WIRING DIAGRAM
ENGINE TUNE-UP

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The engine tune-up referred herein is the diagnosis for the determination of the cause of the engine malfunction, lack of power or abnormal fuel consumption, and the maintenance and servicing task to adjust the engine to its best operating condition. The processes described below is confined within the scope of preventive maintenance operation and does not constitute an overhaul or disassembling. It is recommended that the sequence of operation outlined below be followed when performing the tune-up.

The engine tune-up operations are basically a part of the periodical maintenance except compression test of engine. Therefore, for the operations other than the compression test and road test, refer to the pertinent part of the Group of Periodical Maintenance.

1. COMPRESSION TEST

Before a tune-up is performed, the engine must be in a condition suitable for tuning up. This can be determined by first checking the compression of each cylinder to assure that the compression pressure is normal. This test is conducted with the engine properly serviced with engine oil and warmed up to operating temperature, and then following the procedure below.

a. Remove all the spark plugs from the cylinder head. After the spark plug has been removed, carefully clean the areas around the spark plug hole and seat to remove any dirt and grease.

b. Insert the end of the compression gauge into the spark plug hole and make sure that it is properly seated.
c. Twist the throttle grip so that the throttle is at maximum opening, and set the carburetor choke valves to full opened.

d. Crank the engine with the starter motor and record the highest pressure indicated on the compression gauge. (Fig. 18-1)

Perform this test for each of the cylinders.

The normal compression pressure is 150 psi (10.5 kg/sq.cm) - 170 psi (12.5 kg/sq.cm)

If the compression pressure varies by more than 10% between the highest and lowest cylinders or if the pressure of any cylinder is lower than normal, it is an indication that there is a probable defect in the engine, such as worn or broken piston rings, poor valve seating or leaking head gaskets. The defect must be corrected before attempt is made to tune-up.

Refer to page 33–35 for repair procedures.

2. SERVICE SPARK PLUGS .......................................................... (Refer to page 179)

3. CHECK AND ADJUST IGNITION TIMING ........................................ (Refer to page 180)

4. SERVICE BATTERY ................................................................. (Refer to page 184)

5. ADJUST VALVE TAPPET CLEARANCE ........................................ (Refer to page 181)

6. ADJUST CAM CHAIN ............................................................... (Refer to page 181)

7. SERVICE AIR CLEANER ............................................................ (Refer to page 181)

8. CHECK AND SERVICE FUEL SYSTEM ......................................... (Refer to page 181)

9. ADJUST CARBURETOR ............................................................. (Refer to page 182)

10. CHANGE OIL AND OIL FILTER .................................................. (Refer to page 178)

11. ROAD TEST

After completing the initial series of the tune-up, start the engine in the normal manner. Ride the motorcycle and conduct the road test to check the starting, acceleration, and also for stable riding at low and intermediate speeds. If possible ride the motorcycle at high speed and also check for mis-fire during acceleration and deceleration and during rough riding; flat spot during acceleration. If the results of the test are not completely satisfactory, the trouble diagnosis of the engine, clutch and brake should also be performed.
# PERIODICAL MAINTENANCE

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## MAINTENANCE SCHEDULE

The following maintenance schedule is based upon average riding conditions. Machines subjected to severe use, or ridden in unusually dusty areas, require more frequent servicing.
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500 miles

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<th>6 months</th>
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* Items marked with an asterisk 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
MAINTENANCE OPERATION

1. Change engine oil

(1) Take the oil tank cap off and remove the drain plugs from the oil tank and lower crankcase. (Fig. 19-1, 2) The oil will drain steadily. Operate the kick starter several times to drain any oil which may have been left within the pockets of the engine. After the oil has been thoroughly drained, reinstall and tighten the drain plugs.

(2) Add approximately 3.0 qts. (2.9 lit.) of good grade oil of MS, DG or DM, SAE 10 W-40 or 20 W-50 into the oil tank and start the engine. After making sure that the warning light is off, raise the engine rpm to 1000-1500 and run the engine for one or two minutes.

Stop the engine and check the oil level in the tank with the dipstick on the filler cap (Fig. 19-3) and add oil if necessary to bring the oil to upper level line.

(3) First oil change should be done at 200 miles (300 km) and thereafter oil change should be made at 1500 mile (2500 km) intervals as described in the listed schedule list.

2. Change oil filter element

(1) Remove oil filter cover by unscrewing the oil filter retaining bolt. (Fig. 19-4)

Discard oil filter element and oil filter rubber packing. Clean the oil filter cover and other components with clean gasoline or solvent and dry them before reinstall. Replace the oil filter cover with a new element and rubber packing.

Having installed the filter cover, start the engine and inspect oil seepage.

(2) The oil filter should be changed according to the schedule. However for convenience it should be done when the oil is changed.
3. Clean oil pump strainer

Remove oil pan cover by unscrewing ten bolts (6 mm). Remove the oil pump strainer from the oil pump body and clean the strainer and oil pan cover with solvent. Fit the strainer to the pump body by the rubber clamp.

Attach the cover with a new gasket, and then inspect oil seepage around the cover by starting engine. (Fig. 19-5)

4. Check engine oil pressure

The oil pressure can be checked by removing the oil path cap on the right side of the crankcase and installing a pressure gauge adapter (Tool No. 07510-3000000), pressure gauge (Tool No. 07506-3000000) and running the engine. If the oil pressure is 50 to 64 PS1 (3.5~4.5 kg/sq. cm) at approximately 3000 rpm engine speed and the oil temperature at 140°F (60°C), the condition is satisfactory. If the condition is unsatisfactory, refer to the section of Oil Pump on page 60. (Fig. 19-6)

5. Service spark plug

(1) Remove the spark plugs with spark plug wrench for CB 750. The spark plug which was removed must be inspected in detail. If the electrodes are excessively worn, deformed or if the porcelain is broken, the plug must be replaced. Inspect each spark plug for make and heat range. All plugs must be of same make and suitable heat range.

(2) The spark plug which is satisfactory for reuse should be cleaned with a spark plug cleaner. If a spark plug cleaner is not available, use wire brush or a stiff pointed wire to remove any carbon deposits from the electrodes and also from around the tip of the porcelain insulator; followed by washing it thoroughly in solvent and then drying with a rag.

(3) If necessary, adjust the gap to a standard value of 0.024~0.028 in. (0.6~0.7 mm) by bending the ground electrode. Check the electrodes gap with a thickness gauge.

(4) If a spark plug tester is available, the plug should be tested to assure that its condition is satisfactory. Any plug that is found to be poor in performance should be replaced.

(5) Use the spark plug wrench to install the plug. Insert the plug into the wrench socket, position the threaded end of the plug squarely against the spark plug hole to prevent cross-threading and carefully screw the plug into the hole by turning the socket by hand until finger tight. Complete tightening by attaching the bar handle on the plug wrench and torque 1/2~3/4 turn.
Caution:
- A plug which is cross-threaded into the plug hole will be hard to turn, attempt to forcibly screw in the plug will cause damage to the cylinder head.
- Refrain from over-torquing the spark plug as this will result in a change to the spark gap and also make it difficult to remove the plug.
- Do not forget to install the spark plug washer.
- Do not attempt to dry or remove soot from the plug by burning.

6. Check and adjust ignition system

(1) Inspect the condition of the spark plug wiring and plug cap. Replace any wire showing signs of aging which is noted by cracks or by wear; also replace any plug cap which is broken.

(2) Inspect in detail the wiring and connectors of other ignition components such as the ignition coil, high tension cords, breaker point contacts, and replace any items found to be defective. Tighten any loose terminals.

(3) Inspect the breaker point contact surfaces. Remove the contact breaker point cover from the right side of the crankcase, turn the crankshaft in the clockwise direction until one set of breaker points is at maximum opening (point arm slipper resting on the peak of the cam lobe) and then check the condition of the point surfaces. The points may be further opened by a finger to enable better inspection. Do not force to open excessively, otherwise it may damage the point spring.

If the point surfaces are dirty or coated with grease, wipe off with a clean dry rag.
If the point surfaces are discolored and slightly become roughness, or pitted, use a point file to remove any metal built-up or scales and then wipe clean with a dry rag. Do not use any emery or sandpaper to clean the surfaces as the dust will become lodged between the points and cause trouble.

When the point surfaces are excessively burnt or deeply pitted, rather than dressing down the surfaces with a point file or an oil stone to obtain a smooth surface, replace the points in set. Further, a diagnosis should be conducted to determine the cause of this problem and corrected to prevent its recurrence. (Refer to page 90)

(4) Inspect and adjust breaker point gap. Measure the point gap with a flat ended thickness gauge when the opening is at its maximum. The standard gap is 0.012~0.016 in. (0.3~0.4 mm). If the gap is not in the limit, adjust it in accordance with the proper method. (Refer to page 90)

(5) Inspect point cam lubrication. If the cam lobe oiling felt is dried supply a drop of engine oil by oil can. Do not lubricate too much or drop oil to other part of the contact breaker.

(6) Inspect and adjust ignition timing. If the timing light is available, check the ignition timing and the spark advance under engine operating condition. Ignition timing can also be checked statically by the use of the continuity timing light or by visually observing the timing marks to determine the instant when the breaker points open. Replace the contact breaker point cover and tighten screws securely. As the ignition timing will
affect to the engine performance, a precise adjustment is required when the timing is off from the standard setting. For adjustment refer to timing adjustment. (Refer to page 85~86)

(7) Observe the contact points while the engine is running and if a spark through the points is notable, test the condenser for capacity and insulating resistance. (Refer to page 90) Replace the condenser when it is unservicable.

7. Adjust valve tappet clearance

Drain the remaining gasoline from the tank or turn the tank valve to the OFF position and plug up the outlets of fuel lines to prevent gasoline from leaking. Remove the fuel tank, contact breaker point cover and tappet hole caps.

Use a thickness gauge and measure the valve tappet clearance. The inlet valve should be 0.02 in (0.05 mm) and the exhaust valve 0.003 in (0.08 mm). If any adjustment is required, do not forget to tighten the tappet adjusting screw lock nut after the adjustment is completed. (Refer to page 42~43)

The rubber gaskets for the tappet inspection holes cap should be replaced with new items.

8. Adjust cam chain

Perform the cam chain adjustment in accordance with the procedures outlined on page 38. Adjustment is made by loosening the tensioner lock nut and lock bolt, this will allow the tensioner applying proper tension to the cam chain. Tighten the lock bolt and nut to complete adjustment.

Caution:
Do not apply additional pressure on the tensioner push bar.

9. Service air cleaner

Remove the air cleaner and perform dusting in the following manner.

(1) Remove left side cover and remove the air cleaner lower case by loosening the wing nuts.

(2) Remove the air cleaner element and clean it by tapping lightly to loosen dust then using a soft brush, the remaining dust can be brushed from the outer element surface or apply compressed air from the inside of the element. (Fig. 19-9)

(3) Install the air cleaner lower case.

10. Check and service fuel line and fuel valve

(1) Check the vent hole in the fuel tank cap to make sure that it is not clogged or restricting the free flow of air; in which case the vent hole should be cleaned or the cap gasket be replaced. The fuel tank and the fuel tube leading from the tank to the carburetor should be inspected for fuel leaks, sharp bend or kink in the fuel tube, or loosening of the tube clips.

(2) Check the operation of the fuel valve by positioning the cock lever to the OFF position, disconnecting the fuel tube at the carburetor, and then positioning the cock lever to the ON and RES position to make sure that there is fuel flow in both positions. If there is insufficient flow in either of the position, check the valve packing or other
19. PERIODICAL MAINTENANCE

Valve components which may be causing the trouble and make the repair. Further, if there is fuel leak with the lever in the stop position, the valve packing is defective and should be replaced.

Caution: Whenever fuel has been spilled on the engine, it should be completely wiped off before starting the engine, or else, there may be possibility of a fire.

(3) Remove the fuel valve strainer cup and clean the strainer and cup with gasoline. If it is necessary to replace the strainer, the gasket should also be replaced. Tighten the strainer cup properly. When cleaning the strainer or when checking the valve for fuel flow, the fuel should not be permitted to spill on the floor but, rather, should be caught in some type of vessel so as not to create a fire hazard condition.

11. Adjust carburetor

(1) Operate the choke valve through the full operating range and check its condition. If there is any unsatisfactory condition, the cause should be determined and corrected. Next, start the engine and with it operating at idle speed, close the choke valve fully; if the engine does not stall out, the choke rod for the respective carburetors should be adjusted so that the choke valves are fully closed. (Refer to page 78)

To adjust the choke valve precisely, disconnect the fuel tank and the carburetor connecting tube, peep into the inlet port and check the clearance between choke valve and venturi when the choke valve is fully closed. The clearance should be 0.02 in (0.5 mm).

(2) Start the engine and allow to warm up for several minutes. Then check to see if the idling speed is 850–950 RPM with the tachometer relatively stable. If the speed is not within this range, make the adjustment with the throttle stop screws by turning all four screws equally within the range of 1/4 turn clockwise to increase speed. (Refer to page 78–80)

(3) Next, connect the vacuum gauge to each of the four carburetors and measure the vacuum pressure during idle speed. The pressure indications should be uniformly within the range of 20–22 cm HG and the gauge needle should not swing excessively. If adjustment is necessary, it is performed with the pilot air screw and the throttle stop screw. (Fig. 19–10)

If in case where the vacuum gauge is not available, listen to the exhaust noise while slowly twisting the throttle grip to open throttle valve (approximaterly 1/4 turn). If the noise is random or popping, adjust the air screws to synchronize exhaust pressure of each of the cylinder by placing a hand at the exhaust outlet. (Refer to page 80–81)

(4) Operate the throttle grip slowly and then rapidly for both accelerating to assure that the engine response is smooth. Also, perform the same check with the handle turned fully to both the right and left. If the condition is not normal, the problem is probably in the routing of the throttle cable or in its adjustment and should be corrected after the cause has been determined.

The standard throttle grip play is 10° to 15°. Adjust the throttle grip play at the throttle wire.

12. Oil tank and oil filter servicing

(1) The engine oil and the oil filter are replaced at the specified intervals. Check the oil
condition frequently and the filter during the oil change period and if it is found to require replacement at short intervals, then the change intervals should be made as necessary to suite the condition. (Refer to page 17B).

(2) Check the oil level in the oil tank and if it is found to be low, the oil should be replenished with that of the specified grade.

(3) Check the oil pressure by removing the oil path bolt located on the right side of the crankcase, and install the pressure gauge. Operate the engine at 3,000 rpm and when the engine has attained the operating temperature, take the pressure reading. The pressure indication should be 50-64 PSI (3.4-4.5 kg/sq.cm). If the pressure is not normal, the cause of the trouble must be determined and corrected.

13. Check and adjust clutch

(1) Start the engine

Pull in the clutch lever and shift into low gear and check that the engine does not stall, nor the motorcycle starts to creep. Gradually release the clutch lever and open the throttle, and check that the motorcycle should start smoothly and gradually accelerate without slippage. If any trouble is found first adjust the clutch properly before proceeding further check.

(2) To adjust, perform the following steps.

a. Screw the clutch cable adjusting bolt A, located at the clutch lever, all the way into the clutch lever bracket. (Fig. 19-11)

b. Turn the clutch cable adjusting bolt located at the clutch housing, in the direction A to loosen the clutch cable. (Fig. 19-12)

c. Remove the clutch cover, loosen the clutch lifter adjusting screw lock nut, turn the clutch adjusting screw in the clockwise direction until a slight resistance is felt. From this position, turn the adjusting screw in the counter clockwise direction 1/4~1/2 turn. Tighten the lock nut. (Fig. 19-13)

d. Turn the clutch cable adjusting bolt located at the clutch housing lower right side of the engine in the B direction so that there is approximately 3/4 of free play at the clutch lever; then tighten the lock nut. (Fig. 19-12)

e. The remaining clutch lever free play is obtained by the clutch cable adjusting bolt.

(3) The nominal clutch lever free play is 0.4~1.0 in (10~25 mm) measured at lever end before the clutch starts to disengage.
14. Service battery

(1) Remove the left cover by pulling free of the rubber mounts and by raising the seat. Observe the electrolyte level from the left side at the motorcycle. If it is necessary add distilled water carefully to bring the electrolyte level of the cells between the lower and upper marks. (Fig. 19–14)

(2) Remove the battery cell caps and check electrolyte specific gravity in each cell with a hydrometer. (Fig. 19–15)

If specific gravity reading drops below 1.200 at 68°F (20°C) the battery should be charged at a rate not to exceed 4.2 Amps, until the reading becomes between 1.260 and 1.280 at 68°F (20°C).

(3) Connect the voltmeter leads to the battery terminals, and measure the voltage. If the voltage is less than 12 V after correcting to 77°F (25°C) electrolyte temperature the battery should be thoroughly checked and the problem diagnosed.

The correction of voltage to 77°F (25°C) should be based on the following formula.

\[ V(77°F) = Vt + 0.0378(t - 77) \]

\[ V(25°C) = Vt + 0.0378(t - 25) \]

(\(Vt\): measured value of voltage, \(t\): average electrolyte temperature of all cells)

Based on the result of the battery test, determination should be made whether the generator and the regulator requires testing. If the condition of the battery tests satisfactory, it will not necessary to check charging system during tune-up.

(4) Inspect the condition of the both positive and negative battery terminals, positive terminal rubber cap, battery vent tube and the rubber band of the battery retainer, and if any of the items are defective, they should be replaced. Tighten all items securely.

Caution: Exercise extreme care in handling the battery as any battery electrolyte spilled on the painted surface will cause damage to the finish. Further, clean any dirt or corrosion from top of the battery.

15. Check and service front suspensions

(1) Check the front fork assembly by locking the front brake and pumping the fork up and down vigorously. In this case the motorcycle must not be on the main stand. If there is a slight knock felt in the steering
head balls, adjust the steering head top nut to remove excessive play. In this case care should be taken so that it will not be tighten excessively (Refer to page 118)

(2) Change the oil in the front fork.
   a. Unscrew the front fork drain plug at the bottom of the fork cylinder, drain the oil by pumping the forks while plug is out. Replace the plug securely after draining. (Fig. 19-16)
   b. Remove the top filler plug and fill the front fork with 7.0~7.3 ozs. (220~230 cc) of premium quality of SAE 10W~30 grade. (Fig. 19-17)
   c. Securely tighten the top filler plug after filling.

(3) Check the following items and if there is any fault, correct before riding.
   a. Operation or attachment of the steering lock—repair or replace steering lock.
   b. Tightness of the front fork mounting bolts (four on the bottom of the cylinders and two on the steering stem plate), steering stem top plate bolts and four handle bar holder bolts or front fork cylinder—tighten the loose bolts.

16. Check and service rear suspension

(1) Lubricate grease nipples on the both side of the rear fork pivot shaft (Fig. 19-18) with multi-purpose grease type NLGI No. 2 every 6 months or every 3000 miles (5000 km), whichever occurs first.

(2) Check the following items and if there is any fault, correct before riding.
   a. Deform or cracks in welding spots in the rear fork—repair or replace.
   b. Worn rear fork pivot bushing—replace bushing.
   c. Tightness of rear cushion mounting bolts (upper and lower bolts)—retighten.

17. Check front and rear wheels and tires

(1) Check the following items and if there is any fault, correct before riding.
   a. Tightness of spokes—retighten loose spokes with even torque.
   b. Deform of wheel rims—replace if run out exceeds the limit (refer to page 133).
   c. Wear of wheel bearings—replace.
   d. Bent of wheel axles—replace.

(2) Check wear of tire tread and if the depth of tread becomes less than 0.08 in (2.0 mm) on the rear tire and 0.06 in (1.5 mm) on the front tire replace the tire.

18. Check and service brakes

(1) Check the wear of the front brake friction pads by measuring the clearance between the front of the caliper and brake disc face by means of a thickness gauge.

   If the clearance becomes less than 0.08 in (2.0 mm) both friction pads should be replaced with new Honda genuine replacement pads as a set. (Fig. 19-19)

   To replace the brake pads the brake caliper must be removed the front fork.

   After replacing the brake friction pads remount the caliper to the front fork. (Refer to page 146)
10. PERIODICAL MAINTENANCE

(2) The brake caliper must be adjusted so that there is a small clearance between the fixed friction pad and the brake disc. (Refer to page 147-148)

(3) Check brake fluid seepage around the front brake system. If there is any symptom, repair it before riding.

(4) Check the operation of the front brake and if the feeling of lever motion is soft or spongy, or lever travel is excessive, bleed the front brake system. (Refer to page 138-139)
For bleeding the brake or for replenishing the reservoir use only SAE type 70R3 brake fluid.

Caution: Take care so that the paint surface will not be contaminated by the brake fluid, or otherwise the paint surface will be affected by the fluid.

(5) Remove rear wheel and check the brake shoes for wear of linings. If the thickness of the lining becomes less than 0.08 in (2.00 mm) at the most worn part, replace both brake shoes with new Honda genuine replacement brake shoes. Replace the rear wheel. (Refer to page 148-149)

(6) Rear brake adjustment must be done by the rear brake adjusting nut to obtain the proper brake pedal free travel.
To adjust the rear brake free travel place the motorcycle on the main stand. Rotate the wheel by a hand and rate the distance of the pedal tip travel before the brake takes hold. Nominal free travel is approximately 1 in. (25 mm). Turn the adjusting nut clockwise for less free travel. After adjustment has been made make sure that the cut-out on the adjusting nut is seated on the brake arm pin.
Whenever the rear wheel is removed or the drive chain is adjusted check the brake pedal free travel.

(7) Check the following components for crack or deformation and take proper steps as necessary.
   a. Rear brake arm and brake cam.
   b. Rear brake panel
   c. Rear brake rod
   d. Brake pedal
   e. Rear brake torque link

19. Check and service drive chain and sprockets

(1) Check and adjust slack of the drive chain according to the following procedure.
   a. Place the motorcycle on the main stand. Move the chain up and down at midway point and check the total movement. It should be in 1/2 in to 1 in (10 mm to 25 mm).
   b. When the adjustment is required remove the rear axle nut cotter pin and remove the rear axle nut. Loosen the two lock nuts on the drive chain adjusting bolts. Adjust the drive chain movement by equally rotating both adjusting bolts with the aid of scales marked on both sides of the rear fork.
   c. Tighten the lock nuts of adjusting bolts and the axle nut to the specified torque of 58-72 ft.lb (8-10 kg.m). Install a new cotter pin and reinspect the slack of drive chain by rotating the rear wheel.
   d. Drive chain should be checked and adjusted, at the specified intervals. If wear of the chain becomes excessive, replace it with a new chain of the same size.

(2) Servicing grease to the drive chain is done according to the following steps.
   a. To remove the drive chain, first remove the transmission sprocket cover screws and cover. Remove the forward chain cover bolt and loosen rear chain cover bolt. Position the drive chain master link or joint on the rear wheel sprocket and remove the retaining clip with pliers. Do not bend or twist the clip.
b. Clean the chain thoroughly in a suitable solvent. Rinse in clean solvent and allow to
dry. Inspect the chain for wear (joint sloppiness), stiffness and binding at the joints and
broken or separated rollers. If any of these conditions exist, the chain should be replaced.
c. Immerse the chain in a pan or vessel containing a 10 to 1 ratio mixture of SAE 10W-
40 engine oil and petroleum jelly (1/2 qt. oil to 5 oz. petroleum jelly) and heat to 150°F (66~100°C) for approximately 10 minutes.
d. Remove the pan from the sources of heat and carefully agitate the immersed chain
with a screwdriver. When cool, remove the chain allowing it to hang over the pan and
drain off excess lubricant. Use a cloth or rag to wipe off remaining excess lubricant.
e. Correctly route drive chain onto the
sprockets using the rear sprocket to position the chain ends while installing the
master link, link side plate and retaining clip. Note that the closed end of the
retaining clip must face the direction of
forward wheel rotation. (Fig. 19-20)
f. Adjust rear drive chain.

(3) Check the drive and driven sprockets for wear in the teeth and replace the worn
sprocket with a new one when it is badly worn.

20. Check components of the body
(1) Visibly inspect the frame for crack and deformation on the motorcycle which was
reported as it was collided or split over before. If any of these conditions exist, replace
the frame with a new one or repair it properly so that the wheel alignment will not be
changed.
(2) Check the exhaust pipe and muffler for gas leak and check oil tank and hose for oil
seepage and correct fault as required.

21. Check and adjust lights, horn and instruments
(1) Check focusing of head light beam and adjust it according to the following process
when it is necessary.
   a. The vertical adjustment is made by loosening the bolts which mount the head-
light assembly. The headlight is adjusted in the vertical direction so that the
center of the beam inspects the ground

t he point 164 feet (50 m) in front of the
motorcycle with the motorcycle in the
riding attitude.
b. The horizontal beam adjustment is made
with the adjusting screw located on the
left side of the headlight when facing the
motorcycle. Turning the screw in will
focus the beam toward the left side of the
rider and turning the screw out will focus
the beam toward the right side. Adjust
the beam to coincide with the center line of the motorcycle. (Fig. 19-21)

(2) Check operation of stop light switches on the front brake master cylinder and at the rear brake pedal separately. The one on the front brake is not adjustable and the other on the rear brake is adjustable. Therefore when the front brake switch become out of order it has to be replaced.

Adjust the rear brake stop light switch so that the stop light will come on when the brake pedal is depressed to the point where the brake just starts to take hold. If the stop light switch is late in switching on the stop light, screw in \( \mathcal{A} \) the switch lock nut and if the stop light comes on too early, screw out \( \mathcal{B} \) the switch lock nut. (Fig. 19-22)

(3) Check operation of turn signal lights and repair when it is necessary.

(4) Check horn, speedometer and tachometer for function and replace them when it is necessary.
COMPARISON OF CB750 K1 to CB750

ENGINE MECHANICAL

LUBRICATION SYSTEM

DRIVE CHAIN OILER
The oil which lubricates the chain is fed from the center of the shaft, through the porous sintered oil reserve element (7), along the outer surface of the rubber orifice (8), out the oil passage (4) and along the surface of the drive sprocket.

To simplify the procedure for regulating the feed of the lubricant, it is performed by the adjusting screw (1) in the chain oiler. Turning the screw clockwise (A direction) will force the rubber orifice against the oil reserve element, causing it to expand and restricting the flow of oil around the rubber orifice. Turning the adjusting screw counter clockwise (B direction) will permit the rubber orifice to shrink toward its normal size and allow greater oil flow. In other words, the change in the diameter of the rubber orifice regulates the amount of oil to lubricate the drive chain.

ADJUSTMENT PROCEDURE
1. Remove the rear crankcase.
2. Wipe the oil on the drive chain thoroughly with a rag.
3. The adjusting screw is adjusted to maximum oil flow on all motorcycles leaving the factory. After riding for a short period, if excessive oil is noticed by indication of chain oil on the rim, fender, spokes etc., turn the adjusting screw about 1/4 turn in the clockwise direction and recheck the oil flow condition after riding for one minute at 50~70 mph (80~110 kph). The adjustment is proper if the chain link plates and rollers are
wet with oil and the other areas are free from excessive oil.

4. Readjust the screw if necessary until the proper oiling condition is obtained.

SUPPLEMENT LUBRICATION

Drive chain rollers and side plates must be properly lubricated at all times. Sustained high-speed driving or improper adjustment of the chain oiler may cause inadequate lubrication. If the rollers or side plates are dry or show evidence of rust, apply a high-quality chain lubricant according to the manufacturer’s instructions.

CAM CHAIN TENSIONER

A loose cam chain causes a loud clattering noise. It may also affect valve timing, resulting in performance loss.

A recommended crankshaft position for adjusting the cam chain tensioner is that when the crankshaft is rotated to 15° ATDC of cylinders #1 and #4, immediately after cylinder #1 has fired.

Adjustment

1. Remove the tappet covers from the #1 cylinder.

2. Remove the point cover, and use a 23 mm box wrench to rotate the crankshaft to the “T” position for cylinders #1 and #4 (1.4).

3. Check the both valves of #1 cylinder. If both valves are free, proceed to next step: if either or both of the valves are tight, rotate the crankshaft 360°, and then proceed with the next step.

4. Rotate the crankshaft clockwise until the spring peg on the advancer assembly at the 1.4 position is just to the right of a line from the timing index. (Fig. 9) This position is 15° ATDC 1.4.

At this point, the slack in the cam chain will be on the tensioner side, thus assuring effective tensioner operation.

5. Loosen the cam chain tensioner lock nut, and back out the setting screw until the tensioner arm is released and moves in to take up the slack.

Note: The tensioner is automatic. Do not use additional pressure to remove the tensioner arm.

6. Retighten the setting screw and lock nut, re-install point cover and tappet covers.

CYLINDER HEAD

When measuring the flatness of the cylinder head, place a straight across the measuring surface of the cylinder head.

Check the clearance with a thickness gauge at several points and make sure the head not to be warped.

<table>
<thead>
<tr>
<th>Item</th>
<th>Standard value</th>
<th>Serviceable limit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clearance</td>
<td>0.002 in.</td>
<td>0.009 in.</td>
</tr>
</tbody>
</table>

Rework the cylinder head or replace with new one if beyond the serviceable limit.
FUEL SYSTEM

CARBURETOR (link type)

The quadruple piston type carburetors are mounted on the cylinder head with a stay plate. Choke lever is a link type which operates all four choke valves simultaneously.

To simplify the idle adjustment and synchronization of the carburetors, the throttle cables from the four carburetors are joined to operate from a single linkage.

Fig. 11 shows the construction details of the carburetor.
DISASSEMBLY

1. Turn the fuel tank valve to the "STOP" position, remove the fuel lines from the fuel valve body, raise the seat and pull the rear tank rubber mounting away from the rear tank mount. Remove the fuel tank.

2. Disconnect the throttle cables from the link lever, loosen the air cleaner connecting tube and insulator bands and then remove the carburetors as an assembly.

3. Unscrew two 6 mm screws and dismount the respective carburetor from the stay plate. Disconnect the individual choke rod and separate the carburetors.

4. In order to remove the needle jet from the throttle valve, remove the needle set plate.
5. Remove the float chamber retightening clip and remove the following carburetor components with a small screwdriver.  
   * Slow jet  
   * Float  
   * Main jet  
   * Float valve set  
   * Needle jet holder

INSPECTION

1. Carburetor adjustment should be made in accordance with the description on page 186.

2. Fuel level check  
   Remove the float chamber and set the float arm as shown in the Fig. 20–12 so that it just barely touches the valve and in this position, check the position of the float with the gauge set vertically. At a standard setting, the float should just barely come in contact with the gauge. If there is clearance between the gauge and float or if the float is interfering with the gauge, adjustment should be made. The height of float above the carburetor body, which should be 1.023 in. (26 mm) can be adjusted by bending the float arm using a narrow screwdriver.

3. Jet needle, float valve  
   The jet needle is constantly moving and if it is found to be excessively worn, it should be replaced. Further, check the wear of the valve and the valve seat and if it is defective, part should be replaced. (Fig. 20–13)

4. The clogging of the respective jet should be cleaned by blowing out the jets with compressed air followed by properly torquing the jets.
ADJUSTMENT
Adjustment is normally performed after the engine has been warmed up to operating oil temperature of 140°F to 157°F (60 to 70°C).

Idle adjustment
Set the engine idle speed to 900–1,000 rpm with the throttle stop screw. (Fig. 20-14)
* Turning the stop screw in the clockwise direction will decrease the idle speed.
* Turning in the counter clockwise direction will increase the idle speed.

Carburetor synchronization
1. Remove the fuel tank from the frame and position it approximately 20 in. (50 cm) higher than motorcycle, and then reconnect the tank and the carburetor system with a rubber tube.
2. Remove the rubber boot from the link arm.
3. Connect up the vacuum gauges. Remove the carburetor plugs and connect the longer size adapters to the two inside carburetors, and the shorter size adapters to the outside carburetors.
4. Start the engine, loosen the adjuster screw lock nut and turn the adjuster screws so that the vacuum gauges connected to the carburetors are all indicating uniformly (within 3.0 cmHg) between 16 to 24 cmHg. (Fig. 20–15)
   - Turning the adjuster screw in the clockwise direction will raise the vacuum pressure.
   - Turning the screw in the counter clockwise direction will lower the vacuum pressure.
Note:
Before synchronizing the carburetor with the vacuum gauge, make sure that all the rods are extending at least one thread above the lock nut. (Fig. 20-16)
If there is insufficient thread extension, the following preadjustment must be made before adjusting the synchronization.

1. Turn the throttle stop screw until there is a slight clearance between the stopper and the screw.
2. Adjust the adjuster screw so that there is a **0.070-0.189** in. (**1.8-4.8** mm) clearance between the adjuster screw and the top. (Fig. 20-15)
3. Turn the throttle stop screw in the counter clockwise direction back to the original position.

5. When all the carburetors are indicating uniform vacuum pressure, adjust the throttle stop screw to obtain the specified idle speed.
6. Snap the throttle several times to verify the idle stability before tightening the lock nut.
Torque lock nut to: **0.86-1.44** ft-lbs (**12-20** kg-cm)

**Carburetor air screw adjustment**
Adjust the respective air screw so that the engine rpm is smoothest with maximum vacuum pressure. The standard adjustment which gives best performance is **3/4** to **1/4** turns open from the full close position.

**Note:**
After the adjustment is completed, make sure that the rubber boots is not pinched or rolled under.

**Overcross stop adjustment**
Loosen the lock nut and turn the eccentric link pin to provide a clearance of **0.08-0.12** in. (**2-3** mm) between the throttle lever and link pin. (Fig. 20-17, 20-18)
Full open stopper adjustment
Adjust the stopper screw so that there will be a distance of 1.28–1.29 in. (32.5–33.0 mm) between the top and the adjuster screw with the throttle grip in the full open position. (Fig. 20–19)

Throttle cable adjustment
1. Turn the adjuster counter clockwise on the handle end to increase the play in the cable. To permit fine adjustment with the adjuster screw, leave about a 0.12 in. (3 mm) play in the cable.
2. Turn the adjuster nut at the carburetor end to provide a 0.12–0.16 in. (3–4 mm) play at the grip flange. (Fig. 20–20)

Note:
The throttle lever should hit the link pin when the grip is forced to the full close position.
If this does not occur, the throttle cable must be replaced.
STEERING AND FRONT SUSPENSION

FRONT SUSPENSION

The front fork is assembled into a complete unit by the fork bottom bridge, axle and the fork top bridge and their respective mounting bolts. This three-point mounting design provides a highly rigid unit for good stability. The front suspension is a telescoping oil damper type with an aluminum fork bottom case used for lightness.

As the outside diameter of oil seal 354811 is 0.08 in. (2 mm) larger than previous model to prevent the deformation of oil seal and oil leakage, the diameter (50 mm) of circlip is also larger than previous one (47 mm).
REAR SUSPENSION

REAR SHOCK ABSORBER

A De Carbon type damper containing nitrogen gas under high pressure is contained within the cylinder to maintain a pressure against the oil. This prevents the bubbles from being produced in the oil during compression. It assures positive damping action. The spring force can be adjusted to the three positions according to carrying load and riding condition. The stroke of the rear shock absorber is 3.4 in. (87 mm).

![Diagram](https://www.ClassicCycles.org)

**Fig. 20-23**

1. Joint rubber
2. Spring seat stopper
3. Rear cushion upper cover
4. Rear cushion spring
5. Rear damper assembly
6. Rear cushion spring guide

![Diagram](https://www.ClassicCycles.org)

**Fig. 20-24**

Outside dia. 1.52 in. (38.6 mm)
Thickness 0.12 in. (3.2 mm)

The stopper was changed 0.09 in. (2.3 mm) to 0.12 in. (3.2 mm) thickness and the outside diameter 1.52 in. (38.6 mm) of shock absorber is 0.08 in. (2 mm) larger than previous one. Consequently, the spring diameter is 0.15 in. (4 mm) larger than previous model. The modifications described above provide a highly rigid.

**Inspection**

Damping force cannot be measured. Therefore, the test is performed by compressing the shock absorber unit by hand. Normal operating condition is indicated by a greater resistance on the extension stroke than on the compression stroke.

When replacing the shock absorber spring, make sure that the new and previous spring are not interchangeable.
FRONT WHEEL HUB AND MOUNTING BOLTS

As the width of the front wheel hub was made 0.157 in. (4 mm) narrow in width, the length of the mounting bolts was changed from 4.17 to 4.02 in. (106 to 102 mm) shortened by 0.157 in. (4 mm). Whenever replacing these parts, make sure that the proper length bolts are used. Using the old longer bolts on the new hub will cause the disc plate to loosen during riding. When the front hub is replaced, the associated parts corresponding to this hub must be replaced in set. Old and new parts are not interchangeable.

REAR WHEEL DAMPER

The shape of both side wheel dampers which was changed as shown in figure, absorb the shock when the rear wheel was turned by the drive chain and it makes the drive chain to prolong the service life.
BODY, OIL TANK, AIR CLEANER AND EXHAUST SYSTEM

OIL TANK AND OIL COVER
The oil tank mounted on the right side center of the motorcycle is connected to the engine with two oil hoses. Since the oil tank was made narrow in width, the oil tank cover was designed sporty shape and narrow in width.

Note:
Both new and old are not interchangeable.

AIR CLEANER COVER, SEPARATOR CASE AND CLEANER CASE
The air cleaner mounted at the center of the motorcycle under the fuel tank which was made narrow in width and the material was improved against chemical reaction and vibration shock when travelling on rough roads. The air cleaner cover was designed 0.08 in. (2 mm) narrow in width with concave parts on both side of it. The height of knobs on separator case was made 0.13 in. (3.5 mm) higher and the air cleaner case was designed as shown in Fig. 20-29.

Note:
If the air cleaner cover, separator case, cleaner cover and battery cover are replaced in set, new and old are interchangeable.
BATTERY COVER

The battery cover was narrowed in width and its shape was designed sporty looking with alluring emblems. Therefore, there are not interchangeability.

SEAT AND SEAT LATCH

The front part of the seat was made narrow and the seat was designed into the double seat type covered with vinyl leather. A seat latch of flip motion type was equipped to simply lock or unlock the seat.

Note:
If the seat latch, hook and seat are replaced at the same time, new and old are interchangeable.

MAIN STAND

The welded metal sheet shown in Fig. 51 was made 0.4 in. (10 mm) wider for providing the stability when the main stand was operated.
BODY ELECTRICAL AND INSTRUMENTS

SPEEDO/TACHOMETER
The speedometer and tachometer cases were painted flat black to prevent annoying reflection. Further, to provide the superior quality against the brake fluid reaction, the material of both windows was changed to the glass from the acrycic resin, and the tachometer red zone is 8,000—9,500 rpm.

Fig. 20-34  
1 Speedometer  
2 Tachometer  
3 Red zone
DRIVE CHAIN CONNECTOR AND DISCONNECTOR OPERATION

On the models CB 750, it is necessary to cut the endless chains. To cut the chains, proceed as follows:

A. Disconnection of Drive Chain
1. Position chain link pin to be cut on chain holder in place as shown in Fig. 20–35 Screw in pressure bolt until pressure holder holds chain in position. Back off adjuster bolt so that it does not interfere with chain.

2. By use of handlebar, screw in pressure bolt B until before joint pin is just pushed off joint plate.

3. Position adjacent chain link pin on chain holder and repeat step 1 and 2 screw in pressure bolt B until joint pin is completely pushed off joint plate.

4. Reposition original chain link pin on chain holder and disconnect chain by pushing off joint pin in the same way as in step 3.

B. Press-in Connection of Drive Chain
Newly improved chain joints and plates are of a pressfitted type. Only press-fitted type chain joint and plate require this procedure.
1. Join new drive chain by inserting joint pin from side toward enter of motorcycle.
2. Apply a thin coat of grease in recess of pressure holder. Set joint plate in recess of pressure holder with chamfered side (side with chain code stamped on it) inward, exercising care not to drop it.

3. Position chain portion to be connected between chain holder and pressure holder. Hold chain in position by screwing in pressure bolt A. After making sure that two pins of joint pin align with corresponding two holes in joint plate. By turning in pressure bolt A with handlebar, press-fit until it goes no longer because of steps on pins.

4. Measure distance between two joint plates to make sure if correctly press-fitted. Specified distance between two plates:
   DID50HDS............19.7mm
   DID50DS ............19.0mm
   If reading exceeds specifications as above, repeat steps.
C. Staking of Drive Chain

1. Position drive chain joint portion to be staked on chain holder in place and also place wedge holder between chain holder and pressure holder as shown in Fig. 20-42. So that tip of wedge is in line with center of joint pin.

By tightening finger-tight, move forward pressure bolt A until it stops.

2. Screw in adjuster bolt until opposite end of joint pin is forced against it.

**NOTE:**
Screw in adjuster bolt until finger-tight.

3. By use of handlebar, stake end of joint pin by turning pressure bolt B 3/4 turn.

**NOTE:**
Never exceed 3/4 turn.

4. After backing off pressure bolt A approx. two turns, back off wedge pin 1/4 turn (90 degrees) and repeat steps 1 thru 3 so that end of joint pin is staked in a cross pattern. Repeat entire steps on opposite end.

**NOTF:**
Be sure that cross patterned stakings be performed at 90° angles.
SUPPLEMENT TO CB750 K1 ~ K4

**K2**

COMPARISON OF CB750 K2 TO CB750 K1

<table>
<thead>
<tr>
<th>Part of Item</th>
<th>CB 750 K1</th>
<th>CB 750 K2</th>
<th>Modified Part</th>
</tr>
</thead>
<tbody>
<tr>
<td>seat</td>
<td></td>
<td></td>
<td>seat catch</td>
</tr>
<tr>
<td>seat catch</td>
<td></td>
<td></td>
<td>seat lock</td>
</tr>
<tr>
<td>seat lock</td>
<td>Fig. 20-46</td>
<td></td>
<td></td>
</tr>
<tr>
<td>brake pedal</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>driven flange</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Fig. 20-46**

The seat was changed in pattern and partially in shape. The seat catch was changed as down.

**Fig. 20-47**

- Seat catch
- Service book bag

**Fig. 20-48**

A stop was added to the brake pedal, returning the pedal properly.

**Fig. 20-49**

- Brake pedal
- Stopper

**Fig. 20-50**

The fixing bolt was changed from the removable type to the press-in type.

**Fig. 20-51**

- Driven flange
- Stad bolt
### Part of Item

<table>
<thead>
<tr>
<th>Turn Signal Buzzer Switch</th>
<th>CB 750 K1</th>
<th>CB 750 K2</th>
<th>Modified Part</th>
</tr>
</thead>
</table>
|                           | ![Fig. 20-52](image) | ![Fig. 20-53](image) | - Buzzer stop switch  
- Turn signal buzzer |

A turn signal buzzer was newly installed. Correspondingly a buzzer stop button was provided and the operation is described below.

A warning buzzer which starts sounding when the switch is moved to either position is provided to prevent a rider from forgetting to return the switch after completing a turn. When a turn signal has to be kept flashing for any length of time at a crossing or the like, the buzzer can be stopped by pushing the buzzer stop button.

### Wire Harness and Rectifier Coupler Lock

| ![Fig. 20-54](image) | ![Fig. 20-55](image) | The employment of a coupler lock assures a complete locking. |

### Indicator Panel

| ![Fig. 20-56](image) | ![Fig. 20-57](image) | An indicator panel of the same type used in the model CB500 was employed, grouping various control lamps for improved serviceability. |
## K3
### COMPARISON OF CB750 K3 TO CB750 K2

<table>
<thead>
<tr>
<th>Part of item</th>
<th>CB 750 K2</th>
<th>CB 750 K3</th>
<th>Modified part</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rear shock absorbers</td>
<td>(Cross valves)</td>
<td>(One-way values)</td>
<td>Shape of valves</td>
</tr>
<tr>
<td></td>
<td>Number of rear shock absorber adjusting positions increased</td>
<td>Shock absorber spring adjusting positions: 5</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Shock absorber spring adjusting positions: 3</td>
<td>The valves were changed from the cross type to the one-way type. For the details see page 213.</td>
<td></td>
</tr>
<tr>
<td></td>
<td><img src="image" alt="Fig. 20-58" /></td>
<td><img src="image" alt="Fig. 20-59" /></td>
<td></td>
</tr>
<tr>
<td>Front forks</td>
<td>Valve in front shock absorber and its specifications changed</td>
<td>Free valve Specifications</td>
<td></td>
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<tr>
<td></td>
<td>Piston type valve</td>
<td>Damping force: 34-46 Kg/0.5 m/sec.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Stroke: 141.5 mm</td>
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</tr>
<tr>
<td></td>
<td></td>
<td>Oil capacity: 155-160 cc</td>
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<tr>
<td></td>
<td></td>
<td>The valves were changed from the piston type to the free type. For the construction and function see page 212.</td>
<td></td>
</tr>
<tr>
<td>Disc cover</td>
<td>Disc cover newly installed</td>
<td>Disc cover</td>
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<td><img src="image" alt="Fig. 20-60" /></td>
<td><img src="image" alt="Fig. 20-61" /></td>
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</tr>
<tr>
<td>Fuses</td>
<td></td>
<td><img src="image" alt="Fig. 20-62" /></td>
<td>The fuses were installed separately for lights such as headlight, taillight, etc. for a quick troubleshooting.</td>
</tr>
</tbody>
</table>
### Part of item

<table>
<thead>
<tr>
<th>Safety unit</th>
<th>Clutch switch</th>
</tr>
</thead>
<tbody>
<tr>
<td>CB 750 K2</td>
<td>none</td>
</tr>
<tr>
<td>CB 750 K3</td>
<td></td>
</tr>
</tbody>
</table>

**Fig. 20-63**
A safety unit and a clutch switch were added to prevent the motorcycle from running out as soon as the engine starts. For the operation see page 215.

### Lighting kill switch

**Fig. 20-64**

**Fig. 20-65**
The kill switch was changed in operating pattern from the up-down motion to the right-left motion.

### Horn switch

**Fig. 20-66**

**Fig. 20-67**
The switches were changed in shape and installation positions. The turn signal knob is of an automatic return type.

### Oil ring

**Fig. 20-68**

The three-piece type oil ring was changed reg.

- The key points of assembling procedure are described below.
  a. When installing the oil ring, first place the spacer and then the rails in position.
  b. The spacer and rail gaps must be staggered above 2~3 cm (0.787~1.18 in.).

Note: The gap of the oil refers to that of the spacer.
In the model CB750K3 front shock absorbers, the valves were changed to free valves. As its damping force can be adjusted by changing its stroke to meet a driver's preference of conditions of a road or surfaces, it always provides a comfortable ride even under severe driving conditions. The disassembly and operation are as follows:

Disassembly
To disassemble the front forks, see page 120.
1. Remove the front forks by referring to page 120
2. Remove the front fork bolts and drain front shock absorber oil.
3. With each front fork bottom pipe held in a vice, remove the socket bolt using the Allen head wrench (Tool No. 0717-3230000) and separate the pipe from the bottom base.

Fig. 20-69
1. 48 mm internal circlip
2. 35481 oil seal
3. Front fork bottom case
4. 8 mm socket bolt
5. Front axle holder
6. Front fork bolt
7. 23 x 2.3 O ring
8. Front fork pipe
9. Piston ring
10. Bottom pipe
11. Front rebound spring

Fig. 20-70
1. Allen head wrench
2. Front fork bottom case
4. Remove the front fork dust seal, 48 mm internal circlip and oil seal.

**Inspection**

1. Measure the front shock absorber spring free length. Check the spring tension.
2. Check the front fork piston rings for wear.
3. Check the front fork pipe-to-bottom case clearance.
4. Check the oil seals for scores, scratches or breakage.
5. Check the sliding surfaces of the front fork pipes for scores or scratches.

**Assembly**

To assemble, reverse the disassembly procedures, paying attention to the following:

1. Position each fork pipe in the bottom case. Apply a coat of locking sealant to the socket bolt and tighten it with the Allen head wrench used at the time of disassembly.

2. Apply a coat of high quality ATF to the inside and outside circumferences of the oil seal and install it using the fork seal driver (Tool No. 07947-3330000).

   **Note:**

   Use a new oil seal.

3. Fill the fork pipes with high quality ATF up to the specified level.
   
   Capacity (each fork pipe):
   
   150~155 cc (5.3~5.5 ozs.) at the time of fork disassembly.
Operation

- When the wheel meets holes or bumps in the road, it moves up and down. This up-and-down movement of the wheel is transmitted to the bottom leg. Since the bottom leg is integrated with a pipe, the pipe also moves up and down. With either action, two springs on the pipe flux and rebound, absorbing the road to the motorcycle. In this case, oil in the chamber ⑧ pushes up the free valve and flows into the space ④ freely.

At the same time, oil in the chamber ⑧ also flows through orifices in the lower end of the spring under seat into the space ⑥ by the amount by which the pipe is moved up.

- Extension

As the wheel has passed the bump or hole, it moves down. To eliminate excessive up-and-down motion of the spring and wheel, there will be a restraint on the spring and wheel action. In operation, as the wheel moves down, the free valve is closed, introducing high pressure in the space ⑤. This high pressure then forces the oil out and into the space ⑥ through the orifices in the spring under seat.

Since the oil encounters a restraint as it passes through the orifices, excessive wheel and spring movement as well as spring oscillation are prevented.

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Fig. 20-75 ① Compression ② Extension

Fig. 20-76 ① Front spring ② Front fork pipe ③ Front fork dust seal ④ Oil seal ⑤ Piston ring ⑥ Front fork bottom leg
Rear Shock Absorbers (close valve)
Each rear shock absorber uses a double-cylinder, cross type oil damper a bottom valve, preventing occurrence of air bubbles to provide a constant damping force. On both the extension and compression sides, the characteristic of damping force is excellent and the damping efficiency is higher.

Operation
Each oil damper is equipped with piston valves A and B and a bottom valve. The damping force is provided by means of the valve A on the extension side, and the resistances on the bottom valve side and in the passage II on the compression side.

- Extension side
When oil attempts to flow from the chamber “a” to the chamber “b”, the valve B is closed. Then the oil passes through the passage I to force the valve A to open, and the damping force is provided by the resistance of the valve. (Fig. 20-79)
At this time the bottom valve is open, and the oil passes through the chamber “c” and passage II to lift up the bottom valve spring and flows into the chamber “b” from the bottom of the valve. (Fig. 20-81)
Compression side

When oil attempts to flow from the chamber "b" to the chamber "a", the valve A is closed. Then the oil passes through the passage II to cause the valve B to lift up the valve spring and flows into the chamber "a" from the bottom of the valve. (Fig. 20-80)

A small quantity of damping force may be provided by the resistance of the valve spring, but a large quantity of the force can be provided by the resistance on the bottom valve side. The oil in the chamber "b" flows by the amount corresponding to the volume of rod into the chamber "c" through the orifice I and the damping force is provided by the resistance at this time. (Fig. 20-81)
2. STARTING MOTOR SAFETY UNIT

- Description
The starting motor safety unit operates in the way that the starting motor functions only when the transmission is in neutral or while the clutch lever is being squeezed in any gear position, assuring rider safety and preventing damage of the motor and transmission gears.

- Circuits and operations

![Diagram of Starting Motor Safety Unit](image)

Fig. 20-82 Circuit of models without safety unit
1. Starting motor
2. Starter button switch
3. Starter magnetic switch
4. Main switch
5. Fuse
6. Battery

When the engine switch is turned on, some amount of electricity is usually applied to the starter magnetic switch coil. If the starter button switch is then turned on, the starter magnetic switch will operate to cause the starting motor to turn. In other words, the motorcycle begins to move when the main switch and starter button switch are turned on with the transmission in gear.
The ground side of the starter button switch is connected to the body through the clutch lever switch and neutral switch. When the clutch lever switch or the neutral switch is turned on the starter magnetic switch will operate to cause the starting motor to turn.

1. **Clutch lever switch**
   The clutch lever switch is designed to be tuned on when the clutch lever is squeezed to cause the clutch to be disengaged only. (This switch has the same construction and function as those of the front stop switch.)

### 3. 3-CIRCUIT FUSES

In a conventional 1-circuit fuse, if it burns out, the engine cannot be started. The 3-circuit fuses contain a 15A main fuse and two 7A and 5A subfuses, one for the headlight and the other for the position lamp, taillight and meter lamp. Even if the 7A fuse or 5A fuse or both burn out, the horn, turn signals, ignition switch and stoplight operate properly. However, it is wise to locate the cause of trouble and replace a damaged fuse with new one as soon as possible. The fuses are set in the fuse box which is taken out by opening the seat.
4. BRAKE LINING WEAR INDICATOR

Description
The brake lining wear indicator is provided to check the wear condition of the brake linings visually from outside. As shown in the figure below, the indicator plate is attached to the brake cam. As the brake lining has worn, brake cam moves excessively. Such a movement of the cam is checked by the arrow on the periphery of the indicator. Further the brake panel cam boss is provided with the “wear limit” mark to make it possible to check the service limit (replacement time) of the lining easily with the brake panel installed.

Descriptive illustration

Fig. 20-85
1. Indicator plate
2. Brake cam
3. Brake arm
4. Brake panel cam boss
5. “Wear limit” mark
6. Arrow
5. REAR SHOCK ABSORBER ASSEMBLIES

(K4 to K2 model)

The rear shock absorber assemblies feature the telescopic type oil dampers with bottom valve to give an optimum damping performance under all bumping and rebounditions. The damping performance on the extension side is well matched with that on the compression side, providing maximum damping.

Stroke of rear shock absorber: 86.3 mm (3.39 in.)

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**Operation**

Each oil damper is equipped with the piston valves A and B and bottom valve. On the extension side, the damping action is provided by means of the piston valves. While, on the compression side, the damping action is provided by means of the bottom valve.

**On extension side:**
The oil in the chamber [a] flows into the chamber [b] through the orifice (1) in the valve A (sheet metal). By the resisting force of this oil, the damping action is provided. The valve A is overlapped with the valve B (leaf spring) which covers the half of the orifice. The damping action is regulated by the deflection of the valve B. Under such a condition, the bottom valve is opened, and the oil in the chamber [c] flows into the chamber [b] smoothly to prevent air bubbles from being produced.

**On compression side:**
The oil in the chamber [b] flows by amount of oil equivalent to the volume of damper rod into the chamber [c] through the orifice in the bottom valve. By the resisting force of this oil, the damping action is provided. At this time the piston valves are opened, and the oil flows from the chamber [b] into the chamber [a] smoothly.
## COMPARISON OF CB 750 K3 TO CB 750 K4

<table>
<thead>
<tr>
<th>Part of item</th>
<th>CB 750 K3</th>
<th>CB 750 K4</th>
<th>Modified part</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>The stripes on the fuel tank are changed.</td>
</tr>
</tbody>
</table>
1. FUEL COCK
The fuel cock is new for the revised model. Concurrent with this change, the indication marks and their positions on fuel cock was changed. It was also relocated from the right to the left side of the fuel tank.

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

2. THROTTLE GRIP
The throttle grip adjuster, Fig. K5-3, hitherto offered, was discontinued.
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