7. INSPECTION AND ADJUSTMENT OF CB550

Fig. 320 ① Clutch adjuster lock nut
② Clutch adjuster

Fig. 321 ③ Alignment marks

1. Clutch

The clutch must be adjusted so that the engine can be completely disconnected from the transmission when the clutch lever is squeezed, but not to the point where the clutch will slip when accelerating the motorcycle.

The clutch cable should be adjusted to provide 10~20 mm (0.4~0.8 in.) free play measured at the tip of the clutch lever.

To adjust, proceed as follows:

1. Loosen the clutch adjuster lock nut ① and turn the adjuster ② to align the marks ③ on the actuating arm and the engine side cover.
2. Clutch cable adjustment can be made by means of the adjusters at the upper and lower ends of the clutch cable. Loosen the lock nut ⑤ (⑥ at the lower end) at the clutch lever and turn the cable adjuster bolt ④ (nut ⑦ at the lower end) in either direction. Turning the cable adjuster bolt or nut at the lower end in direction ④ will increase the free play and turning it in the direction ⑤ will decrease the free play. Tighten the lock nut.
3. After adjusting, check to see if the clutch is slipping and if it is properly disengaging.

Start the engine and shift into gear. There should be no excessive grinding from the transmission, and the motorcycle should not creep when the clutch lever is squeezed. Drive the motorcycle to check for clutch slippage.

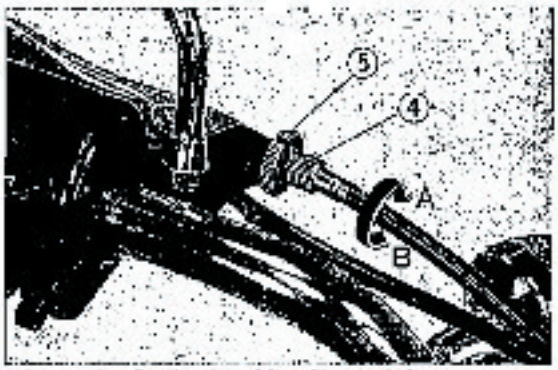

Fig. 322 ④ Clutch cable adjuster bolt
⑤ Lock nut

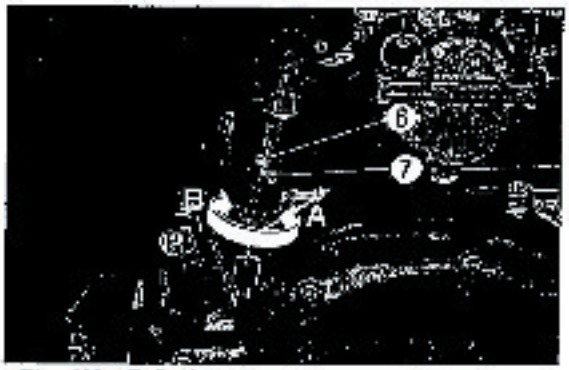

Fig. 323 ⑥ Lock nut
⑦ Clutch cable adjuster nut

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8. NEW FEATURES OF THE CB350

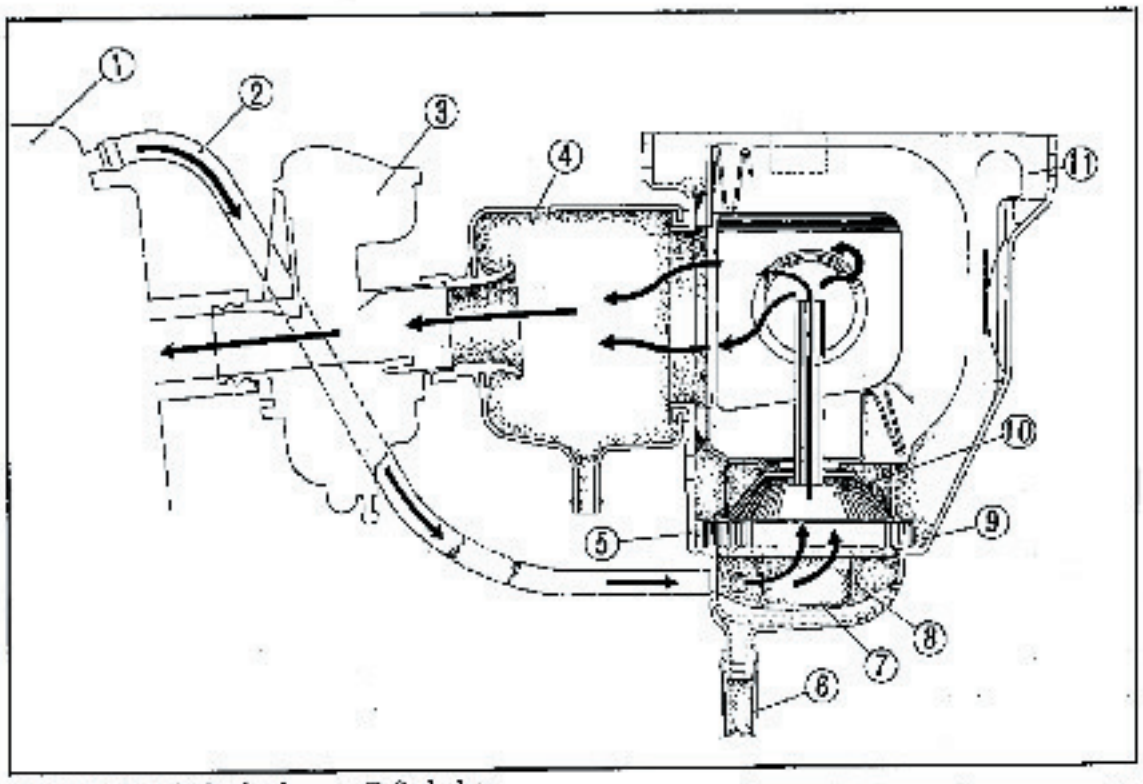

Fig. 323
① Cylinder head
② Breather tube
③ Carburetor
④ Air cleaner chamber
⑤ Element seal case
⑥ Drain tube
⑦ Seal plate
⑧ Punching metal
⑨ Element B
⑩ Element cover
⑪ Air cleaner element spring

1. BLOW-BY GAS SCAVENGING DEVICE

The blow-by gas scavenging device was added to minimize pollution. The description given here refers to Fig. 323 above.

The blow-by gas within the cylinder head is conducted into the element seal case through the breather tube. Gas is then conducted into the element B through the openings on both sides in the seal plate and punching metal, where oil is separated from the gas at each section. The gas enters the air cleaner element on the upper part of the seal case through the pipe within the element cover and is filtered again. The gas so filtered is drawn into the carburetor chamber and returns to the combustion chamber for burning through the carburetor. Now the gas is again burnt in the combustion chamber to minimize pollution by the exhaust gases.

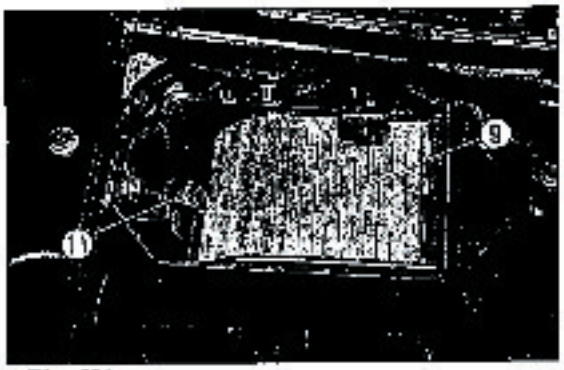

Fig. 324

Fig. 325

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• Blow-by gas

The exhaust gases contain carbon monoxide, hydrocarbon, hydrogen sulfide, nitrogen dioxide, selenium oxide, etc. which are poisonous ingredients contributing to pollution.

The exhaust gases consist of not only the remainder of burned mixture and combustion products, but also a compression leakage past the cylinder wall or from the crankcase. The latter is known as "blow-by gas", and accounts for 20 to 40% of the total hydrocarbon amount to be emitted in the air. Since blow-by gases have not been completely burned, they must be burned again by means of the blow-by gas scavenging device to minimize the amount of the gas to be emitted into the air.

2. STARTING MOTOR SAFETY UNIT

• Description

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

• Circuits and operations

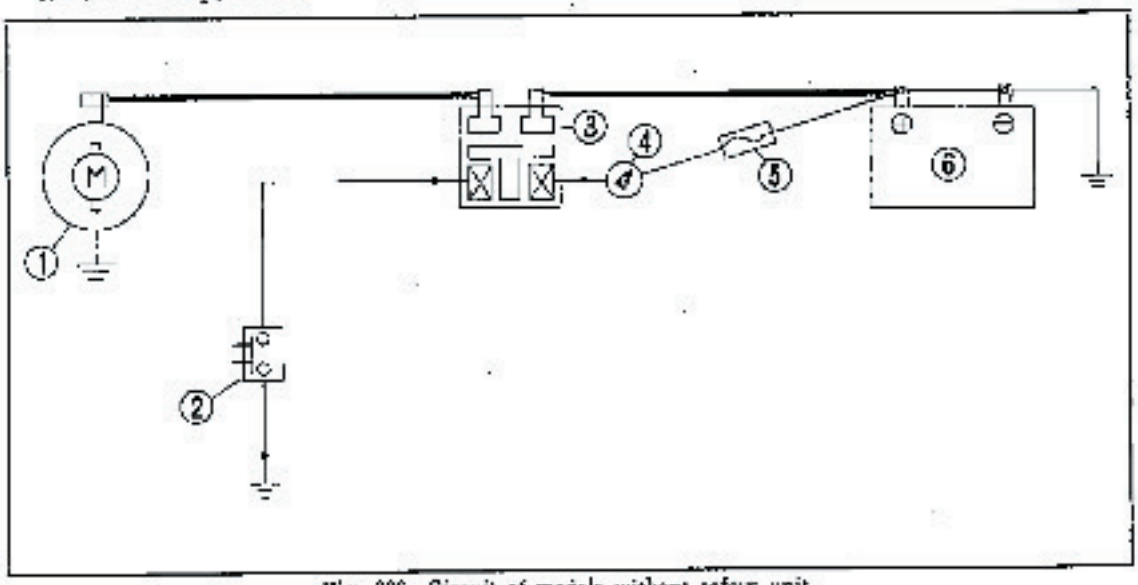

Fig. 326 Circuit of models without safety unit

① Starting motor	④ Main switch
② Starter button switch	⑤ Fuse
③ Starter magnetic switch	⑥ Battery

When the engine switch is turned on, 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 begines to move when the main switch and starter button switch are turned on with the transmission in gear.

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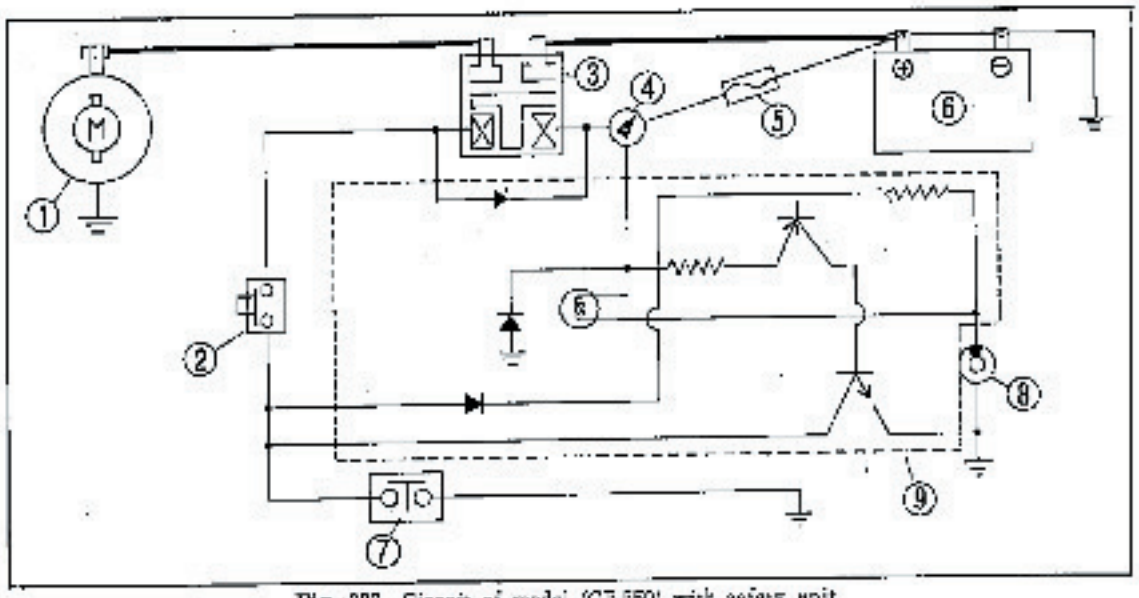

Fig. 327 Circuit of model (CB 550) with safety unit

① Starting motor
② Starter button switch
③ Starter magnetic switch
④ Main switch
⑤ Fuse
⑥ Battery
⑦ Clutch lever switch
⑧ Neutral switch
⑨ Safety unit

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, causing the starting motor to turn.

(1) Clutch lever switch

The clutch lever switch is designed to be turned 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.)

8. FRONT SUSPENSION

The front fork used on the CB 550 is a free valve type which is used in a telescopic type shock absorber.

The damping force can be adjusted by changing its stroke to meet different road conditions, and it will always provide a comfortable ride even under severe driving conditions. The CB 500 is incorporated with a rod type shock absorber which is also used in a Telescopic type.

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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 shocks.
  In this case, oil in the chamber ① pushes the free valve up and down into the space ② freely.
  At the same time, oil in the chamber ③ also flows through orifices in the lower end of the spring under the seat into the space ⑤ by the amount the pipe moves up.

- Extension
  As the wheel passes 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 ③ through the orifices in the spring under the 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.

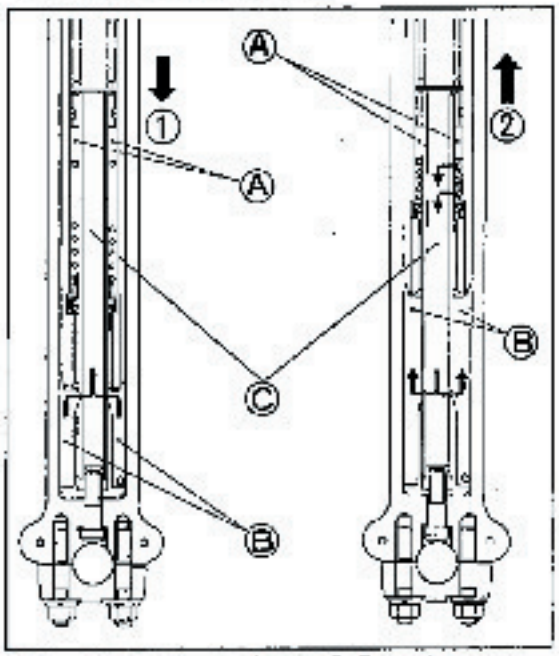

Fig. 328 ① Compression ② Extension

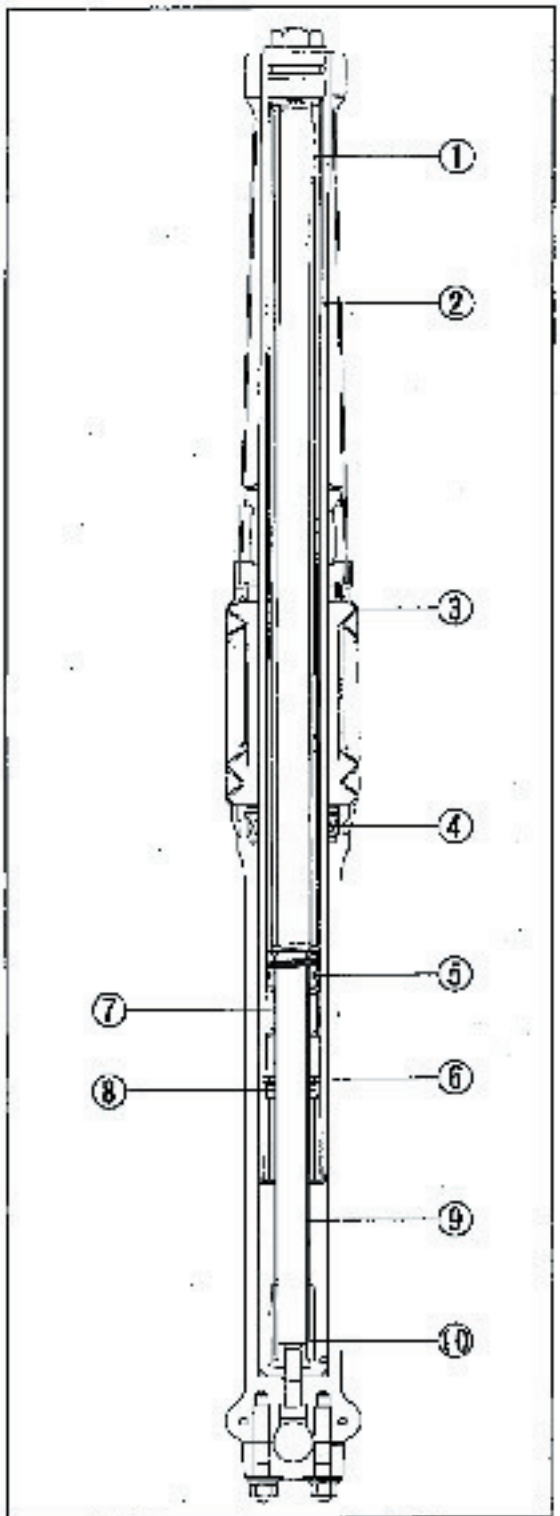

Fig. 329
① Front spring
② Front fork pipe
③ Front fork dust seal
④ Oil seal
⑤ Piston ring
⑥ Front fork bottom leg
⑦ Front rebound spring
⑧ Free valve
⑨ Bottom pipe
⑩ Oil lock piece

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4. BRAKE LINING WEAR INDICATOR

Discription

The brake lining wear indicator is provided to check the brake lining wear condition visually from outside. As shown in the figure below, the indicator plate is attached to the brake cam. As the brake lining wears, the brake cam moves excessively. Such cam movement is checked by the arrow on the periphery of the indicator. The brake panel cam boss is also 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

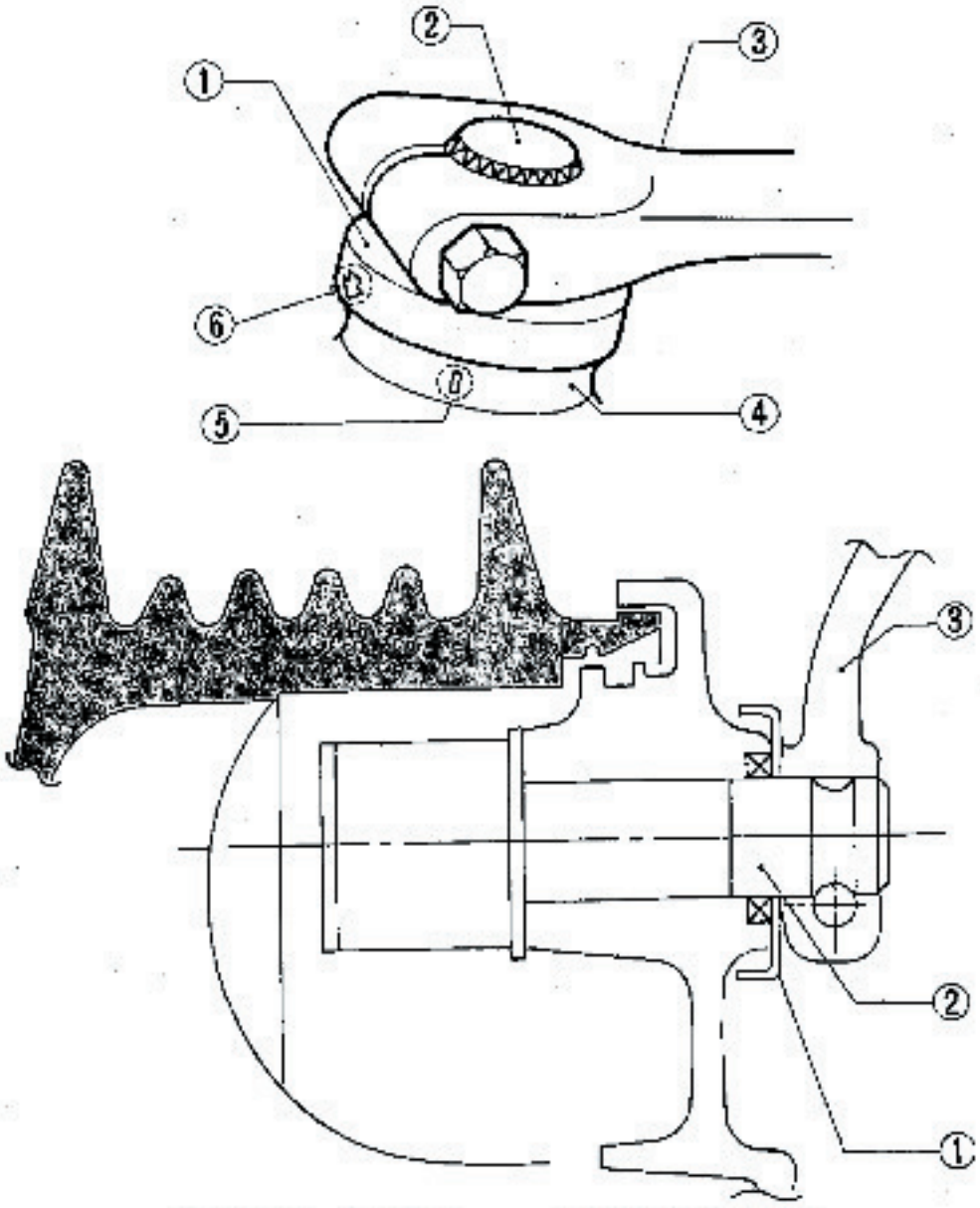

Fig. 330 ① Indicator plate
② Brake cam
③ Brake arm
④ Brake panel cam boss
⑤ "Wear limit" mark
⑥ Arrow

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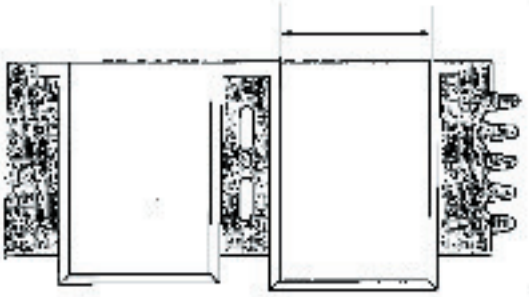
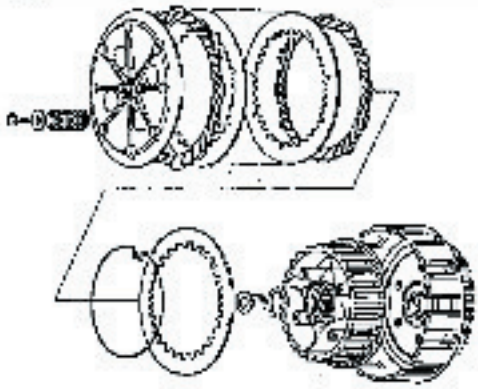
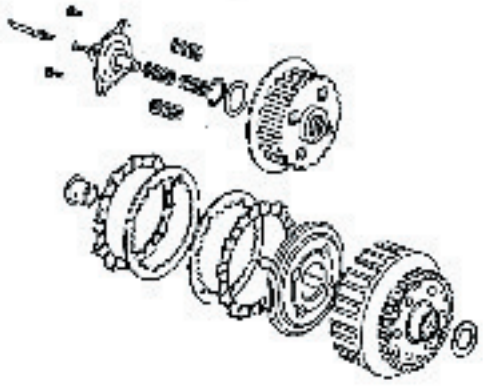
9. COMPARISON OF CB550 TO CB500

(Engine)

Part or item	Model CB500	Model CB550	Modified part
Cylinder bore	 Fig. 331		• Cylinder • Piston • Piston rings • Upper crankcase • Cylinder gasket • Cylinder head gasket
	Diameter : 66.0 mm (2.205 in.) (Piston displacement : 498 cc or 30.4 cu. in.)	Diameter : 68.5 mm (2.598 in.) (Piston displacement : 544 cc or 33.2 cu. in.)	
Clutch	 Fig. 332 CB500 (Exploded, from left)		• Clutch outer • Clutch center • Clutch pressure plate • Clutch springs • Clutch lifter rod • Right and left crankcase covers • Friction discs
	 Fig. 333 CB550 (Exploded, from right)		

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Clutch operation

Model CB600	Model CB550
Refer to Fig. 336 on page 115. The clutch connects and disconnects the engine from the transmission. As shown in Fig. 336, the clutch plates ④ ("drive plates"), which are capable of sliding axially on the clutch center ⑤, are "sandwiched" between the friction discs ③ ("driven discs") engaged in the clutch outer ②. In normal engaged condition of the clutch, the pressure plate ⑦, upon which the clutch springs ⑧ force is acting, presses the stacks of the discs and plates against the clutch outer. Under this condition, the engine power is transmitted through the primary drive gear ①, clutch outer, friction discs, plates and clutch center to the transmission main shaft. As the clutch lever is squeezed to disengage the clutch, the clutch lifter ⑮, connected to the clutch cable, is rotated and forced out. This clutch ball force is transmitted through the ϕ10 steel ball ⑭, clutch lifter rod ⑬ and clutch lifter joints piece ⑥ to the clutch pressure plate to compress the clutch springs producing clearance between the friction discs and plates. Now the face pressure on the friction surfaces of the power transmitting parts is reduced to zero, resulting in clutch disengagement.	Refer to Fig. 335 on page 115. As shown in the figure, the clutch plates ⑥, which are capable of sliding axially on the clutch center ⑤, are sandwiched between the friction discs ④ engaged in the clutch outer ②. In normal engaged condition of the clutch, the pressure plate ⑦, upon which the clutch springs ⑧ force is acting, presses the stacks of the discs and plates against the clutch outer. Under this condition, the engine power is transmitted through the primary drive gear, clutch outer, friction discs, plates and clutch center to the transmission mainshaft. As the clutch lever is squeezed to disengage the clutch, the clutch arm connected to the clutch cable operates and the clutch lifter cam ⑮ rotates to cause the clutch adjusting lever ⑫ to be forced against the clutch lifter rod ⑬. This force is transmitted through the clutch lifter plate ⑨ to the clutch center, producing clearance between the friction discs and plates. Now the face pressure on the friction surfaces of the power transmitting parts is reduced to zero, resulting in clutch disengagement.

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Construction of CB500 clutch system

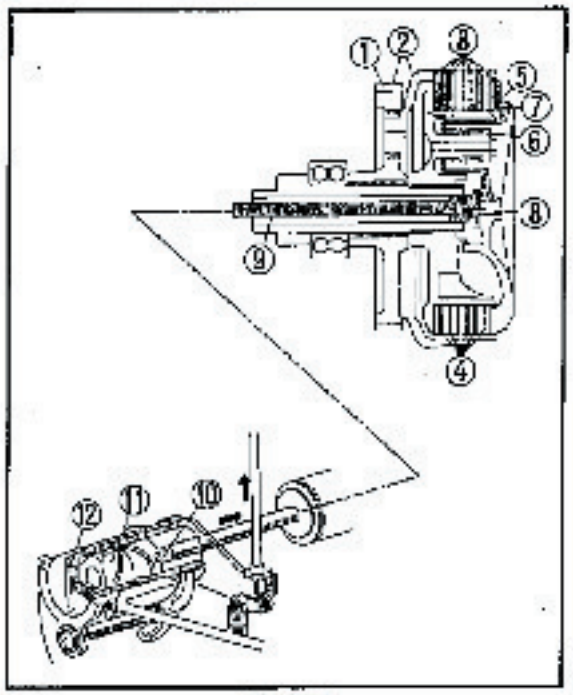

Fig. 334

Construction of CB550 clutch system

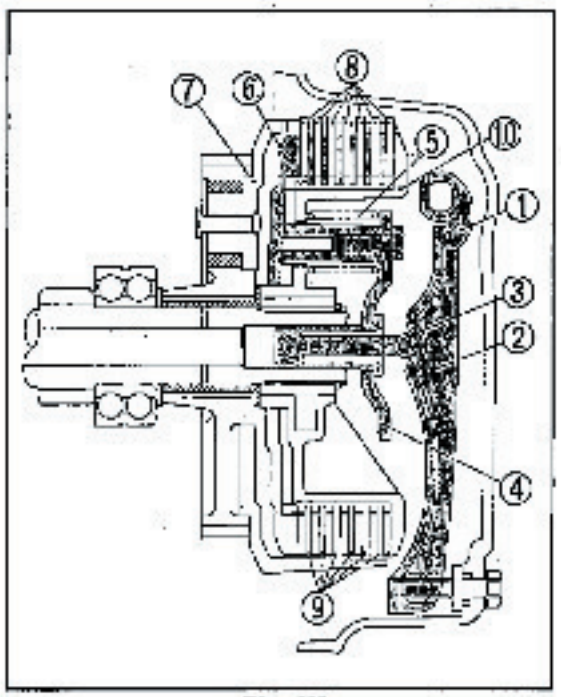

Fig. 335

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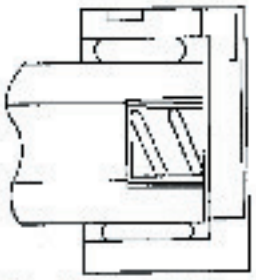
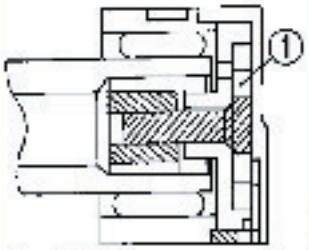
Part or item	Model CB500	Model CB550	Modified part
Countershaft lubrication	 Fig. 336 By splashing	 Fig. 337 By pump pressure ① Trochoid pump	• Countershaft • Trochoid pump bearing (Added)
		• The oil passage assembly is provided with the transmission oil pipe. The oil comes up to the right side of the countershaft through the oil passage in the right side of the lower crankcase and is led to the countershaft assembly by means of the trochoid pump. (See Fig. 338.)	

Fig. 338 ① Trochoid pump
② Countershaft assembly

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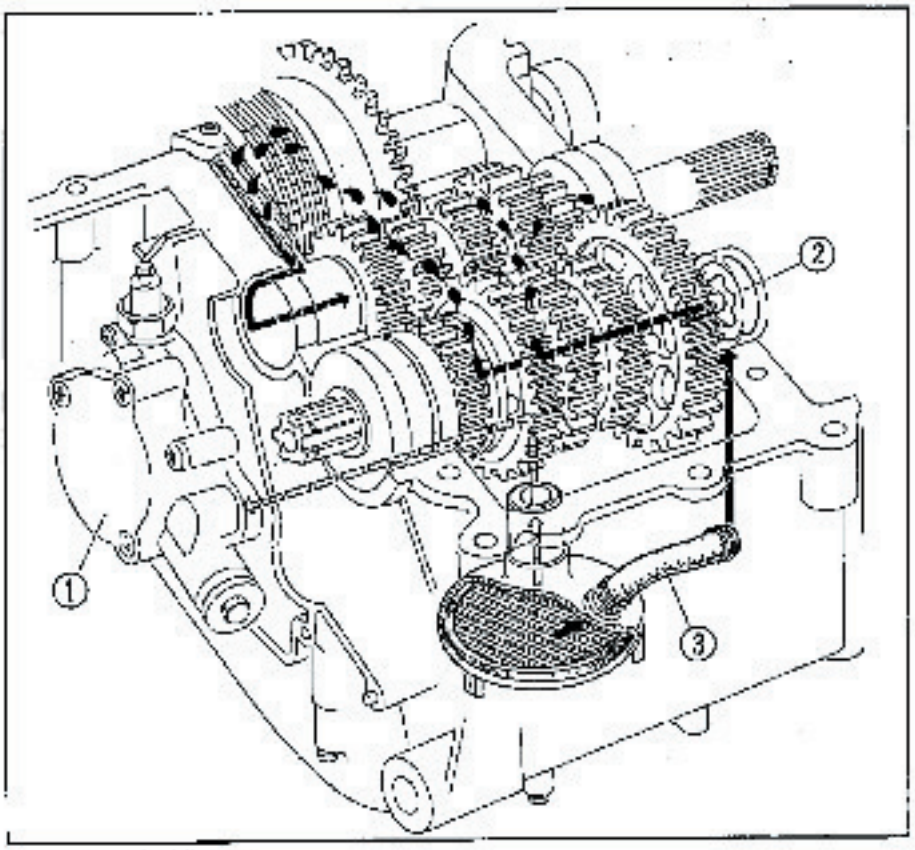

Fig. 239 ① Oil pump
② Trochoid pump
③ Transmission oil pipe

➡ Oil to camshaft
⇨ Oil to cylinder head and crankshaft through oil pump

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