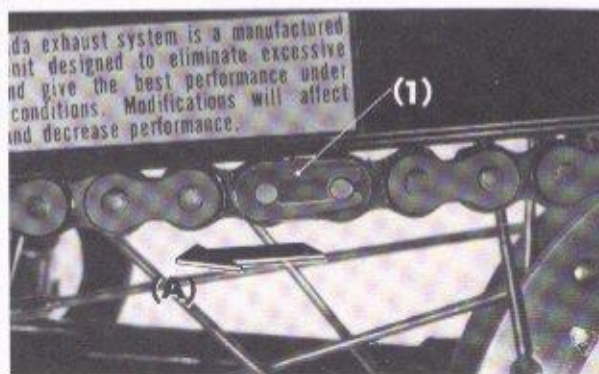


Fig. 2-35 (1) Retaining clip
(A) Rotating direction.

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, twists or bends, replacing parts found with any of above too badly beyond repair.
2. Check the front fork and handlebar mounting bolts for looseness.
3. Check the front wheel for wobble.
4. Check the tire pressure.
Specified pressure: 1.8 kg/cm^2 (26 psi)
5. Check the tire for cracks, excessive wear or any other defect.
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 removal of 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 the oil filler plugs and pour the specified amount of ATF (premium quality automatic transmission fluid) into the vacant holes.

Capacity: 115–118cc (3.9–4.0 oz)

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

Specified capacity: 128–132 cc (4.3–4.5 oz.)

4. Replace the filler plugs.



Fig. 2-36 (1) Checking front suspension

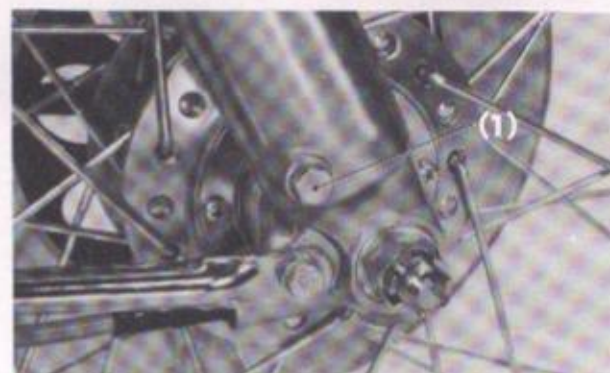


Fig. 2-37 (1) Front fork oil drain plug



Fig. 2-38 (1) Oil filler plug



Fig. 2-39 (1) Headlight mounting bolt
(2) Adjusting screw

17. REAR SUSPENSION AND WHEEL

1. Raise the rear wheel off the ground. Check the rear fork bushings. If any in-and-out play is noticed when the forks are moved sideways, 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 rear wheel for wobble.
5. Check the tire pressure.

Specified pressure: 2.0 kg/cm^2 (28 psi)

6. Check the tire for cuts, wear or other defects.

18. HEADLIGHT BEAM

1. Vertical adjustment is made by pivoting the headlight case on its mounting bolts.
2. Horizontal adjustment is made by turning the adjusting screw located on the headlight rim.

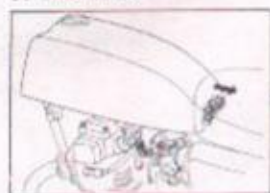
1. ON-VEHICLE SERVICING

Parts to be serviced	Ref. pages
Oil pump and oil filter	19
Clutch	22
Gearshift mechanism	24
Carburetor	34
Electrical system (generator, contact point and starting motor)	61

2. ENGINE REMOVAL AND INSTALLATION

The preliminary works for the engine removal are shown in the diagram below. Proceed in the numerical order shown. To install, reverse the removal order.

1. Fuel tank



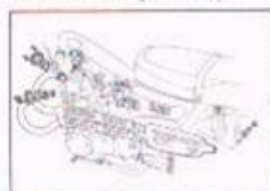
2. Carburetor



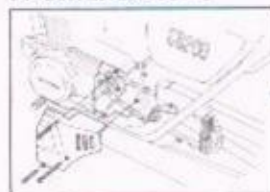
3. Starting motor cable



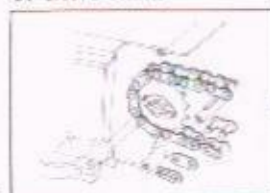
4. Muffler (CL200)



5. Crankcase cover



6. Drive chain



7. Wire harness connector



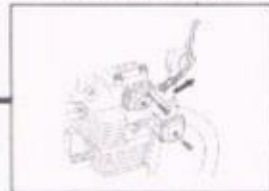
8. Spark plug cap Ignition cable



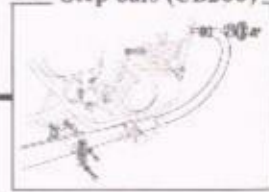
9. Clutch cable



10. Tachometer cable



11. Step bars (CB200)



12. Hanger bolts

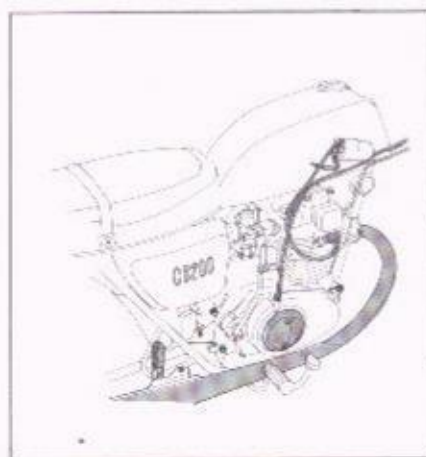
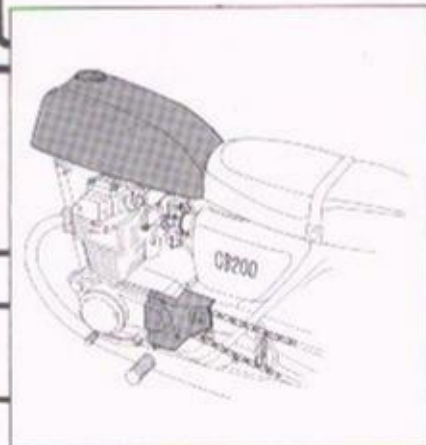


Fig. 3-1

3. CYLINDER HEAD, CAMSHAFT, CYLINDER AND PISTON

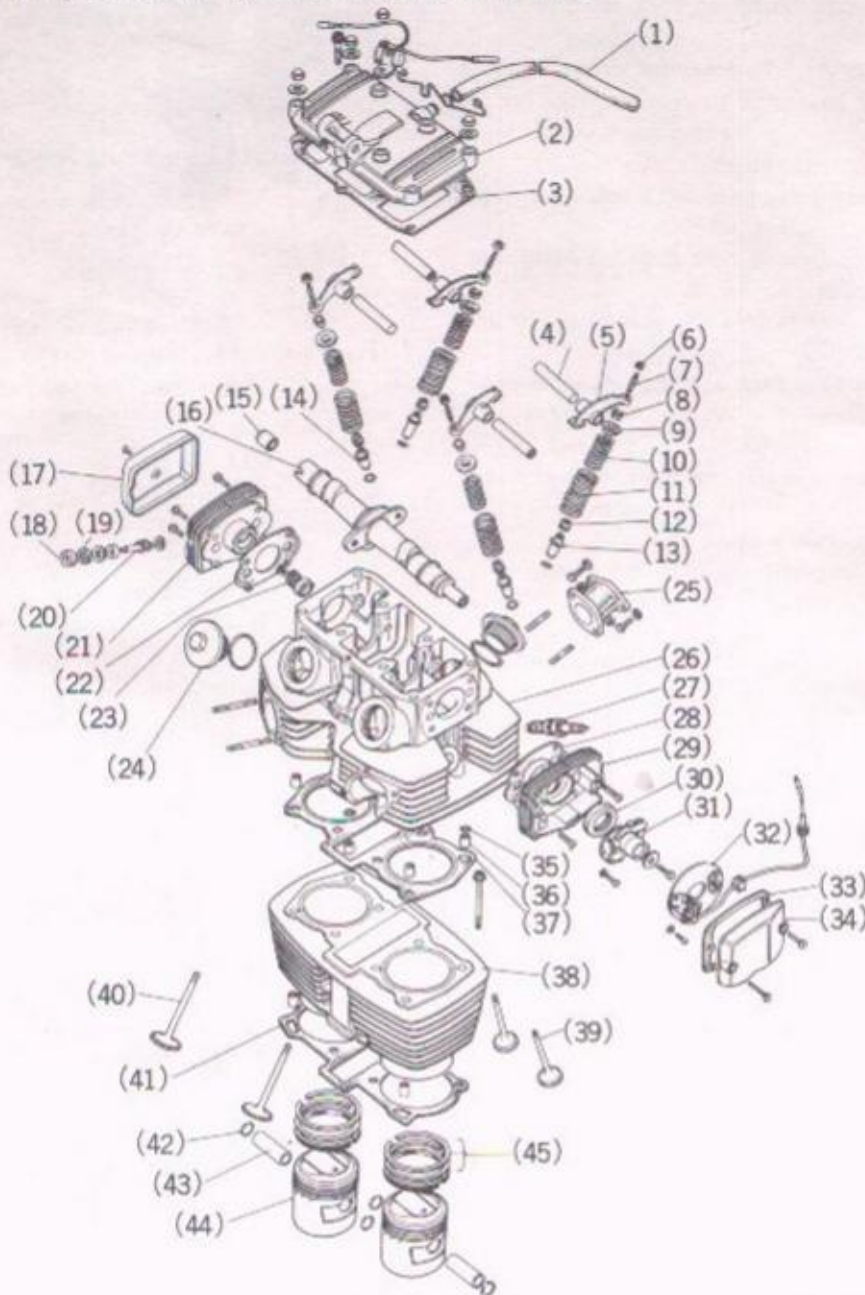


Fig. 3-2

- | | | |
|--------------------------------|---------------------------------------|-------------------------------|
| (1) Breather tube | (16) Camshaft | (31) Spark advancer |
| (2) Cylinder head cover | (17) Tachometer cover | (32) Contact breaker assembly |
| (3) Cylinder head cover gasket | (18) Tachometer cable grommet | (33) Point cover gasket |
| (4) Rocker arm shaft | (19) Oil seal | (34) Point cover |
| (5) Rocker arm | (20) Tachometer gear | (35) O-ring |
| (6) Tappet adjusting nut | (21) Cylinder head right side cover | (36) Knock pin |
| (7) Tappet adjusting screw | (22) Right cylinder head cover gasket | (37) Cylinder head gasket |
| (8) Valve cotter | (23) Tachometer pinion | (38) Cylinder |
| (9) Valve spring retainer | (24) Tappet adjusting hole cap | (39) Exhaust valve |
| (10) Valve inner spring | (25) Carburetor insulator | (40) Inlet valve |
| (11) Valve outer spring | (26) Cylinder head | (41) Cylinder gasket |
| (12) Valve stem seal | (27) Spark plug | (42) Piston pin clip |
| (13) Inlet valve guide | (28) Right cylinder head cover gasket | (43) Piston pin |
| (14) Exhaust valve guide | (29) Point base | (44) Piston |
| (15) Dowel pin | (30) Oil seal | (45) Piston ring set |

Disassembly

1. Loosen the clamp and remove the breather tube from the breather cover.
2. Remove the point cover. Remove the screws securing the contact breaker base plate in position; take out the plate.
3. Loosen off bolt and remove the spark advancer.
4. Remove a total of eight cap nuts and a bolt to remove the breather cover.
5. Remove the tappet adjusting hole caps. Loosen the tappet adjusting screws.
6. Remove the screws which hold the point base to the cylinder head.
7. Turn off the screws to remove the right cylinder head cover.
8. Screw a 6mm bolt into the hole in the end of the rocker arm shaft and pull out the shaft; take out the rocker arms.
9. Remove the A.C. generator cover.
10. Loosen the chain tensioner set bolt and remove the tensioner from the chain.

11. Rotate the generator rotor until one of the cam sprocket knock bolts is up on the sprocket; remove the bolt. Further rotate the rotor one full turn to remove another bolt.

NOTE:

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

12. Remove the cam chain from the sprocket and take out the camshaft and sprocket toward the right.

NOTE:

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

13. Remove the spark plugs.
14. Remove the cylinder head.
15. Remove the tensioner push bar.



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



Fig. 3-4 (1) Rocker arm shaft
(2) 6mm bolt (3) Rocker arm

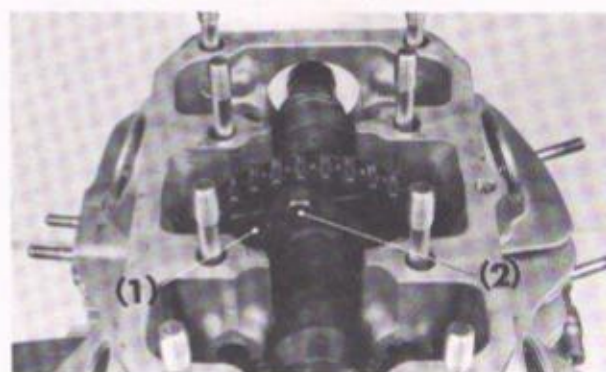


Fig. 3-5 (1) Cam sprocket (2) Knock bolt

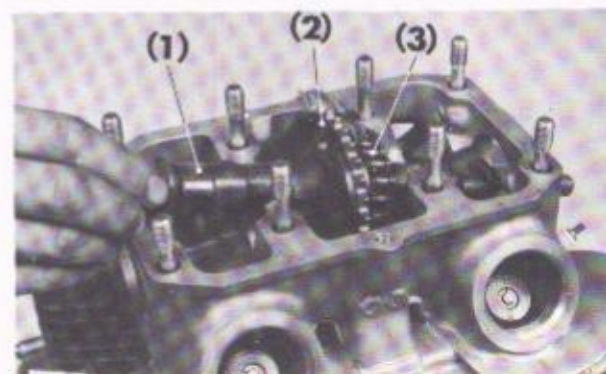


Fig. 3-6 (1) Camshaft (2) Sprocket
(3) Cam chain

16. Disassemble the cylinder head.
 - a. Using special tool "Valve Lifter" (Tool No. 07957-3290000), compress the valve springs and remove the valve cotters. Release the tool and remove the valve springs.
 - b. If it is necessary to remove the valve guides because of excessive clearance between the valve stem and valve guide, drive the guides from the cylinder head using "Valve Guide Remover" (Tool No. 07942-3290100).
17. Remove the 6mm cylinder hold-down bolt and take out the cylinder.
18. Pry the pin clip from the end of the piston pin in the piston; withdraw the pin and remove the piston.

NOTE:

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

Inspection

Camshaft and cylinder head

1. Check the point base and cylinder head cover for excessive wear or damage to the camshaft bearing surface.
2. Check the clearance between the rocker arm and rocker arm shaft.

Standard value: 0.013–0.043mm (0.0005–0.0017-in.)

Service limit: 0.1 (0.0039-in.)
3. Measure the height of each cam.

Standard value: Intake : 25.058mm (0.9865-in.)
Exhaust: 24.872 mm (0.9792-in.)

Service limit: Intake : 24.9mm (0.9803-in.)
Exhaust : 24.7mm (0.9724-in.)
4. Check for wear or damage to the oil seal contact surface of camshaft.
5. 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. If the Prussian blue shows a band of uniform width all the way around both seat and valve, the valve contact is normal. If contact is improper, lightly lap 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.

Standard value: 1.0–1.4mm (0.0394–0.0551-in.)

Service limit: 1.8mm (0.0709-in.)

NOTE:

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

6. Measure the outside diameter of the valve stem.

Standard value: Intake: 5.48–5.49mm
(0.2157–0.2161-in.)
Exhaust: 5.46–5.472mm
(0.2150–0.2154-in.)

Service limit: Intake: 5.42mm (0.2134-in.)
Exhaust: 5.40mm (0.2126-in.)

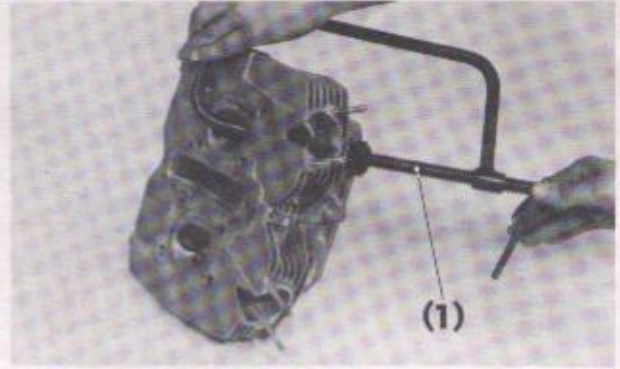


Fig. 3-7 (1) Valve lifter

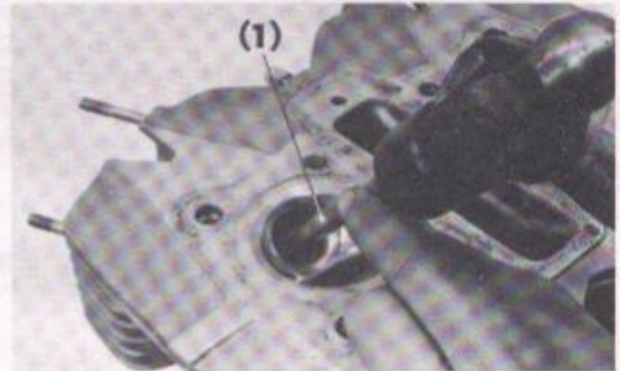


Fig. 3-8 (1) Valve guide remover

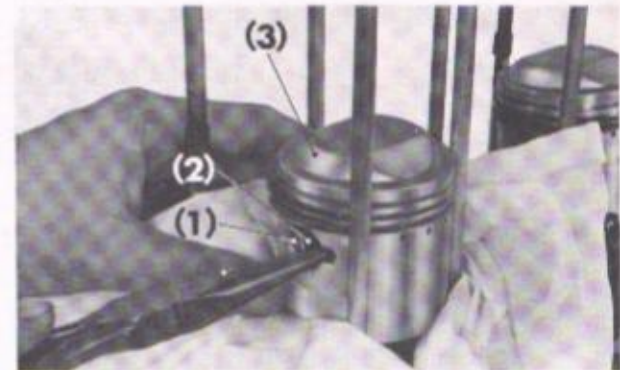


Fig. 3-9 (1) Piston pin clip
(2) Piston pin (3) Piston

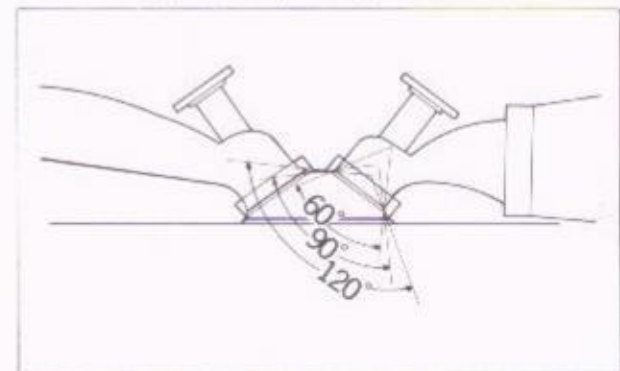


Fig. 3-10 Valve seat

7. Measure the valve-to-valve guide clearance.
- Standard value: Intake: 0.015–0.035mm
(0.0006–0.0014-in.)
Exhaust: 0.033–0.055mm
(0.0013–0.0022-in.)
- Service limit: Intake: 0.08mm (0.0032-in.)
Exhaust: 0.1mm (0.0039-in.)
8. Check the free length of each valve spring.
- Standard value: Inner : 33.25mm (1.3091-in.)
Outer : 35.05mm (1.3799-in.)
- Service limit: Inner : 32.0mm (1.2598-in.)
Outer : 34.5mm (1.3583-in.)

Cylinder and piston

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 (Y) and parallel (X) to the centerline of the crankshaft.
- 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 pistons and piston rings are available as service parts:

Oversize piston and piston ring mm	Sizes to which cylinder is to be rebored mm(in.)
0.25	55.75–55.76 (2.1949–2.1953)
0.50	56.00–56.01 (2.2047–2.2051)
0.75	56.25–56.26 (2.2146–2.2150)
1.00	56.50–56.51 (2.2244–2.2248)

Standard value: 55.50–55.51mm (2.1850–2.1854-in.)
Service limit: 55.6 mm (2.1890-in.)

2. Measure the outside diameter of the piston at its skirt.
- Standard value: 55.47–55.49mm (2.1839–2.1846-in.)
Service limit: 55.42mm (2.1819-in.)
3. Measure the inside diameter of the piston pin hole in the piston.
- Standard value: 15.002–15.008mm
(0.5906–0.5909-in.)
Service limit: 15.05mm (0.5925-in.)
4. Measure the outside diameter of the piston pin.
- Standard value: 14.994–15.000mm (0.5903–0.5906-in.)
Service limit: 14.9mm (0.5866-in.)
5. Check the clearance between the piston ring and ring groove.
- Standard value: Top : 0.04–0.075mm
(0.0016–0.0030-in.)
2nd. : 0.025–0.06mm
(0.0010–0.0024-in.)
Oil : 0.015–0.045mm
(0.0006–0.0018-in.)
- Service limit: 0.15mm (0.0059-in.)
6. Check the piston ring end gap using a feeler gauge.
- Standard value: 0.15–0.35mm (0.0059–0.0138-in.)
Service limit: 0.75mm (0.0295-in.)

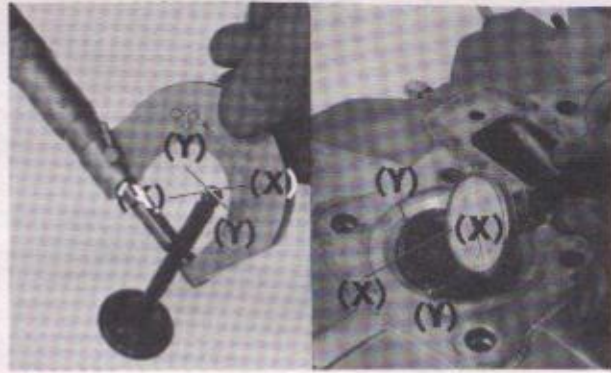


Fig. 3-11 Measuring valve stem-to-valve guide clearance

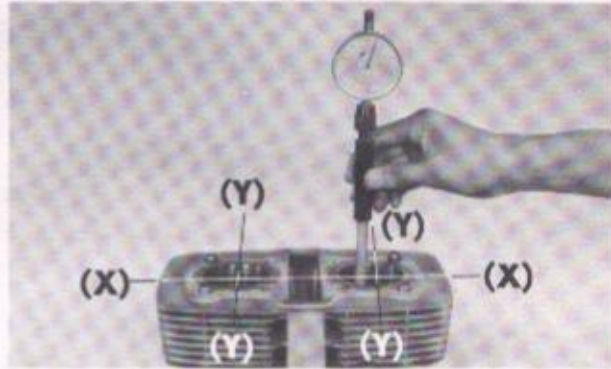


Fig. 3-12 Measuring cylinder bore



Fig. 3-13 Measuring piston ring end gap

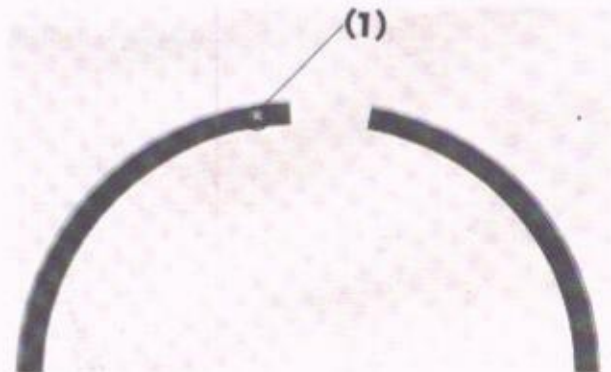


Fig. 3-14 (1) Piston ring top marking

Assembly**Piston ring**

1. Use the piston rings of the same marking 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.

NOTE: Do not install the top and second rings conversely.

Piston

1. Install the piston with the arrow mark facing toward the front (exhaust side) of the engine.
2. Assemble the piston, connecting rod and piston pin with new piston pin clips.

NOTE:

Put a rag or the like in the cylinder bore of the crankcase to prevent the clips from falling in the crankcase.

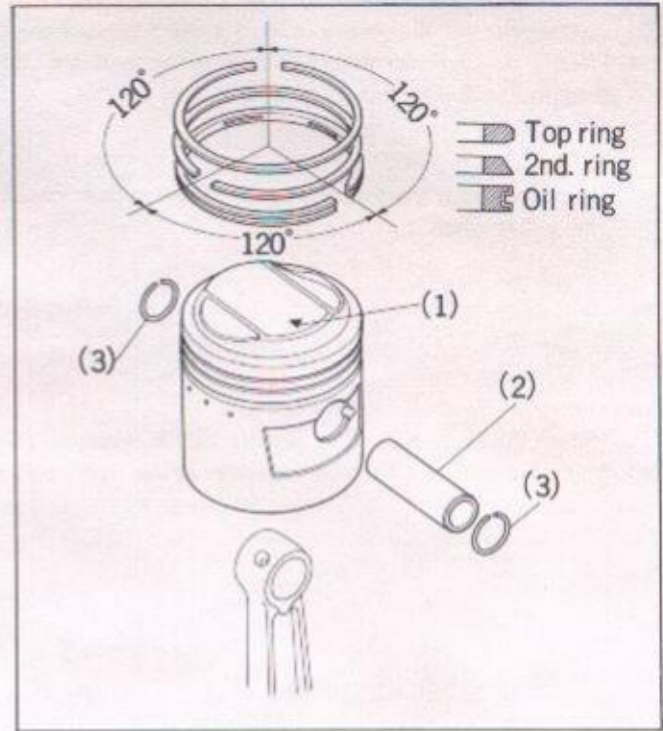


Fig. 3-15 (1) Piston head mark
(2) Piston pin (3) Piston pin clip

Cylinder

1. Install two knock pins and cylinder gasket to the cylinder surface of the upper crankcase.
2. Place "Piston Bases" (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 Compressors" (Tool No. 07954-3230000) while lowering the cylinder bores.

Remove the piston bases and piston ring compressors when the rings enter the cylinder bores.

NOTE:

Liberally apply clean engine oil to the piston rings before installation.

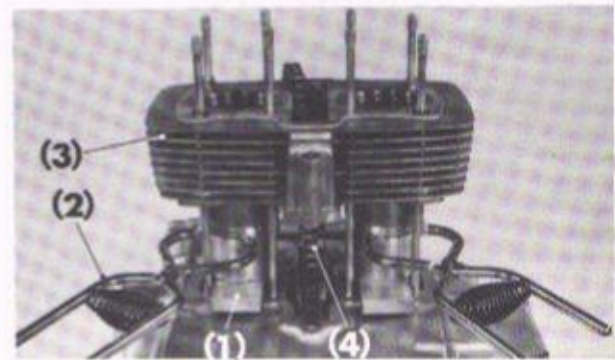


Fig. 3-16 (1) Piston base
(2) Piston ring compressors
(3) Cylinder (4) Cam chain

Cylinder head

1. Use "Valve Guide Driver" (Tool No. 07942-1180100) when driving a new valve guide. After driving, ream to size with "Valve Guide Reamer" (Tool No. 07984-2000000).
2. Install the valves so that the narrow-pitch ends of the valve springs are on the valve spring seat side.



Fig. 3-17 (1) Valve guide driver

3. Install the tensioner push bar in place in the cylinder head. Secure the installation with the setting bolt after pressing the bar all the way in until it will no longer go.
4. Place a new cylinder gasket on top of the cylinder. Be sure to install four knock pins and two O-rings at the same time.

NOTE:

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

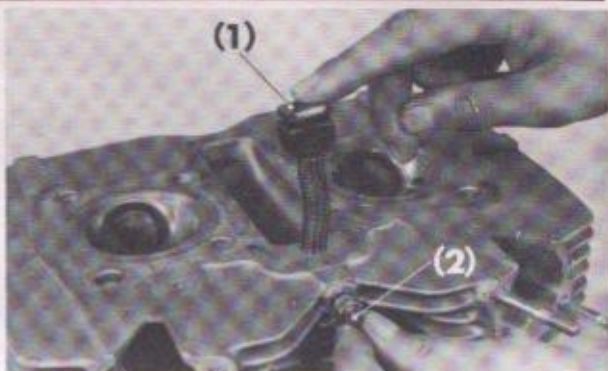


Fig. 3-18 (1) Tensioner push bar
(2) Tensioner setting bolt

Valve timing

1. Rotate the crankshaft so as to align the "T" mark on the generator rotor with the index mark on the right crankcase cover.

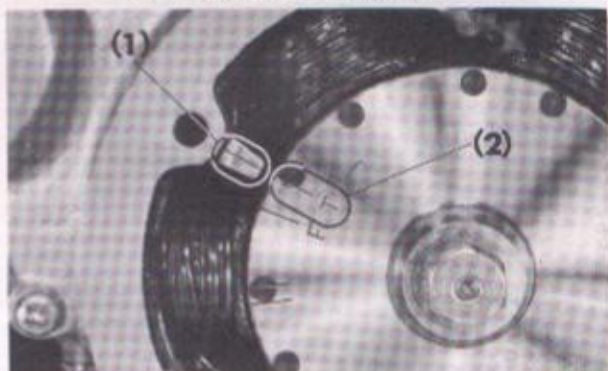


Fig. 3-19 (1) Index mark (2) "T" mark

2. Install the cam chain to the cam sprocket so that the matching lines on the cam sprocket are in alignment with the upper surface of the cylinder head.
3. Position the sprocket in place on the flange end of the cam shaft with the spark advancer knock pin facing upward and the matching lines placed horizontally. Tighten the sprocket to the flange with two knock bolts.
Torque specifications: 170–230 kg-cm (12.3–16.6 lbs-ft)
4. Loosen the tensioner setting bolt and check to be sure that the cam chain is properly tensioned.

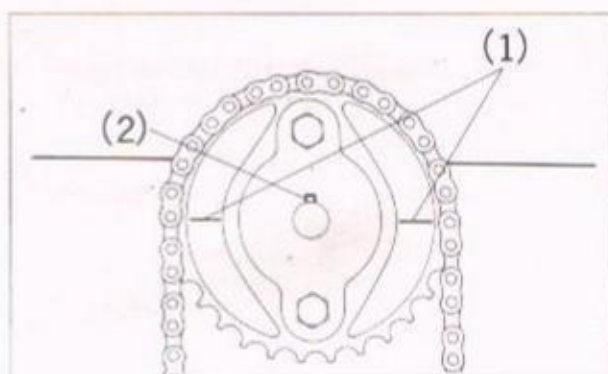


Fig. 3-20 (1) Matching line (2) Knock pin

Cylinder head cover

1. Place the cylinder head cover in place on the cylinder head with the gasket inserted in between. Install and tighten the cylinder head cover hold-down cap nuts in the sequence as shown in Fig. 3-21.

Torque specifications: 180–220 kg-cm (13.0–16.0 lbs-ft)

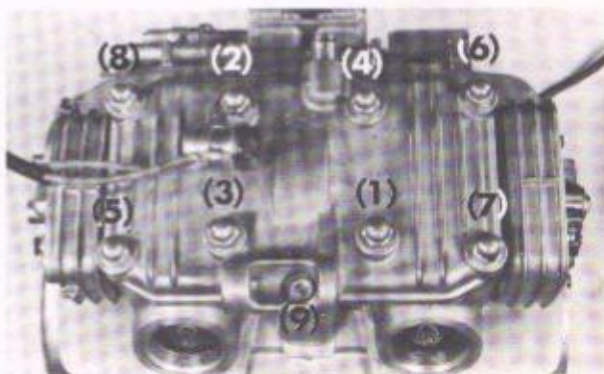


Fig. 3-21 Tightening sequence of cylinder head cap nuts

4. OIL PUMP AND OIL FILTER

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.

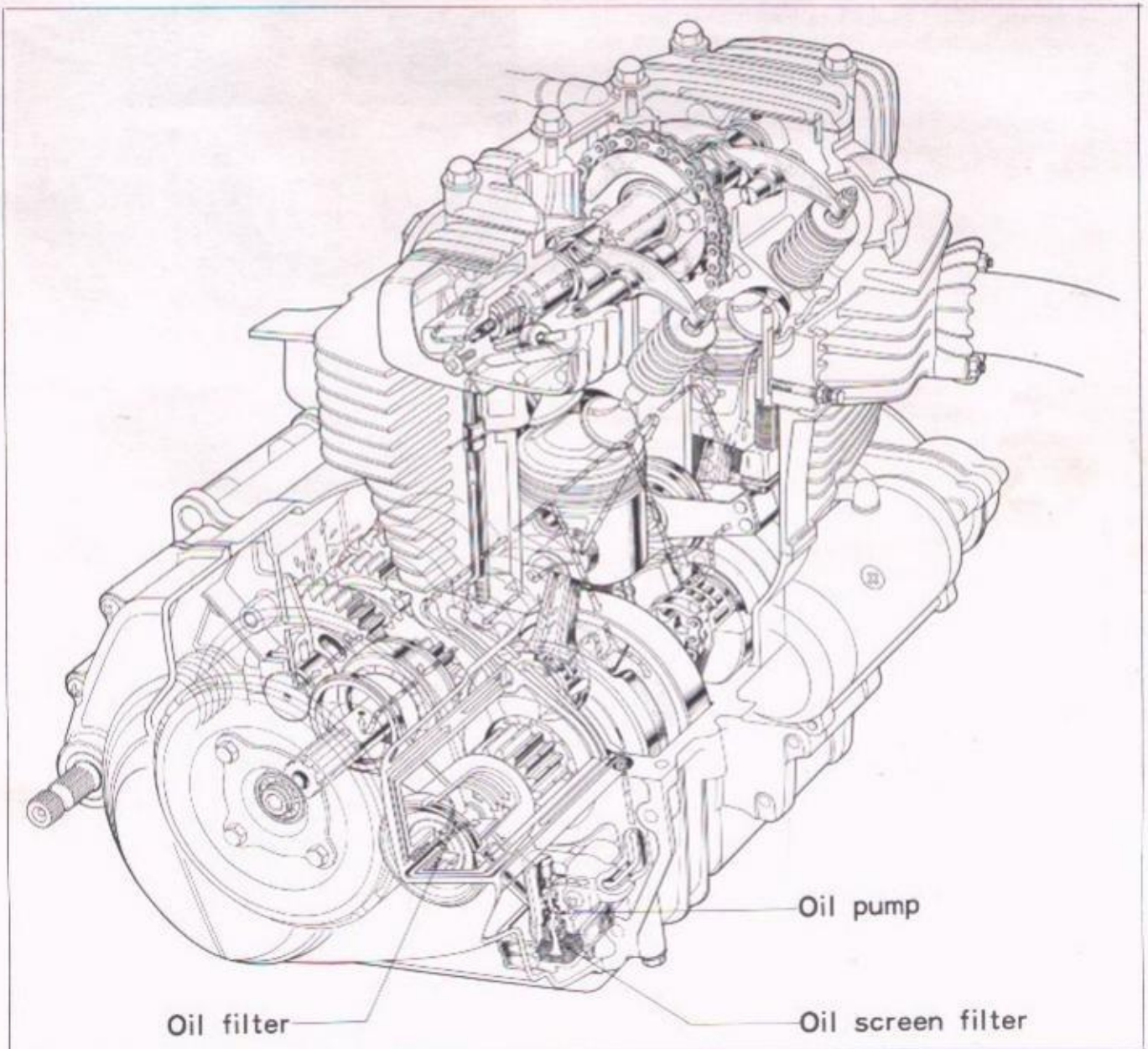


Fig. 3-22

Disassembly

Oil filter (refer to Fig.3-31)

1. Drain the engine thoroughly by removing the drain plug.
2. Remove the right muffler (CB200 only) and kick starter pedal.
3. Remove the clutch cover and disconnect the clutch cable.
4. Remove the right crankcase cover.
5. Remove the screw from the oil filter cap. Pull the oil filter cap out by screwing in a 8mm bolt into the hole in the oil filter cap.

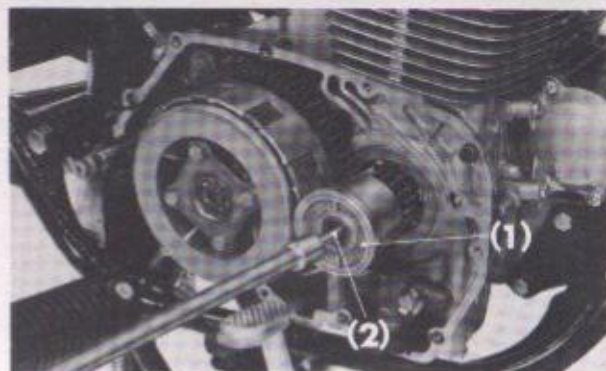


Fig. 3-23 (1) Oil filter cap
(2) 8mm bolt

6. Straighten the tabs of the lock washer away from the groove in the lock nut. With use of the "Lock Nut Wrench" (Tool No. 07916-2830000), remove the lock nut.

It is good practice to place a soft metal bar between the gear teeth while turning off the lock nut.

7. Pull out the oil filter rotor from the crankshaft.

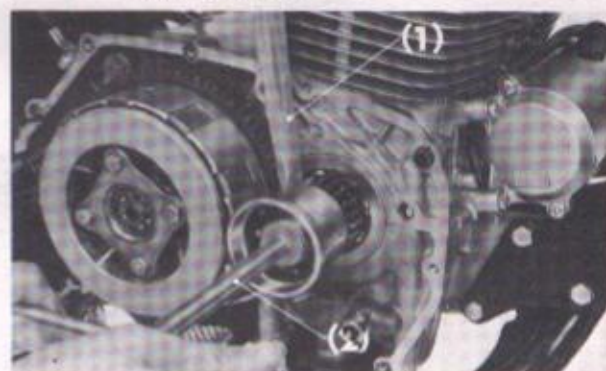


Fig. 3-24 (1) Piece of soft metal bar
(2) Lock nut wrench

8. Line up the notch in the oil guide metal stopper ring on the right crankcase cover with the pawl in the oil guide metal; without disturbing the above setup, remove the side metal and spring.

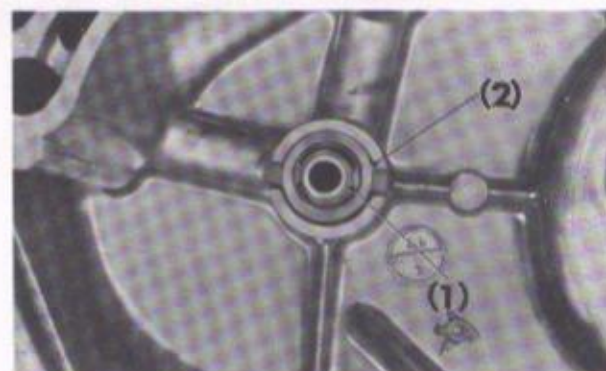


Fig. 3-25 (1) Stopper ring
(2) Oil guide metal

Oil pump

1. Remove the oil filter. Follow the steps 1 thru 7 above.
2. Remove four 6mm bolts and take out the clutch lifter plate, clutch springs and lifter joint piece.

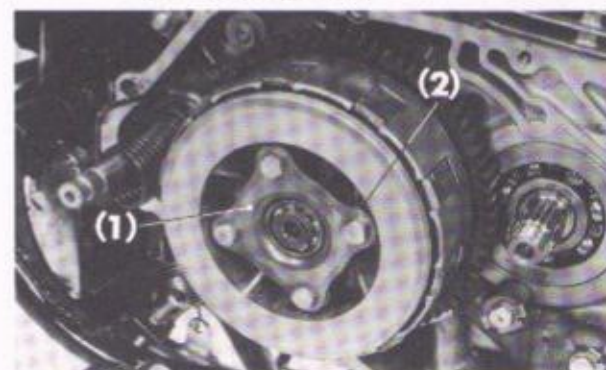


Fig. 3-26 (1) Clutch lifter plate
(2) Clutch spring

3. Using suitable pliers, remove the 20mm snap ring. Remove the clutch center together with the friction discs.
4. Straighten the tabs of the lock washers and remove the bolt. Take out the oil pump assembly with the clutch outer.

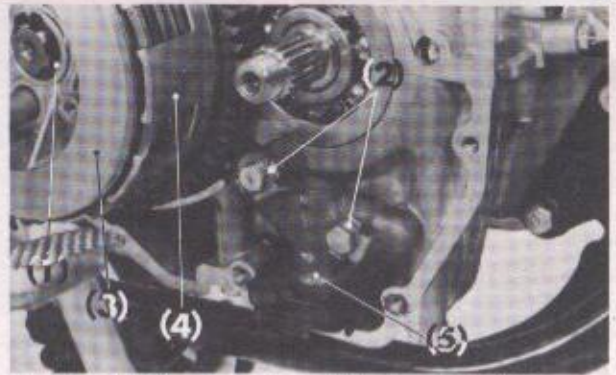


Fig. 3-27 (1) Snap ring (2) Lock washer
(3) Clutch center (4) Clutch outer
(5) Oil pump

5. Remove the screen filter from the oil pump.
6. Pry out the 26mm snap ring from the clutch outer and remove the pump rod side washer and pump rod.
7. Pull off the pump plunger pin; remove the plunger from the pump rod.

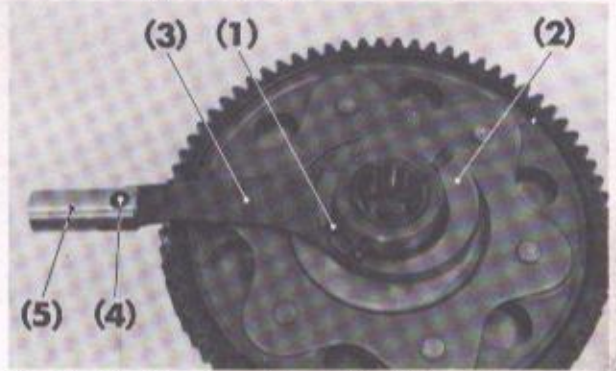


Fig. 3-28 (1) Snap ring (2) Side washer
(3) Pump rod (4) Plunger pin
(5) Plunger

Inspection

Oil pump

1. Measure the pump rod-to-clutch outer clearance.
Standard value: 0.025–0.075mm (0.0010–0.0030-in.)
Service limit: 0.15mm (0.0059-in.)
2. Check the pump body-to-plunger clearance.
Standard value: 0.025–0.063mm (0.0010–0.0025-in.)
Service limit: 0.17mm (0.0067-in.)
3. Check the action of the steel ball.

Inspection the action of the oil pump.

After assembling, start the engine and allow it to run at the correct idle speed. Loosen the cylinder head cover hold-down cap nut, Fig. 3-29, and see if oil is seeping out from the gasketed surface. If so, it is a good indication that the pump is operating properly.

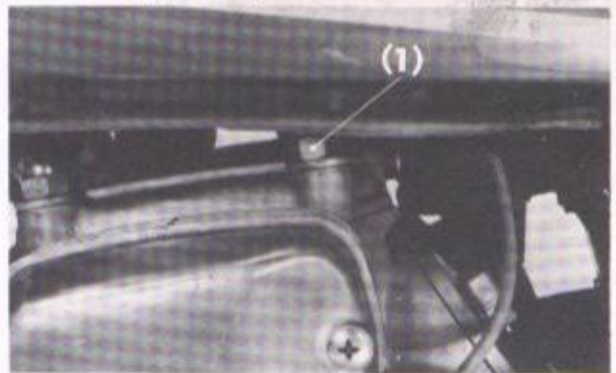


Fig. 3-29 (1) Cap nut

Assembly

Oil pump

1. Be sure to install the gasket under the pump when installing the pump to the engine.
2. For the installation procedures of the clutch, refer to the relative topic under CLUTCH in Item 5.

Oil filter

1. Install the filter lock nut with the larger chamfered side facing inside.
2. Install the oil filter cap so that the tab aligns with the index mark on the filter rotor.

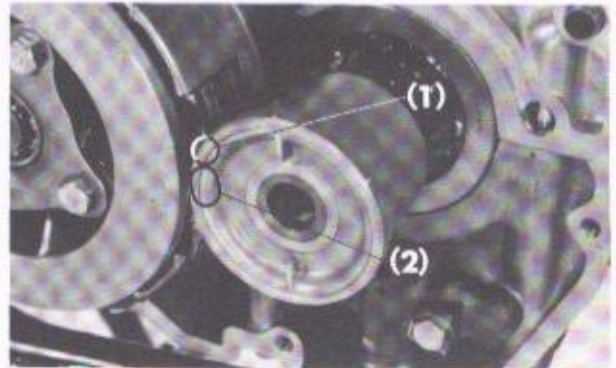


Fig. 3-30 (1) Index mark (2) Tab

5. CLUTCH

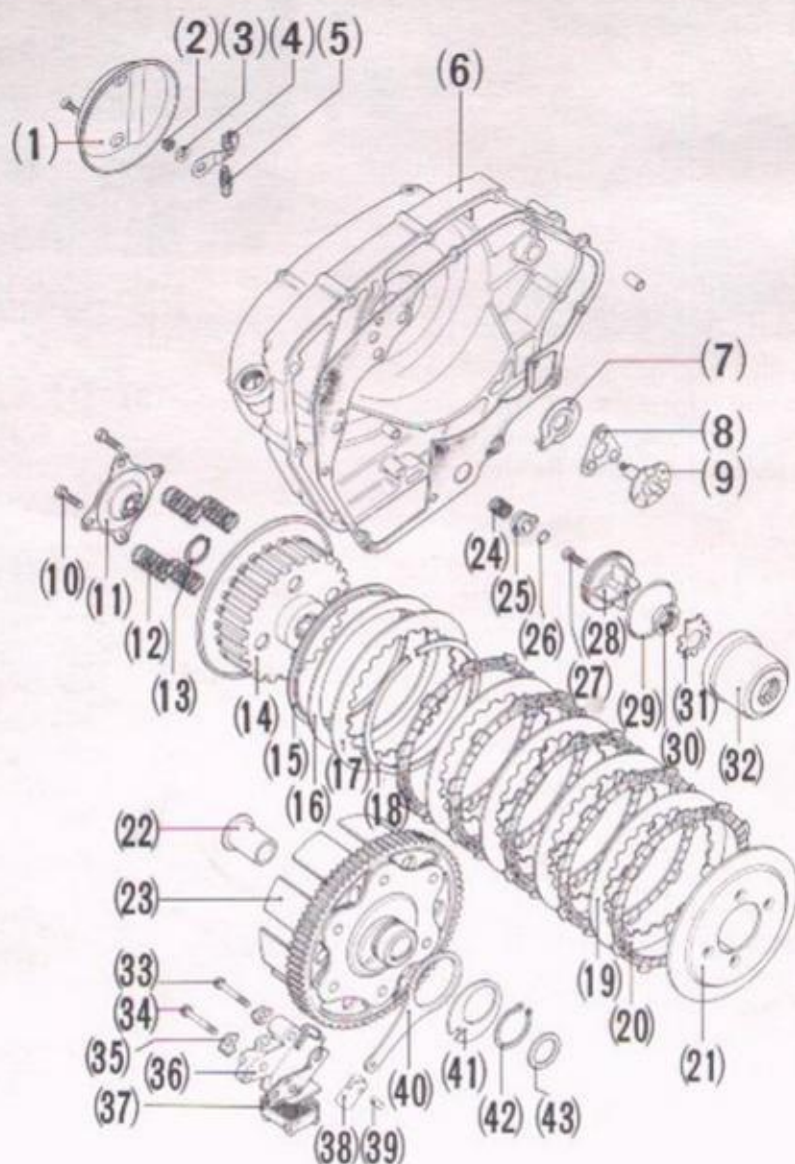


Fig. 3-31

- | | | |
|---------------------------|-----------------------------------|---------------------------|
| (1) Clutch adjuster cover | (16) Clutch disc spring | (31) 16mm lock washer |
| (2) 6mm hex. nut | (17) Clutch plate B | (32) Oil filter rotor |
| (3) Washer | (18) 92mm set spring | (33) 6x32mm hex.bolt |
| (4) Clutch lever | (19) Clutch plate A | (34) 6x28mm hex.bolt |
| (5) Clutch lever spring | (20) Friction disc | (35) 6mm lock washer |
| (6) Right crankcase cover | (21) Clutch pressure plate | (36) Oil pump |
| (7) Clutch cam plate A | (22) 20mm collar | (37) Pump filter screen |
| (8) Ball retainer | (23) Clutch outer | (38) Pump plunger |
| (9) Clutch lifter | (24) Oil guide metal spring | (39) Pump plunger pin |
| (10) 6x20mm hex.bolt | (25) Oil guide metal | (40) Pump rod |
| (11) Clutch lifter plate | (26) Oil guide metal stopper ring | (41) Pump rod side washer |
| (12) Clutch spring | (27) 6x20mm screw | (42) 35mm snap ring |
| (13) 20mm set ring | (28) Oil filter cap | (43) 20mm thrust washer |
| (14) Clutch center | (29) 46x2 o-ring | |
| (15) Disc spring seat | (30) 16mm lock nut | |

Disassembly

1. Follow the steps 1 thru 7 used in removing the oil pump since the clutch can be removed together with the oil pump.
2. Remove the clutch plate "B", clutch disc spring and special set ring from the clutch center.

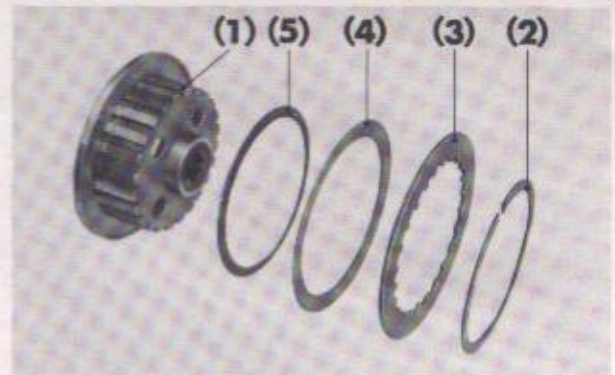


Fig. 3-32 (1) Clutch center (2) Set ring
(3) Clutch plate B
(4) Disc spring (5) Disc spring seat

Inspection

1. Measure the thickness of the friction disc.
Standard value: 2.92–3.08mm (0.1150–0.1213-in.)
Service limit: 2.6mm (0.1024-in.)
2. Check the clutch plate for distortion.
Standard value: 0.1mm (0.0039-in.) max.
Service limit: 0.2mm (0.0079-in.)
3. Inspect the free length of the clutch spring.
Standard value: 28.26mm (1.1526-in.)
Service limit: 26.7mm (1.0512-in.)
4. Check the clearance between the clutch center and clutch plate B (ℓ).

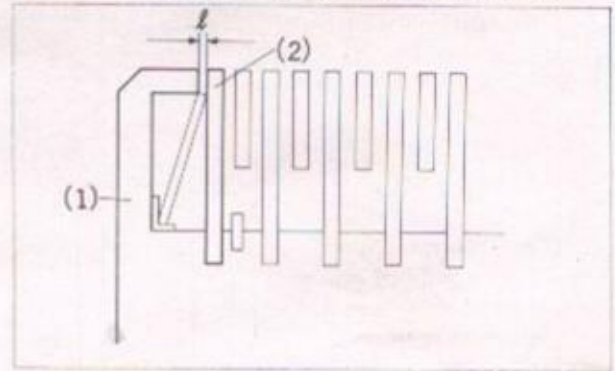


Fig. 3-33 (1) Clutch center (2) Clutch plate B

Assembly

1. Note the direction of the disc spring seat and spring.
2. Install the clutch plate B in the proper position.
3. Install the clutch center and secure with the snap ring.
4. Adjust the clutch. Refer to page 4.

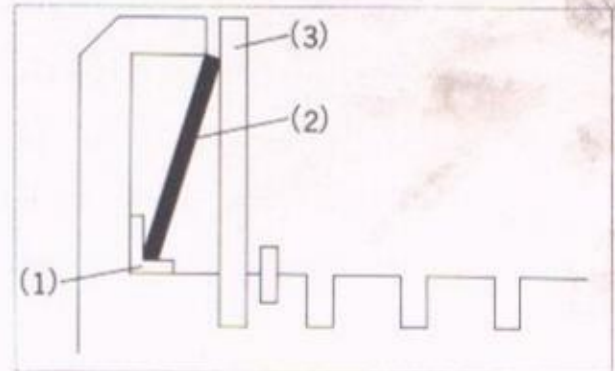


Fig. 3-34 (1) Clutch disc spring seat
(2) Clutch disc spring
(3) Clutch plate B

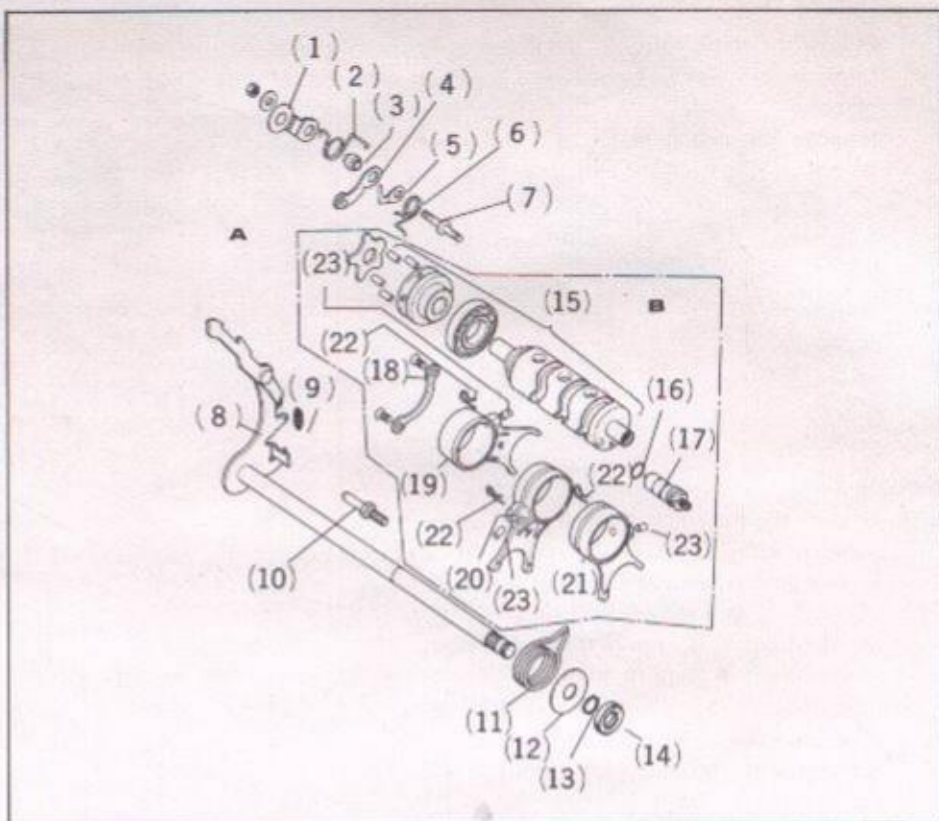
6. GEAR SHIFT MECHANISM

Fig. 3-35

Group A: On-frame servicing

Group B: On-work stand servicing

- (1) Drum stopper
- (2) Stopper spring
- (3) Stopper collar
- (4) Neutral stopper arm
- (5) Stopper arm plate
- (6) Neutral stopper spring
- (7) Drum stopper pin
- (8) Gear spindle
- (9) Gearshift arm spring
- (10) Return spring pin
- (11) Gearshift return spring
- (12) Gearshift spindle stopper
- (13) Snap ring (12 mm)
- (14) Oil seal (12 × 25 × 4.5 mm)
- (15) Gearshift drum
- (16) O-ring
- (17) Neutral switch
- (18) Bearing set plate
- (19) Right gearshift fork
- (20) Center gearshift fork
- (21) Left gearshift fork
- (22) Guide pin clip
- (23) Gearshift fork guide pin



Disassembly

A group

1. Drain the engine thoroughly.
2. Remove the right muffler (CB200 only) and kick starter pedal.
3. Remove the clutch cover and disconnect the clutch cable.
4. Remove the drive chain cover and right crankcase cover.
5. Remove the oil filter rotor, clutch and oil pump.
6. Remove the gear shift pedal; pry off the gear shift spindle snap ring.
7. Withdraw the gear shift spindle while disengaging the gear shift arm pawl from the gear shift drum.

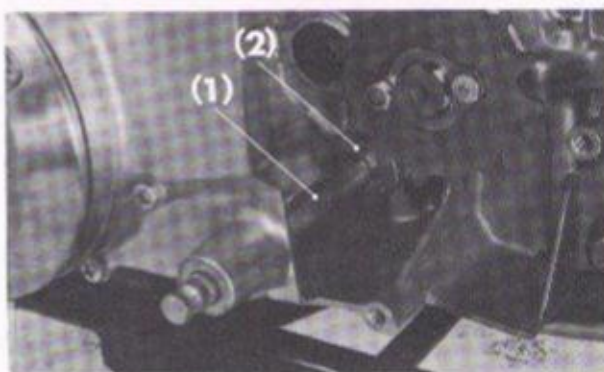


Fig. 3-36 (1) Gear shift spindle
(2) Snap ring

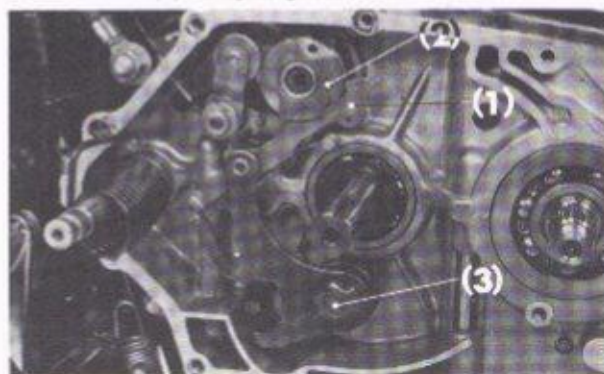


Fig. 3-37 (1) Gear shift arm (2) Gear shift drum
(3) Gear shift spindle

8. Turn off the nut; take out the shift drum stopper, shift drum stopper spring, shift drum stopper collar, neutral stopper, stopper arm plate and neutral stopper spring in the order listed.

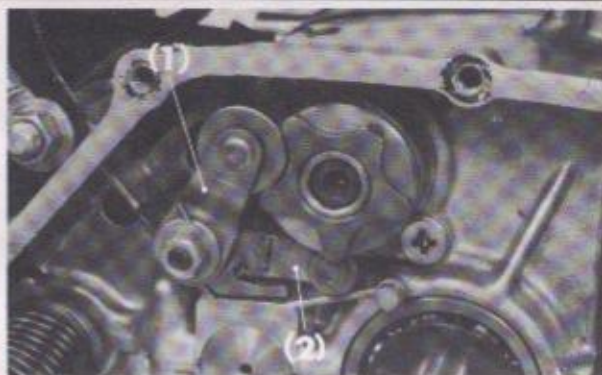


Fig. 3-38 (1) Gear shift drum stopper
(2) Neutral stopper

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. With the upper crankcase side down, remove the drain plug.
6. Loosen off nine 6mm bolts and nine 8mm bolts which fasten the lower crankcase to the upper one.
7. While lightly tapping around with a wooden hammer, separate the lower crankcase from the upper half.
8. Take out the transmission mainshaft and countershaft.

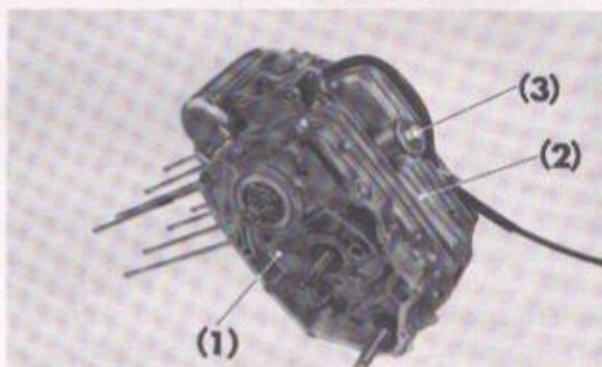


Fig. 3-39 (1) Upper crankcase (2) Lower crankcase
(3) Drain plug

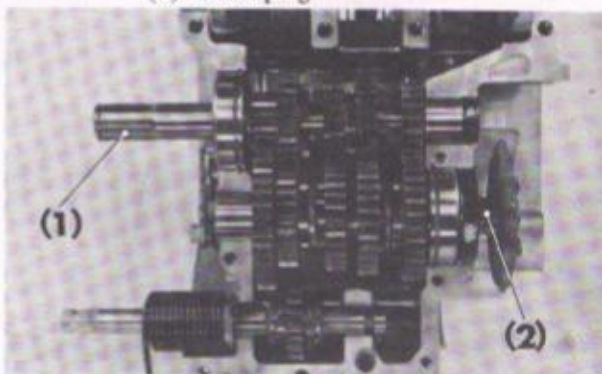


Fig. 3-40 (1) Mainshaft assembly
(2) Countershaft assembly

9. Remove the screws which secure the bearing retaining plate in place; take out the plate.

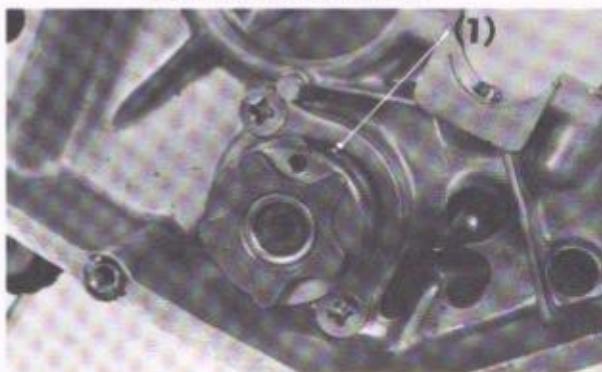


Fig. 3-41 (1) Bearing retaining plate

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

Inspection

1. Measure the outside diameter of the gear shift drum.
Standard value: 33.95–33.975mm (1.3366–1.3376-in.)
Service limit: 33.9mm (1.3346-in.)
2. Measure the inside diameter of the gear shift fork.
Standard value: 34.000–34.025mm
(1.3386–1.3396-in.)
Service limit: 34.075mm (1.3415-in.)
3. Check the clearance between the gear shift fork guide and gear shift drum groove.
Standard value: 0.01–0.228mm (0.0043–0.0090-in.)
Service limit: 0.5mm (0.0197-in.)
4. Check the finger thickness of the gear shift fork.
Standard value: 5.36–5.44mm (0.2110–0.2142-in.)
Service limit: 5.0mm (0.2-in.)
3. Check the stopper arms to see if they are in their proper positions; also check for operation.
4. Move the gear shift spindle to see if each related part is operating properly.

Assembly

1. Install the gear shift forks properly in their respective positions. They are provided with the marks "R", "C" and "L" for identification.
2. Insert the center shift fork guide pin clip from the right side. Failure to follow this caution will result in interference with the gear.



Fig. 3-42 (1) Gear shift drum

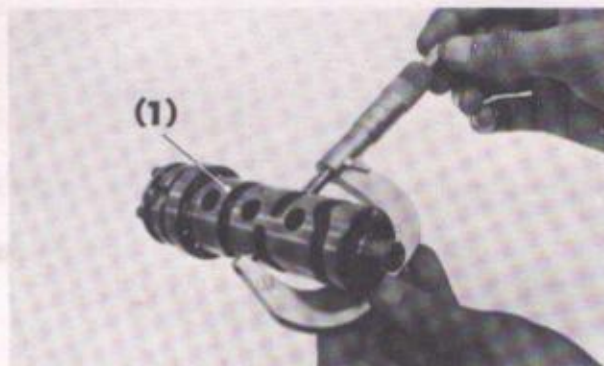


Fig. 3-43 (1) Gear shift drum



Fig. 3-44 (1) Right gear shift fork
(2) Center gear shift fork
(3) Left gear shift fork

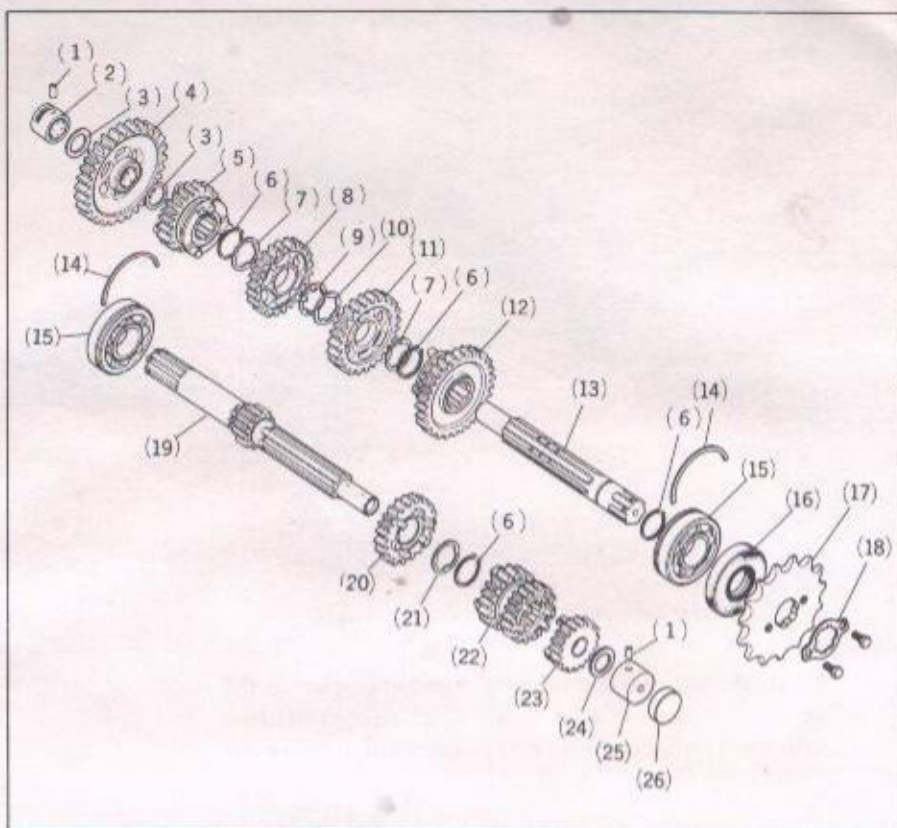


Fig. 3-45 (1) Gear shift drum stopper arm
(2) Neutral stopper arm

7. TRANSMISSION

Fig. 3-46

- (1) Knock pin
- (2) Bearing bushing (16 mm)
- (3) Thrust washer (16 mm)
- (4) Countershaft first gear (36T)
- (5) Countershaft fifth gear (24T)
- (6) Snap ring (20 mm)
- (7) Thrust washer A
- (8) Countershaft fourth gear (27T)
- (9) Lock washer (20 mm)
- (10) Thrust washer B (20 mm)
- (11) Countershaft third gear (29T)
- (12) Countershaft second gear (32T)
- (13) Transmission countershaft
- (14) Ball bearing set ring A
- (15) Ball bearing (6304HS)
- (16) Oil seal (20 × 52 × 9 mm)
- (17) Drive sprocket (15T)
- (18) Drive sprocket fixing plate
- (19) Transmission mainshaft (13T)
- (20) Mainshaft fifth gear (25T)
- (21) Thrust washer A (20 mm)
- (22) Mainshaft shifting gear (20T, 23T)
- (23) Mainshaft second gear (17T)
- (24) Thrust washer (15 mm)
- (25) Bearing bushing A (15 mm)
- (26) Oil seal (25 × 8 mm)



Disassembly

1. Drain the engine thoroughly.
2. Remove the right and left engine crankcase covers.
3. Remove the oil filter, clutch and oil pump.
4. Place the engine with the upper crankcase side down; remove nine 6mm bolts and nine 8mm bolts.
5. Remove the lower crankcase while disengaging the shift arm pawl from the shift drum.

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

NOTE:

Measure each backlashes in gears before removal.

Inspection

1. Check the gears for backlash.

Standard value: 1st, 2nd and 3rd : 0.089–0.179mm
(0.0035–0.0070-in.)
4th and 5th: 0.094–0.188mm
(0.0037–0.0074-in.)

Service limit: 0.2mm (0.0079-in.)

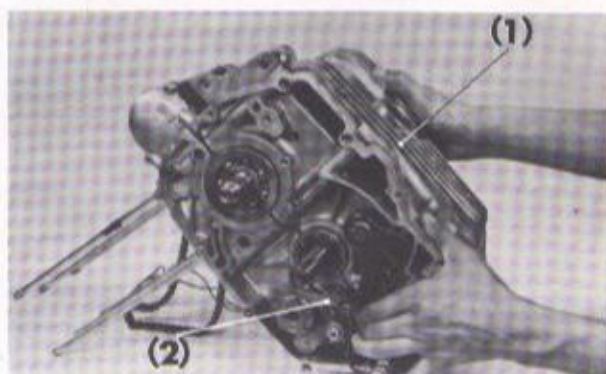


Fig. 3-47 (1) Lower crankcase (2) Gear shift arm

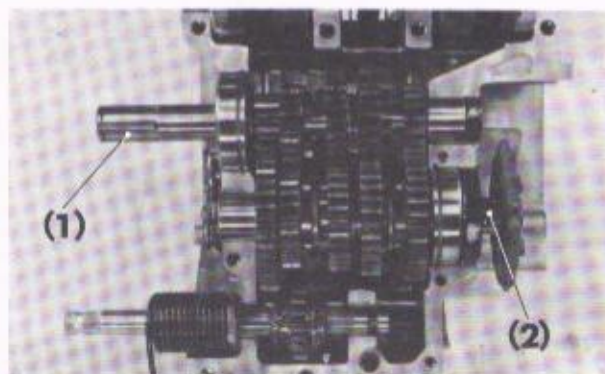


Fig. 3-48 (1) Mainshaft (2) Countershaft

2. Replace any gear showing excessive wear or damage. Also check the gears for smooth sliding on the shaft splines.

Assembly

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

2. Rotate each shaft by hand to see if it rotates freely without binding.

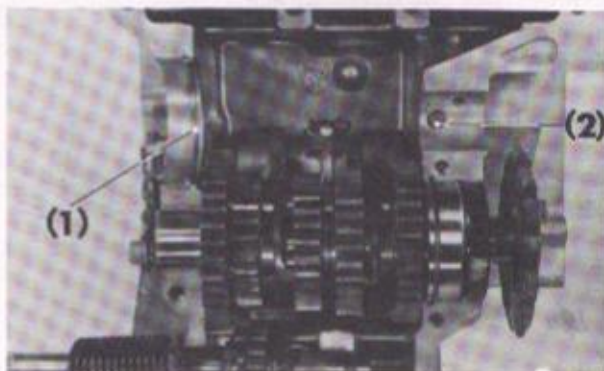


Fig. 3-49 (1) Ball bearing set ring
(2) Knock pin

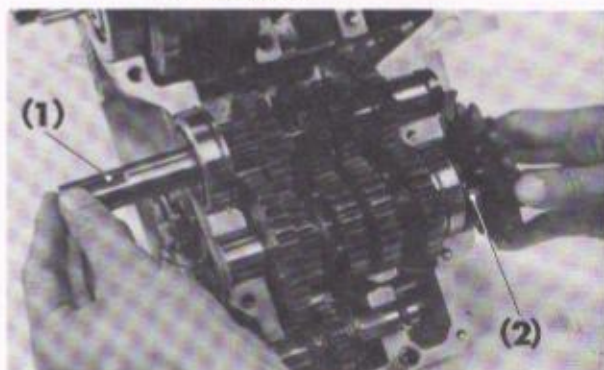
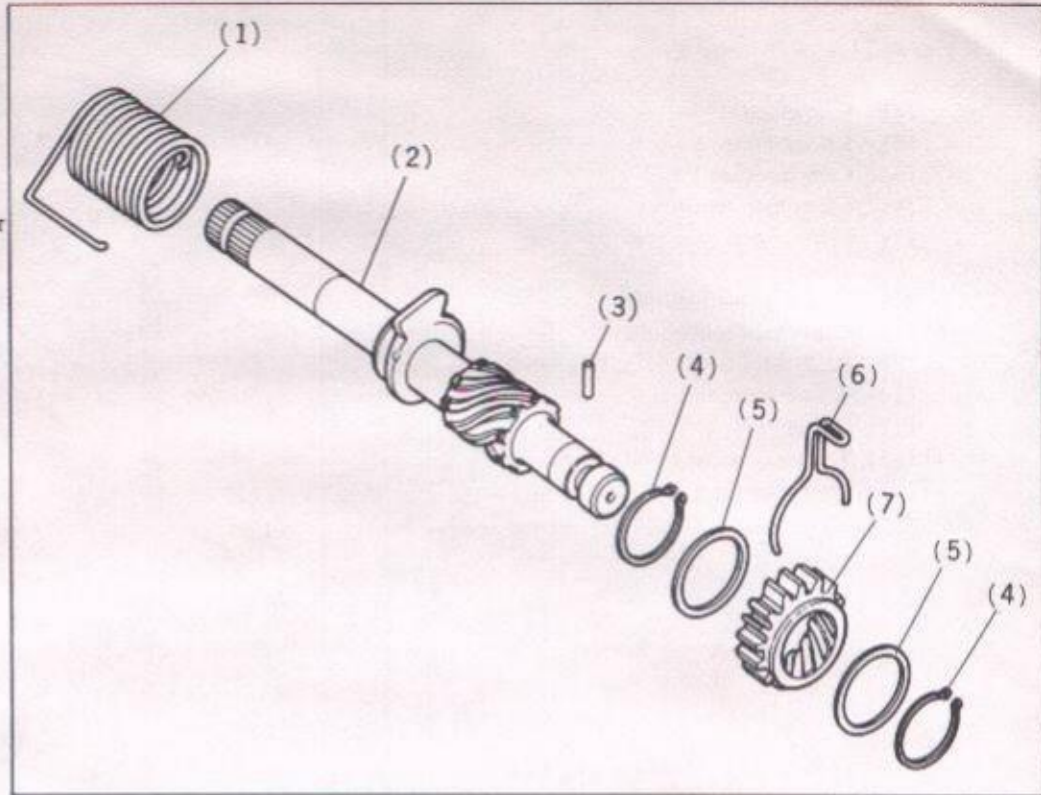


Fig. 3-50 (1) Mainshaft (2) Countershaft

8. KICK STARTER

Fig. 3-51

- (1) Kick starter spring
- (2) Kick starter spindle
- (3) Knock pin (4 × 15 mm)
- (4) Snap ring (25 mm)
- (5) Kick starter spindle washer
- (6) Friction spring
- (7) Kick starter pinion



Disassembly

1. Follow the steps 1 thru 5 under Disassembly of Transmission to remove the lower crankcase.
2. Remove the kick starter spring.
3. Remove the kick starter spindle from the upper crankcase as an assembled unit.

Inspection

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

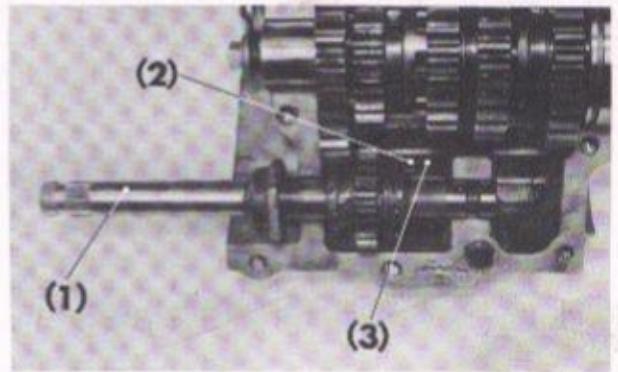


Fig. 3-52 (1) Kick starter spindle
(2) Friction spring
(3) Friction spring groove

Assembly

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

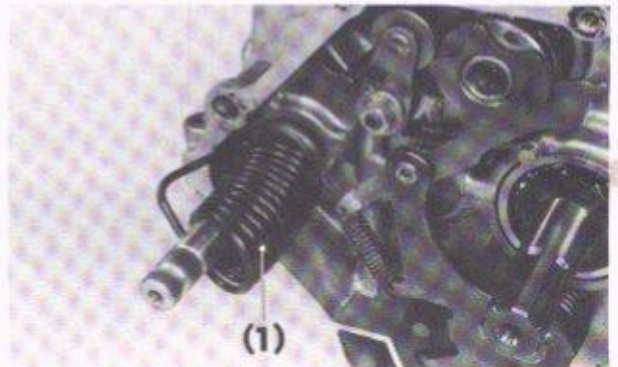
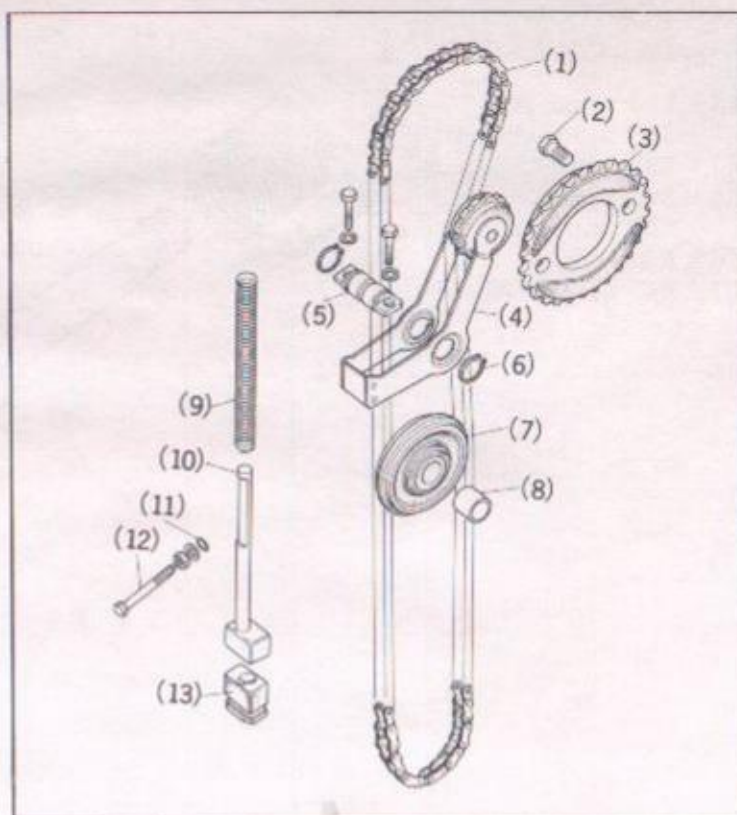


Fig. 3-53 (1) Kick starter spring

9. CAM CHAIN TENSIONER

Fig. 3-54

- (1) Cam chain
- (2) Knock bolt
- (3) Cam sprocket
- (4) Cam chain tensioner
- (5) Chain guide roller pin
- (6) Snap ring
- (7) Cam chain guide collar
- (8) Cam chain roller collar
- (9) Cam chain tensioner spring
- (10) Tensioner push bar
- (11) O-ring
- (12) Tensioner setting bolt
- (13) Tensioner push rubber



Disassembly

1. Remove the cylinder head and take out the tensioner push bar. Refer to page 14 for the removal procedure.
2. Remove the cylinder. Refer to page 14 for the removal procedure.
3. Remove the bolts; pry off the snap ring. Take out the chain tensioner, guide roller pin and guide roller in this order.

Inspection

1. Check for wear on the tensioner and guide roller.



Fig. 3-55 (1) Bolt (2) Snap ring (3) Guide roller pin (4) Chain tensioner roller (5) Guide roller

Assembly

1. With the groove end facing toward the setting bolt, press the push bar in the cylinder head all the way as far as it will go; secure with the setting bolt.
2. Adjust the cam chain.
With the engine running at idle speed, loosen the lock nut and tensioner setting bolt. The chain will be tensioned automatically. Retighten the setting bolt and secure with the lock nut.

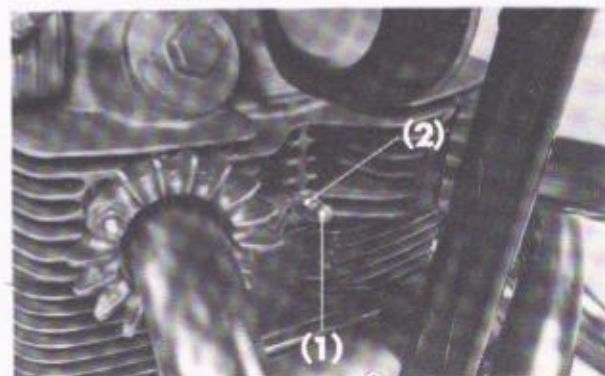
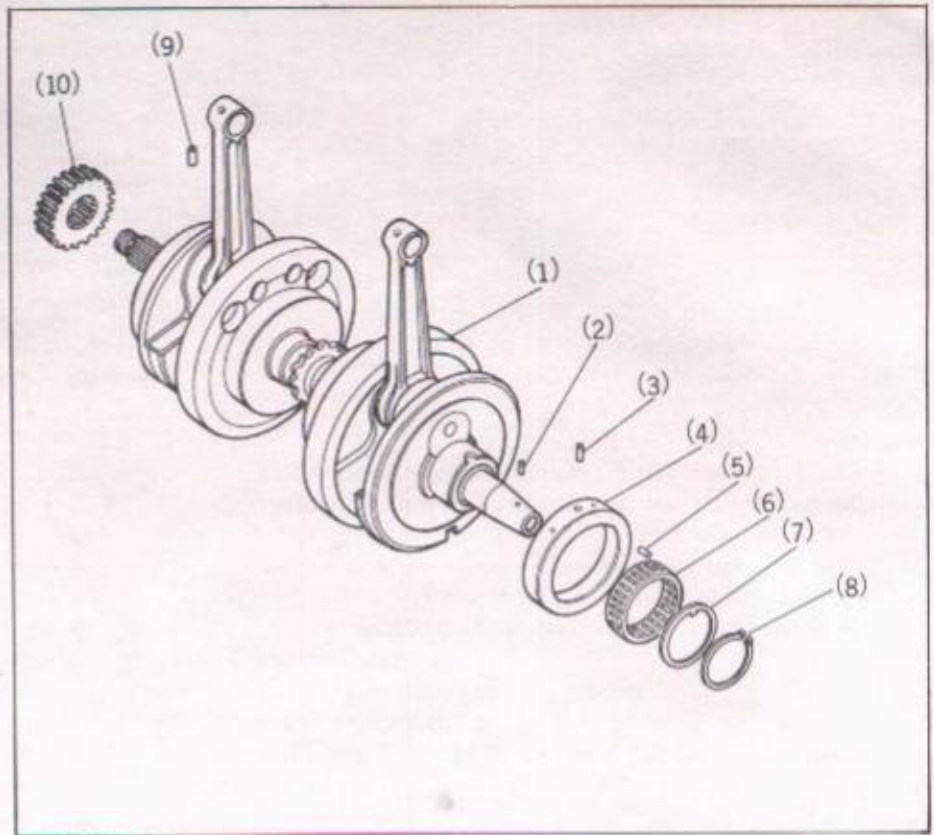


Fig. 3-56 (1) Chain tensioner setting bolt (2) Lock nut

10. CRANKSHAFT

Fig. 3-57

- (1) Crankshaft
- (2) Knock pin
- (3) Knock pin
- (4) Left main bearing outer ring
- (5) Roller
- (6) Main bearing roller retainer
- (7) Side washer
- (8) Snap ring
- (9) Knock pin
- (10) Primary drive gear



Disassembly

1. Remove the cylinder head, cylinder and pistons. See page 14.
2. Remove the right and left crankcase covers.
3. Set up "Drive Sprocket Holder" (Tool No. 07922-3570000) on the sprocket, remove the bolt; take out the generator rotor using "Rotor Puller" (Tool No. 07933-2160000).
4. Remove the starting sprocket setting plate; remove the sprocket, chain and starting motor sprocket together.
5. Remove the oil filter, clutch and oil pump.
6. With the upper crankcase facing down, unscrew nine 6mm bolts and nine 8mm bolts securing the case in place.
Remove the lower crankcase while disengaging the lugs of the gear shift arm from the gear shift drum.

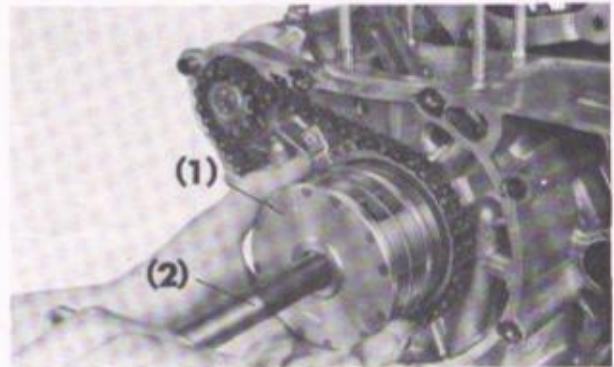


Fig. 3-58 (1) Generator rotor
(2) Rotor puller

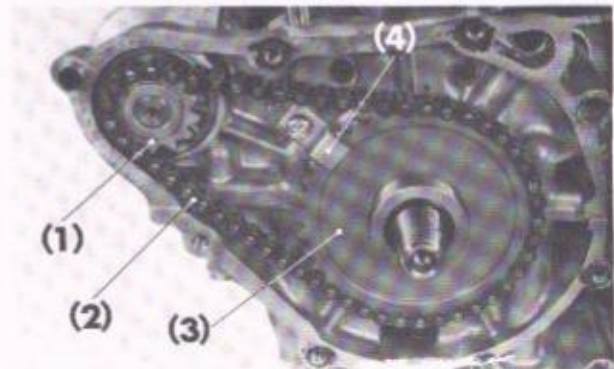


Fig. 3-59 (1) Starting motor sprocket (2) Chain
(3) Starting sprocket (4) Setting plate

7. Remove the crankshaft from the upper crankcase.

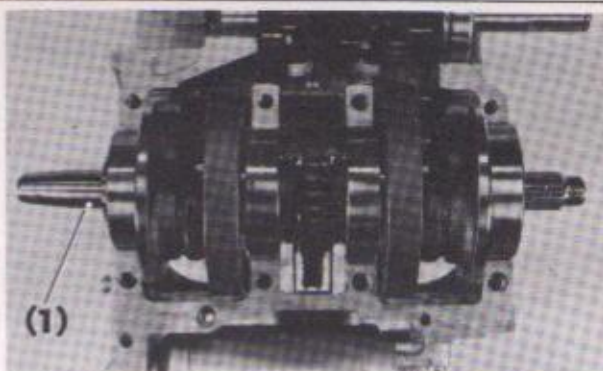


Fig. 3-60 (1) Crankshaft

Inspection

1. Check the crankshaft for runout. Measurements should be made with a dial indicator and by rotating the shaft one full turn.

Place the shaft in V blocks at both end bearings and measure runout at A, B, C, D, E and F.

Standard value: A, B, C, and D 0.02mm
(0.0008-in.) max.

E and F 0.05mm
(0.0020-in.) max.

Service limit: A, B, C, and D : 0.15mm (0.0059-in.)

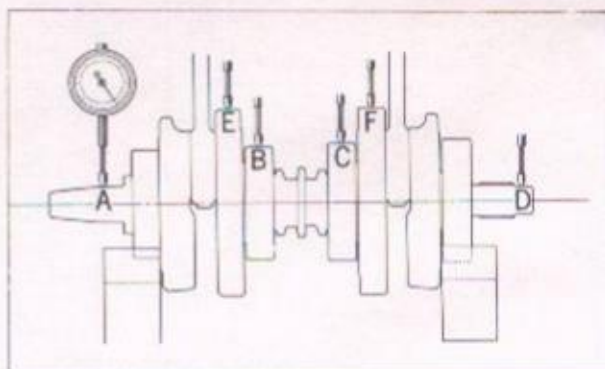


Fig. 3-61 Measuring crankshaft runout

2. Check the side clearance of the connecting rod big end.

Standard value: 0.07-0.33mm (0.0028-0.0130-in.)

Service limit: 0.6mm (0.0236-in.)

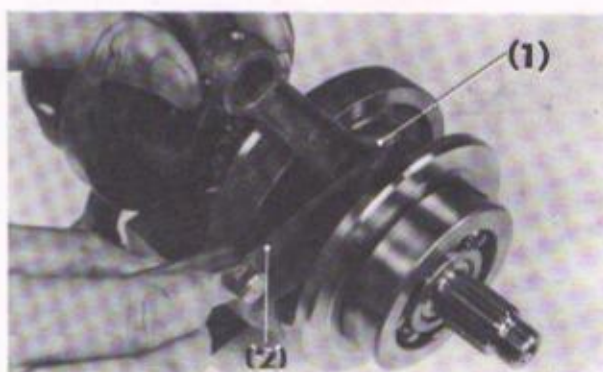


Fig. 3-62 (1) Connecting rod (2) Feeler gauge

Assembly

When installing the crankshaft, be sure to line up the dowels(four) in the crankcase saddles in the holes in the bearings. To facilitate this operation, each bearing has an aligning mark. The dowel and hole will align when the mark is flush with the face of the upper crankcase.

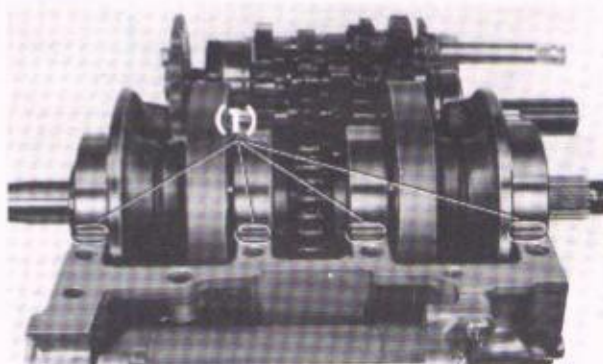
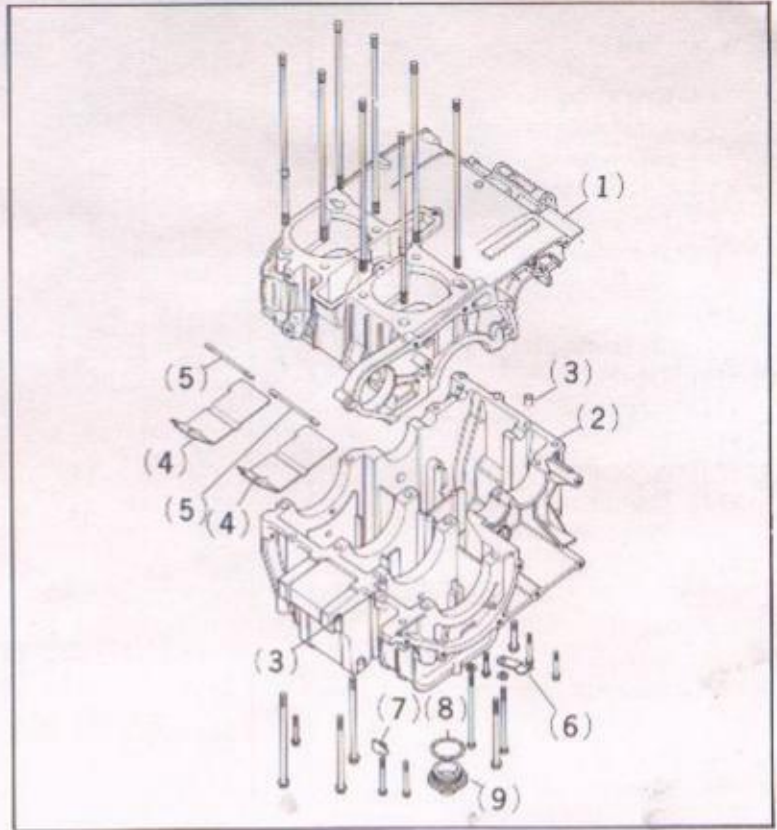


Fig. 3-63 (1) Aligning mark

11. CRANKCASE

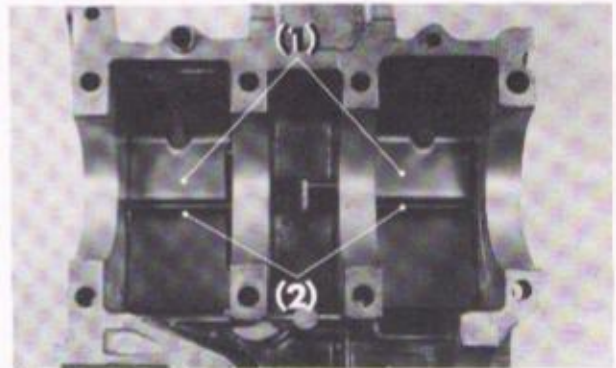
Fig. 3-64

- (1) Upper crankcase
- (2) Lower crankcase
- (3) Dowel pin A (10 × 14 mm)
- (4) Oil separator
- (5) Oil separator set bar
- (6) Cable clip B
- (7) Cable clip A
- (8) O-ring (33.5 × 3mm)
- (9) Drain plug



Disassembly

1. Remove the cylinder head, cylinder and piston. See page 14.
2. Separate the upper and lower crankcases and remove the crankshaft, mainshaft, countershaft, gear shift drum and kick starter.
3. Remove the oil separator and take out the set bars. Remove the separator from the lower crankcase.

Fig. 3-65 (1) Oil separator
(2) Separator set bar

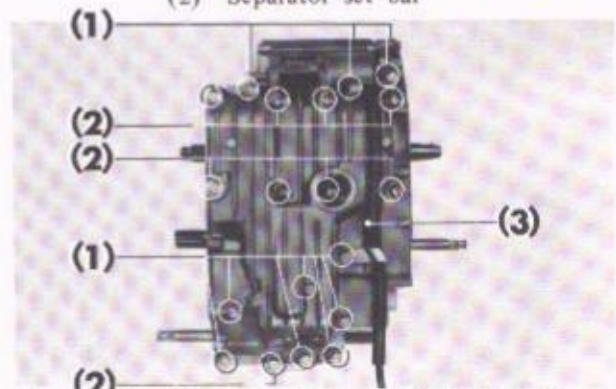
Inspection

1. Check the crankcase oil passage for clogging.

Assembly

1. Apply a uniform coating of proper sealing agent to the crankcase mating surfaces.
2. Make sure all dowel pins are properly installed in their respective positions.
3. Tighten nine 6mm bolts and nine 8mm bolts, starting at the center toward outside in criss-cross fashion. Use care not to damage the starting motor cable while tightening. Use each bolt in its proper position.

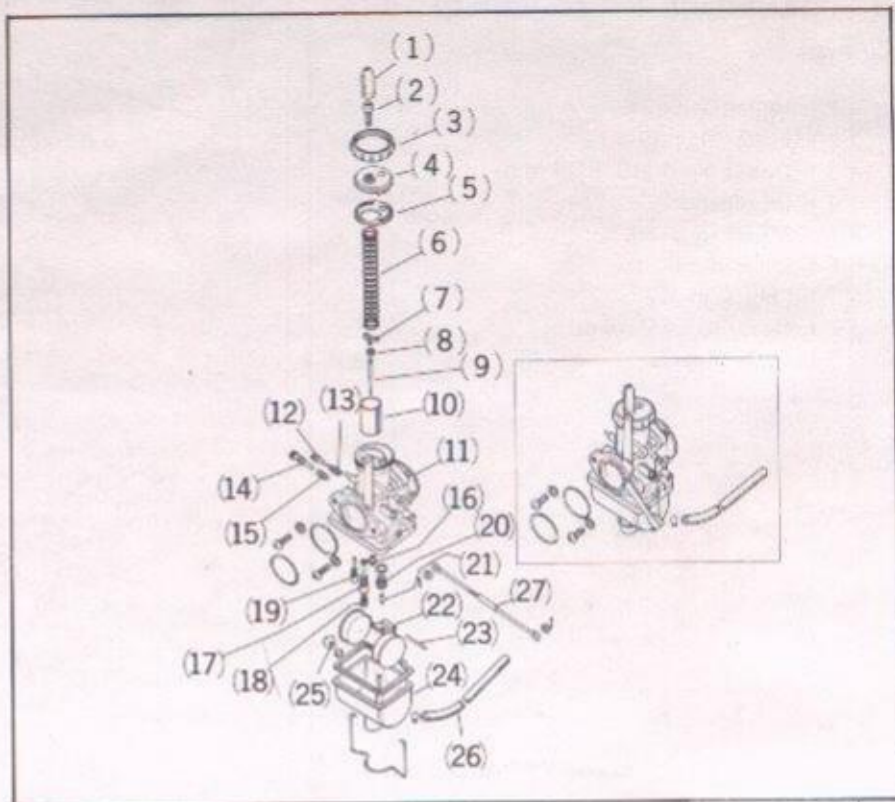
Torque specifications: 6mm bolt 70–110 kg-cm
(5.1–8.0 lbs-ft)
8mm bolt 200–260 kg-cm
(14.5–18.8 lbs-ft)

Fig. 3-66 (1) 6mm bolt (2) 8mm bolt
(3) Starting motor cable

12. CARBURETOR

Fig. 3-67

- (1) Rubber cap
- (2) Cable adjuster
- (3) Cap
- (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) Air screw
- (13) Air screw spring
- (14) Throttle stop screw
- (15) Stop screw spring
- (16) Needle jet
- (17) Needle jet holder
- (18) Main jet
- (19) Slow jet
- (20) Valve seat
- (21) Float valve
- (22) Float
- (23) Float arm pin
- (24) Float chamber
- (25) Drain bolt
- (26) Overflow tube
- (27) Choke rod



Disassembly

1. Remove the carburetor assembly from the machine.
2. Separate the float chamber body from the carburetor.
3. Remove the slow and main jets.
4. Pry out the float arm pin; remove the float.
5. Remove the float valve seat.

Inspection

1. Check the throttle valve for damage or any other defects which might interfere with proper carburetor operation.
2. Blow the main and slow jets to check them for clogging.
3. Check the jet needle for wear.
4. Check the valve plate and valve for correct seating.
5. Check the float level in the float chamber.

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

Measure float height with a float level gauge. Float height (distance between the carburetor body and the opposite edge of the float) should be 21.0mm (0.827 in.) when the float valve just closes.

If adjustment is needed, carefully bend the float arm tang toward or away from the float valve until the specified float height is obtained.

Replace any damage or leaking float.

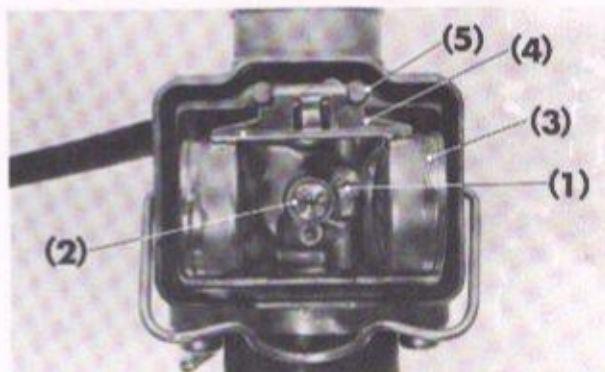


Fig. 3-68 (1) Slow jet (2) Main jet
(3) Float (4) Float arm
(5) Float arm pin

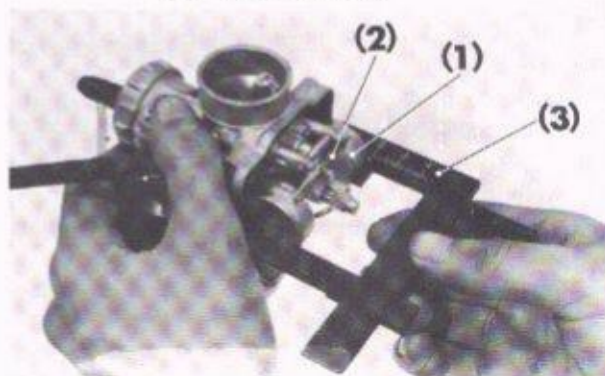
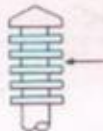


Fig. 3-69 (1) Float (2) Float arm
(3) Float level gauge

Assembly

1. It is important that all carburetor parts be handled carefully since rough handling will damage them easily.
2. Install the throttle valve with the cutaway facing toward the choke valve.

Carburetor setting table

Item	CB200	CL200
Setting number	008A	027B
Main jet	# 88	# 95
Slow jet	# 38	# 35
Jet needle setting		
Air screw opening	$1 - \frac{1}{4} \pm \frac{1}{8}$	$\frac{9}{8} \pm \frac{1}{8}$
Float height	(21mm/0.827-in.)	

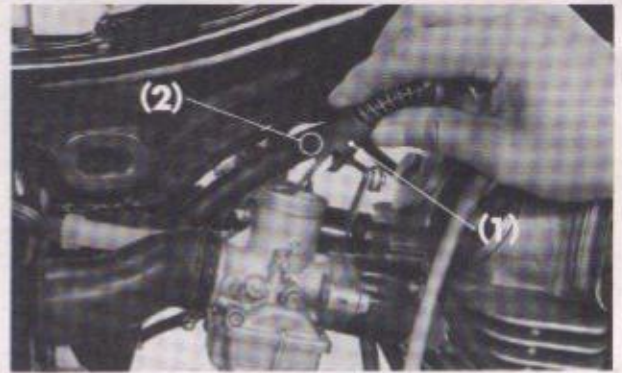


Fig. 3-70 (1) Throttle valve (2) Cutaway

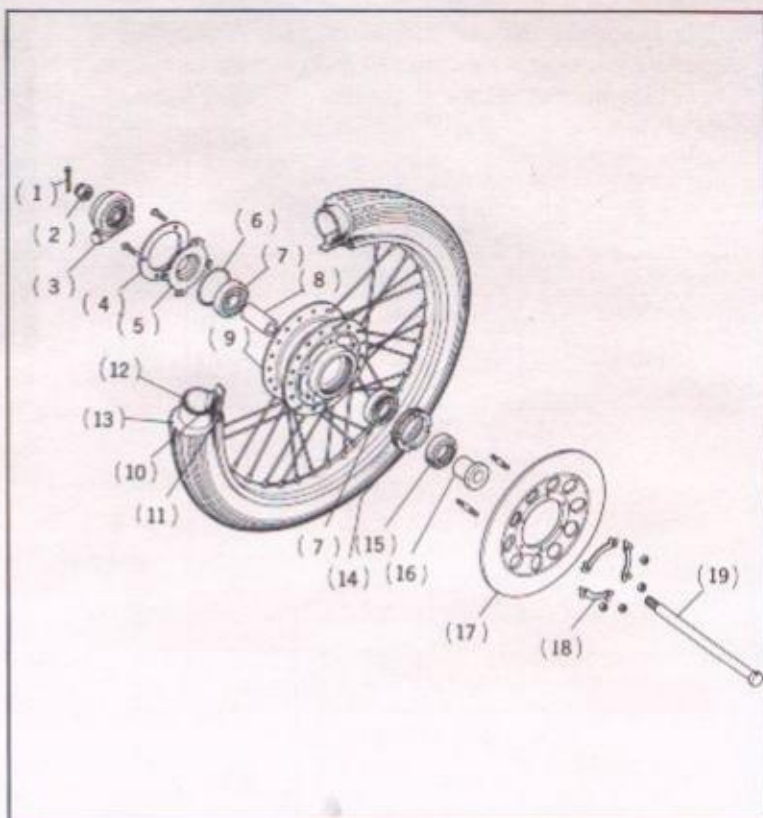
MEMO

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1. FRONT WHEEL (DISC BRAKE TYPE)

Fig. 4-1

- (1) Cotter pin (3.0 × 28 mm)
- (2) Castle nut (14 mm)
- (3) Speedometer gear box
- (4) Gear box retainer cover
- (5) Gear box retainer
- (6) O-ring (47 mm)
- (7) Ball bearing (6302)
- (8) Front axle distance collar
- (9) Front wheel hub
- (10) Tire flap
- (11) Front wheel rim
- (12) Front wheel tube
- (13) Front wheel tire
- (14) Front wheel bearing retainer
- (15) Oil seal (22 × 36 × 8 mm)
- (16) Front side collar
- (17) Front brake disc
- (18) Lock washer (6 mm)
- (19) Front wheel axle



Disassembly

1. Place a safety stand under the engine to raise the front wheel off the ground.
2. Remove the setting screw securing the speedometer cable in place; remove the cable.
3. Pull out the cotter pin and remove the castle nut. The front wheel can then be taken out by pulling out the 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 1 mm (0.0394-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.



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

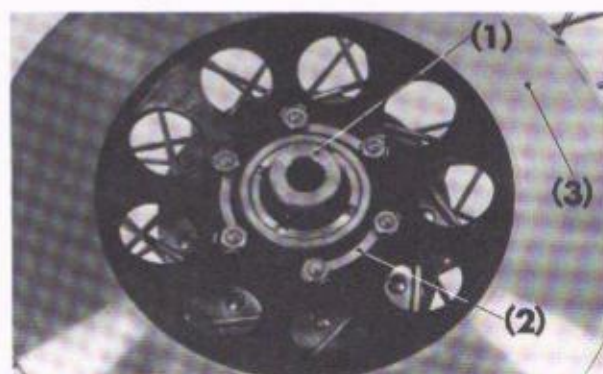


Fig. 4-3 (1) Side collar (2) Lock washer (3) Brake disc

6. Remove the speedometer gear box.
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.

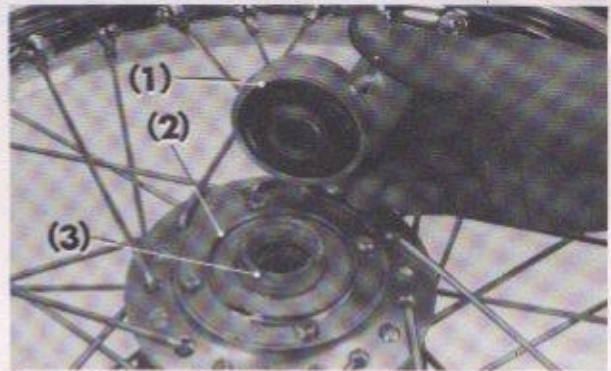


Fig. 4-4 (1) Speedometer gear box
(2) Gear box retainer cover
(3) Gear box retainer

9. Using "Bearing Retainer Wrench" (Tool No. 07910-3230100), remove the bearing retainer.
10. Remove the ball bearings and distance collar from the wheel hub.

Inspection

1. Check the front wheel axle for bending.
Standard value: 0.01mm (0.0004-in.) max.
Service limit: 0.2mm (0.0079-in.)
2. Check the front wheel rim for face runout. (Before disassembling).
Standard value: 0.5mm (0.0197-in.) max.
Service limit: 2.0mm (0.0787-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 indicator 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: 0.05mm (0.0020-in.) max.
Service limit: 0.2mm (0.0079-in.)
5. Check the brake disc for face runout.
Shake the brake disc by hand while holding the axle.
Standard value: 0.05mm (0.0020-in.) max.
Service limit: 0.3mm (0.0118-in.)
6. Measure the thickness of the brake disc.
Standard value: 4.9-5.1mm (0.1929-0.2008-in.)
Service limit: 4.0mm (0.1575-in.)



Fig. 4-5 (1) Bearing retainer wrench

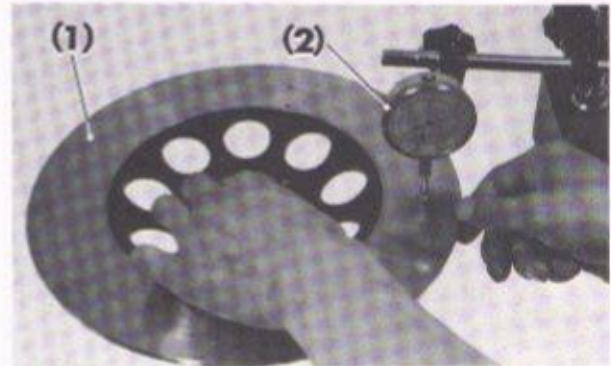


Fig. 4-6 (1) Brake disc (2) Dial gauge

Assembly

1. Hand pack the wheel bearings and wheel hub with grease. Drive the ball bearings into place in the hub using "Bearing Driver" (Tool No. 07945-3330100) and "Driver Handle" (Tool No. 07949-6110000).

NOTES:

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

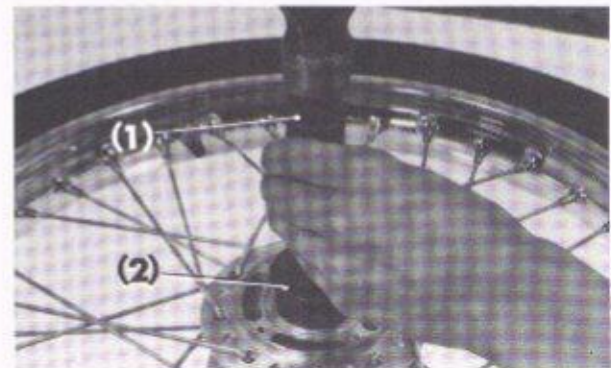


Fig. 4-7 (1) Driver handle
(2) Outer bearing driver attachment

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

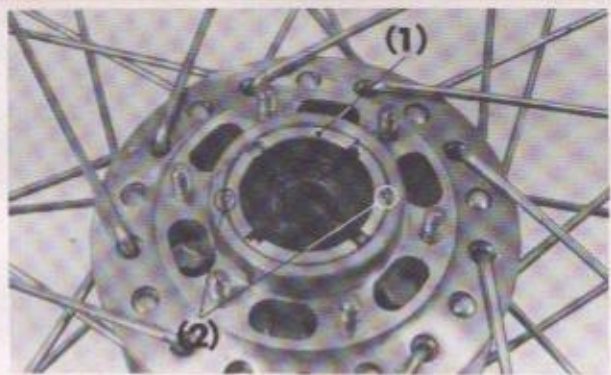


Fig. 4-8 (1) Bearing retainer (2) Stake

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

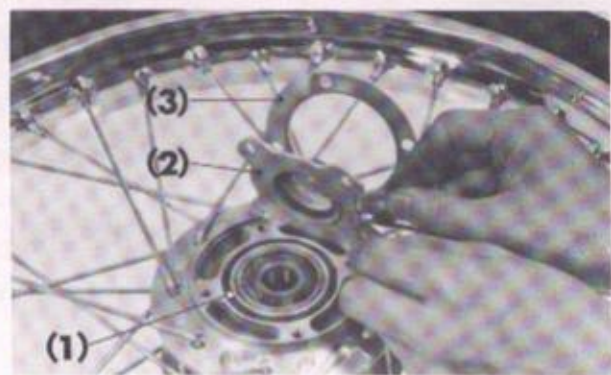


Fig. 4-9 (1) O-ring (2) Gear box retainer (3) Retainer cover

- 4. Install the brake disc to the wheel hub; secure with 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.

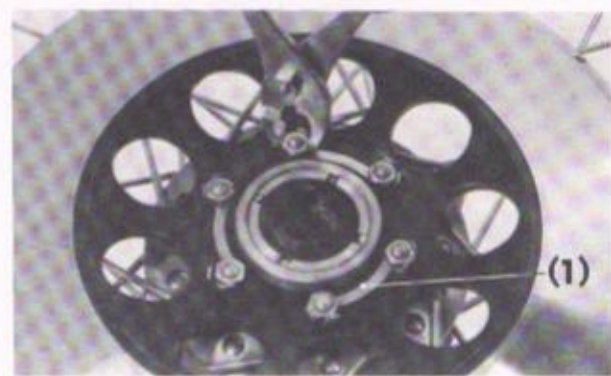


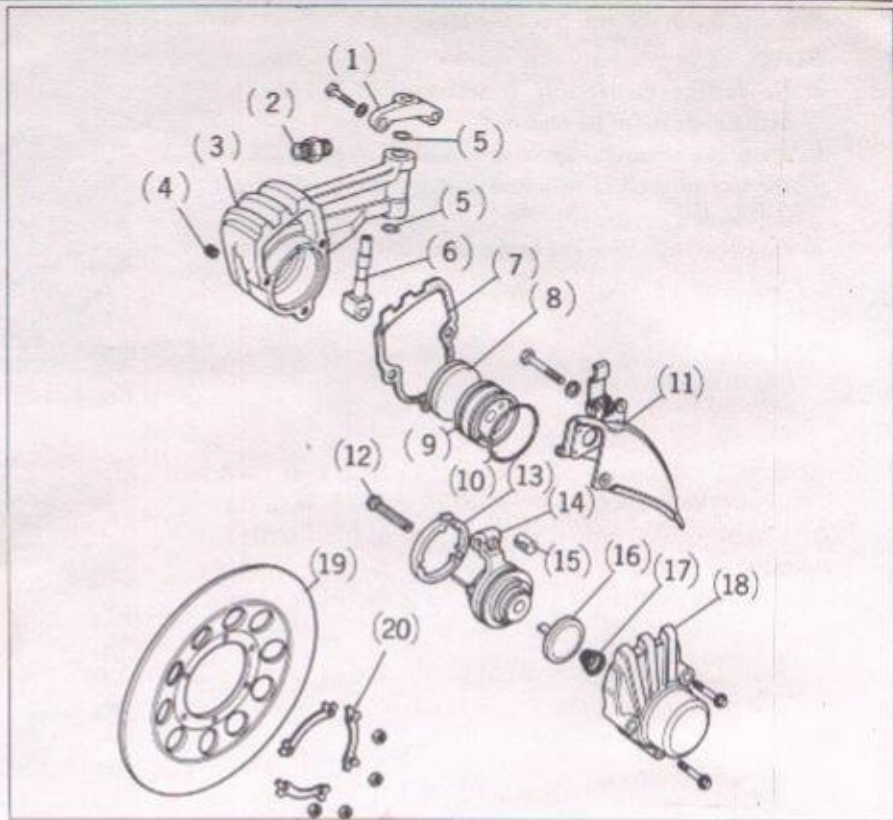
Fig. 4-10 (1) Lock washer

2. FRONT DISC BRAKE

Fig. 4-11

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

bolt



Disassembly

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

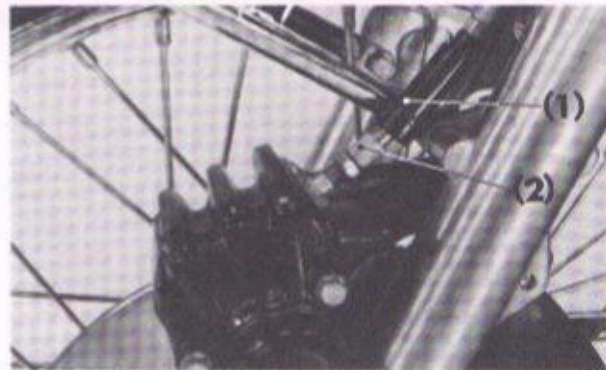


Fig. 4-12 (1) Cable boot (2) Cable adjusting bolt

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



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

3. Separate the brake arm from the brake cable.

NOTE:

- 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 6mm bolt used to secure the caliper cover, in the threaded hole in the back plate of the pad A; remove the pad A together with the 6mm bolt.
 5. Place a stand under the engine to raise the front wheel off the ground.

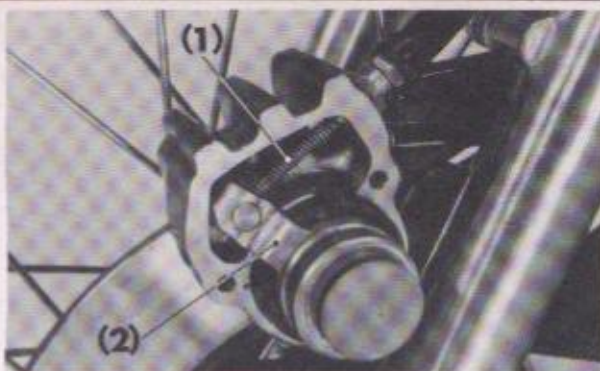


Fig. 4-14 (1) Brake cable (2) Brake arm



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

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

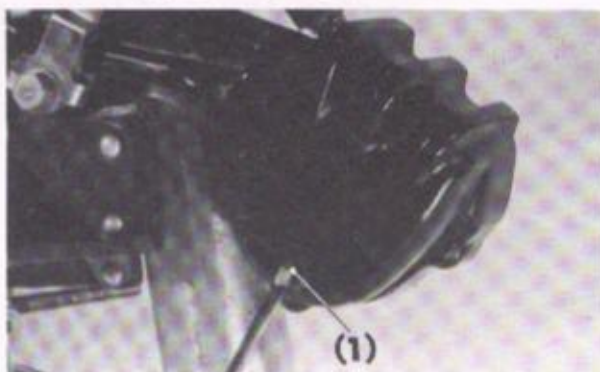


Fig. 4-16 (1) Lock pin area

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.

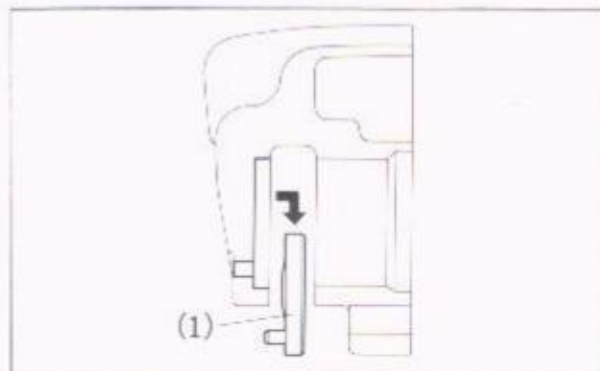


Fig. 4-17 (1) Pad B

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

NOTE:

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

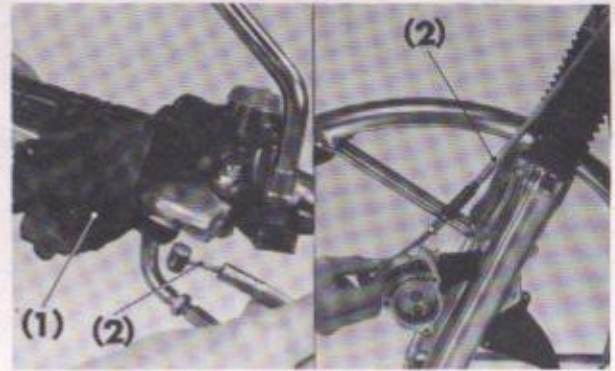


Fig. 4-18 (1) Lever boot (2) Brake cable

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

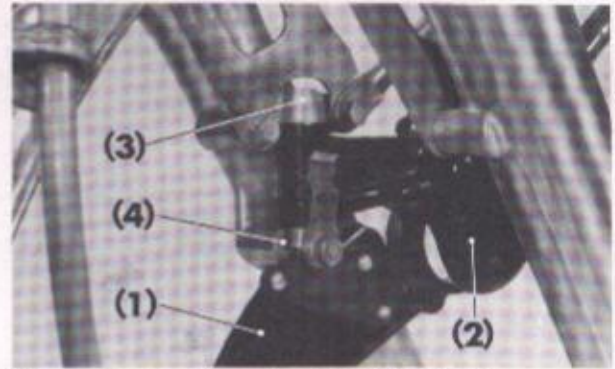


Fig. 4-19 (1) Disc cover (2) Caliper body
(3) Caliper joint (4) Caliper pin

Inspection

1. 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.

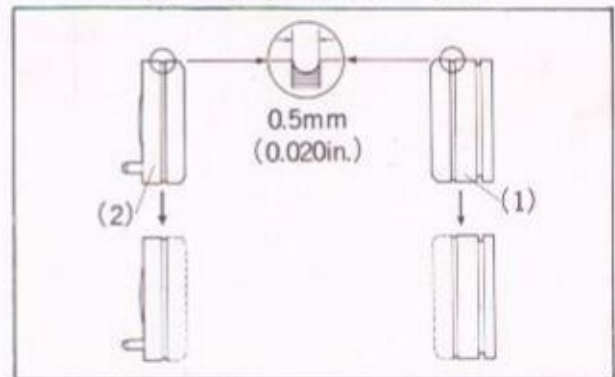


Fig. 4-20 (1) Pad A (2) Pad B

Assembly**NOTE:**

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 is soaked.

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

NOTE:

Be sure to install the caliper pin in the proper direction.

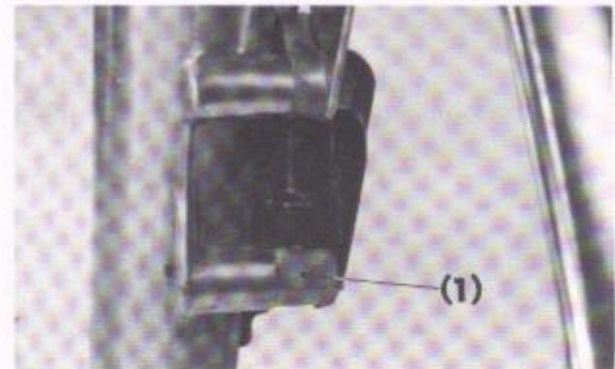


Fig. 4-21 (1) Caliper pin

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



Fig. 4-22 (1) Cable 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 0.6–1g (0.023–0.035 oz) of silicon grease KS62M (same as that used for CB750 and CB500) to the back 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 0.5g (0.02 oz) 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 cable end to the brake arm and install the thrust plate guide in position.

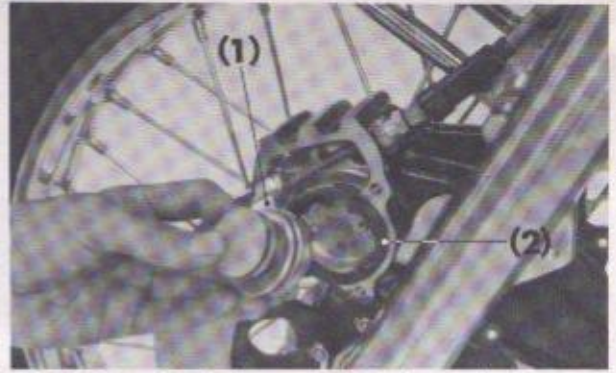


Fig. 4-26 (1) Brake arm (2) Thrust plate guide

7. Disengage the ratchet from the brake arm. Using a standard screwdriver, turn out the adjusting bolt until it is lightly opposed by the stopper. 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 11 turns.)

NOTE:

Disregard this operation when only the brake cable is replaced.

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

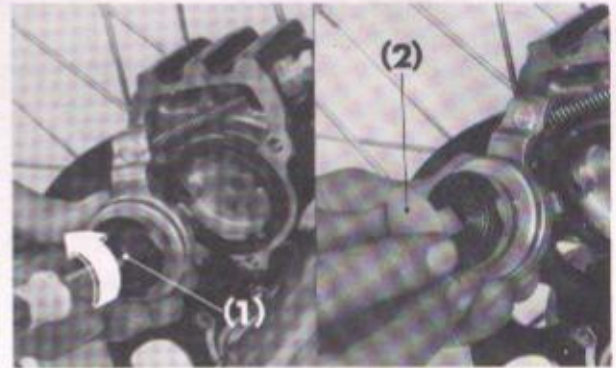


Fig. 4-27 (1) Standard screwdriver (2) Ratchet

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

NOTE:

Be sure to replace the gasket.

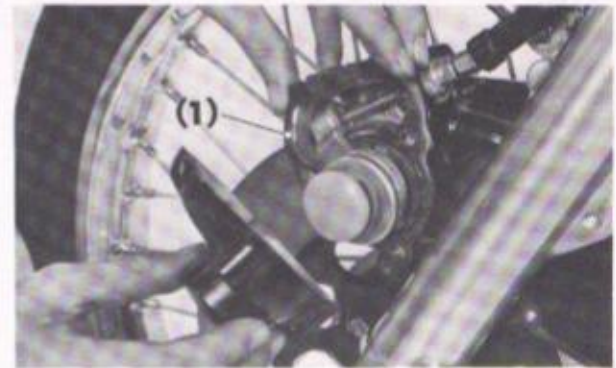


Fig. 4-28 (1) Caliper cover gasket

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.

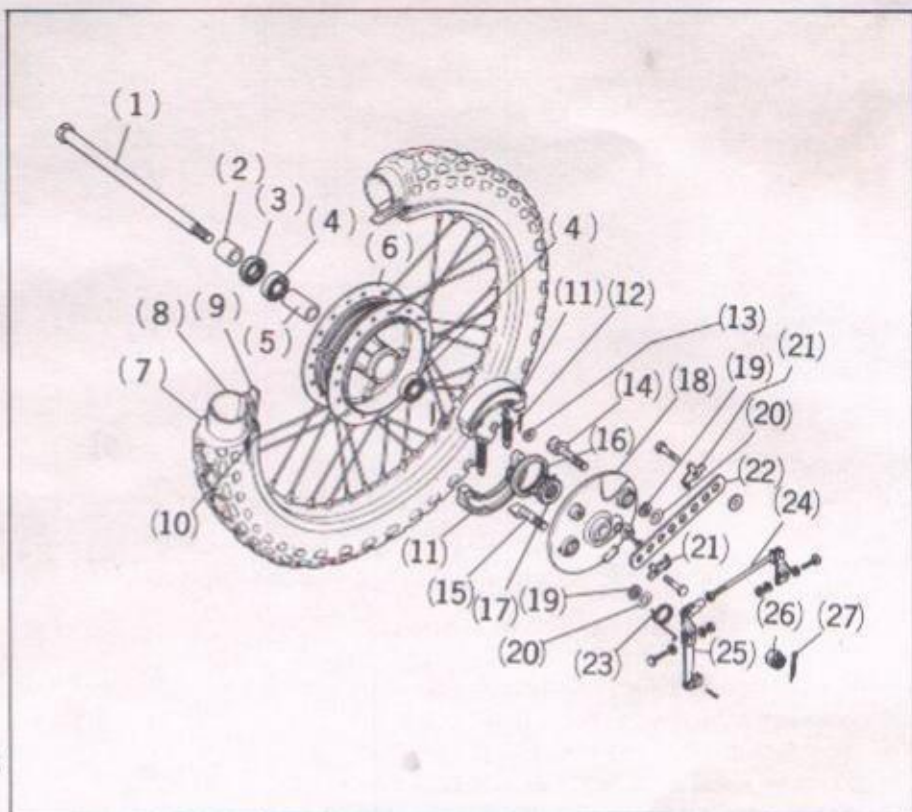


Fig. 4-29 (1) Cable adjusting bolt (2) Lock nut

3. FRONT WHEEL AND FRONT BRAKE (DRUM BRAKE TYPE)

Fig. 4-32

- (1) Front wheel axle
- (2) Front wheel side collar
- (3) Oil seal (26427)
- (4) Ball bearing (6302)
- (5) Front axle distance collar
- (6) Front wheel hub
- (7) Front wheel tire
- (8) Front wheel tube
- (9) Tire flap
- (10) Front wheel rim
- (11) Front brake shoe
- (12) Front brake shoe spring
- (13) Front anchor pin washer
- (14) Front brake cam B
- (15) Front brake cam A
- (16) Oil seal (53667)
- (17) Speedometer gear
- (18) Front brake panel
- (19) Brake cam dust seal
- (20) Plain washer (14 mm)
- (21) Lock washer (8.2 mm)
- (22) Front brake arm
- (23) Front brake arm return spring
- (24) Front brake arm B
- (25) Front brake arm A
- (26) Castle nut (14 mm)
- (27) Cotter pin



Disassembly

1. Place a suitable support under the engine to raise the front wheel off the ground.
2. Loosen off the set screw and disconnect the speedometer cable.
3. Pry off the cotter pin; separate the front brake cable from the brake arm.
4. Loosen the lock nut and take out the brake cable from the brake panel.
5. Straighten the tab of the lock washer and remove the bolt; free the brake stopper arm from the brake panel.
6. Remove the cotter pin and loosen off the castle nut. Withdraw the front wheel axle. The wheel can then be taken out easily.

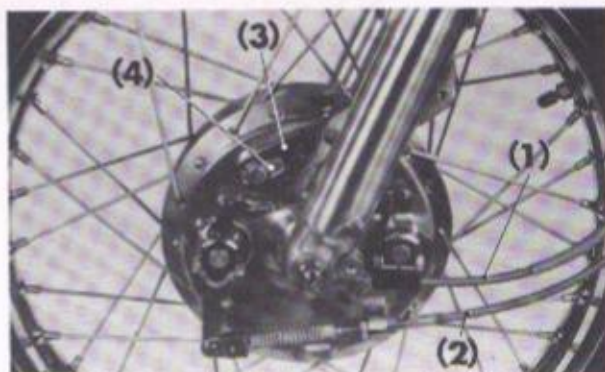


Fig. 4-33 (1) Speedometer cable (2) Brake cable (3) Brake stopper arm (4) Toothed washer



Fig. 4-34 (1) Front wheel axle

7. Remove the wheel side collar from the right side of the front wheel.
8. Disassemble the brake panel as an assembly from the front wheel.
9. Loosen off the lock bolts from the brake arms; take out the brake arms together with the return springs.
10. Remove the dust seals from the brake panel.



Fig. 4-35 (1) Front brake arm (2) Lock bolt

11. Pull out the cotter pins and remove the washers, and then remove the brake shoes, shoe springs, and brake cams from the brake panel.
12. Remove the oil seal, ball bearings and distance collar from the front wheel hub.

Inspection

1. Check the front wheel axle for bending.
Standard value: 0.01mm (0.0004-in.) max.
Service limit: 0.2mm (0.0079-in.)
2. Check the ball bearings for excessive play.
Standard axial play: 0.05mm (0.0020-in.) max.
Service limit: 0.1mm (0.0039-in.)
Standard radial play: 0.03mm (0.0012-in.) max.
Service limit: 0.05mm (0.0020-in.)
3. Check the rim for face runout. (Before disassembling).
Standard value: 0.5mm (0.0197-in.) max.
Service limit: 2.0mm (0.0787-in.)
4. Check the spokes for looseness, bend or otherwise breakage.
5. Check the oil seals for wear or damage.
6. Check the brake drum for wear or any other damage.
Standard brake drum I.D.: 160–160.3mm
 (6.2992–6.3110-in.)
Service limit: 161.0mm (6.3386-in.)
7. Check the brake linings for excessive wear or any other defect.
Standard brake lining thickness: 4.5–4.7mm
 (0.1772–0.1850-in.)
Service limit: 2.0mm (0.787-in.)
8. Check the brake panel for damage or crack.

Assembly

1. Hand pack the wheel bearings and wheel hub with grease. Using "Bearing Driver Attachment" (Tool No. 07945–3330100) and "Driver Handle" (Tool No. 07949–6110000), drive fit the bearing in the wheel hub through the distance collar.

NOTE:

Install the bearing with the seal side toward the outside. Do not angle the distance collar while driving.

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.

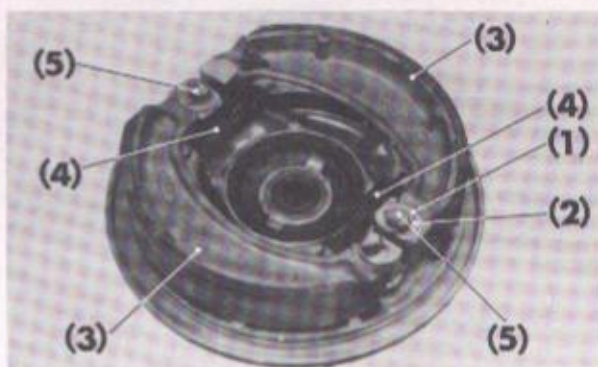


Fig. 4-36 (1) Cotter pin (2) Washer
 (3) Brake shoe (4) Shoe spring
 (5) Brake cam

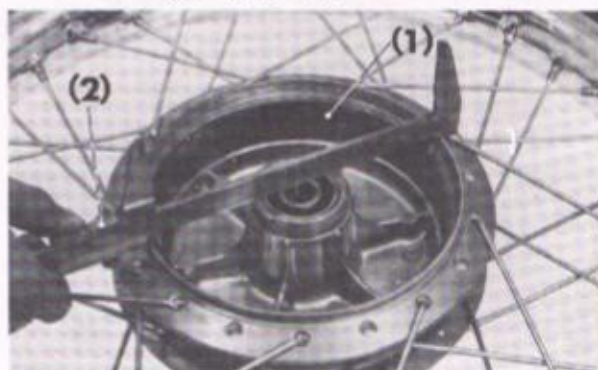


Fig. 4-37 (1) Brake drum (2) Calipers

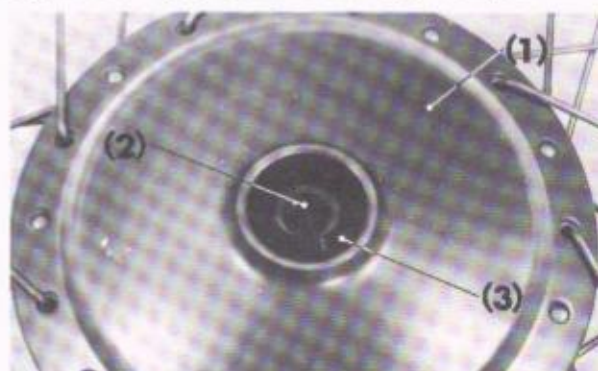


Fig. 4-38 (1) Front wheel hub (2) Ball bearing
 (3) Oil seal

3. Install the brake cams with the punch mark on the end face toward the inside.
4. Sparingly apply grease to the brake cams 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 arms with the matching mark on the brake arm lined up with that on the brake cam.
6. Connect the brake stopper arm to the brake panel; secure with new lock washer.
7. Adjust the brake.

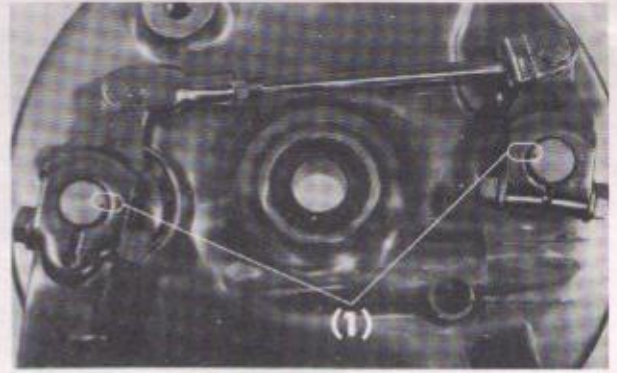


Fig. 4-39 (1) Punch mark



Fig. 4-40 (1) Brake stopper arm
(2) Lock washer (3) Bolt

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4. REAR WHEEL AND REAR BRAKE

Fig. 4-41

- (1) Rear brake panel side collar
- (2) Rear brake arm
- (3) Plain washer (14 mm)
- (4) Brake cam dust seal
- (5) Rear brake panel
- (6) Rear brake shoe
- (7) Brake shoe spring
- (8) Rear brake cam
- (9) Ball bearing (6303)
- (10) Rear axle distance collar
- (11) Rear wheel axle
- (12) Drive chain adjuster
- (13) Drive chain adjusting bolt
- (14) Rear wheel hub
- (15) Rear wheel rim
- (16) Tire flap
- (17) Rear wheel tube
- (18) Rear wheel tire
- (19) Snap ring (47 mm)
- (20) Oil seal
- (21) Rear wheel damper bushing
- (22) Driven sprocket fixing bolt
- (23) Drive chain
- (24) Drive chain joint
- (25) Drive sprocket
- (26) Sprocket side plate
- (27) Lock washer
- (28) Snap ring (58 mm)
- (29) Rear side collar
- (30) Castle nut (16 mm)
- (31) Cotter pin

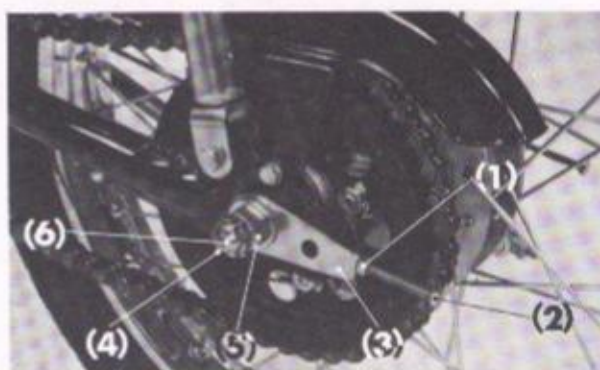
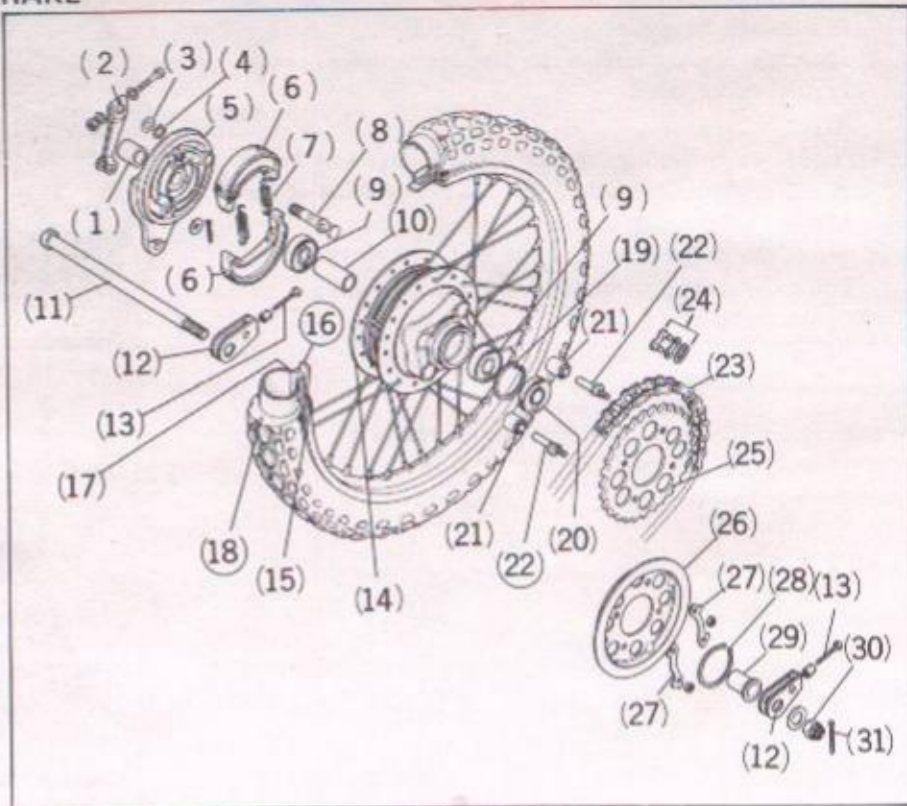


Fig. 4-42 (1) Lock nut (2) Drive chain adjusting bolt (3) Drive chain adjuster (4) Cotter pin (5) Castle nut (6) Rear wheel axle

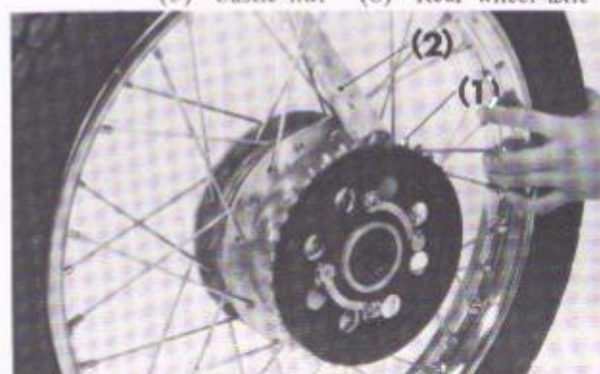


Fig. 4-43 (1) Final driven sprocket (2) Piece of wood

Disassembly

1. On CB200, remove the mufflers.
2. Disconnect the rear brake rod and rear brake stopper arm.
3. Loosen the lock nuts which secure the drive chain adjusting bolts; loosen the adjusting bolts.
4. Pull off the cotter pin and remove the castle nut.
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 wheel using a piece of wood as shown.

NOTE:

- a. Always handle the final driven sprocket and fixing bolts as a set.
- b. No removal of the lock washer is necessary. Be sure to renew the washer whenever disassembled.

8. Remove the side collar from the oil seal.
9. Remove the rear brake panel assembly.
10. With the oil seal removed, take out the snap ring, bearings and distance collar.
11. Remove the rear brake arm and dust seal from the rear brake panel.
12. Pry out the cotter pin; remove the brake shoes, brake cam and brake shoe return spring.

Inspection

1. Check the rear wheel axle for bend.
Standard value: 0.01mm (0.0004-in.) max.
Service limit: 0.2mm (0.0079-in.)
2. Check the ball bearings for excessive play.
Standard axial play: 0.05mm (0.0020-in.) max.
Service limit: 0.1mm (0.0039-in.)
Standard radial play: 0.03mm (0.0012-in.) max.
Service limit: 0.05mm (0.0020-in.)
3. Check the rim for face runout. (Before disassembling)
Standard value: 0.5mm (0.0197-in.)
Service limit: 2.0mm (0.0787-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 brake shoes for excessive wear or any other defect.
Standard brake lining thickness: 4.5–4.7mm (0.1772–0.1850-in.)
Service limit: 1.5mm (0.0591-in.)
7. Check the brake panel for damage or crack.
8. Check the brake drum for wear or any other damage.
Standard brake drum I.D.: 140.0–140.3 mm (5.5118–5.5236-in.)
Service limit: 141.0mm (5.5512-in.)
9. Check the oil seals for wear or damage.

Assembly

1. Hand pack the wheel bearing and wheel hub with grease. Using "Bearing Driver Attachment" (Tool No. 07945–3330100) and "Driver Handle" (Tool No. 07949–6110000), drive fit the bearing in the wheel hub through the distance collar.
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, as this would affect the proper operation of the brake.

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

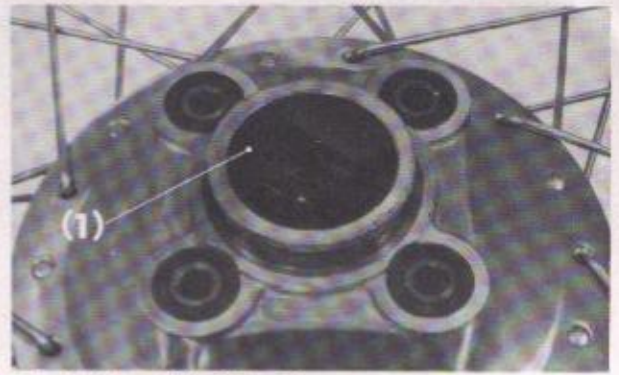


Fig. 4-44 (1) Oil seal

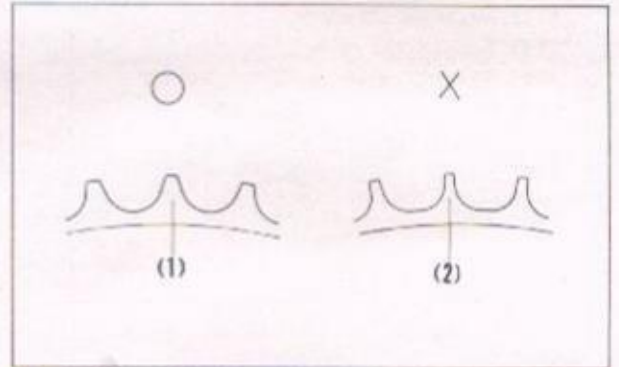


Fig. 4-45 Checking wear on final driven sprocket

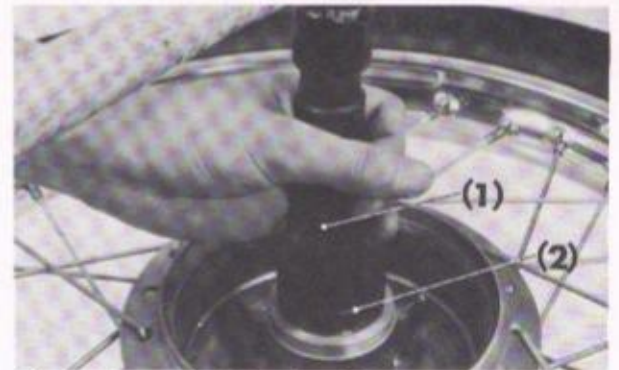


Fig. 4-46 (1) Driver handle
(2) Bearing driver attachment

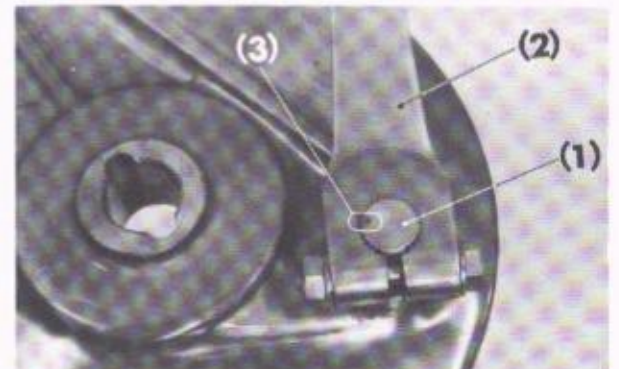
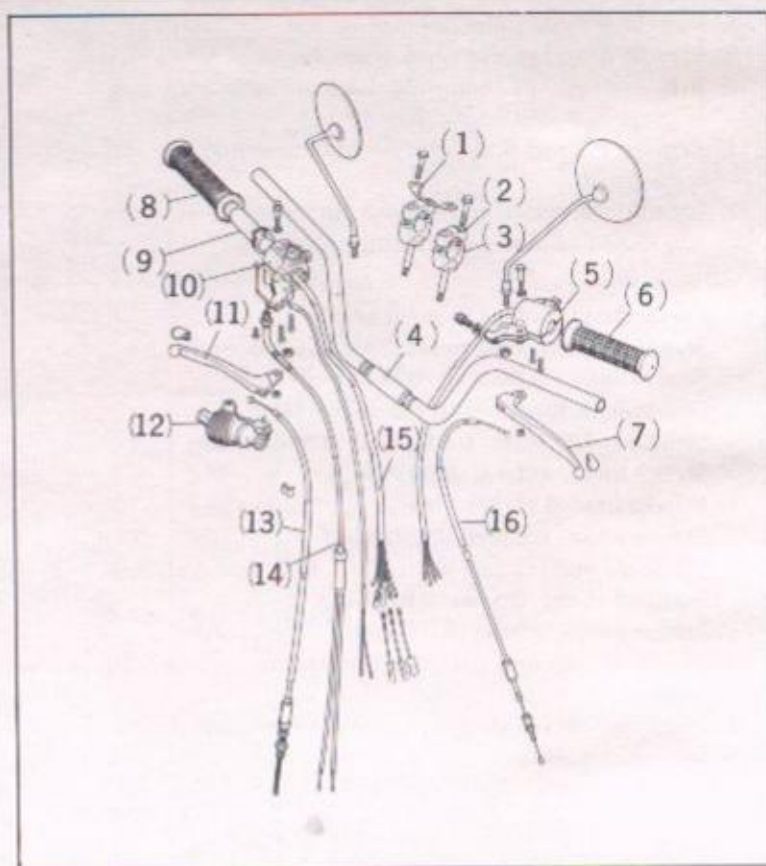


Fig. 4-47 (1) Brake cam (2) Brake arm
(3) Punch mark

5. STEERING HANDLEBAR

Fig. 4-48

- (1) Cable holder
- (2) Upper holder
- (3) Under holder
- (4) Steering handlebar
- (5) Turn signal and horn switch
- (6) Left grip
- (7) Clutch lever
- (8) Right grip rubber
- (9) Grip pipe
- (10) Lighting and ignition switch
- (11) Front brake lever
- (12) Right handle cover
- (13) Front brake cable
- (14) Throttle cable
- (15) Front stop switch assembly
- (16) Clutch cable



Disassembly

1. Disconnect the clutch cable at the clutch lever.
2. Disconnect the brake cable at the brake lever.
3. Remove the screws securing the lighting switch in place; disconnect the throttle cable.
4. Remove the head light unit from the case and disconnect the wirings at the harness in the case.



Fig. 4-49 (1) Switch (2) Throttle cable

5. Remove the bolts to free the upper handlebar holders. Remove the handlebar.

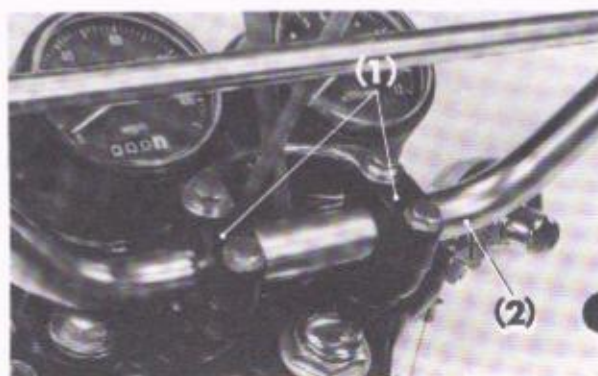


Fig. 4-50 (1) Upper handlebar holder (2) Steering handlebar

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

Inspection

1. Check the handlebar for twist or any other damage.
2. Check each wiring for breakage or any other defect.
3. Check each cable for damage.

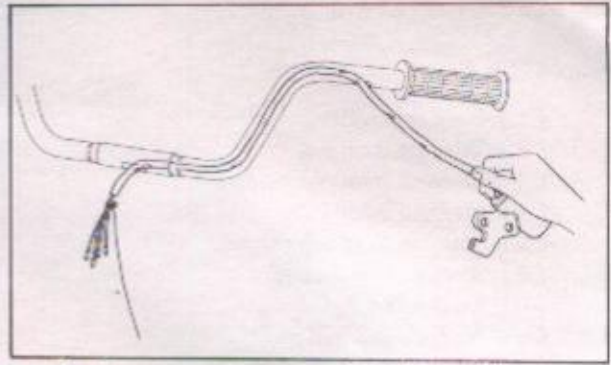


Fig. 4-51 Removing switch leads

Assembly

1. Install the lighting switch and turn signal switch assemblies to the 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.

NOTE:

Install the switches with the mating edges of the switch covers lined up with the punch marks at the rear of the handlebar.

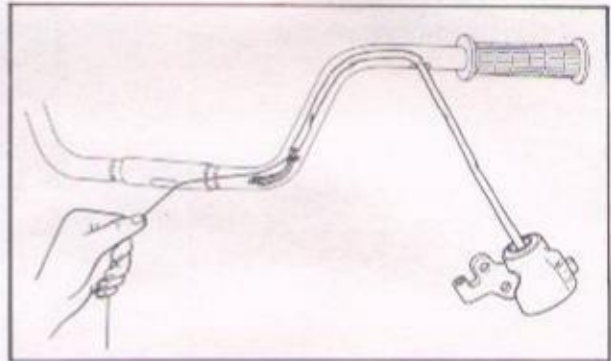


Fig. 4-52 Passing wire through handlebar

2. Install the handlebar, aligning the punch marks on the handlebar with the top face of the lower holder.
Specified tightening torque: 180–250 kg-cm
(13.0–18.1 lbs-ft.)

NOTE:

When tightening the upper holders to the fork top bridge, tighten the bolts at the front first and then those at the rear. Be sure that the punch mark on the holders is toward the front of the machine.

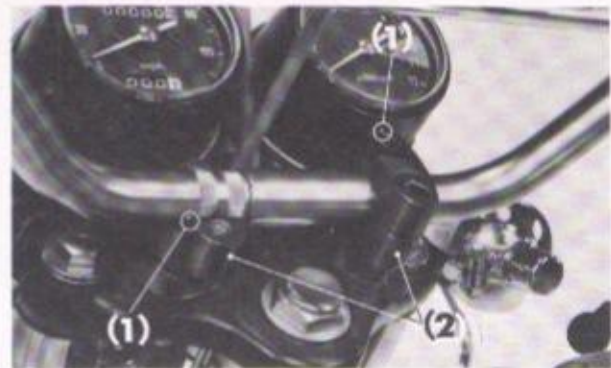


Fig. 4-53 (1) Punch mark (2) Lower holder

3. Be sure that each wiring and cable is free from binding or kinking when the handlebar is turned to either left or right fully.

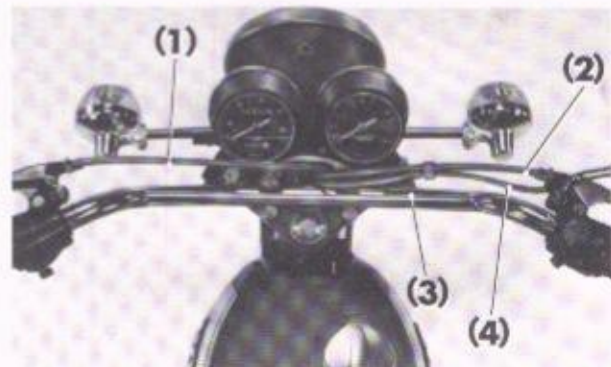
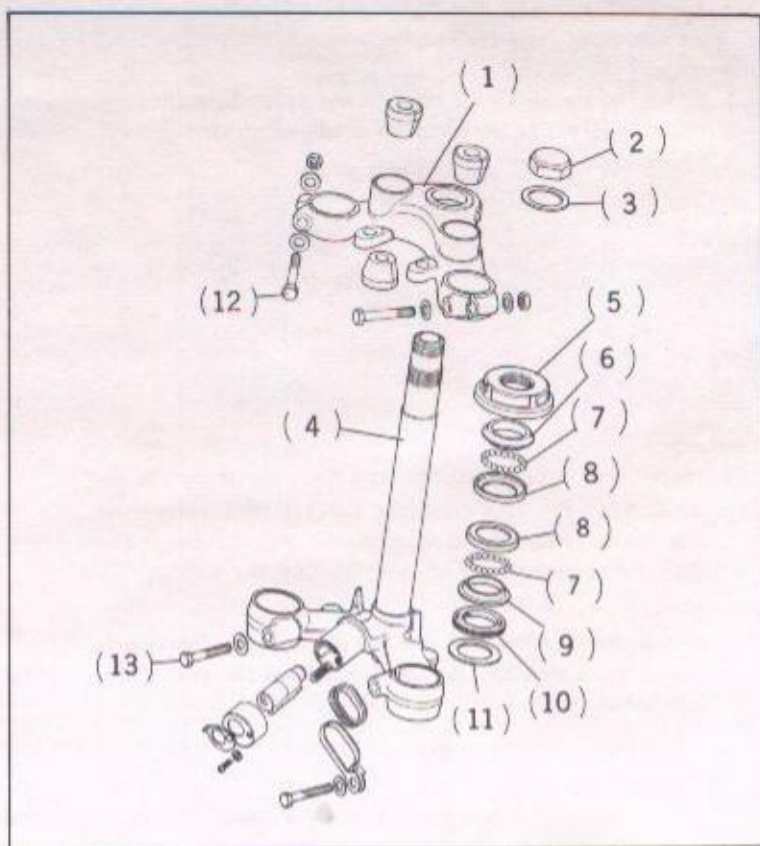


Fig. 4-54 (1) Clutch cable (2) Brake cable
(3) Throttle cable
(4) Brake switch wire

6. STEERING STEM

Fig. 4-55

- (1) Fork top bridge
- (2) Steering stem nut
- (3) Steering stem nut washer
- (4) Steering stem
- (5) Steering head top thread
- (6) Steering top cone race
- (7) Steel ball # 8
- (8) Steering top ball race
- (9) Steering bottom cone race
- (10) Steering head dust seal
- (11) Dust seal washer
- (12) 8 x 50 hex.bolt
- (13) 8 x 32 hex.bolt



Disassembly

1. Remove the front wheel (See page 36 on disc brake type, or page 45 on drum brake type).
2. Remove the headlight.
3. Remove the front forks. (See page 54)
4. Remove the handlebar. (See page 50)

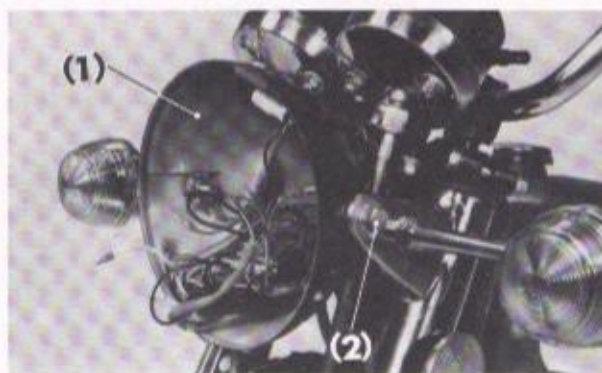


Fig. 4-56 (1) Headlight case (2) Bolt

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

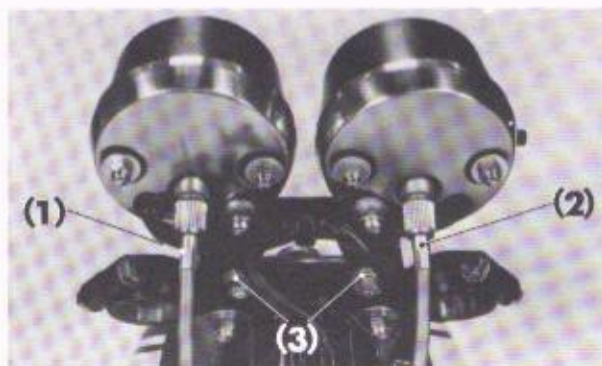


Fig. 4-57 (1) Tachometer cable (2) Speedometer cable (3) Meter mounting nut

7. Remove the steering stem nut; take out the fork top bridge.



Fig. 4-58 (1) Steering stem nut
(2) Fork top bridge

8. After removing the steering head top thread pull out the steering stem toward bottom.

NOTE:

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

Inspection

1. Check the steering stem for bend or any other defect.
2. Check the steel balls for wear, damage or any other defect.
3. Check the steering top and bottom cone races for excessive wear or any other damage.
4. Check the steering head dust seal for wear.



Fig. 4-59 (1) Steering head top thread
(2) Steering stem

Assembly

1. Install # 8 steel balls (upper: 18 pcs. and lower: 18 pcs.) to each race properly. While rotating the steering stem, hand-tighten the steering head top thread so that it rotates freely without rattle. Any slightest amount of play in axial direction can not be tolerated here.

NOTE:

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



Fig. 4-60 (1) Top cone race
(2) # 8 steel ball

2. The fork top bridge should be installed after temporarily tightening the front forks. Tighten the steering stem nut.

Stem nut tightening torque: 800–1,000 kg-cm
(57.9–72.3 lbs-ft.)

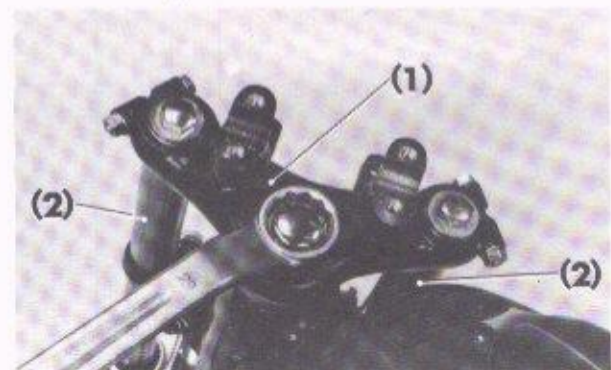
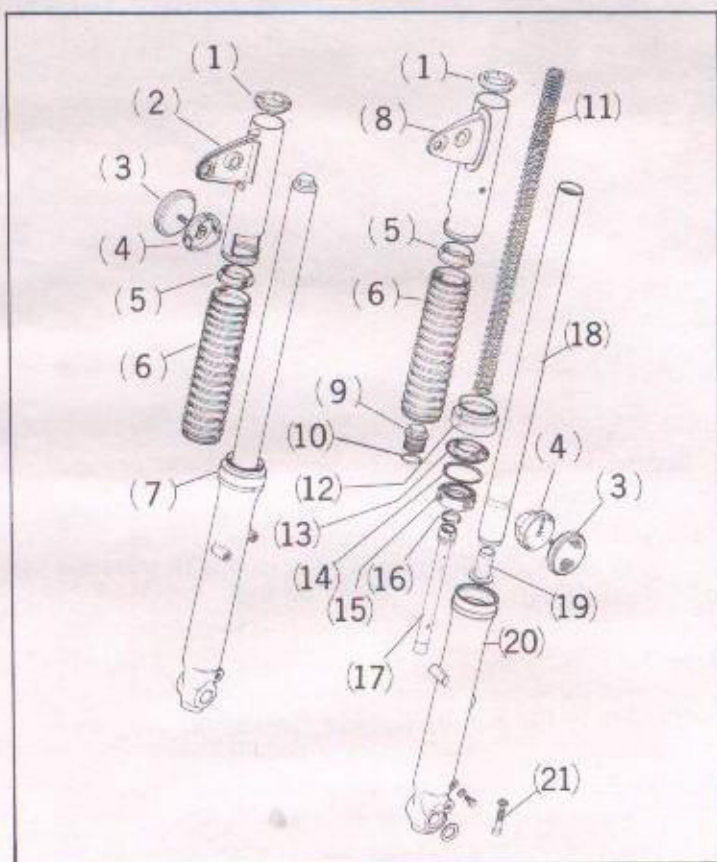


Fig. 4-61 (1) Fork top bridge (2) Front fork

7. FRONT SUSPENSION

Fig. 4-62

- (1) Cover cushion A
- (2) Right fork upper cover
- (3) Front reflex reflector
- (4) Reflector base
- (5) Cover cushion B
- (6) Front fork boot
- (7) Right front shock absorber assembly
- (8) Left fork upper cover
- (9) Fork bolt
- (10) O-ring (23×2.4 mm)
- (11) Front shock absorber spring
- (12) Bottom base cover
- (13) Dust seal (314510)
- (14) Snap ring (45 mm)
- (15) Oil seal ($31 \times 43 \times 10$ mm)
- (16) Piston ring
- (17) Seat pipe
- (18) Front fork pipe
- (19) Oil lock piece
- (20) Bottom case
- (21) Socket bolt (8 mm)



Disassembly

1. Remove the front wheel. (See page 36 on disc brake type, or page 45 on drum brake type)
2. On disc brake type, remove the caliper assembly from the left front fork. (See page 39)
3. On drum brake type, straighten the tabs of the lock washer. The front brake stopper can be taken out from the left front fork by unscrewing the attaching bolt.
4. Remove the front fender by backing off the attaching bolts.
5. With the front fork bolt loosened, remove the bolts at the fork top bridge and steering stem, which secure the fork assembly. Pull the front fork assembly toward the bottom.
6. Drain the front suspension oil.
7. Remove rust on the front fork pipe, if any, with fine emery cloth.

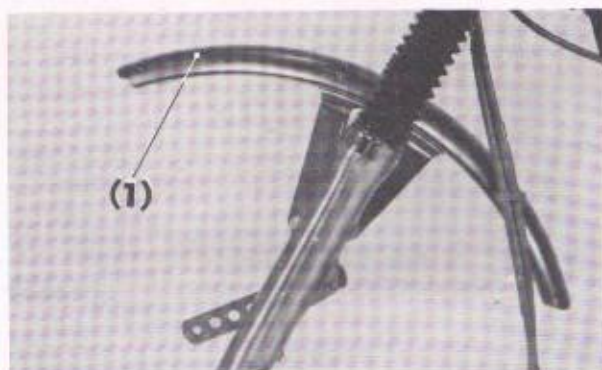


Fig. 4-63 (1) Front fender



Fig. 4-64 (1) Front fork bolt (2) Fork attaching bolt

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

Inspection

1. Check the free length of the front shock absorber spring.
Standard value: 453.7mm (17.8622-in.)
Service limit: 445mm (17.5197-in.)
2. Check the bottom pipe for wear on the piston ring.
3. Check the front fork piston and bottom case for wear, crack or any other defect.
Standard bottom case I.D.: 31.000-31.039mm
 (1.2205-1.2220-in.)
Service limit: 31.14mm (1.226-in.)
Standard fork piston O.D.: 30.925-30.950mm
 (1.2175-1.2185-in.)
Service limit: 30.90mm (1.2165-in.)
4. Check the oil seal for wear or damage.

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 seal using "Fork Seal Driver" (Tool No. 07947-3550000).
- NOTE:**
 Be sure to install the dust cover securely.
3. Install the front shock absorber spring into the front fork pipe so that the end with the large pitch is at the bottom.
 4. Install the front fork pipe to the bottom case.
- NOTE:**
 Apply liquid sealant to the threads of the 8mm socket bolt.
5. Fill each front fork bottom case with 128-132 cc (4.3-4.5 OZS) of ATF.

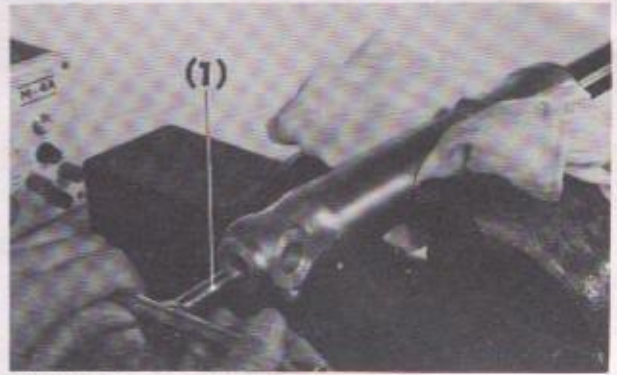


Fig. 4-65 (1) Allen head wrench

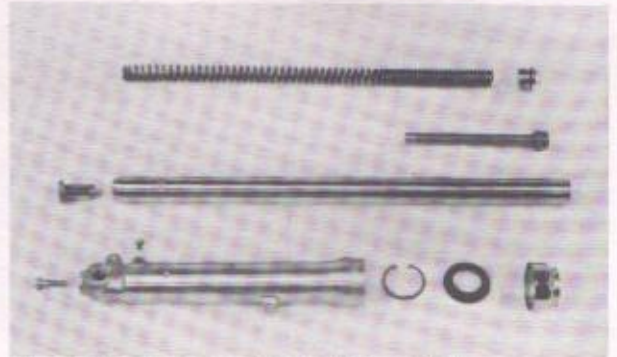


Fig. 4-66 Exploded view of front fork

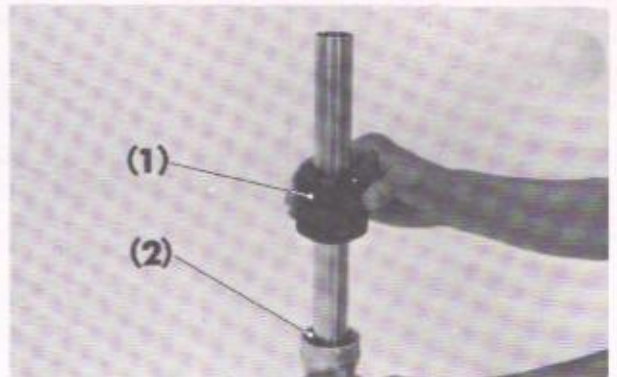


Fig. 4-67 (1) Fork seal driver (2) Oil seal

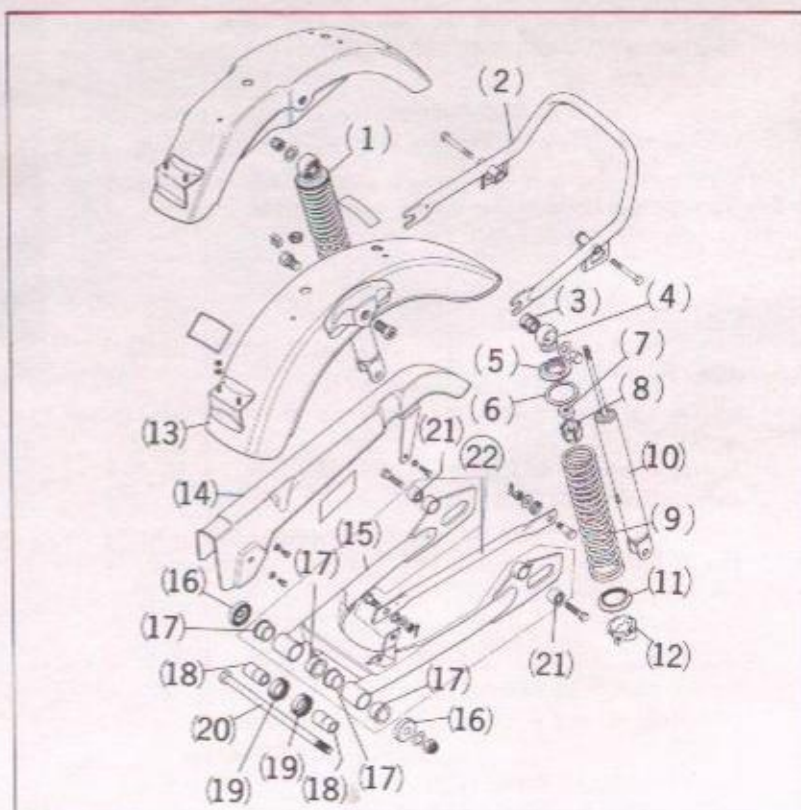


Fig. 4-68 Filling ATF

8. REAR SUSPENSION

Fig. 4-69

- (1) Rear shock absorber assembly
- (2) Rear pipe
- (3) Joint rubber
- (4) Upper joint
- (5) Spring seat stopper
- (6) Rear shock absorber spring upper seat
- (7) Lock nut (9 mm)
- (8) Rear shock absorber stopper rubber
- (9) Rear shock absorber spring
- (10) Rear damper
- (11) Spring under seat
- (12) Spring adjuster
- (13) Rear fender
- (14) Drive chain case
- (15) Rear fork
- (16) Dust seal
- (17) Rear fork bushing
- (18) Rear fork collar
- (19) Rear fork dust seal rubber
- (20) Rear fork pivot bolt
- (21) Under rubber bushing
- (22) Rear brake stopper arm



Disassembly

Rear suspension

1. On CL200, remove the muffler to take out the left rear shock absorber.
2. Remove the bolts securing the rear pipe in place; at the same time, remove the rear shock absorber attaching cap nut.
3. Remove the rear shock absorber by removing the bolt at the bottom.
4. Compress the rear shock absorber using "Rear Shock Absorber Compressor" (Tool No. 07959-3290000) and remove the spring seat stoppers. Take out the spring seat, rear shock absorber spring, spring joint, under spring seat and spring adjuster.

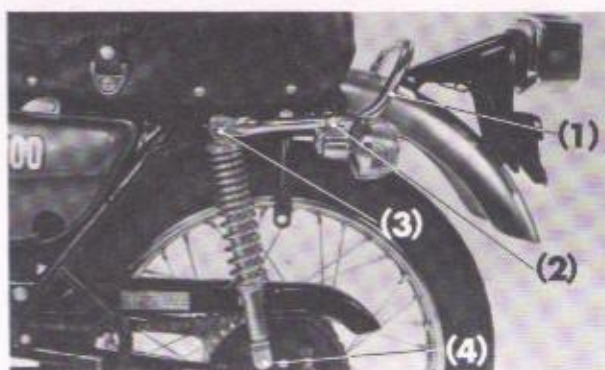


Fig. 4-70 (1) Rear pipe (2) Rear pipe bolt
(3) Cap nut (4) Bolt

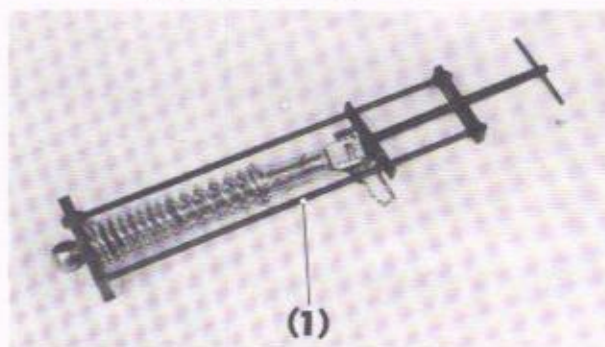


Fig. 4-71 (1) Rear shock absorber compressor

Rear Fork

1. Remove the rear wheel (See page 48)
2. Remove the rear shock absorbers. (See page 56)
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, dust seal rubbers and rear fork collars from the rear fork.

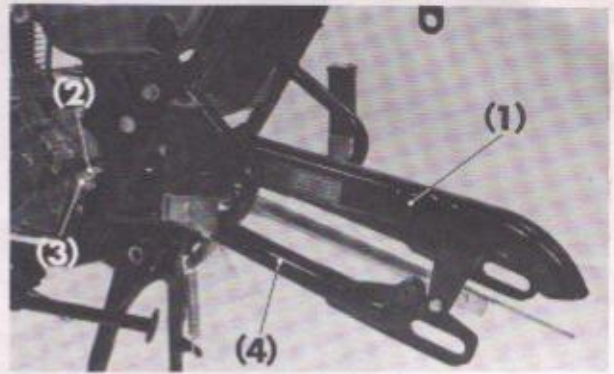


Fig. 4-72 (1) Drive chain case (3) Pivot bolt
(2) Self-locking nut (4) Rear fork

Inspection

1. Check the free length of the rear shock absorber spring.
Standard value: 196.7mm (7.7441-in.)
Service limit: 185mm (7.2835-in.)
2. Check the rear damper for distortion or oil leaks.
3. Check the rear stopper rubber for cracks or damage.
4. Check the rear fork center collar-to-bushing clearance.
Standard bushing I.D.: 20.000–20.052mm
(0.7874–0.7894-in.)
Service limit: 20.2mm (0.7953-in.)
Standard center collar O.D.: 19.927–19.960mm
(0.7845–0.7858-in.)
Service limit: 19.9mm (0.7835-in.)

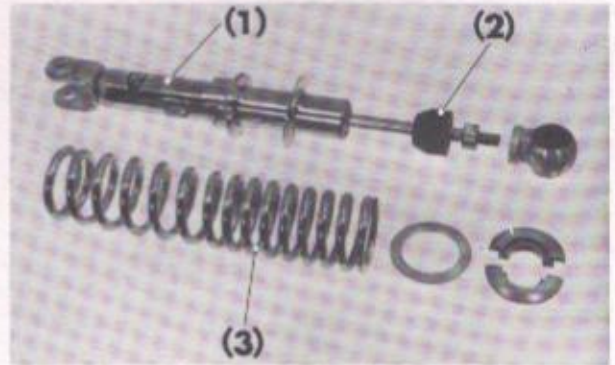


Fig. 4-73 (1) Rear shock absorber
(2) Rear stopper rubber
(3) Rear shock absorber spring

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; secure with the self-locking nut.
Torque specifications: 600–700 kg-cm
(43.4–50.6 lbs-ft.)

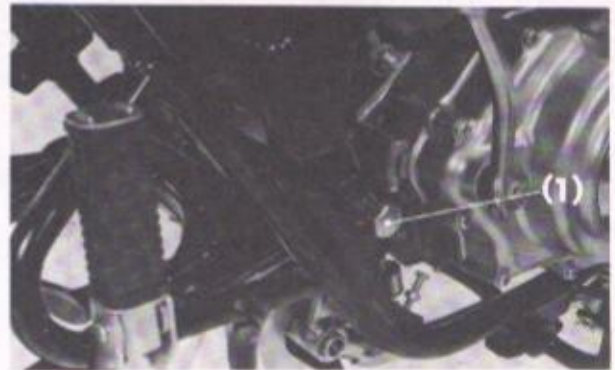


Fig. 4-74 (1) Rear fork pivot bolt

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 stopper to secure the spring.

NOTE:

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

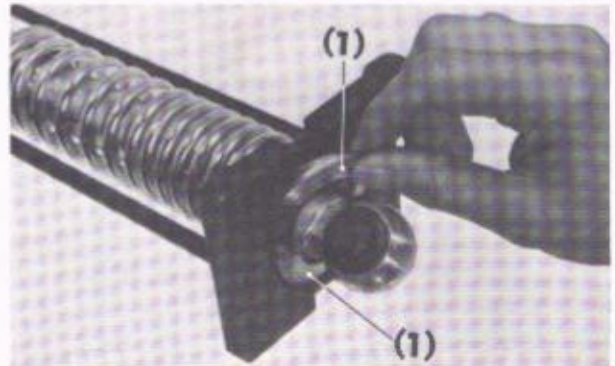


Fig. 4-75 (1) Spring seat stopper

9. FRAME BODY

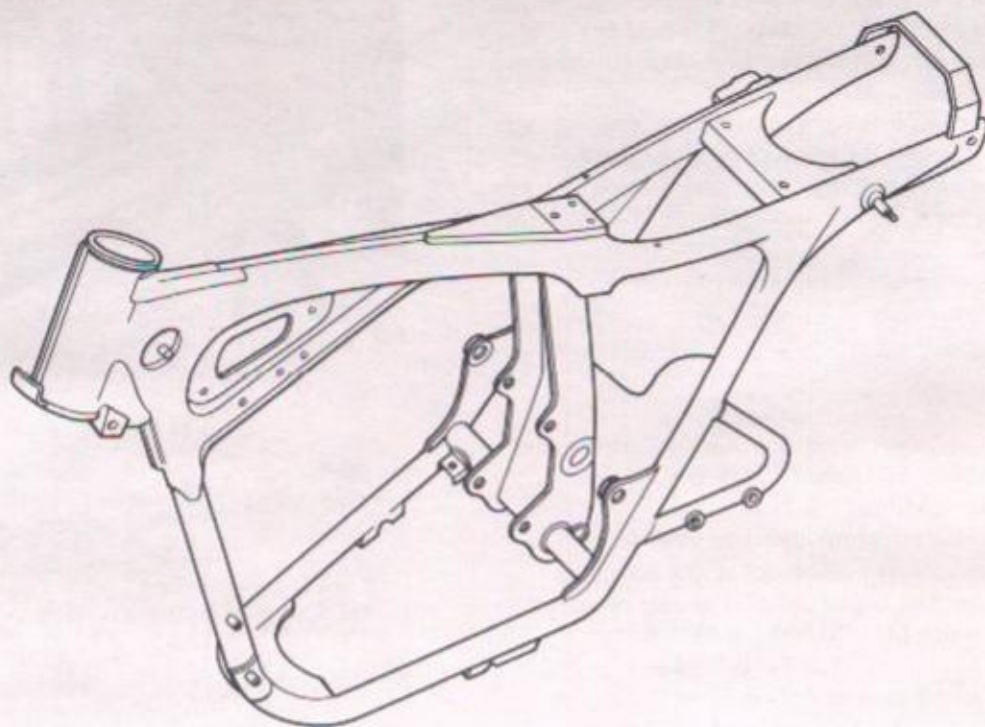


Fig. 4-76

Disassembly

1. Remove the seat.
2. Remove the fuel tank.
3. Remove the air cleaner covers. Remove the bolts and remove the clamps securing the hoses leading to the carburetors. Remove the air cleaner assembly.
4. Remove the front wheel, front forks, handlebar and steering stem.
5. Remove the rear wheel, rear shock absorbers and rear fork assembly.



Fig. 4-77 (1) Air cleaner assembly
(2) Hose clamp

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, regulator, turn signal relay, silicon rectifier, main switch, warning horn and ignition coil.

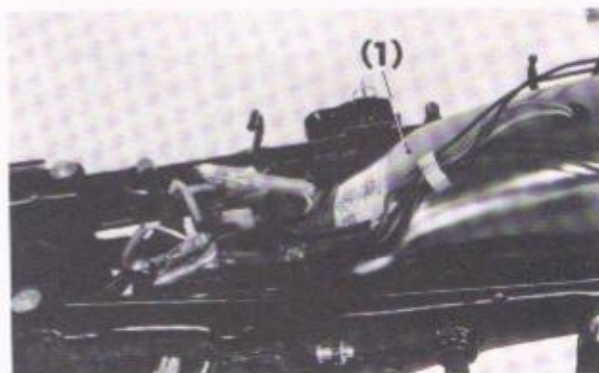


Fig. 4-78 (1) Rear fender

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

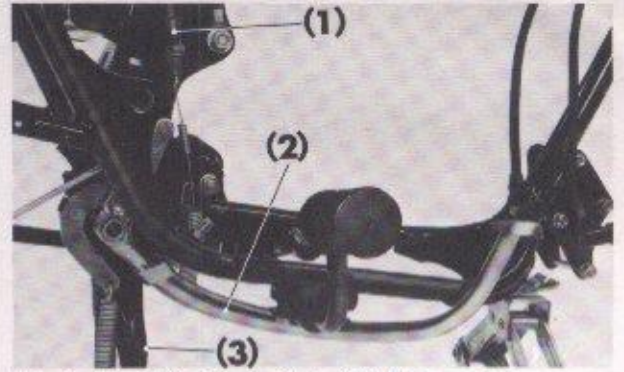


Fig. 4-79 (1) Stop switch (2) Brake pedal
(3) Main stand

14. Using "Ball Race Remover" (Tool No. 07946-3290200) and "Driver Handle" (Tool No. 07949-6110000), remove the upper and bottom ball races.

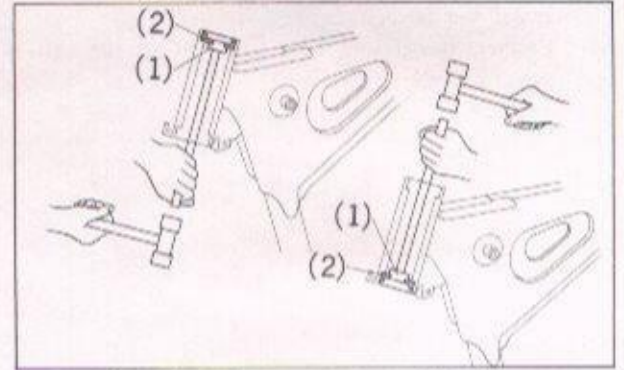


Fig. 4-80 (1) Ball race remover (2) Ball race

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 hose 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.

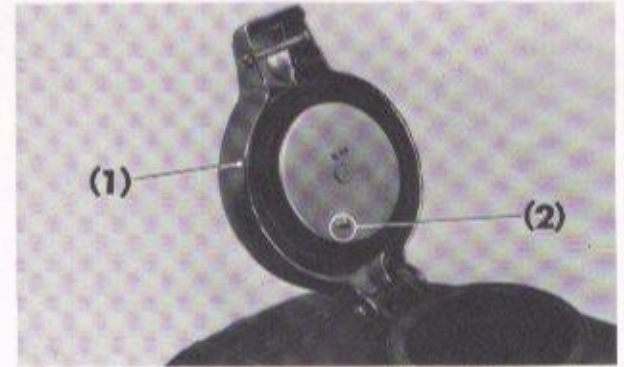


Fig. 4-81 (1) Fuel filler cap (2) Fuel filler cap hole

Assembly

1. Drive fit the ball race using "Ball Race Driver Attachment" (Tool No. 07946-3290100) and "Driver Handle" (Tool No. 07949-6110000). Evenly drive in the ball race.

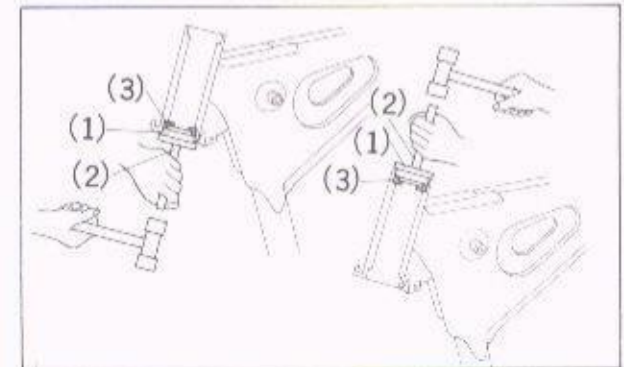


Fig. 4-82 (1) Ball race driver attachment
(2) Driver handle (3) Ball race

2. Connect the wire harness, routing the wiring properly. Secure with the clips. Make sure that the connector is firmly fixed.



Fig. 4-83 (1) Wire harness

3. Install the battery. Connect the ground cable first. Route the battery vent tube properly.



Fig. 4-84 (1) Battery vent tube

4. Install the main stand, side stand and brake pedal.

NOTE:

Do not overtighten the main stand attaching bolts.

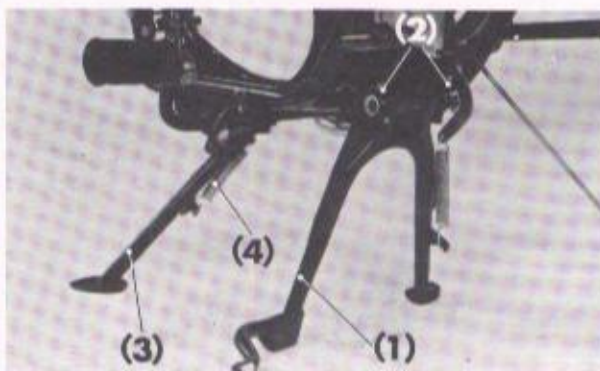


Fig. 4-85 (1) Main stand (2) Main stand bolt
(3) Side stand (4) Side stand spring

5. Install the air cleaner case. Clean the filtering element before installation.
 - a. Shake dust off the element and blow 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.

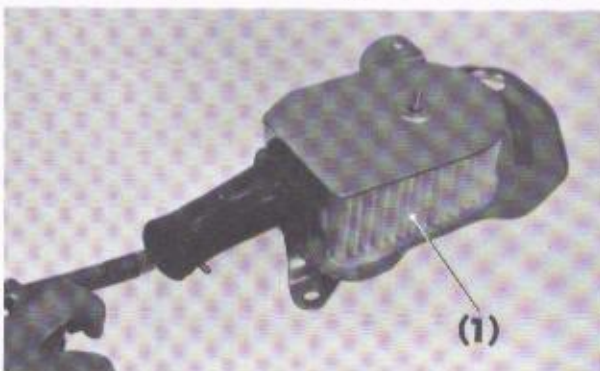
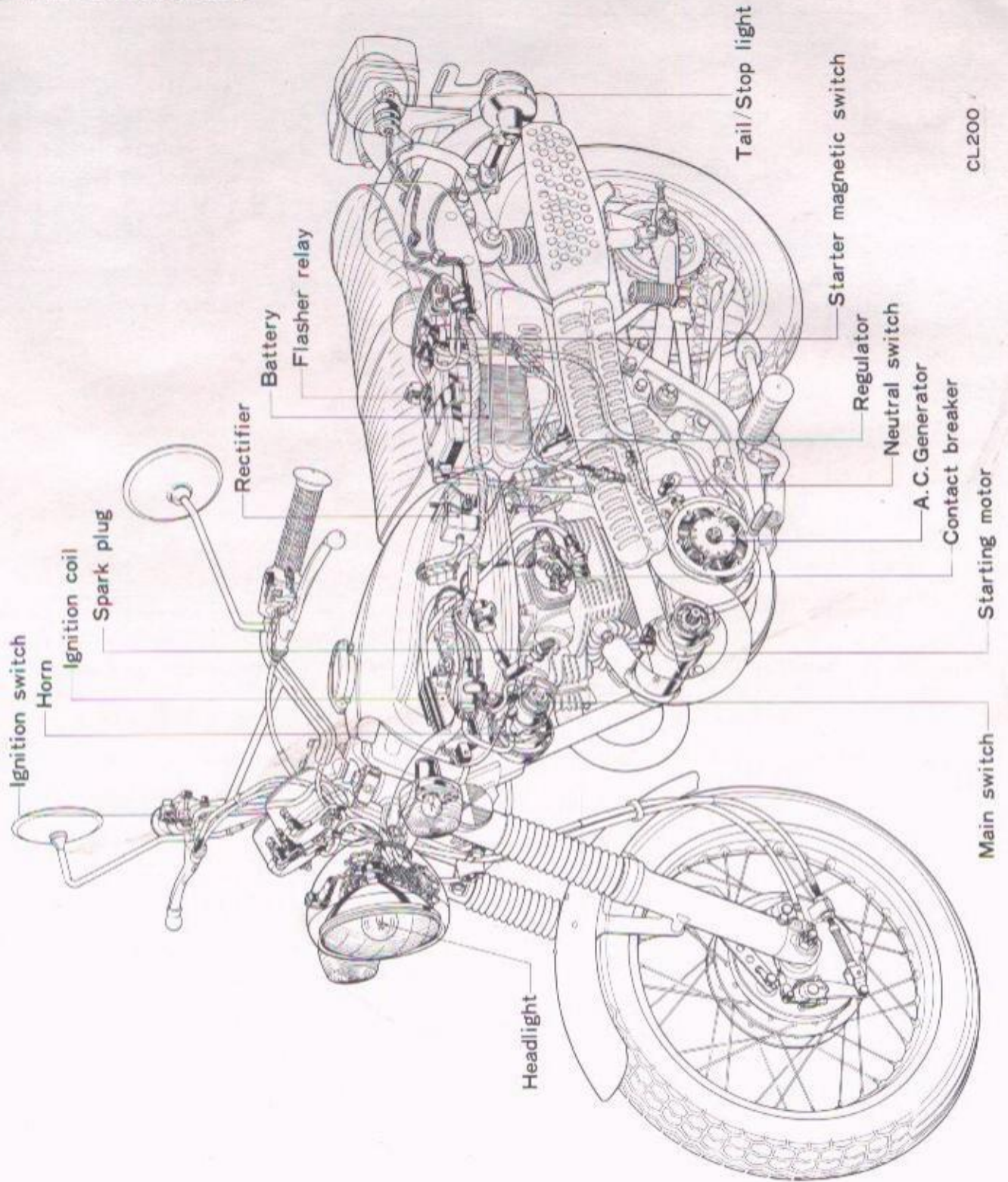


Fig. 4-86 (1) Air cleaner element



CL200

Fig. 5-1

2. IGNITION SYSTEM

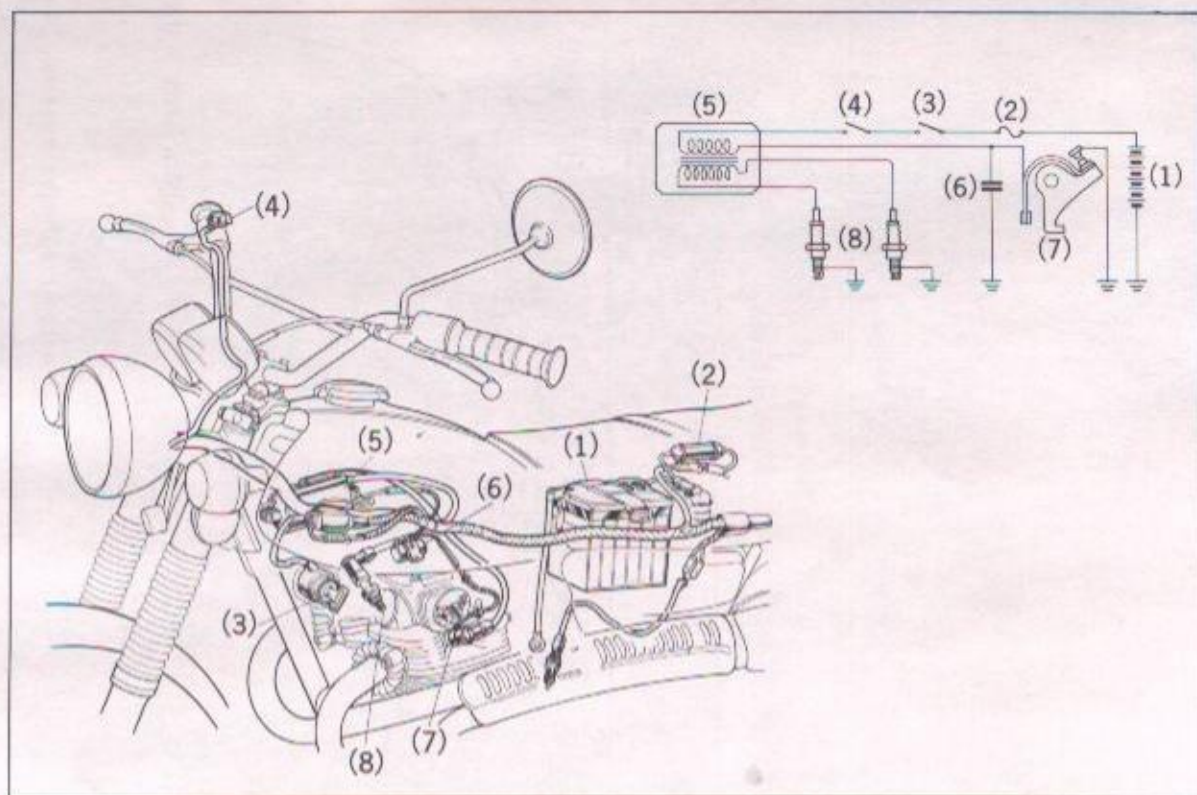


Fig. 5-2 (1) Battery (2) Fuse (3) Main switch (4) Ignition switch (5) Ignition coil (6) Condenser (7) Contact breaker (8) Spark plug

The ignition system consists of an ignition coil, condenser, contact breaker, spark plugs and some electrical wirings to connect them electrically.

The ignition coil has two windings, a primary winding and a secondary winding. Current from the battery flows through the primary winding when the contact breaker points close. The contact breaker is operated by one of cams integrated with the camshaft.

In operation, as the contact breaker points close, the current flows in the primary winding, building up a magnetic field. As the points open, the current stops flowing. This collapses the magnetic field; i.e., high voltage is induced in the secondary winding.

As a result, the high voltage surges flow to the spark plugs in the engine cylinders. These surges in turn produce the electric spark at the spark plug gap to ignite the air-fuel mixture compressed in the engine cylinder.

The operation of the spark advancer is dependent upon a centrifugal governor. The unit alters the breaker cam angle in relation to the camshaft to advance or retard the ignition timing automatically according to the engine speed.

Ignition coil	3-point spark gap opening 6mm (0.24 in.) min.	
Spark plug	Type Plug gap	NG K D-8ES-L 0.6–0.7mm (0.024–0.028-in.)
Contact breaker	Point gap Spring force	0.3–0.4mm (0.012–0.016-in.) 700–900 gr.
Condenser	Capacity Insulation resistance	0.3 μ F $\pm$ 10% 10M Ω min. (With 1,000 megger)
Spark advancer	Start of advance (crankshaft rpm) Full advance (crankshaft rpm)	1,800 rpm 3,600 rpm

Ignition coil**Continuity test****1. Primary coil**

Check for continuity between the two terminals of the primary winding with a radio tester. (Black-white lead and blue lead)

2. 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.

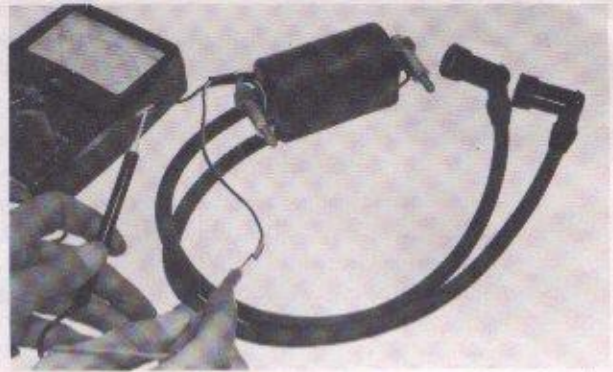


Fig. 5-3 Checking ignition coil for continuity

Performance test

The coil may sometimes deteriorate in such a way as to provide 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 12V battery. Make connections of the tester following the instructions furnished by the tester manufacturer.

Turn the service tester selector knob to IGNITION COIL TEST.

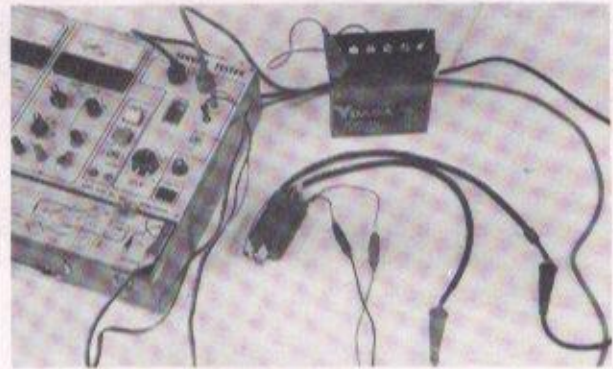


Fig. 5-4 Checking ignition coil performance

Measure the maximum distance where spark jumps across the gap

NOTE:

Reverse the polarity of the spark plug cables if spark occurs as B in Fig. 5-5. Sketch A shows the normal test condition.

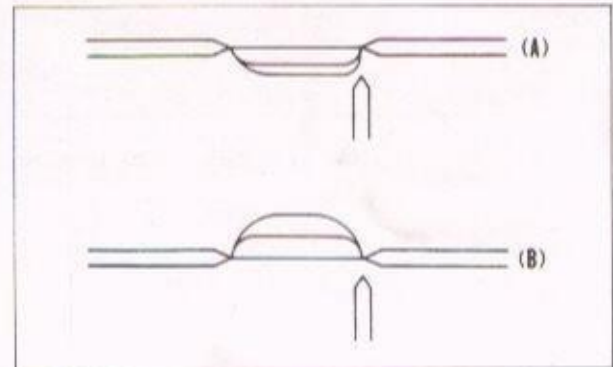


Fig. 5-5 3-point spark tester

Condenser

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



Fig. 5-6 Checking condenser

Spark plug

1. Check the spark plug for deposits and electrode erosion. A spark plug with burned electrode or blistered insulator should be replaced.
 - a. Clean the plugs on a sand blast cleaner or with a bristle wire brush when they are fouled.
 - b. Using a feeler gauge, measure the electrode gap, and regap if necessary. The gap should be adjusted by bending side electrode.
 - c. Replace if found with cracked or broken insulators, badly pitted electrodes, damaged gasket, or other sign of failure.

Contact breaker

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

Spark advancer

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

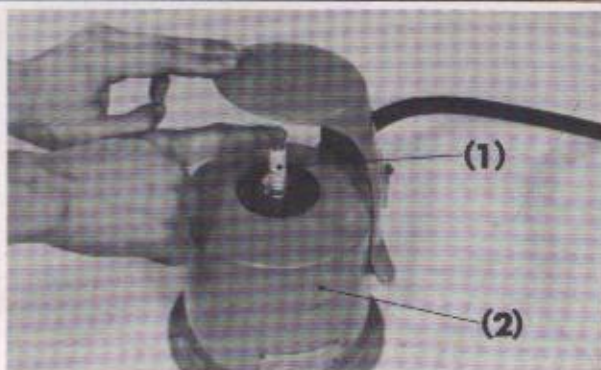


Fig. 5-7 (1) Spark plug
(2) Spark plug cleaner

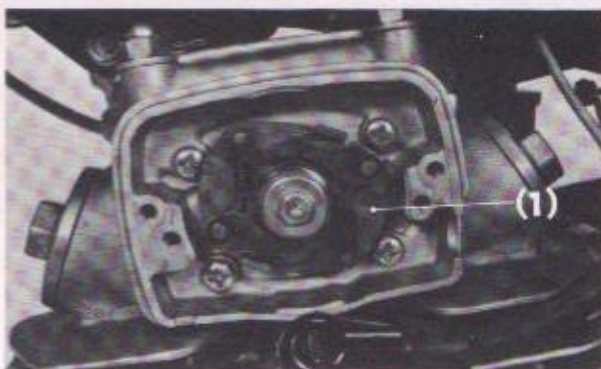


Fig. 5-8 (1) Spark advancer

MEMO

3. CHARGING SYSTEM

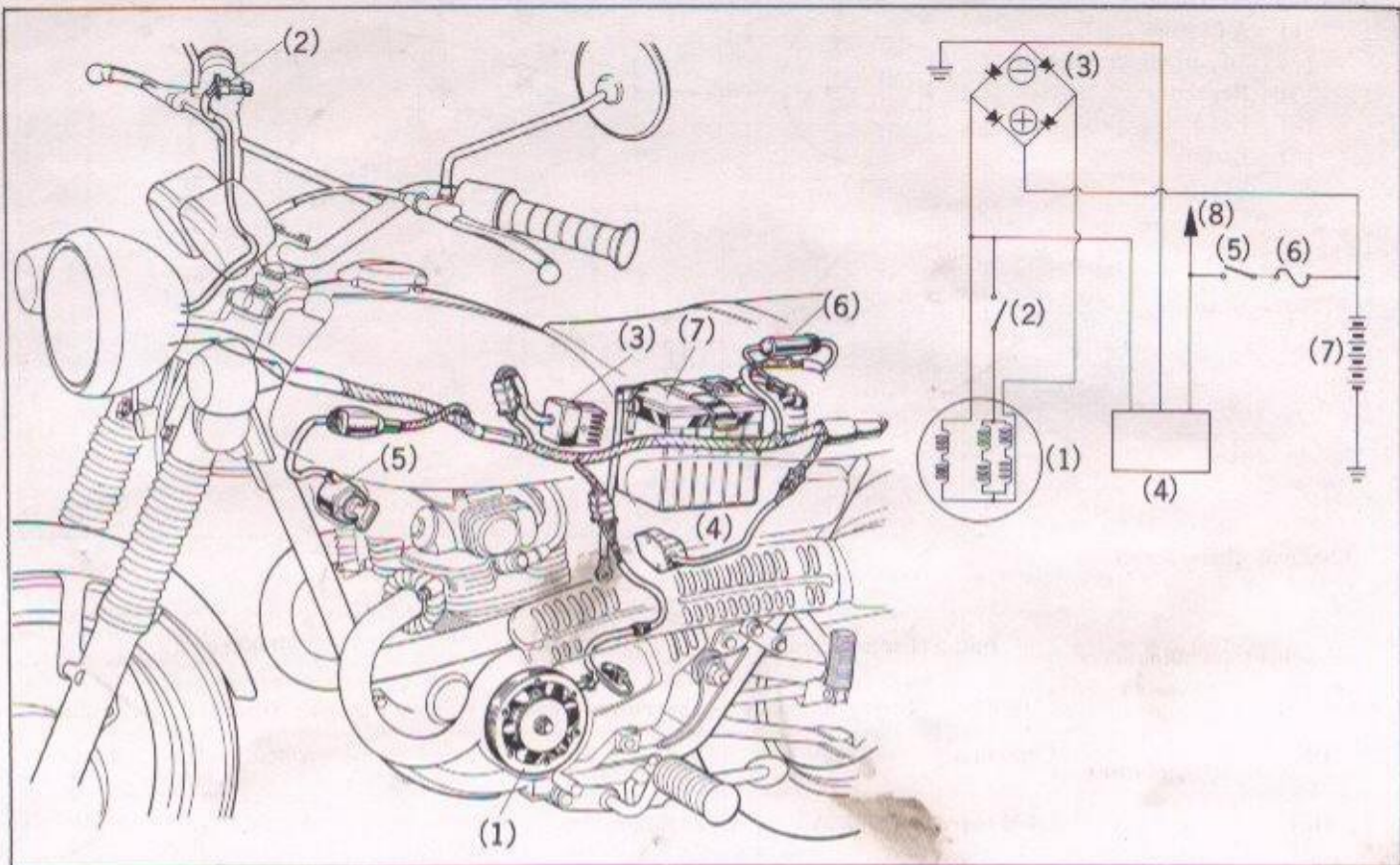


Fig. 5-9

- | | | | |
|-------------------|------------------------------|-----------------------------|-------------------------|
| (1) A-C generator | (2) Headlight control switch | (3) Silicon diode rectifier | (4) Pointless regulator |
| (5) Main switch | (6) Fuse | (7) Battery | (8) Load |

The charging system consists of an A-C generator, silicon diode rectifier, voltage regulator and battery. The generator is a rotor type in that the rotor is directly attached to the engine crankshaft. The generator has a built-in silicon diode rectifier. The A-C generated in the stationary windings of the generator passes through the four silicon diodes and thereby is converted into D-C to charge the battery. The stator is made up of six groups of stationary windings assembled on a laminated steel core. In this A-C generator, the strength of current produced in the generator windings is regulated by the number of windings selected; i.e., two for driving in the daytime, and six for driving at night.

Charging test

1. Testing should be made with a fully charged 12V 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 the conditions of NIGHTTIME RIDING and DAYTIME RIDING. If the readings are not within the specifications shown in the following table, the generator, battery or rectifier should be checked for condition.

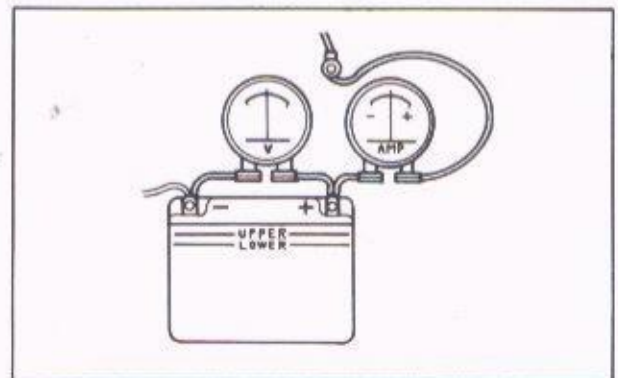
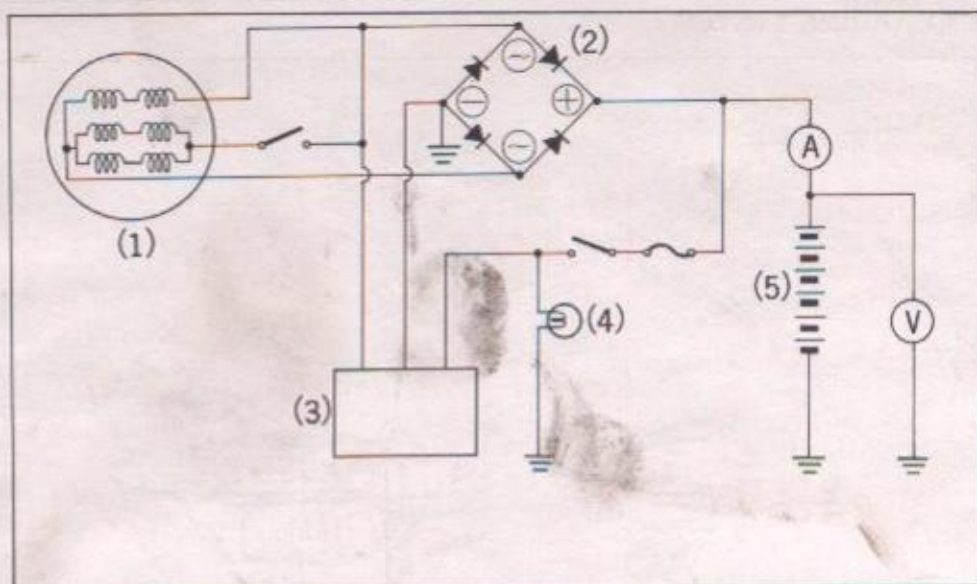


Fig. 5-10 Charging test

Fig. 5-11

Charging test circuit

- (1) A-C generator
- (2) Silicon diode rectifier
- (3) Regulator
- (4) Load
- (5) Battery



Charging characteristics

Headlight switch	Dimmer switch	Initial charging rpm		5,000 rpm		10,000 rpm	
		rpm	Battery voltage	Charging current	Battery voltage	Charging current	Battery voltage
ON	HB (High beam)	2,800 max.	13.2V	0.5A min.	14V	3A max.	16.5V
OFF		2,400 max.	14.2V	0.5A min.	14V	3A max.	16.5V

A-C Generator

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 breaks or cracked insulation.

NOTE:

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

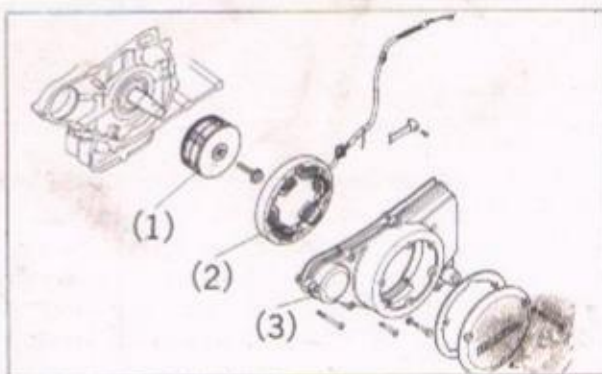


Fig. 5-12 (1) Generator rotor (2) Stator (3) Left crankcase cover

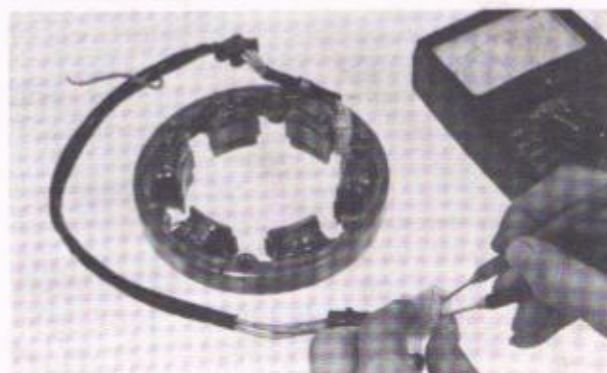


Fig. 5-13 Checking field coil

Silicon diode rectifier

Check each diode for continuity with a radio tester in high-reading range. If current flow only in one direction (from cathode to anode), the diode is normal. Current flow in both directions or no current is a sign of malfunction of the diode. To determine that the rectifier is in good condition, follow the instructions given below. Connect the negative probe of the tester to the terminal (4) (green), and positive probe to the terminal (1) (yellow), (2) (red and white), or (3) (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 or combinations other than those described above.

NOTE:

- Do not use a megger as a high voltage generated in the megger will damage the diodes.
- Make sure of proper battery polarity when connecting. 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. 5-14 (1) Silicon diode rectifier (2) Connector

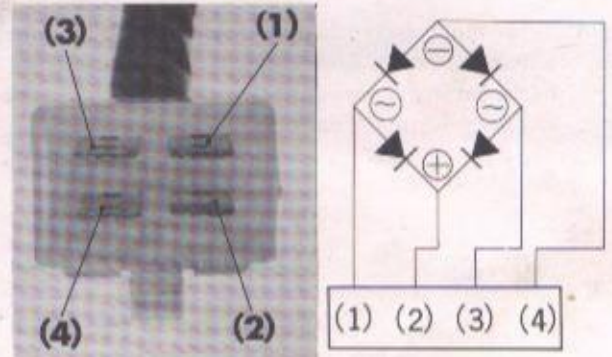


Fig. 5-15 (1) Yellow lead (2) Red/white lead (3) Pink lead (4) Green lead

Regulator

Make connections as shown in Fig. 5-16. Gradually lower the line voltage by operating the knob of the variable resistor. If the needle of the ammeter swings at 14–15V, the regulator is correct. If the needle swings at less than 14–15V, this could be due to internal problems. The regulator will have an open circuit if the ammeter needle does not swing at all even if the voltage is raised going over the above values. The regulator must be replaced with a new one.

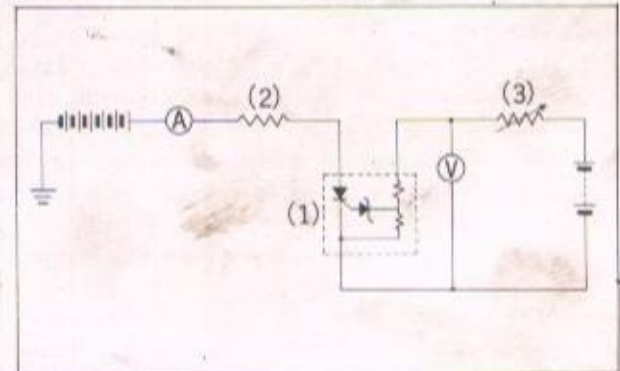


Fig. 5-16 (1) Regulator (2) Resistor (to keep current below 3A) (3) Variable resistor (to adjust voltage)

Battery

Type	12N9-4B
Voltage	12V
Capacity	9AH

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 the hydrometer, hold the gauge vertically and take the highest level as shown.

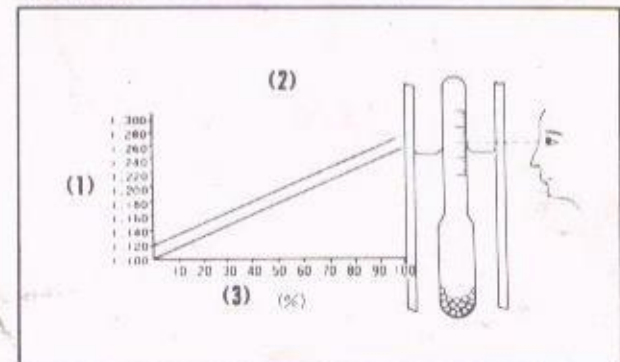


Fig. 5-17 (1) Specific gravity (2) Relationship between specific gravity and residual charge (3) Residual charge

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.

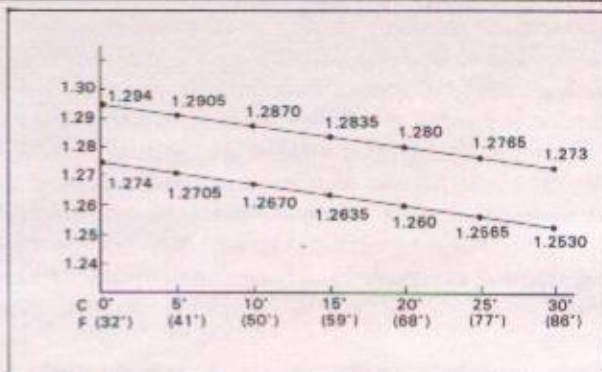


Fig. 5-18 Relationship between atmospheric temperature and specific gravity

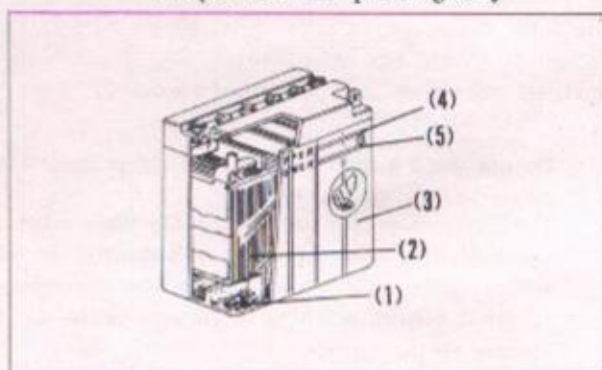


Fig. 5-19 (1) Sediment (2) Plate (3) Battery box (4) Upper level mark (5) Lower level mark

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 current should be held to 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 or grease to the battery terminals.

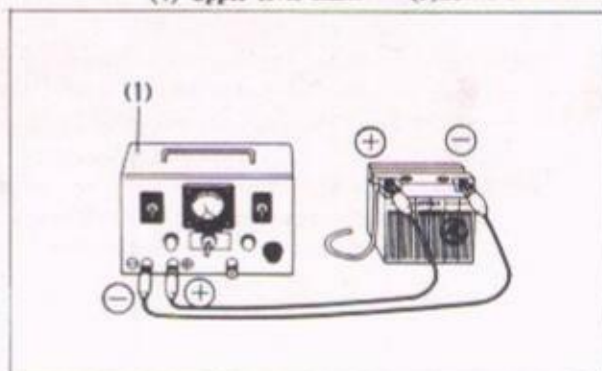


Fig. 5-20 (1) Battery charger

4. STARTING SYSTEM

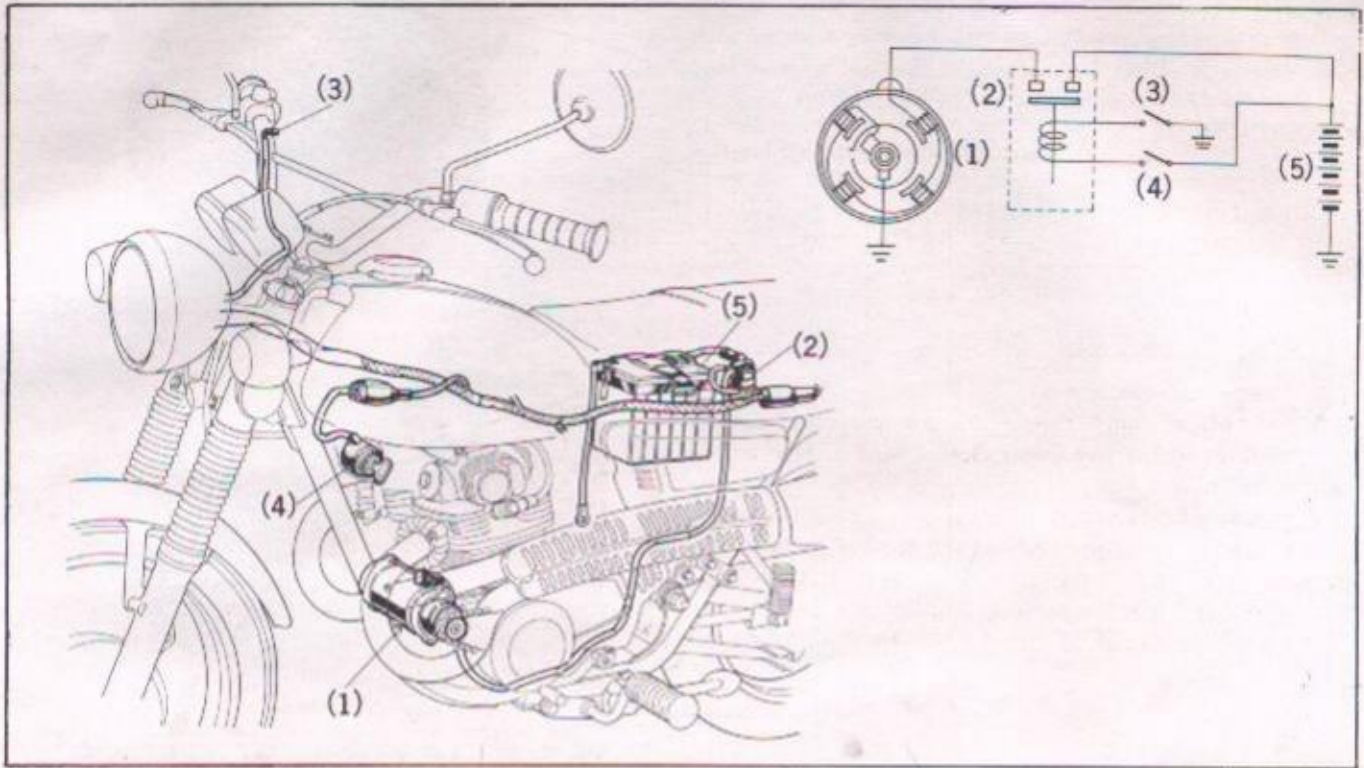


Fig. 5-21 (1) Starting motor (2) Magnetic switch (3) Starting switch (4) Main switch (5) Battery

The starting motor electrically cranks the engine for starting. The starting circuit uses a magnetic switch that closes the starting motor circuit when the push button on the right side of the handlebar is depressed.

Pressing on the button connects the magnetic winding to the battery. The magnetism produced in the winding pulls the plunger in, forcing the contact plate against the switch contacts. Thus, current flows through the contacts and plate to the starting motor to crank the engine.

Starting motor

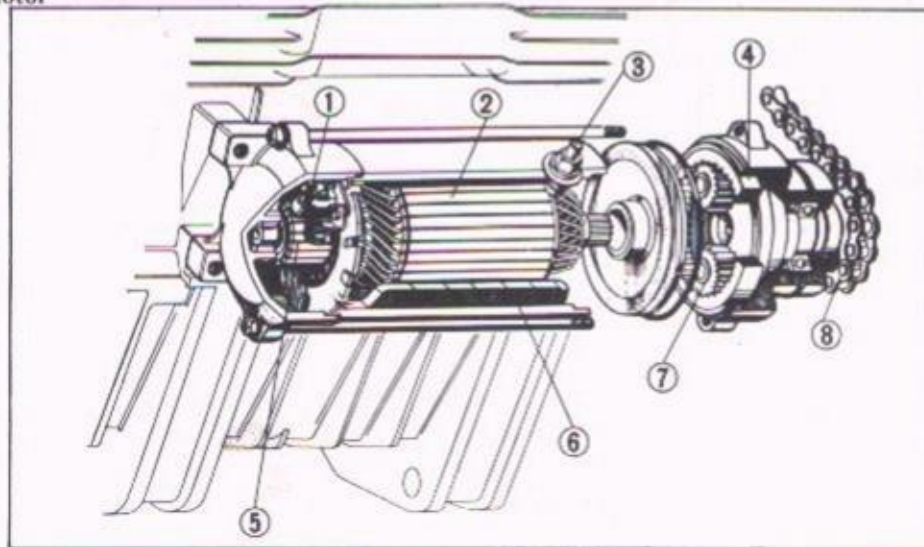


Fig. 5-22 (1) Carbon brush (2) Armature (3) Terminal (4) Inner gear (5) Commutator (6) Field coil (7) Planetary gear (8) Starting chain

1. Checking carbon brushes

Check the brushes and springs for condition. Brushes that are worn or pitted badly, or those which do not align with the commutator bars 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 value	Repair limit
Carbon brush length mm (in.)	11–12.5 (0.433–0.492)	5 (0.020) max.
Brush spring tension gram	495–605	—

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.

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.

Starting magnetic switch

The starting motor draws a large amount of current as high as 100A when cranking the engine. The electromagnetic switch serves the purpose of remotely switching on and off the starting motor.

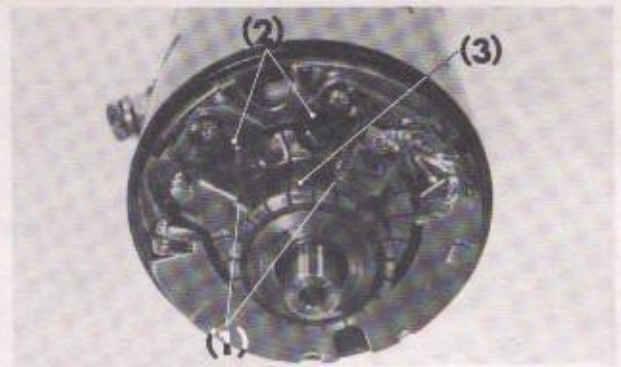


Fig. 5-23 (1) Carbon brush (2) Brush spring (3) Commutator



Fig. 5-24 Checking stator coil



Fig. 5-25 Checking armature coil

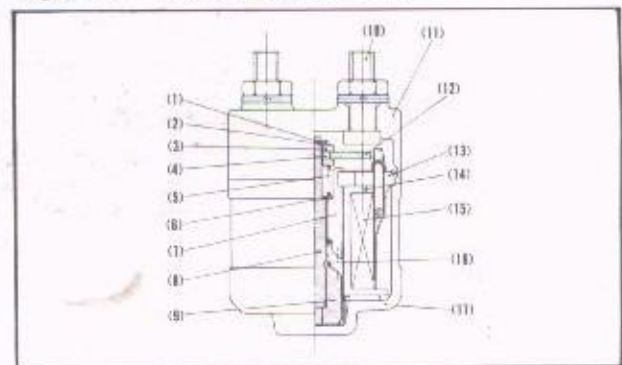


Fig. 5-26 (1) Stopper (2) Stopper holder (3) Washer (4) Roller A (5) Contact spring (6) Flat washer (7) Plunger holder (8) Plunger shaft (9) Plunger (10) Contact bolt (11) Case (12) Contact plate (13) Yoke (14) Coil bobbin (15) Coil complete (16) Return spring (17) Body

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 12V battery is connected with the switch turned on.

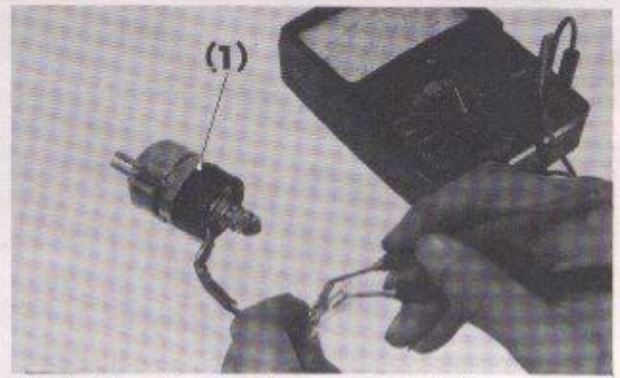


Fig. 5-27 (1) Starting magnetic switch

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 12V battery to the field coil with the switch turned on.

If there is no continuity, it is a signal that the switch contacts are not in contact with the switch plate.



Fig. 5-28 (1) Starting magnetic switch

MEMO

5. 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 (0-0). Discard the switch if there is any continuity in other circuits shown below.

Terminal		BAT	IG	TL1	TL2
Lead color		Red	Black	Brown/white	Brown
Key position	OFF				
	I	O	O	O	O
	II	O			O

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 10–20mm (0.4–0.8 in.) as measured at the lever tip.

Rear stop 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. Testing 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.

Horn

Disconnect the horn leads at the terminals. Connect the black lead to the positive terminal of a 12V battery, and light green lead to the negative terminal, noting if the horn sounds.



Fig. 5-29 Checking main switch for continuity



Fig. 5-30 Checking front stop light switch

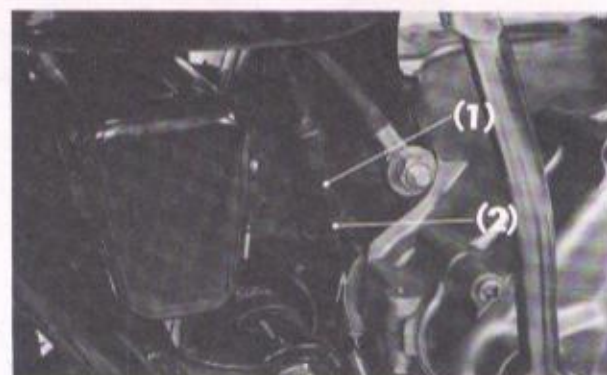


Fig. 5-31 (1) Rear stop switch
(2) Adjusting nut

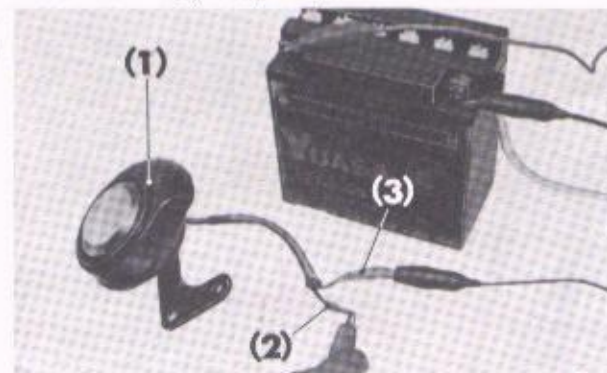


Fig. 5-32 (1) Horn (2) Black lead
(3) Light green lead

Horn button

Disconnect the terminal of the horn button switch lead in the headlight case. Check for continuity between the light green lead and handlebar. Continuity should exist only when the button is depressed. Polish the switch contacts with an oil stone if continuity is intermittent. Discard if damaged too badly beyond repair.

Turn signal control switch

Disconnect the lead of the turn signal control switch in the head light case. Check for continuity between the circuits (0-0) as shown in the table immediately below.

Terminal	BAT	R	L
Lead color	Gray	Blue	Orange
R	O — O		
OFF			
L	O —		O

Head light switch

Check for continuity between the respective terminals of the switch leads in the head light case.

The switch is in good condition if there is continuity in the circuits (0-0) 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	HB	IG	TL	LB	DY	SE
Lead color	Blue	Black	Brown/white	White	White/yellow	Yellow
OFF			O — O			
L		O — O	O — O	O — O	O — O	
(N)	O — O	O — O	O — O	O — O	O — O	O — O
H	O — O	O — O	O — O		O — O	O — O

Fig. 5-35 (1) Black (2) White/yellow
(3) Blue (4) White
(5) Brown/white
(6) Yellow
(7) Headlight switch

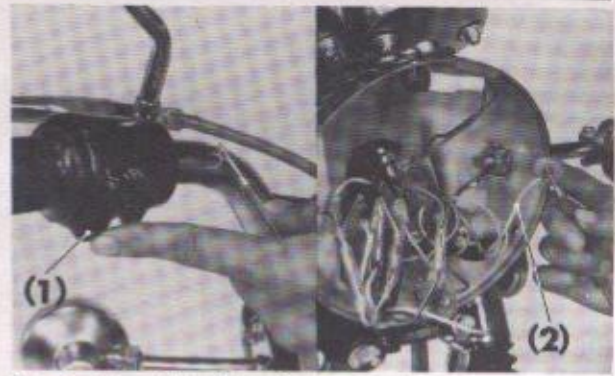


Fig. 5-33 (1) Horn button
(2) Light green lead

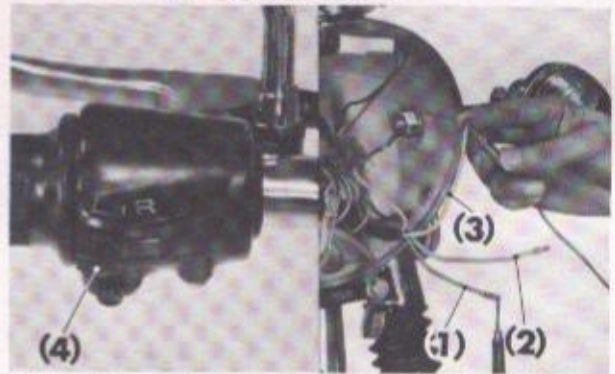
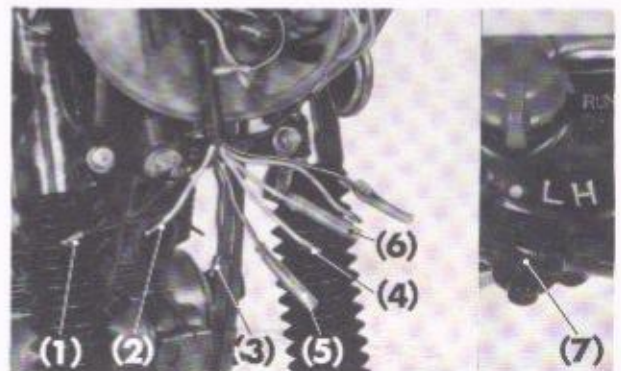


Fig. 5-34 (1) Gray lead (2) Blue lead
(3) Orange lead
(4) Turn signal control switch



Ignition switch

Check for continuity between respective terminals of the switch leads in the head light case. The switch is normal if there is continuity as specified below (0-0) with the switch selector knob set in each position.

Terminal	KB	KW
Lead color	Black	Black/white
OFF		
RUN	O ———— O	
OFF		

Starting switch

Disconnect the terminal of the starting switch lead in the head light case. Touch one probe of a tester to the switch lead and the other probe to the frame body with the switch button set in each position. The switch is in good condition if continuity exists in the circuit (0-0) shown below.

Terminal	ST	Frame body
Lead color	Yellow/red	—————
OFF		
ON	O ———— O	

Neutral switch

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

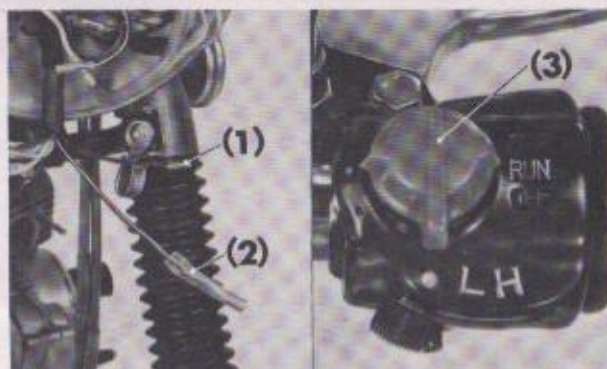


Fig. 5-36 (1) Black (2) Black/white
(3) Ignition switch

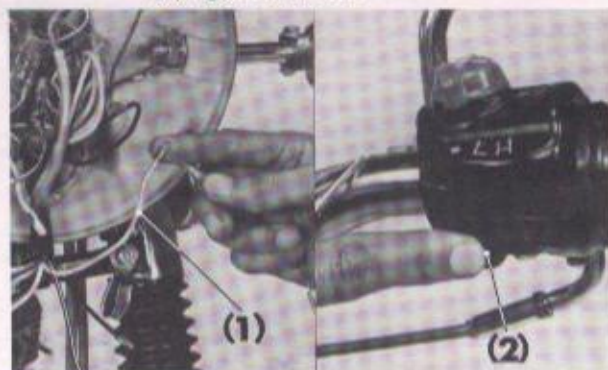


Fig. 5-37 (1) Yellow/red lead
(2) Starting switch

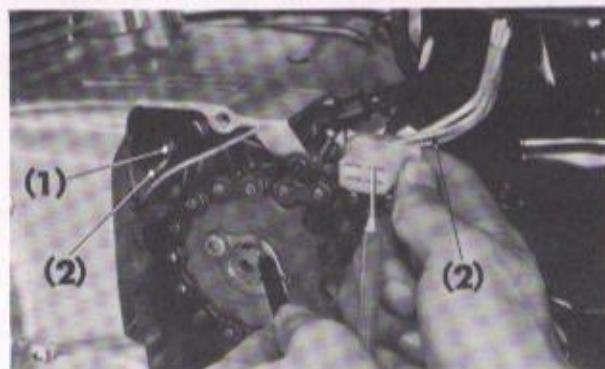


Fig. 5-38 (1) Neutral switch
(2) Light green/red lead

1. SPECIAL TOOLS

Ref. no.	Tool no.	Tool name	Remarks
	07900-3540000	Special tool set	All special tools below included.
1	07902-2400000	Spanner, pin 46mm	
2	07908-3290000	Wrench, tappet adjusting	
3	07910-3230100	Wrench, front wheel retainer	Front hub dis/assembling.
4	07916-2830000	Wrench, lock nut 16mm	
5	07922-3570000	Holder, drive sprocket	
6	07933-2160000	Puller, rotor	
7	07942-1180100	Driver, valve guide	
8	07942-3290100	Remover, valve guide	
9	07945-3330100	Driver, attachment	Bearing driver attachment 6302 and 6303 (Use with Item No. 13).
10	07946-3290000	Driver, attachment	Stem ball race driver (Use with Item No. 13).
11	07946-3290200	Remover, ball race	
12	07947-3550000	Driver, fork seal	
13	07949-6110000	Driver, handle	Use with Item Nos. 9 and 10.
14	07954-3230000	Compressor, piston ring	
15	07957-3290000	Compressor, valve spring	
16	07958-2500000	Base, piston	
17	07959-3290000	Compressor, shock absorber	
18	07984-2000000	Reamer, valve guide	
19	07917-3230000	Wrench, Allen head	Front fork bottom case dis/assembling.
20	07945-3230200	Driver, bearing	Transmission bearing inner driver (bearing size 6304).
21	07797-2920300	Case, tool set	

2. MAINTENANCE SCHEDULE

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.				
	Month		1	3	6	12	
	Mile		500	1,500	3,000	6,000	
	Km		1,000	2,500	5,000	10,000	
ENGINE OIL—Change		●		○			
CENTRIFUGAL OIL FILTER—Clean						○	
OIL FILTER SCREEN—Clean						○	
SPARK PLUG— 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.			○		
—Replace						○	
*CARBURETOR—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 tighten, 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. TIGHTENING TORQUE STANDARD

Engine

Tightening point	Thread dia.	Torque	
		kg-cm	lbs-ft
Crankcase and crankcase cover	6mm P1.0	70-110	5.1-8.0
Cylinder head	8mm P1.25	180-220 (Apply oil to nuts before tightening.)	13.0-16.0
Carburetor insulator to cylinder head	6mm P1.0	80-120	5.8-8.7
Cam sprocket	7mm P1.0	170-230	12.3-16.6
AC generator rotor	10mm P1.25	350-450	25.3-32.5
Tappet adjusting nut	5mm P0.5	70-110	5.1-8.0
Upper and lower crankcases	8mm P1.25	200-260	14.5-18.8
Cylinder head cover	6mm P1.0	90-140	6.5-10.1

Frame

Tightening point		Thread dia.	Torque	
			Kg-cm	lbs-ft
Steering stem nut		23mm P1.0	800-1,000	57.9-72.3
Fork top bridge slit		8mm P1.25	180-250	13.0-18.1
Handlebar holder		8mm P1.25	180-250	13.0-18.1
Front fork bottom bridge slit		8mm P1.25	180-250	13.0-13.1
Spoke	Front wheel	—	15-30	1.1-2.2
	Rear wheel	—	15-30	1.1-2.2
Rear fork pivot bolt		14mm P1.5	600-700	43.4-50.6
Front fork axle nut		14mm P1.5	600-800	43.4-57.9
Engine hanger bolt		8mm P1.25	180-250	13.0-18.1
Rear axle nut		14mm P1.5	700-900	50.6-65.1
Brake arm		6mm P1.0	80-100	5.8-7.2
Rear shock absorber		10mm P1.25	250-350	18.1-25.3
Step holder		8mm P1.25	180-250	13.0-18.1
Gear change pedal and kick arm		6mm P1.0	80-100	5.8-7.2

4. TECHNICAL SERVICE DATA

Engine		Unit: mm (inch)	
Item		Assembly standard	Service limit
Rocker arm-to-shaft clearance		0.013–0.043 (0.0005–0.0017)	0.1 (0.0039)
Cam height	Intake	25.058 (0.9865)	24.9 (0.9803)
	Exhaust	24.872 (0.9792)	24.7 (0.9724)
Valve seat width		1.2 ± 0.2 (0.0394–0.0551)	1.8 (0.0709)
Valve stem OD	Intake	5.48–5.49 (0.2157–0.2161)	5.42 (0.2134)
	Exhaust	5.46–5.472 (0.2150–0.2154)	5.40 (0.2126)
Valve-to-guide clearance	Intake	0.015–0.035 (0.0006–0.0014)	—
	Exhaust	0.033–0.055 (0.0013–0.0022)	—
Valve spring load	Inner	5.72–6.38/27 (12.61–14.51/1.0630)	—
	Outer	10.6–12.2 kg/30 (23.37–26.90 lbs/1.1811)	—
Valve spring free length	Inner	33.25 (1.3091)	32.0 (1.2598)
	Outer	35.05 (1.3799)	34.5 (1.3583)
Cylinder ID		55.50–55.51 (2.1850–2.1834)	55.6 (2.1890)
Piston skirt OD		55.47–55.49 (2.1839–2.1846)	56.42 (2.1819)
Piston pin hole dia. in piston		15.002–15.008 (0.5906–0.5909)	15.05 (0.5925)
Piston pin OD		14.994–15.000 (0.5903–0.5906)	14.9 (0.5866)
Piston ring travel in groove	Top	0.04–0.075 (0.0016–0.0030)	0.15 (0.0059)
	Second	0.025–0.06 (0.0010–0.0024)	0.15 (0.0059)
	Oil	0.015–0.045 (0.0006–0.0018)	0.15 (0.0059)
Piston ring gap	Top	0.15–0.35 (0.0059–0.0138)	0.75 (0.0259)
	Second	0.15–0.35 (0.0059–0.0138)	0.75 (0.0295)
	Oil	0.15–0.35 (0.0059–0.0138)	0.75 (0.0295)
Pump body-to-plunger clearance		0.025–0.063 (0.0010–0.0025)	0.17 (0.0067)
Clutch outer-to-pump rod clearance		0.025–0.075 (0.0010–0.0030)	0.15 (0.0059)
Friction disc thickness		2.92–3.08 (0.1150–0.1213)	2.6 (0.1024)
Clutch plate warpage		0.1 (0.0039)	0.2 (0.0079)
Clutch spring load		22.5/17.4–19.4 kg (0.8858/38.36–42.77 kg)	—
Clutch spring free length		28.26 (1.1126)	26.7 (1.0512)
Gearshift fork finger width		5.36–5.44 (0.2110–0.2142)	5.0 (0.1969)
Gearshift drum OD		33.950–33.975 (1.3366–1.3376)	33.9 (1.3346)
Gearshift fork ID		34.000–34.025 (1.3386–1.3396)	34.075 (1.3415)
Gearshift fork guide pin clearance in groove in drum		0.11–0.228 (0.0043–0.0090)	0.5 (0.0197)
Transmission gear backlash	1st, 2nd, 3rd	0.089–0.179 (0.0035–0.0070)	0.2 (0.0079)
	4th, 5th	0.094–0.188 (0.0037–0.0074)	0.2 (0.0079)

Engine - cont'd

Unit: mm (inch)

Item	Assembly standard	Service limit
Crankshaft runout at center	0.02 (0.0008)	0.15 (0.0059)
Connecting rod small end ID	15.016–15.034 (0.5912–0.5919)	15.07 (0.5933)
Connecting rod big end side clearance	0.07–0.33 (0.0028–0.0130)	0.6 (0.0236)

Frame

Item	Assembly standard	Service limit
Brake disc face runout	0.05 (0.0020)	0.20 (0.0079)
Brake disc bend	0.05 (0.0020)	0.3 (0.0118)
Brake disc thickness	4.9–5.1 (0.1929–0.2008)	4.0 (0.1575)
Front brake lining thickness	4.5–4.7 (0.1772–0.1850)	2.0 (0.0787)
Front brake drum ID	160–160.3 (6.2992–6.3110)	161.0 (6.3386)
Wheel rim face runout	0.5 (0.0197), max.	2.0 (0.0787)
Ball bearing axial play	0.05 (0.0020), max.	0.1 (0.0039)
Ball bearing radial play	0.03 (0.0012)	0.05 (0.0020)
Front axle bend	0.01 (0.0004), max.	0.2 (0.0079)
Rear axle bend	0.01 (0.0004), max.	0.2 (0.0079)
Rear brake lining thickness	4.5–4.7 (0.1772–0.1850)	1.5 (0.0591)
Rear brake drum ID	140.0–140.3 (5.5118–5.5236)	141.0 (5.5512)
Front shock absorber spring free length	453.7 (17.8622)	(445) (17.5197)
Rear shock absorber spring free length	196.7 (7.7441)	(185) (7.2835)
Rear fork pivot bushing-to-center collar clearance	0.04–0.125 (0.0016–0.0049)	0.3 (0.0118)
Rear fork bushing ID	20.000–20.052 (0.7874–0.7894)	20.2 (0.7953)
Center collar OD	19.927–19.960 (0.7845–0.7858)	19.9 (0.7835)
Front fork bottom case ID	31.000–31.039 (1.2205–1.2220)	31.139 (1.2259)
Front fork pipe OD	30.925–30.950 (1.2175–1.2185)	30.90 (1.2165)

5. TROUBLE SHOOTING

Engine

Trouble	Probable cause	Remedy
Engine will not start or fails to start.	- Insufficient compression pressure - Improper tappet adjustment - Worn valve guides or improper valve seating - Incorrect valve timing - Worn piston rings - Worn cylinders - No spark from plugs or on points - Foul plugs - Wet plugs - Foul points - Incorrect point gap - Incorrect ignition timing - Defective ignition coil - Open or short circuit of ignition cords - Short circuit in condenser - No gasoline is fed to carburetor. - Clogged vent hole in tank cap - Clogged fuel cock - Defective carburetor float valve - Clogged fuel pipe	Adjust. Replace or recondition. Adjust. Replace. Replace. Clean. Clean. Clean. Adjust. Adjust. Replace. Replace. Replace. Clean. Clean. Replace. Clean.
Engine stalls frequently.	- Foul plugs - Foul points - Incorrect ignition timing - Clogged fuel lines - Clogged carburetor jets - Improper tappet adjustment	Clean. Clean. Adjust. Clean. Clean. Adjust
Engine is noisy.	- Noisy tappets - Too large a tappet clearance - Weak valve springs - Piston knocking - Worn pistons or cylinders - Carbon deposits on combustion chamber walls - Worn piston pins or connecting rod small ends - Cam chain - Elongated chain - Worn cam sprocket or timing sprocket - Noisy clutch - Loose clutch center splines - Excessive clearance between clutch friction disc and teeth of clutch outer housing - Warped friction discs or clutch plates	Adjust Replace Replace Clean Replace Adjust or replace Replace Replace Replace Repair or replace.

Engine - cont'd

Trouble	Probable cause	Remedy
Engine is noisy. (cont'd)	5. Crankshaft 1) Loose crankshaft bearings 2) Loose connecting rod big ends 6. Noisy gears 1) Worn transmission gears or interference between gears 2) Worn splines 3) Worn primary gear or interference between gears	Replace. Replace Replace Replace Replace
Clutch slips.	1. Improper clutch adjustment (no play in clutch lever) 2. Weak clutch springs 3. Worn or warped pressure plate 4. Warped clutch plates 5. Worn or warped friction discs	Adjust Replace Replace Replace Replace
Clutch drags.	1. Improper clutch adjustment (excessive play of clutch lever) 2. Unequal clutch spring tension 3. Warped clutch plates	Adjust Replace
Transmission gears fail to be shifted smoothly or sequentially.	1. Deformed shift drum stopper 2. Broken gearshift drum 3. Deformed gearshift forks	Repair or replace Replace Repair or replace
Change pedal fails to return.	1. Broken gearshift return spring 2. Interference between crankcase and gearshift spindle	Replace Repair
Transmission gears disengage accidentally.	1. Worn main shaft or countershaft shifting gears 2. Bent or worn gearshift forks 3. Weak gearshift drum stopper spring	Replace Repair or replace Replace
Engine operation is erratic at low speeds.	1. Improper tappet adjustment 2. Improper cylinder head valve seat contact 3. Defective valve guides 4. Incorrect ignition timing 5. Defective points 6. Too large a point gap 7. Weak spark (defective condenser or ignition coil) 8. Incorrect float level 9. Improper carburetor air screw adjustment	Adjust Recondition Replace Adjust Repair Adjust Replace Adjust Adjust
Engine operation is erratic at high speeds.	1. Weak valve springs 2. Incorrect valve timing 3. Too small a plug gap (defective automatic advancer) 4. Retarded ignition timing 5. Weak point arm spring 6. Defective ignition coil 7. Incorrect float level (too low) 8. Clogged air cleaner element	Replace Adjust Adjust Adjust Replace Replace Adjust Clean

Engine - cont'd

Trouble	Probable cause	Remedy
Engine operation is erratic at high speeds. (cont'd)	9. Insufficient gasoline is fed to carburetor	Clean or add gasoline
Exhaust gases are very smoky.	1. Excessive engine oil 2. Worn cylinders and piston rings 3. Worn valve guides 4. Scored or scratched cylinders	Adjust oil level Recheck with level gauge Replace Replace Replace
Engine does not develop sufficient power.	1. Improper tappet adjustment 2. Weak valve springs 3. Incorrect valve timing 4. Worn cylinders and piston rings 5. Improper valve seating 6. Incorrect ignition timing 7. Defective points 8. Incorrect plug gap 9. Clogged carburetor jets 10. Incorrect float level 11. Clogged air cleaner element	Adjust Replace Adjust Replace Replace Adjust Repair or replace Repair Clean Adjust Clean
Engine is overheating.	1. Carbon deposits on cylinder head 2. Insufficient engine oil 3. Defective oil pump or clogged oil passages 4. Too low a float level 5. Advanced ignition timing (knocking)	Decarbonize Add to specified level Clean Adjust Adjust

Frame

Trouble	Probable cause	Remedy
Steering is hard.	1. Excessively tightened steering stem 2. Damaged steering stem steel balls 3. Bent steering stem 4. Low tire inflation pressure 5. Excessively tightened steering cone	Adjust Replace Replace Adjust Adjust
Motorcycle pulls to one side.	1. Unequal tension of left and right shock absorber springs 2. Bent front forks 3. Bent front axle or incorrect wheel alignment	Replace Repair or replace Replace or repair
Front wheel wobbles.	1. Deformed rims 2. Worn front wheel bearings 3. Loose spokes 4. Defective tire 5. Loose axle and related parts	Replace Replace Retighten Replace Retighten
Front shock absorbers are spongy.	1. Weak springs 2. Insufficient damper oil	Replace Add

Frame - cont'd

Trouble	Probable cause	Remedy
Front shock absorbers are hard.	1. Too high a shock absorber oil viscosity 2. Excessive damper oil	Change Adjust
Front shock absorbers are noisy.	1. Interference between shock absorber case and springs 2. Damaged shock absorber stopper rubbers 3. Insufficient damper oil 4. Loose connections	Replace Replace Add Retighten
Rear wheel wobbles.	1. Deformed rims 2. Worn rear wheel bearings 3. Loose spokes 4. Defective tire	Replace Replace Retighten Replace
Rear shock absorbers are spongy.	1. Weak springs 2. Improper rear shock absorber adjuster operation	Replace Adjust
Rear shock absorbers are	1. Improper rear shock absorber adjuster operation	Adjust
Rear shock absorbers are noisy.	1. Interference between shock absorber case and springs 2. Loose connections	Replace Retighten
Braking effect is poor.	(Front wheel, disc type) 1. Incorrect brake fluid level 2. Worn pads (Front wheel, drum type) 1. Improper brake shoe contact 2. Oil or grease on brake linings 3. Improper brake adjustment (Rear wheel) 1. Improper brake shoe contact 2. Oil or grease on brake linings 3. Worn rod or brake pedal shaft 4. Improper brake adjustment	Adjust Replace Repair or replace Replace Adjust Repair or replace Replace Replace or adjust Adjust
Brake free play is too small.	1. Worn brake shoes 2. Worn brake shoe cam 3. Improperly engaged brake arm serration 4. Worn brake cam	Replace Replace Replace Replace
Brakes are noisy.	1. Worn brake shoes 2. Foreign matters on brake shoe surfaces 3. Hardened brake shoe surfaces 4. Bent or twisted brake shoes	Replace Clean or replace Replace Replace

Electrical system

Trouble	Probable cause	Remedy
Engine fails to fire or fires weakly.	1. Defective ignition coil 2. Defective spark plugs	Replace Replace
Contact breaker points burn	1. Defective condenser	Replace

Electrical system - cont'd

Trouble	Probable cause	Remedy
Carbon is deposited on spark plug electrodes.	1. Rich fuel-air mixture 2. Idle speed too high 3. Improper gasoline 4. Clogged air cleaner element 5. Use of cold type plugs	Adjust carburetor Adjust carburetor Change Clean Replace by hot type plugs
Spark plug electrodes are foul.	1. Worn piston rings 2. Worn pistons or cylinders 3. Excessive clearance between valve guide and valve	Replace Replace Replace
Spark plug electrodes overheat or burn.	1. Use of hot type plugs 2. Engine overheating 3. Incorrect ignition timing 4. Loose spark plugs 5. Lean fuel-air mixture	Replace by cold type plugs Adjust Retighten Adjust carburetor
Generator will not charge battery.	1. Open or short circuit in wiring, or loose connections 2. Defective generator coil due to short or open circuit, or grounding 3. Damaged silicon diodes 4. Short circuit in regulator leads 5. Regulator voltage under no load is below specification	Repair or replace Replace Replace Repair or replace Adjust
Generator charges battery insufficiently.	1. Wiring • Open or short circuit, or loose connections 2. Generator • Short circuit in field coil (Check resistance by continuity test.)	Repair or retighten Replace

6. SPECIFICATIONS

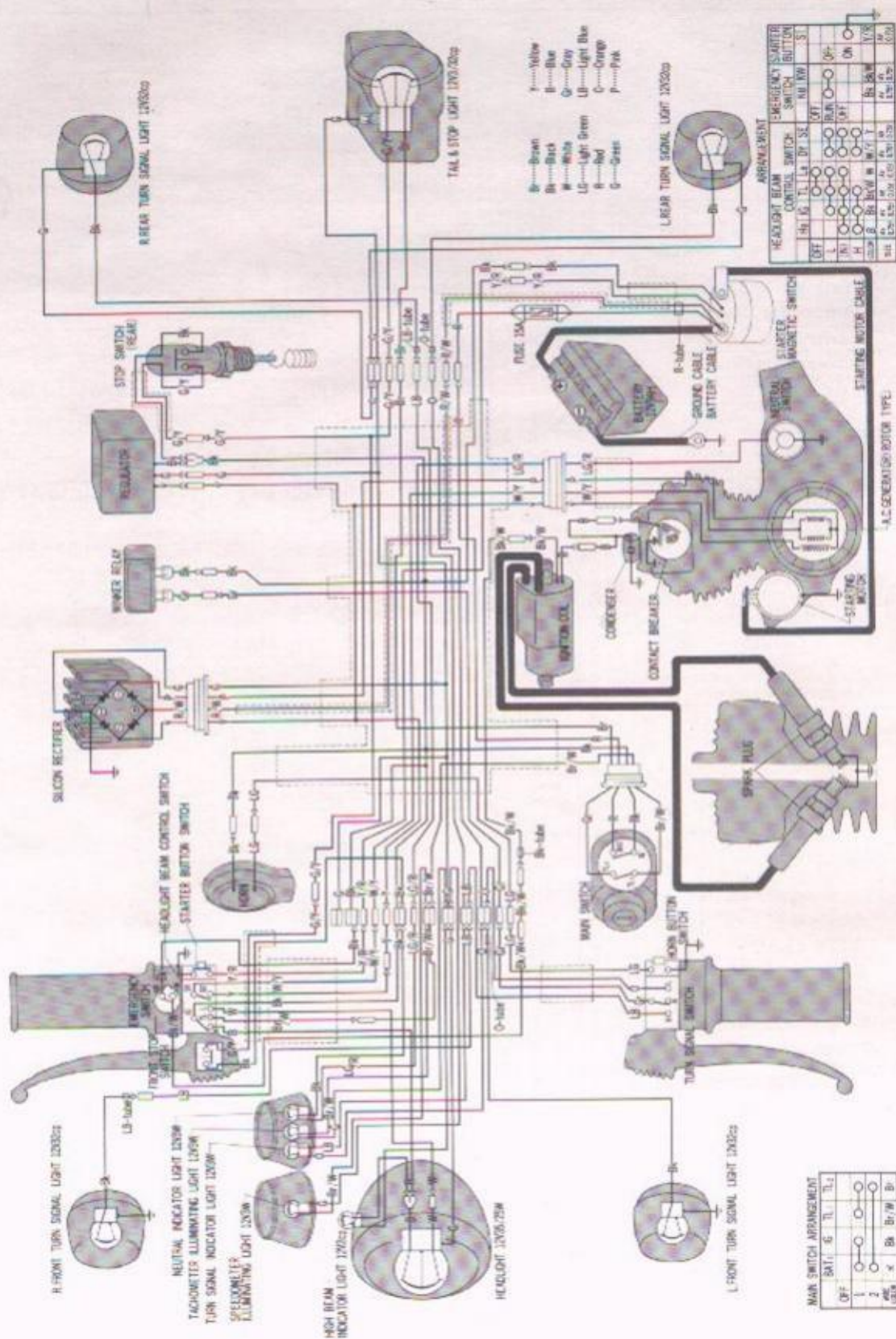
Item		CB200	CL200
DIMENSION			
Overall length		1,935 mm (76.2-in.) ** 1,975 mm	1,965 mm (77.4-in.)
Overall width		720 mm (28.3-in.)	825 mm (32.5-in.)
Overall height		1,060 mm (41.7-in.)	1,070 mm (42.1-in.)
Wheel base		1,290 mm (50.8-in.)	1,280 mm (50.4-in.)
Seat height		780 mm (30.7-in.)	795 mm (31.3-in.)
Ground clearance		155 mm (6.1-in.)	180 mm (7.1-in.)
Dry weight		132 kg (291 lbs.) ** 133 kg	
FRAME			
Type		Semi-double cradle	
F. suspension, travel		Telescopic fork, travel 105mm (4.1-in.)	
R. suspension, travel		Swing arm, travel 67.8mm (2.7-in.)	
F. tire size, pressure		2.75-18 (4PR)	
R. tire size, pressure		3.00-18 (4PR) (** 6PR)	3.25-18 (4PR)
F. brake		Disc brake (* Drum brake)	Drum brake
R. brake		Internal expanding shoe	
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.)	1.5 lit. (0.4 U.S. gal.)
Caster angle		64°	
Trail length		89 mm (3.5-in.)	90 mm (3.5-in.)
ENGINE			
Type		Air cooled, 4-stroke O.H.C. engine	
Cylinder arrangement		Twin, parallel 8° inclined from vertical	
Bore and stroke		55.5 x 41.0 mm (2.185 x 1.614-in.)	
Displacement		198 cc (12.1 cu-in.)	
Compression ratio		9.0 : 1	
Valve train		Chain driven over head camshaft	
Oil capacity		1.7 lit. (1.8 U.S. qt., 1.5 Imp. qt.)	
Lubrication system		Forced and wet sump	
Intake valve	Opens	At 5° (before top dead center)	
	Closes	At 35° (after bottom dead center)	
Exhaust valve	Opens	At 40° (before bottom dead center)	
	Closes	At 5° (after top dead center)	
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		3.700	
Gear ratio I		2.769	
Gear ratio II		1.882	
Gear ratio III		1.450	
Gear ratio IV		1.174	
Gear ratio V		0.960	
Final reduction		2.333	2.465
Gear shift pattern		Left operated return system	
ELECTRICAL			
Ignition		Battery and ignition coil	
Starting system		Starting motor and kick starter	
Alternator		A.C. generator	
Battery capacity		12V-9AH	
Spark plug		NGK D8ES-L ND X24ES	

* Indicates specification of U.K. type

** Indicates specification of European type

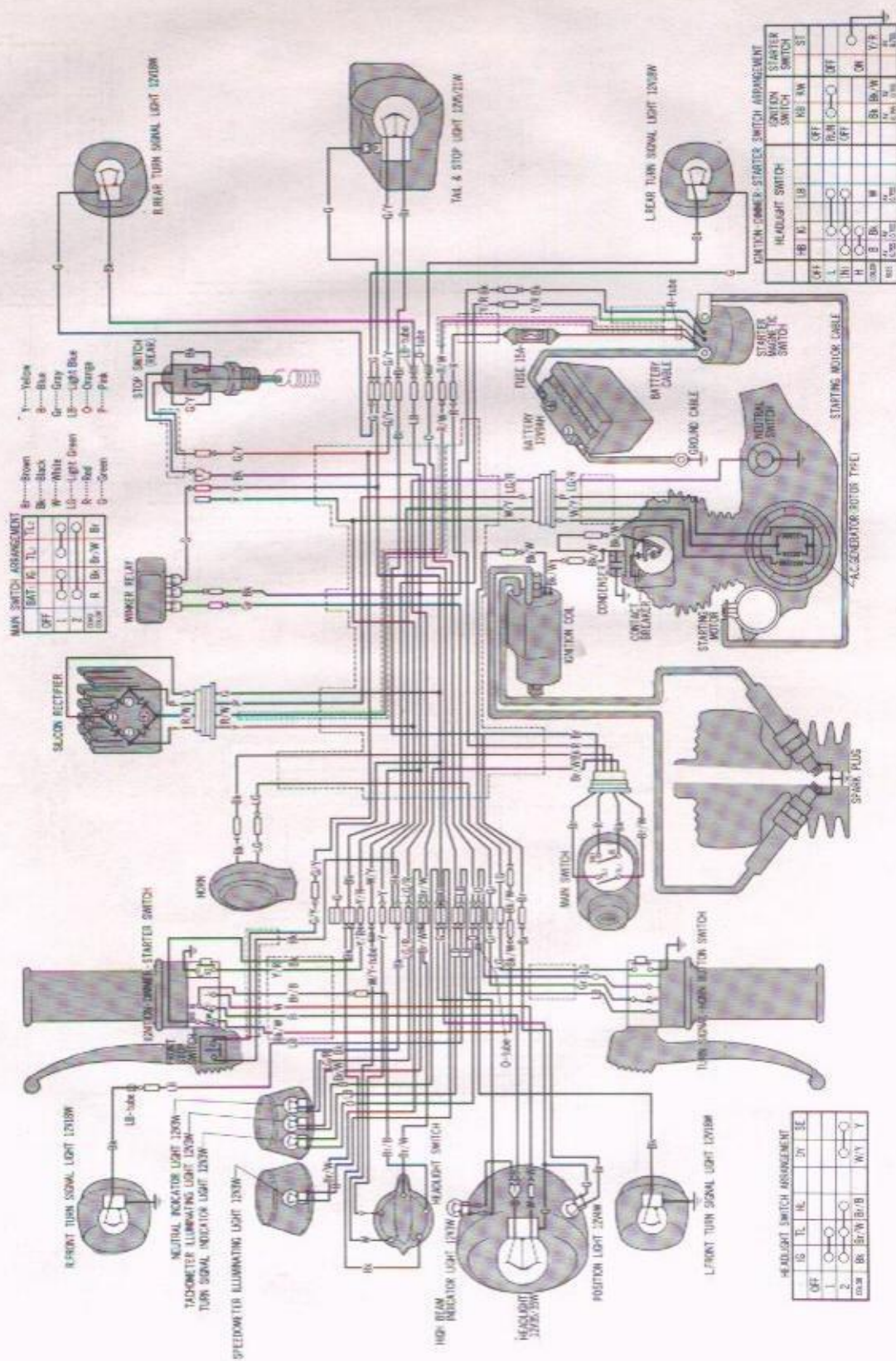
7. WIRING DIAGRAM

(U.S.A. TYPE)



[illegible]

(EUROPEAN TYPE)



RACCORDS-ENTRÉE DU COMMANDEUR PRINCIPAL

OFF	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
OFF	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100

RACCORDS-ENTRÉE DU SELECTEUR DE PHASE

OFF	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
OFF	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100

CB200T

ADDENDUM SHEET

1. FUEL COCK

The indicator marks and their positions on the fuel cock was changed to a new type.



Fig. T-1 (1) Fuel cock
(2) Lever

2. MAIN SWITCH

The headlight switch, previously offered on the switch housing at the right side of the steering handlebar, was discontinued. Move the mainswitch to "ON" position to turn the headlight and taillight on and to the "Parking" position to turn the taillight (parking light) on.

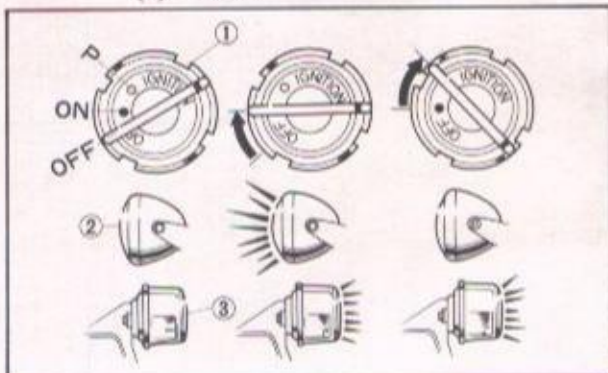


Fig. T-2 (1) Main switch
(2) Headlight
(3) Taillight

3. HEADLIGHT DIMMER SWITCH

A new dimmer switch was added to the turn signal and horn switch housing at the left side of the handlebar.

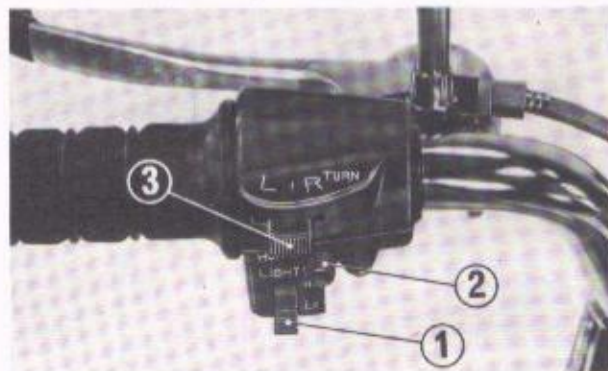


Fig. T-3 (1) Dimmer switch
(2) Horn switch
(3) Turn signal switch

4. SIDE STAND

The side stand was changed to a new type with a shock absorbing rubber pad.

Inspection

1. Check the entire stand assembly (side stand bar, bracket and rubber pad) 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 (4.4-6.6 lbs.).
If the stand requires force exceeding the above limit, this might be due to neglected lubrication, over-tightened stand pivot bolt, worn stand bar or bracket, or otherwise excessive tension. Replace as necessary.

4. Check the rubber pad for deterioration or wear.

When the rubber pad wear is excessive so that it is worn down to the wear line, replace it with a new one.

Rubber pad replacement

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

NOTE:

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

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

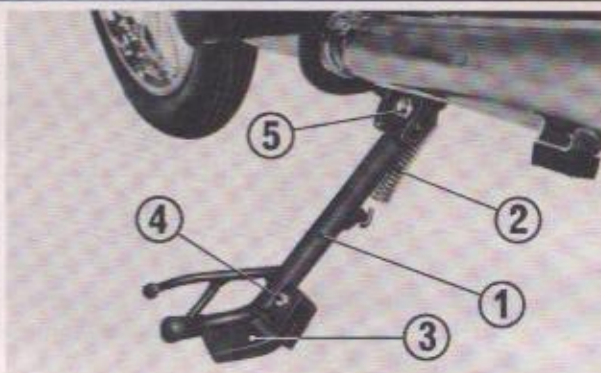


Fig. T-4 (1) Side stand bar (2) Spring
(3) Rubber pad (4) 6mm bolt
(5) Side stand pivot bolt

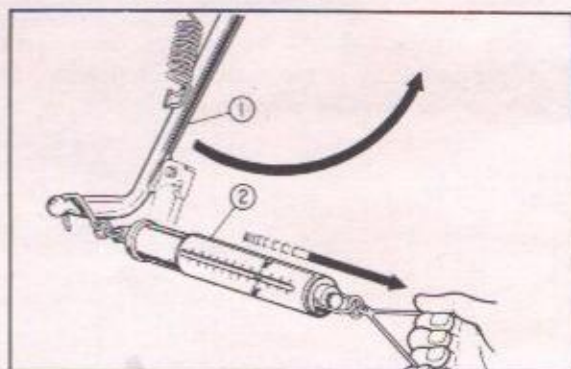


Fig. T-5 (1) Side stand bar
(2) Spring scale

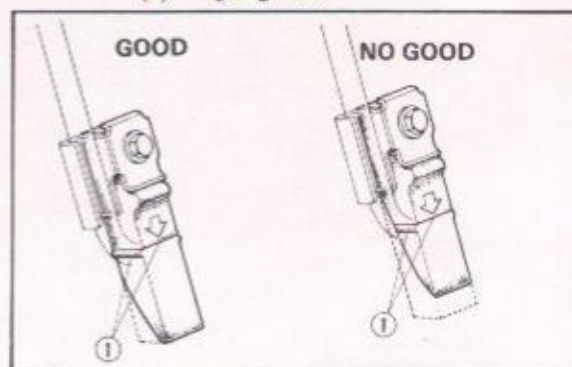


Fig. T-6 (1) Wear line

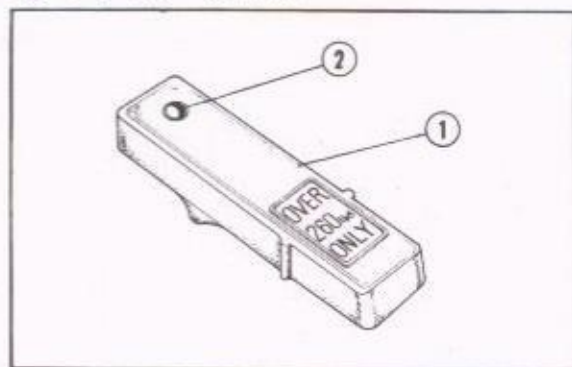


Fig. T-7 (1) Rubber pad
(2) Collar

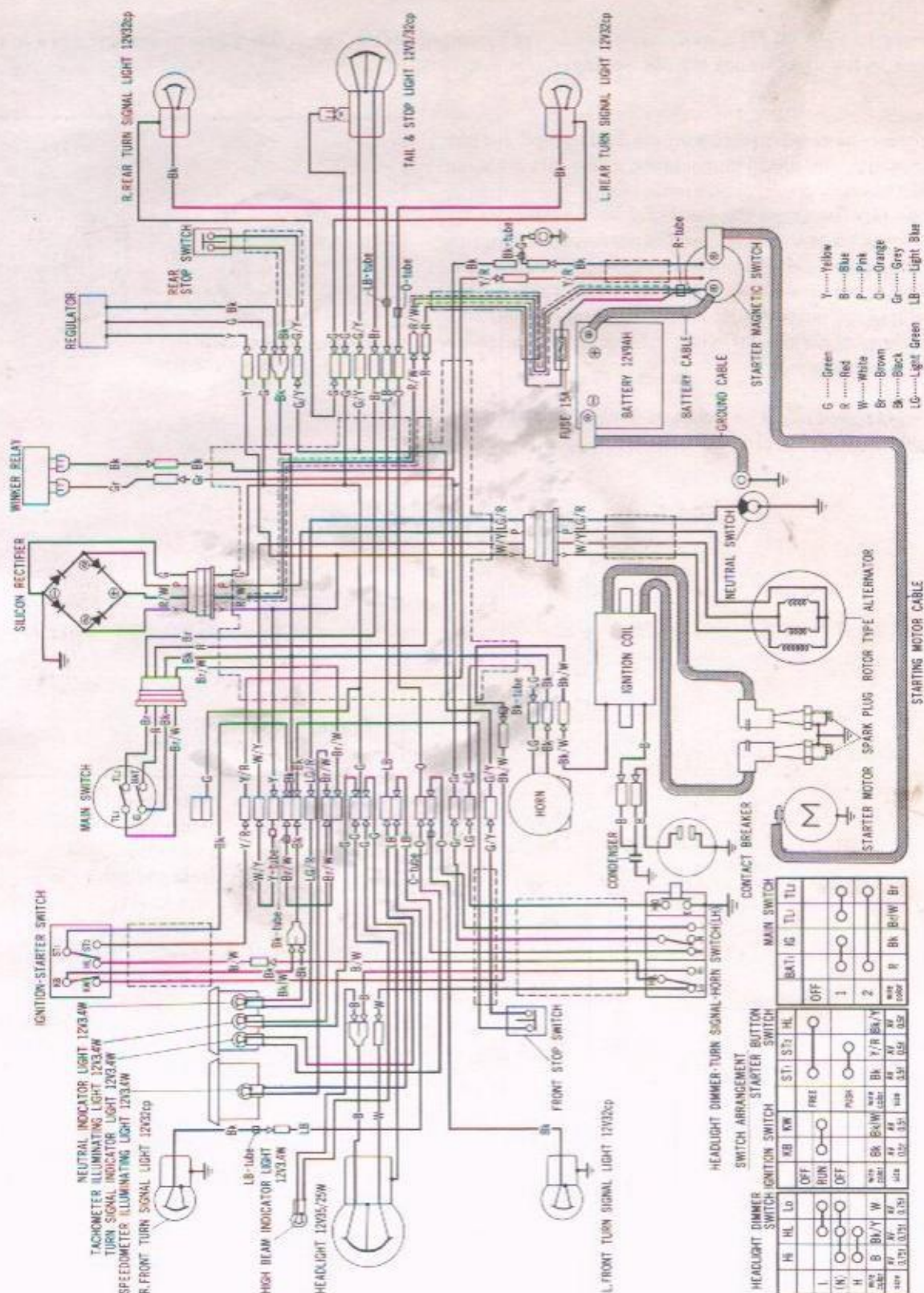
5. MAINTENANCE SCHEDULE

Some additions occurred in the MAINTENANCE SCHEDULE, of which details are as shown immediately below:

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.			
	500 miles	1 month	3 months	6 months	12 months
		500 miles	1,500 miles	3,000 miles	6,000 miles
*SIDE STAND—Check installation, operation, deformation, damage and wear.				○	

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.

6. WIRING DIAGRAM (CB200T)



BRAKE INDICATOR

Conforming to FMVSS122, a wear indicator has been incorporated on the brake system to indicate when to replace the brake shoe without performing the disassembly.

Operation

The brake panel is provided with the index mark, and the brake arm is installed on the brake cam shaft with the brake indicator plate in between.

If the index marks on the panel and on the indicator are not aligned when the brake pedal is depressed, it indicates that the brake shoes and drum are in good condition. As the brake shoes wear, the brake cam moves as shown and, therefore, the index marks reach alignment. Check the brake shoes and drum for wear and replace if the service limit is exceeded.

Applicable production models and Frame serial Nos.
CB200 CB200-1010116 and subsequent

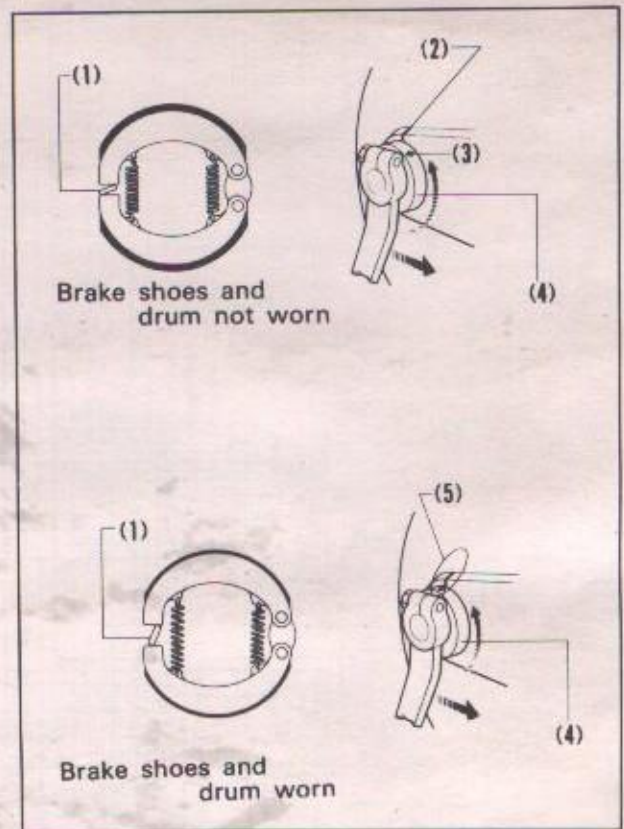


Fig. T-8 (1) Brake cam
(2) Index mark
(3) Arrow mark
(4) Brake indicator plate
(5) Wear limits