

VI. DISK BRAKE

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1. M. K. DISK

● Features of CB125S mechanical disc brake

1) Fully enclosed caliper

The body of the caliper is constructed in the form of a box to accommodate the brake arm shaft, improving the rigidity of the caliper and protecting each operating point from dust and dirt, sand, mud, etc.

A boot was added to each handlebar lever to prevent water from entering from the handlebar side through the cable, resulting in the improved durability of the cable.

2) Automatic adjuster for pad-to-disc clearance

On a hydraulic type disc brake, the adjuster is very simple in the construction by using the rollback of piston seal. On the mechanical type, the construction of the adjuster is complicated and the brake dragging may be caused from the over-adjustment. This automatic adjuster uses the twisting force of the arm return spring to simplify the construction and prevent the over-adjustment.

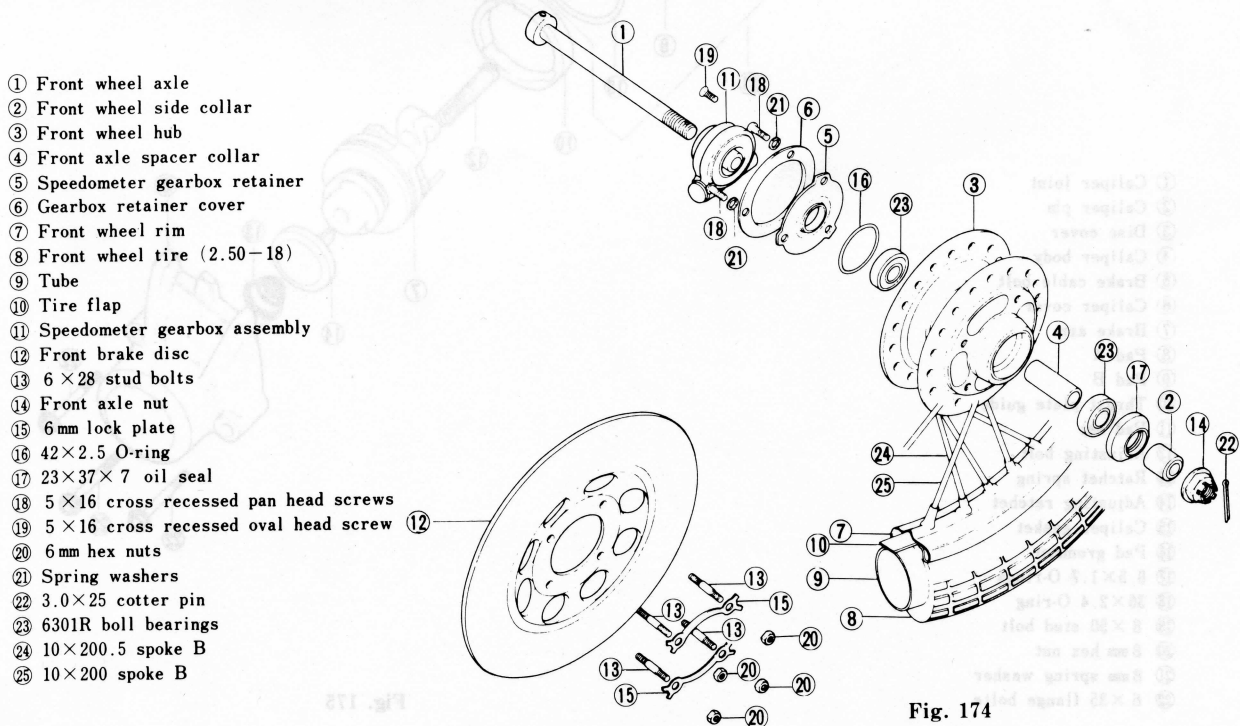
3) Great transmitting efficiency of braking force

Generally a mechanical disc brake is poor in the transmitting efficiency of braking force. The M.K. disc brake is improved in the transmitting efficiency by using steel balls (cam mechanism) and a thrust needle bearing. The brake cable is also coated to assist in greater transmitting efficiency of braking force.

4) Employment of disc cover

A disc cover was newly employed to protect the pads from dust and dirt, mud or other foreign materials, resulting in the longer service life of pads.

2. EXPLODED VIEW OF DISC TYPE PRONT WHEEL



3. EXPLODED VIEW OF CALIPER

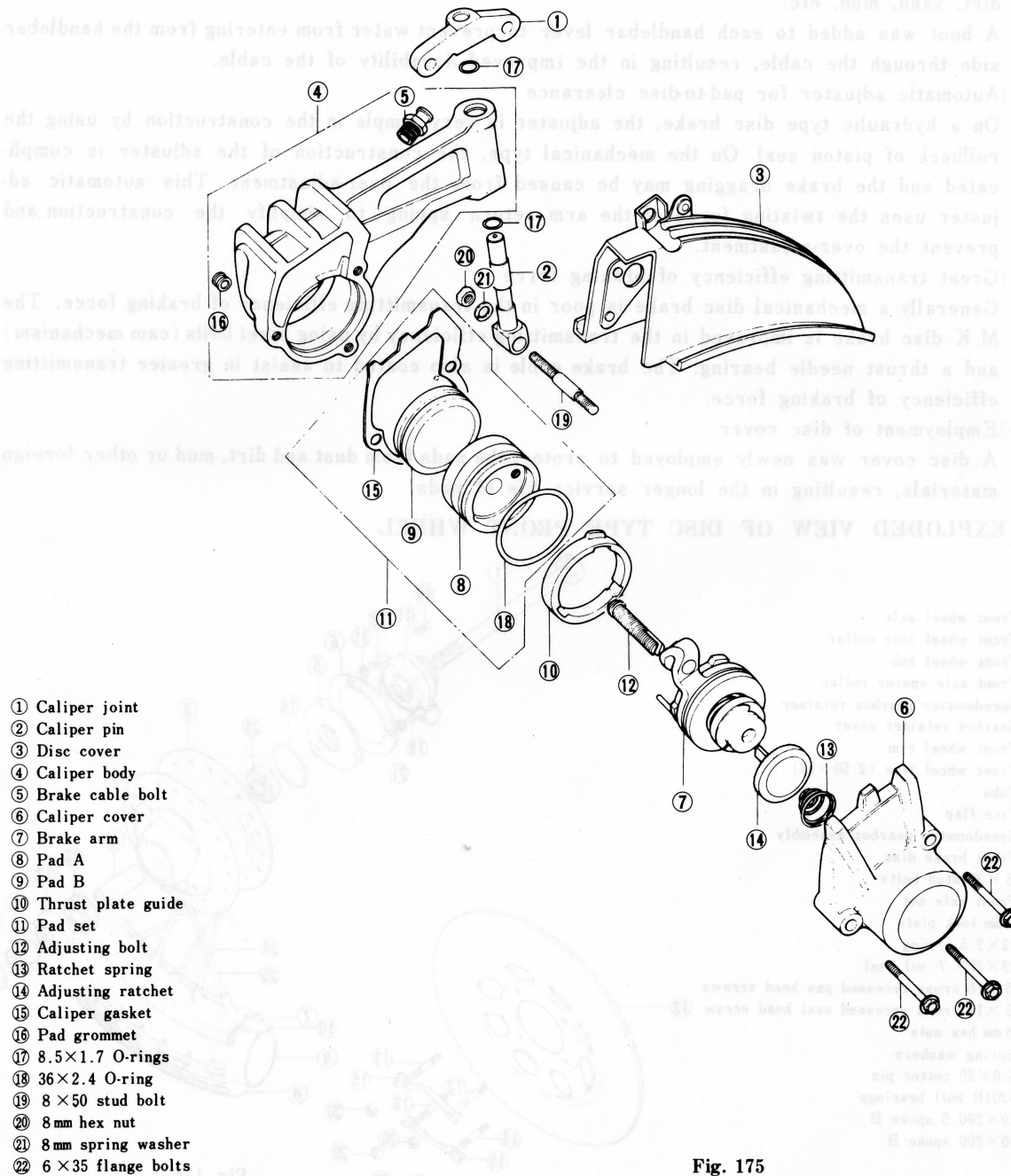


Fig. 175

4. FRONT DISK BRAKE AND FRONT WHEEL

A. Mechanical disc

● Disassembly

- 1) Place a service stand under the engine.
- 2) Disconnect the speedometer cable.
- 3) Remove the front wheel axle nut and pull out the axle. Then remove the front wheel.

CAUTION:

Do not operate the brake lever frequently with the front wheel removed. If the brake lever is operated under such a condition, the automatic adjuster advances to make it impossible to install the disc into between the caliper pads. If the disc cannot be installed between the pads, remove the caliper cover and back off the adjusting bolt as necessary. (For one turn of the bolt the clearance between the pads is increased 1mm or 0.039in.) When this operation has been performed, squeeze the brake lever several times to cause the automatic adjuster to operate after assembly.

- 4) Remove the front wheel side collar and 27×37×7 oil seal from the wheel hub.
- 5) The brake disc can be removed from the wheel by removing the nuts and lock plates.

- 6) Remove the speedometer gearbox, 42×2.5 O-ring, gearbox retainer cover and gearbox retainer from the opposite side.
- 7) Remove the front wheel bearings and front wheel axle spacer collar.

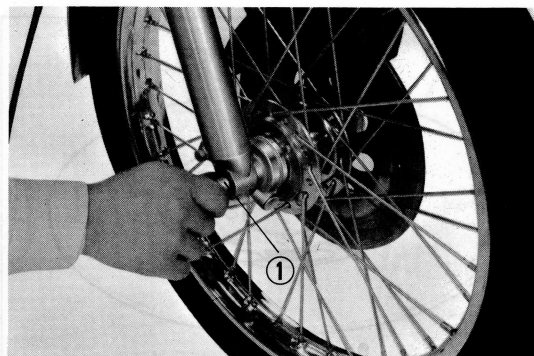


Fig. 176 ① Front wheel axle

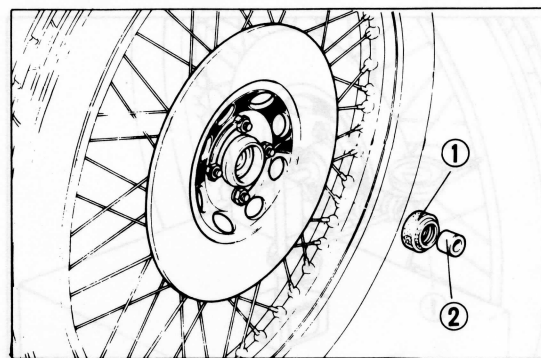


Fig. 177 ① 27×37×7 oil seal ② Side collar

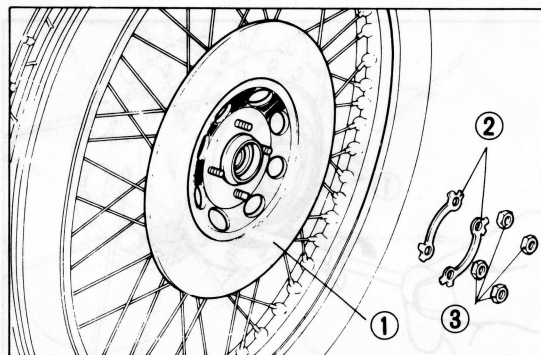


Fig. 178 ① Brake disc ② Lock plates
③ 6mm hex nuts

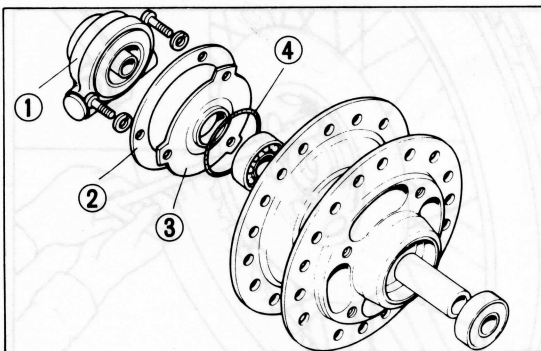


Fig. 179 ① Speedometer gearbox
② Gearbox retainer cover
③ Gearbox retainer
④ 42×2.5 O-ring
⑤ Front wheel bearings
⑥ Front wheel axle spacer collar

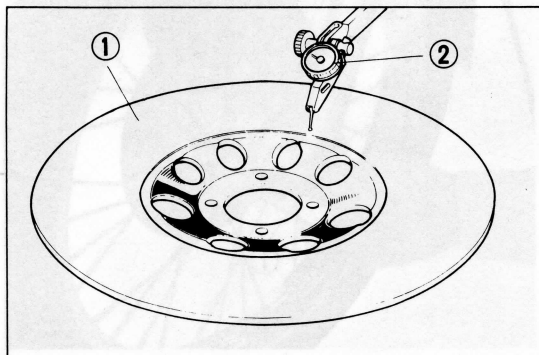


Fig. 180 ① Brake disc ② Dial gauge

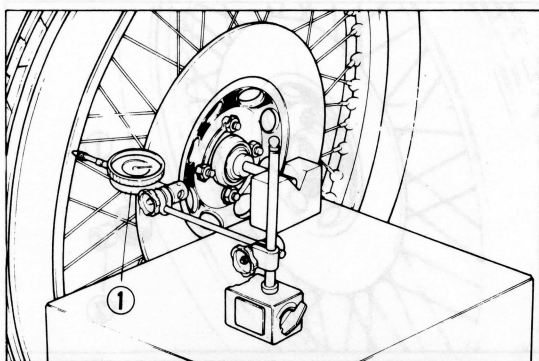


Fig. 181 ① Dial gauge

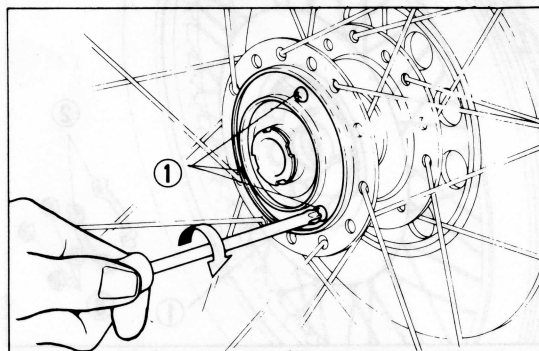


Fig. 182 ① 5mm screws

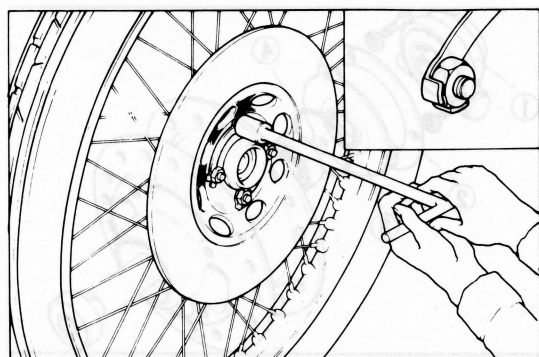


Fig. 183

● Inspection

1) Brake disc

Place the disc on a level surface and measure it at several points using a dial gauge. If the amount of wear exceeds 0.2mm (0.008in.), replace the disc.

With the disc installed to the wheel, the disc run-out should be within 0.3mm (0.012in.) (provided that the front wheel axle and bearings are not loose).

If the disc thickness is below 4mm (0.157in.), replace the disc.

2) Wheel rim

While rotating the wheel, check the disc radial runout using a dial gauge.

Item	Assembly standard	Service limit
Axial runout	0.5 mm (0.020in.), max.	2.0 mm (0.079in.), min.
Radial runout	0.5 mm (0.020in.), max.	2.0 mm (0.079in.), min.

● Assembly

1) Drive in the 6301R ball bearings in the wheel hub.

2) Install 23×37×7mm oil seal and install the cover to the speedometer gearbox retainer with three 5mm screws.

3) Install the brake disc to the wheel.

NOTE:

After tightening the lock plates with the nuts, bend the locking tabs.

- 4) Install the speedometer gearbox from the right side and insert the front axle. When tightening the axle nut, be careful of the installation position of the gearbox.
- 5) After assembly, operate the motorcycle and check the wheel for proper operation and the brake for effectiveness.

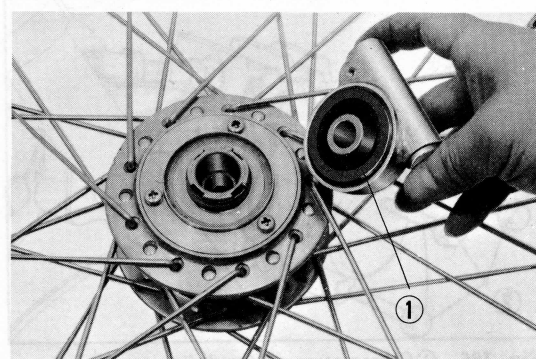


Fig. 184 ① Speedometer gearbox

B. Pads, caliper and brake cable

● Disassembly

Precautions for disassembly:

1) Pads

- Replace the pads A and B as a set, if necessary. At this time replace the caliper gasket and O-rings at the same time.
- Do not disassemble the brake arm.

2) Brake cable

- When replacing the brake cable, also replace the caliper gasket.

- 1) Wash the caliper and disc clean. Turn over the cable boot and screw in the cable adjusting bolt fully.

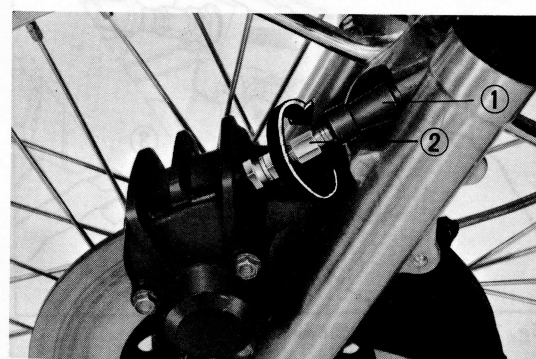


Fig. 185 ① Cable boot ② Cable adjusting bolt

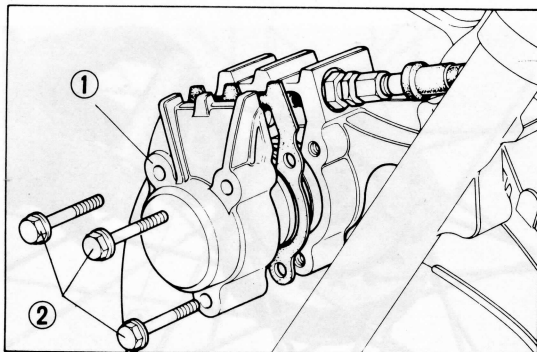


Fig. 186 ① Caliper cover ② 6mm bolts

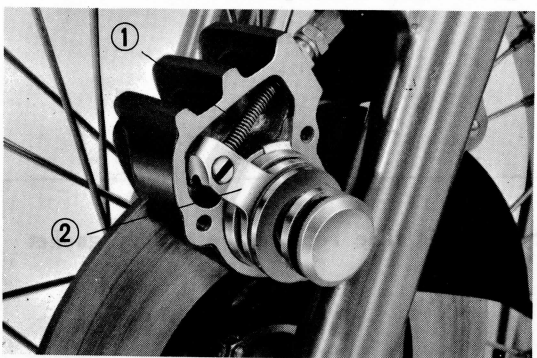


Fig. 187 ① Brake cable ② Brake arm

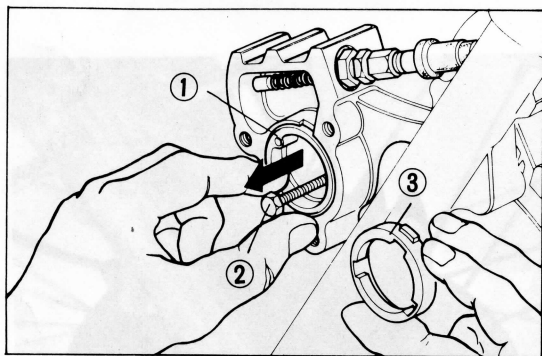


Fig. 188 ① Pad A ② 6mm bolt

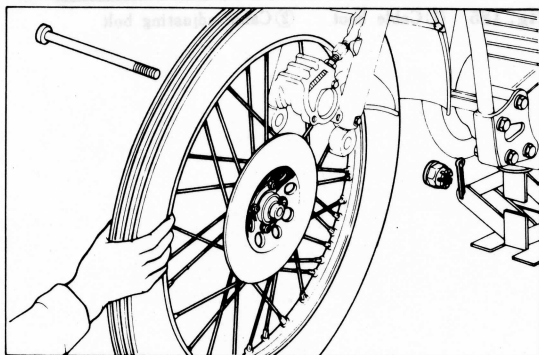


Fig. 189

2) Remove the caliper cover by loosening three 6mm bolts.

3) Disconnect the brake cable at the brake arm.

4) Remove the thrust plate guide. Screw in a caliper cover 6mm bolt in the back plate of the pad A and pull out the pad.

NOTES:

- 1) When replacing only the pads, it is unnecessary to disconnect the cable.
- 2) After separating the brake arm, wrap it up in a clean waste cloth to keep dirt and dust off the part.

5) Jack up the front of the motorcycle and remove the front wheel.

- 6) Push the pad B lock pin area of the rear side of the caliper body using a wire and remove the pad B.

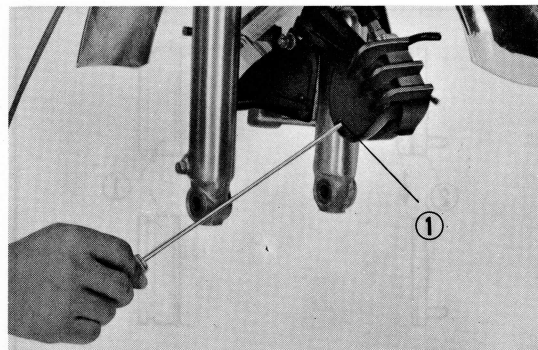


Fig. 190 ① Lock pin area

- 7) The pad B is removed from the pad A side. However, if the pad B is worn down to the red slit, it can be removed as shown.

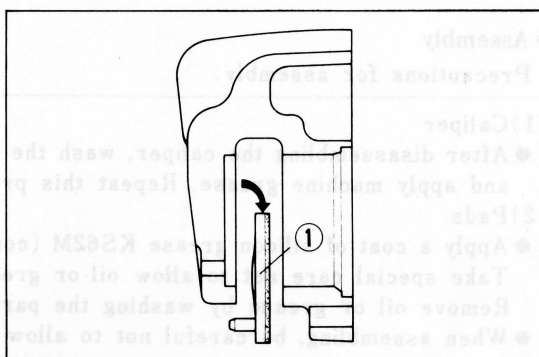


Fig. 191 ① Pad B

- 8) Remove the brake lever boot, then the brake cable. Pull the cable backward (toward the caliper).

NOTE:

When replacing only the brake cable, it is unnecessary to remove the wheel. Disconnect the cable end at the brake arm.

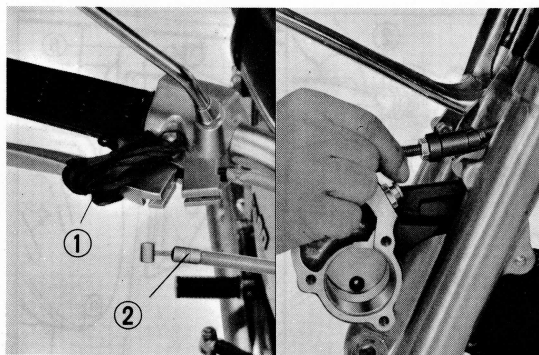


Fig. 192 ① Brake lever boot ② Brake cable

- 9) Remove two 6mm bolts and one 8mm nut and separate the disc cover, caliper body, caliper joint and caliper pin.

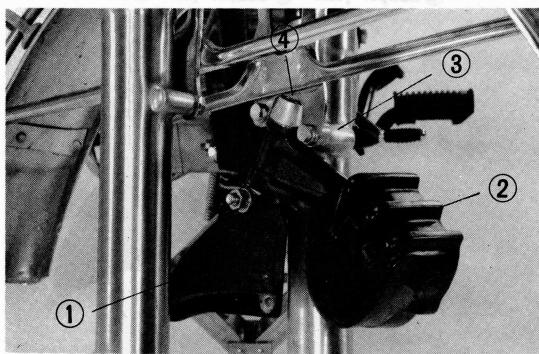


Fig. 193 ① Disc cover ② Caliper body
③ Caliper joint ④ Caliper pin

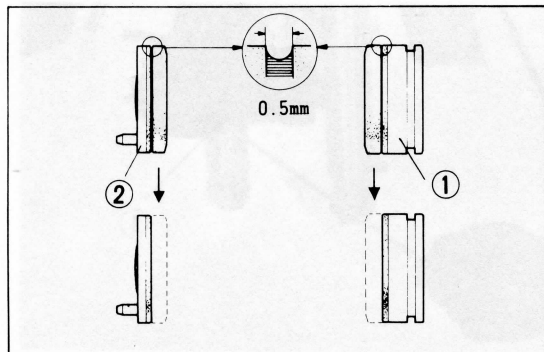


Fig. 194 ① Pad A ② Pad B

● Inspection

1. WEAR OF PADS

The pads are respectively marked with a red slit. If the pads are worn down to the red slit, replace. Especially, after operating the motorcycle in deep mud and water or on extremely rough surfaces, clean the pads and check for wear.

● Assembly

Precautions for assembly:

1) Caliper

- After disassembling the caliper, wash the brake arm, if dirty, in gasoline or cleaning solvent and apply machine grease. Repeat this procedure to replace the brake cable.

2) Pads

- Apply a coat of silicon grease KS62M (common with CB500 and CB750) to the back plates. Take special care not to allow oil or grease to come in contact with the pads and disc. Remove oil or grease by washing the parts in gasoline or cleaning solvent.
- When assembling, be careful not to allow foreign materials to enter the parts.

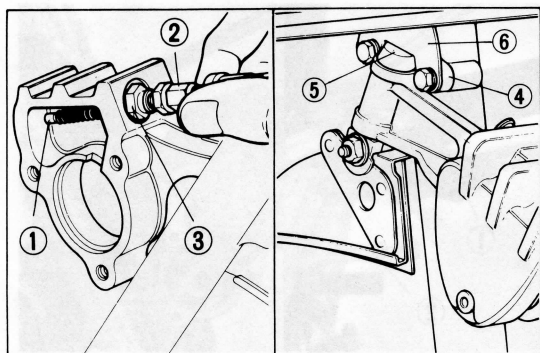
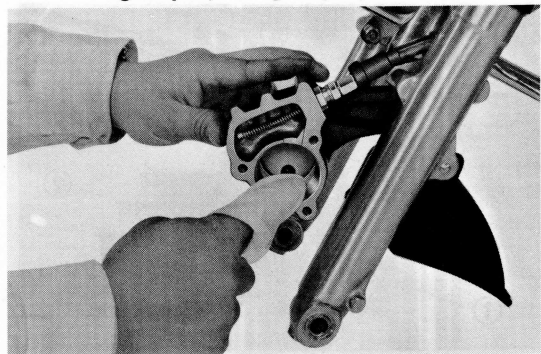
Fig. 195 ① Cable end ② Adjusting bolt ③ Brake cable bolt
④ Caliper joint ⑤ Caliper pin ⑥ Fender stay

Fig. 196

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

NOTE:

Install the caliper joint between the fender stay and fork pipe and tighten to specification (Page 1)

- 2) Connect the brake cable. Insert the cable end into the brake cable bolt and screw in the adjusting bolt fully.

- 3) Wipe the mating surfaces of the pads A and B with a clean cloth. Gasoline or cleaning solvent may be used for the purpose.

- 4) Apply a coat of 0.6~1g (0.021~0.035oz) silicon grease KS62M (common with CB750 and CB500) to the back plate of the pad B and set to the caliper body. Install the front wheel.

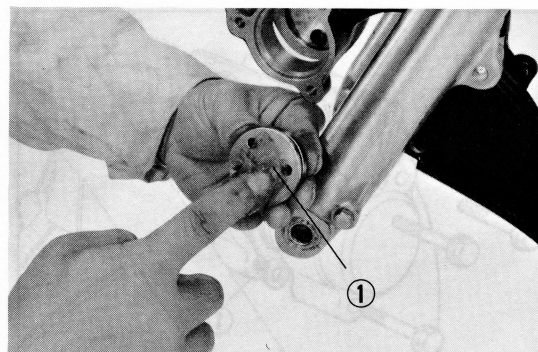


Fig. 197 ① Apply grease to pad B

- 5) Install the O-ring onto the pad A. Apply a coat of about 0.5g (0.018oz) silicon grease KS62M to the outer circumference of the pad, align the punch mark with that of the caliper body and then press in the pad in the body.

NOTE:

Use a new O-ring.

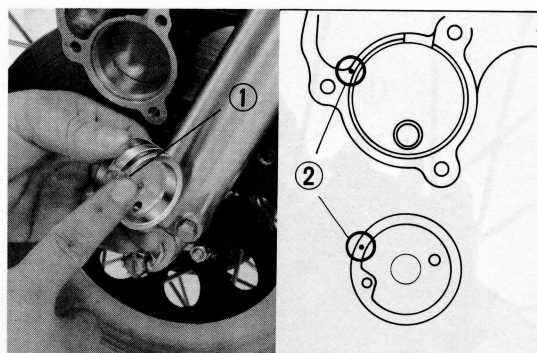


Fig. 198 ① Pad A ② Punch marks

- 6) Set the brake cable end and thrust plate guide to the brake arm.



Fig. 199 ① Brake arm ② Thrust plate guide

- 7) Remove the ratchet from the brake arm and back off the adjusting bolt, using a standard screwdriver, as far as it will go.

NOTE:

This procedure is unnecessary when replacing the brake cable only.

- 8) Install the ratchet and make sure the pawl engages properly.
9) Set the brake arm complete in the caliper.

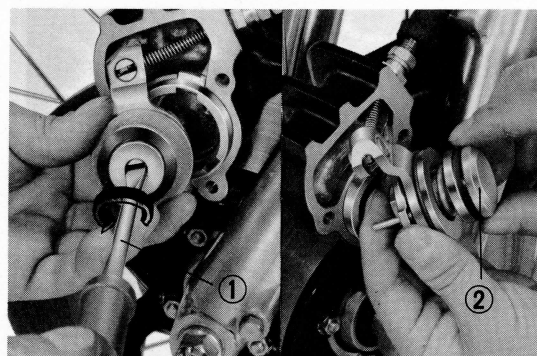


Fig. 200 ① Standard screwdriver ② Ratchet

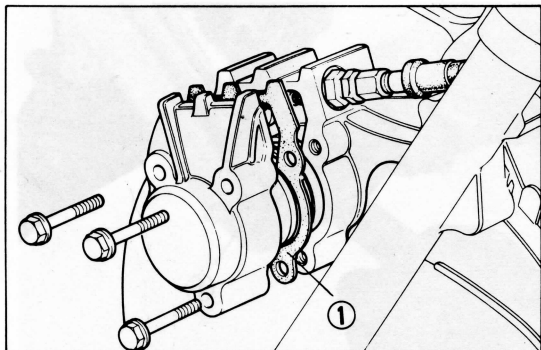


Fig. 201 ① Caliper cover gasket

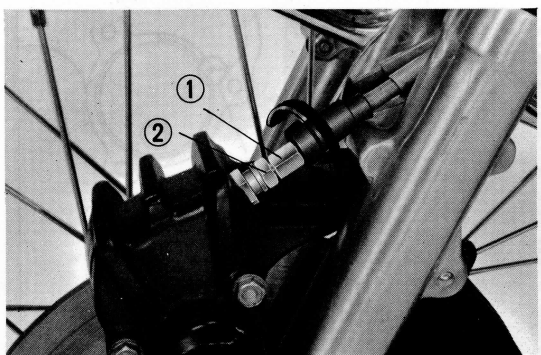


Fig. 202 ① Brake cable adjusting bolt ② Lock nut



Fig. 203

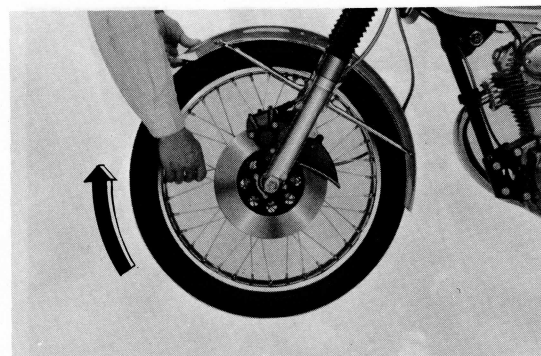


Fig. 204

- 10) Install the caliper gasket and cover with three 6mm bolts.

NOTE:

Use a new gasket.

- 11) In order to eliminate the excessive clearance of the brake lever, loosen the brake cable adjusting bolt. Upon noting that the clearance is completely eliminated, loosen the bolt two or three turns more and lock it with the lock nut. Then make sure the brake lever is completely returned by the spring force.

NOTE:

The brake lever clearance does not mean the lever free play but the condition where the brake lever does not return completely.

- 12) Squeeze the brake lever about ten times so that the automatic adjuster can properly operate. At this time slightly squeeze the lever as in the bleeding operation. Now the lever free play is automatically adjusted to 20~30mm (0.787~1.181 in.).

- 13) After adjustment, install the boot onto the cable adjusting bolt. With the front wheel raised check if it can be turned by hand. (Check for dragging.)