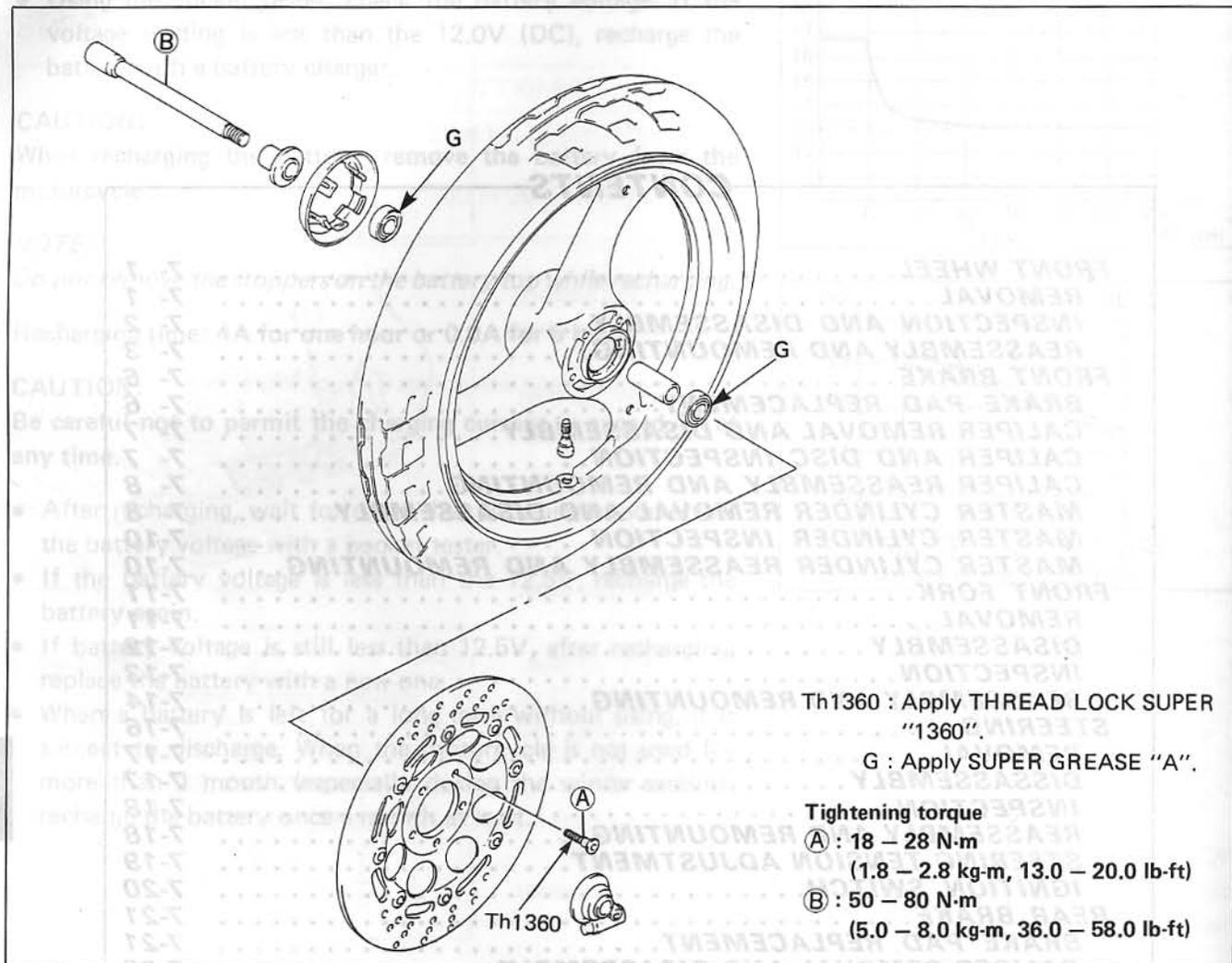


# CHASSIS

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## FRONT WHEEL



## REMOVAL

- Support the motorcycle with the center stand and jack.
- Remove the brake caliper by removing the mounting bolts.

**09900-00410 : Hexagon wrench set**

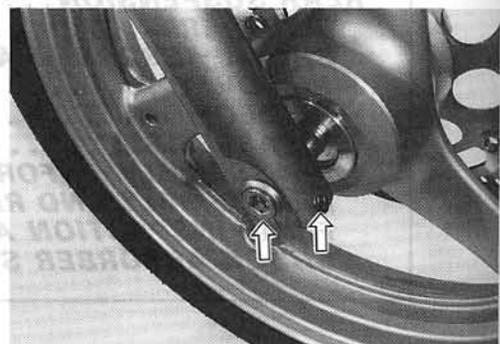
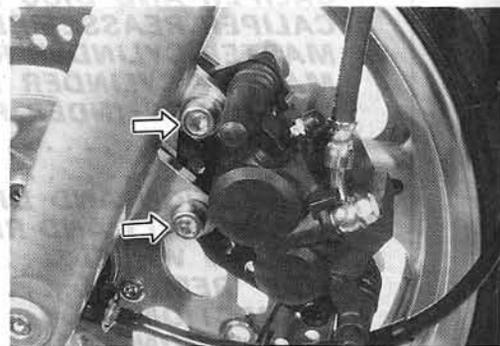
**NOTE:**

*Do not operate the brake lever while removing the front wheel.*

**CAUTION:**

**Hang the brake caliper from the motorcycle frame by using the string, etc., taking care not to bend the brake hose.**

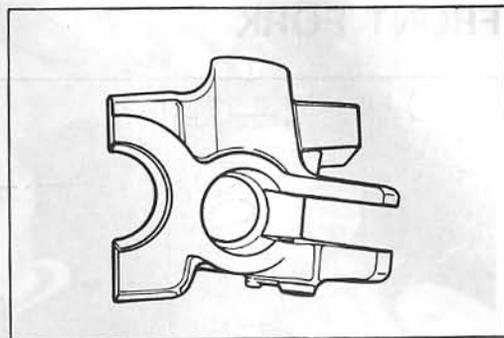
- Loosen the axle pinch bolt.
- Remove the axle shaft and front wheel.



## MASTER CYLINDER INSPECTION

Inspect the master cylinder bore for any scratches or other damage.

Inspect the piston surface for any scratches or other damage. Inspect the primary cup, secondary cup and dust seal for wear or damage.



## MASTER CYLINDER REASSEMBLY AND REMOUNTING

Reassemble and remount the master cylinder in the reverse order of removal and disassembly. Pay attention to the following points:

### CAUTION:

Wash the master cylinder components with fresh brake fluid before reassembly. Never use cleaning solvent or gasoline to wash them. Apply brake fluid to the cylinder bore and all the parts to be inserted into the bore.

- When remounting the master cylinder on the handlebar, align the master cylinder holder's mating surface ① with punched mark ② on the handlebar and tighten the upper clamp bolt first as shown.

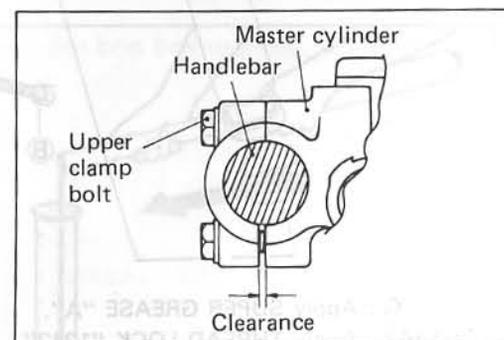
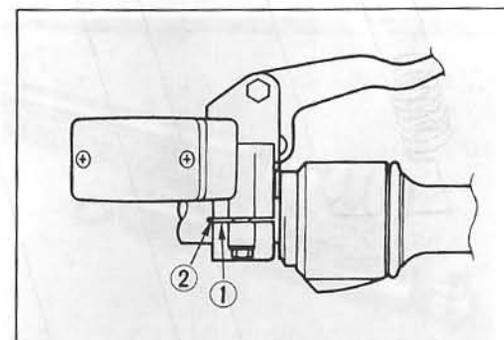
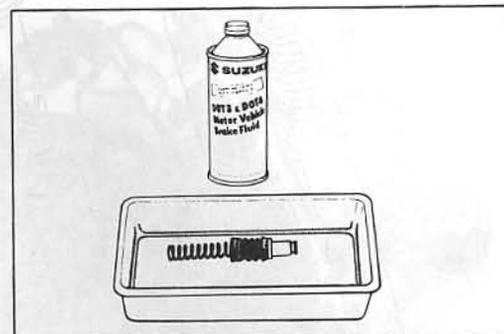
Tightening torque : 5 – 8 N·m

(0.5 – 0.8 kg-m, 3.5 – 6.0 lb-ft)

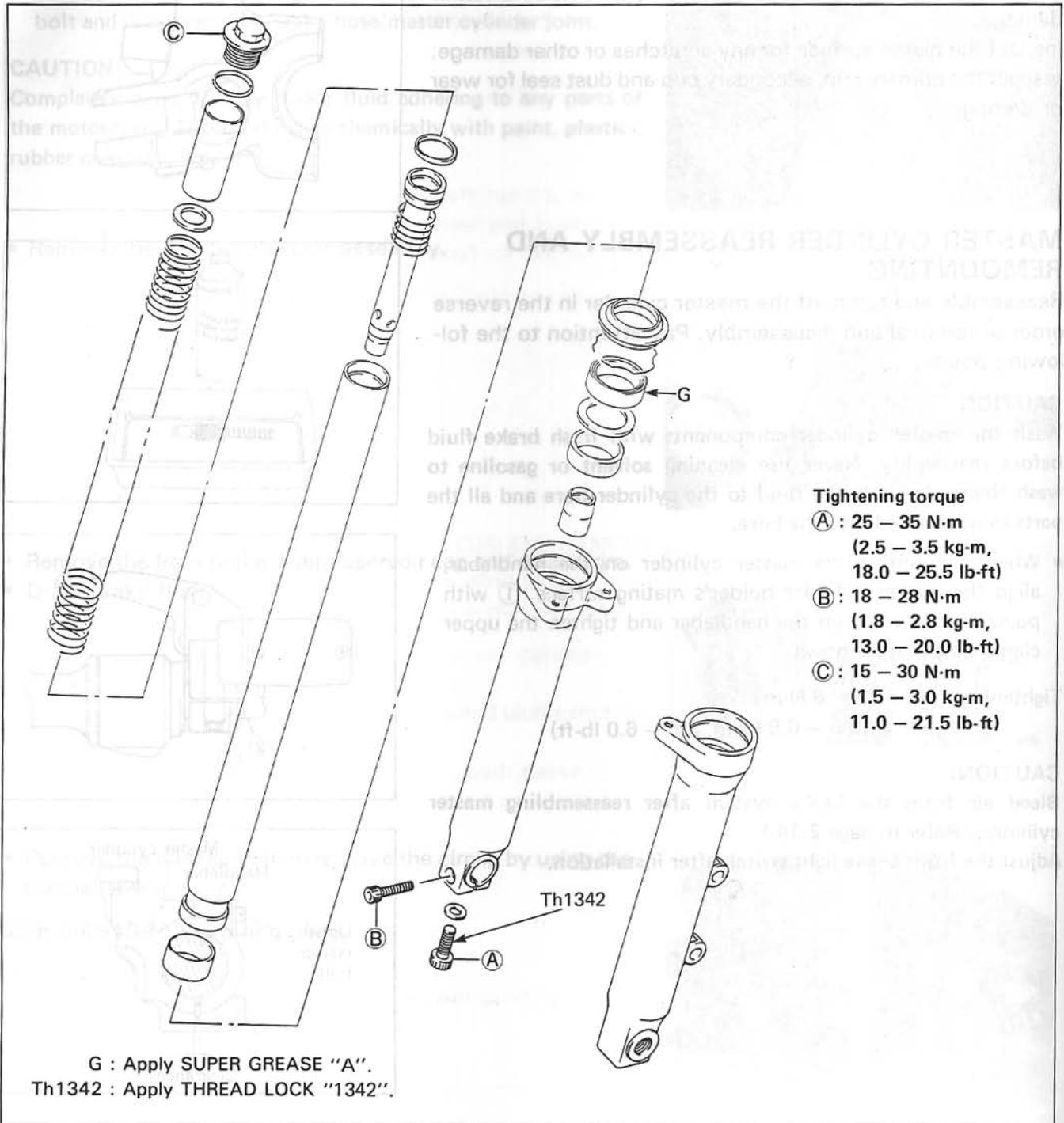
### CAUTION:

Bleed air from the brake system after reassembling master cylinder. (Refer to page 2-14.)

Adjust the front brake light switch after installation.



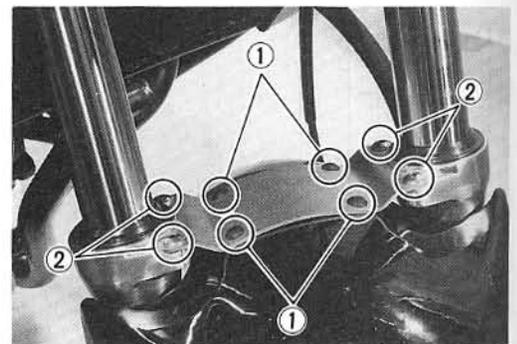
## FRONT FORK



## REMOVAL

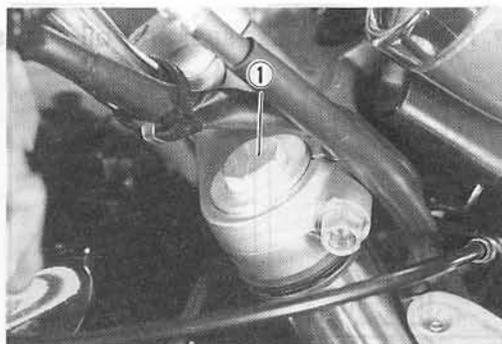
- Remove the front wheel. (Refer to page 7-1.)
- Remove the front fender by removing four screws ①.
- Remove the front fender brace by removing four screws ②.

09900-00401 : L-type hexagon wrench

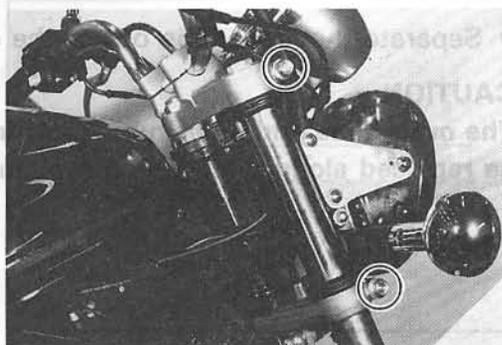


**NOTE:**

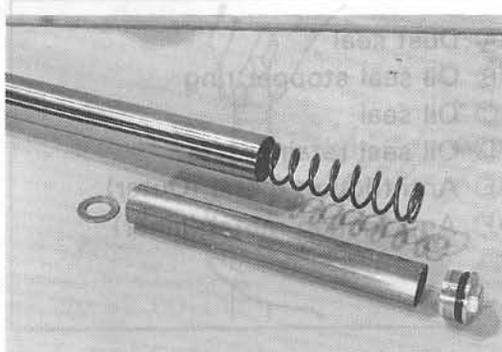
Slightly loosen the front fork cap bolt ① to facilitate later disassembly before loosening the front fork clamp bolt.



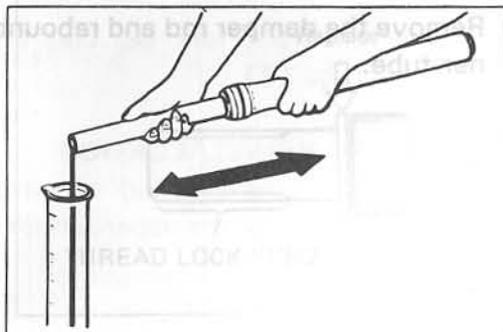
- Loosen the front fork upper and lower clamp bolts.
- Pull down the front forks.

**DISASSEMBLY**

- Remove the front fork cap bolt.
- Remove the spacer, spring seat and spring out of the inner tube.



- Invert the fork and stroke it several times to let out fork oil.
- Hold the fork inverted for a few minutes to drain oil.



- While holding the caliper mounting portion ① by vise and remove the damper rod with the special tool and the hexagon wrench.

09900-00401 : "L" type hexagon wrench set

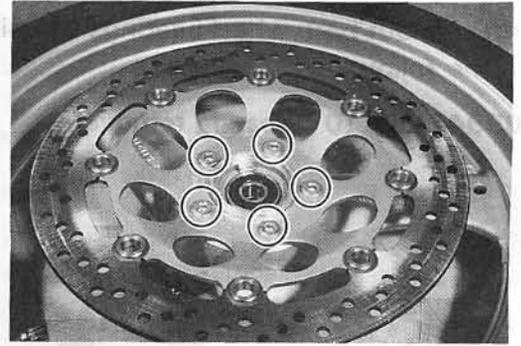
09940-34520 : T-handle

09940-34592 : Attachment "G"



- Remove the brake disc off the front wheel by removing the mounting bolts.

**09900-00410 : Hexagon wrench set**



## INSPECTION AND DISASSEMBLY SPEEDOMETER GEAR BOX DUST SEAL

Inspect the lip of dust seal for damage.

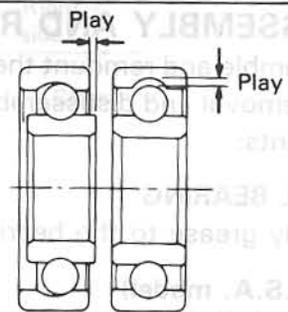
### TIRE

Refer to page 7-33.



## WHEEL BEARINGS

Inspect the play of the wheel bearings by hand while they are in the wheel. Rotate the inner race by hand to inspect for abnormal noise and smooth rotation. Replace the bearing if there is anything unusual.



## AXLE SHAFT

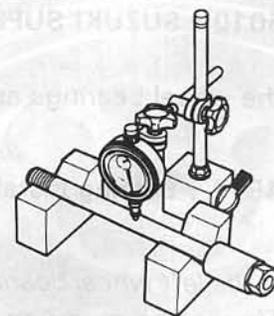
Using a dial gauge, check the axle shaft for runout and replace it if the runout exceeds the limit.

**09900-20606 : Dial gauge (1/100)**

**09900-20701 : Magnetic stand**

**09900-21304 : V-block set (100 mm)**

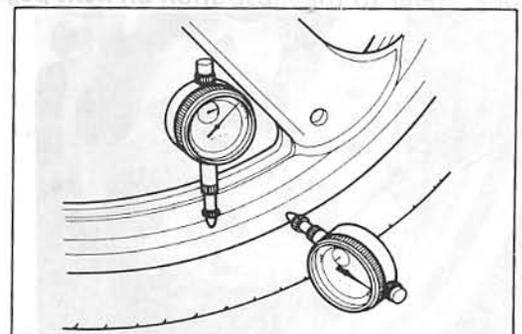
**Service limit : 0.25 mm (0.010 in)**



## WHEEL

Make sure that the wheel runout checked as shown does not exceed the service limit. An excessive runout is usually due to worn or loosen wheel bearings and can be reduced by replacing the bearings. If bearing replacement fails to reduce the runout, replace the wheel.

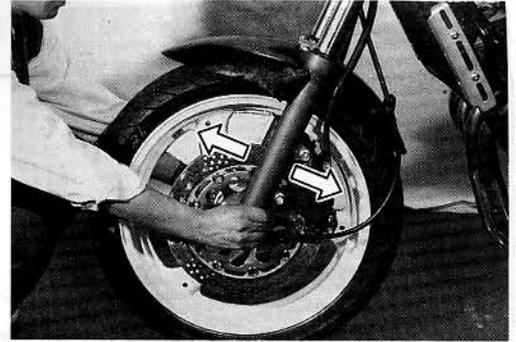
**Service limit (Axial and Radial) : 2.0 mm (0.08 in)**



**NOTE:**

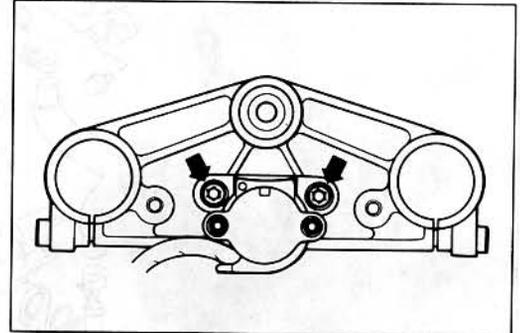
Hold the front fork legs, move them back and forth and make sure that the steering is not loose.

- Lower the jack.



**IGNITION SWITCH**

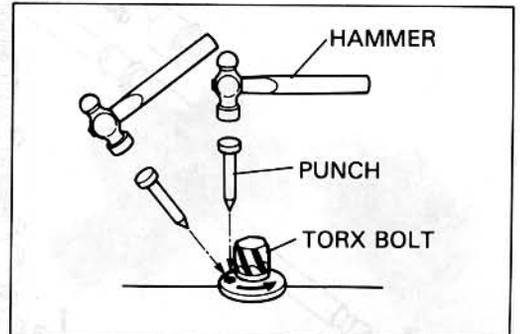
- To remove the ignition switch, remove the bolt to detach the ignition switch from the steering stem upper bracket by using a center punch and hammer.



Remove the O-ring.

**NOTE:**

Drop separately the caliper halves, replace the O-ring with a new one.

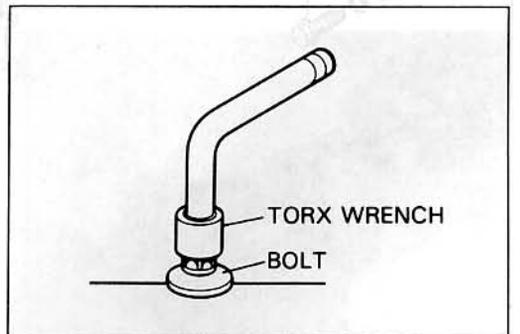


- To install the ignition switch, always use the new special bolt and follow the procedures below.

**NOTE:**

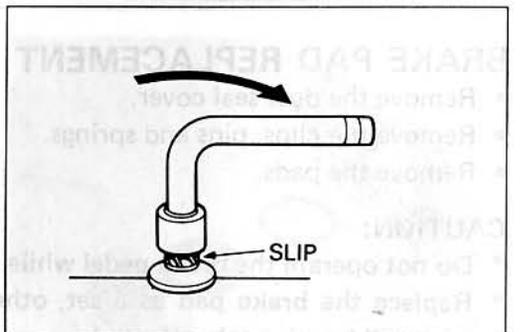
The spare ignition switch comes equipped with the special bolts, however, the bolt is also individually available as spare parts.

- Using the special bolts, attach the ignition switch on the steering stem upper bracket in place and run in the bolts with the special tool.

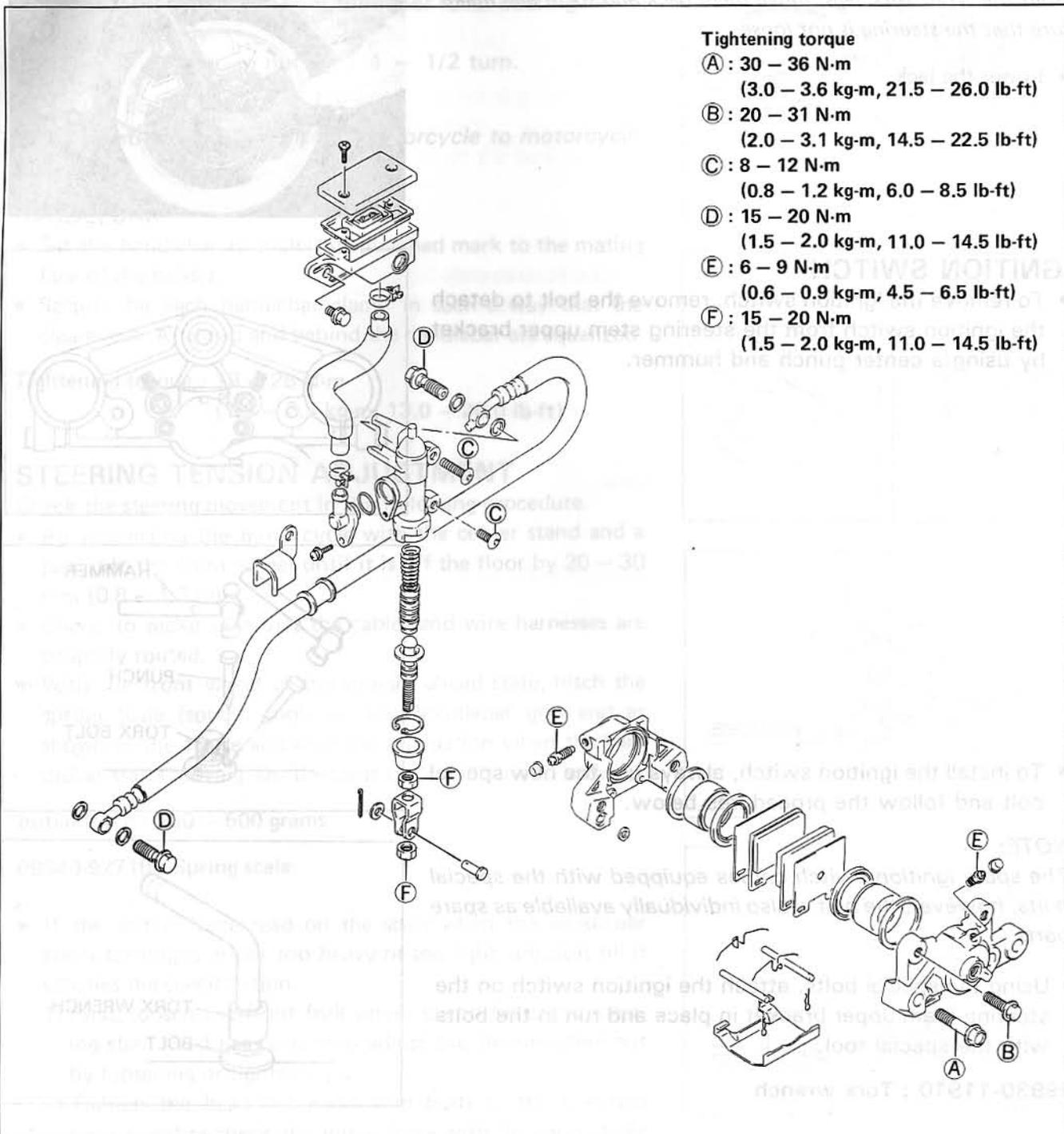


**09930-11910 : Torx wrench**

- Continue turning the tool until the tool slips from the bolt head or the bolt head breaks off, then the bolt has become tightened to the proper specification.



## REAR BRAKE

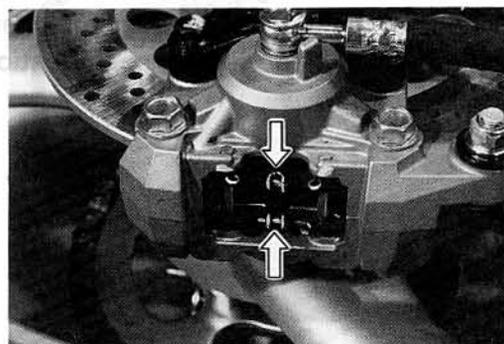


### BRAKE PAD REPLACEMENT

- Remove the dust seal cover.
- Remove the clips, pins and springs.
- Remove the pads.

#### CAUTION:

- \* Do not operate the brake pedal while removing the pads.
- \* Replace the brake pad as a set, otherwise braking performance will be adversely affected.



## CALIPER REMOVAL AND DISASSEMBLY

- Remove the brake hose union bolt and catch the brake fluid in a suitable receptacle.
- Remove the caliper mounting bolts.
- Remove the torque link bolt and nut, and take off the caliper.

### NOTE:

*Slightly loosen the caliper housing bolts to facilitate later disassembly before removing the caliper mounting bolts.*

- Remove the pads. (Refer to page 7-21.)
- Remove the caliper housing bolts and separate the caliper halves.



- Remove the O-ring.

### NOTE:

*Once separate the caliper halves, replace the O-ring with a new one.*

### CAUTION:

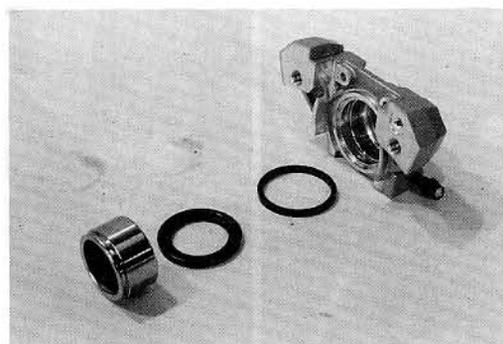
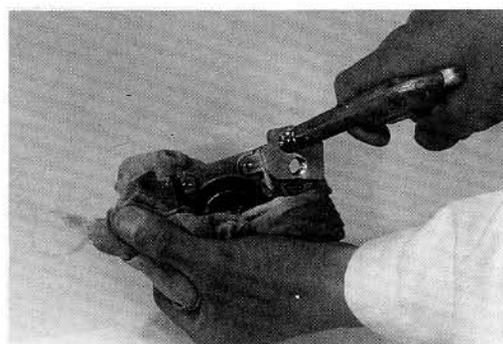
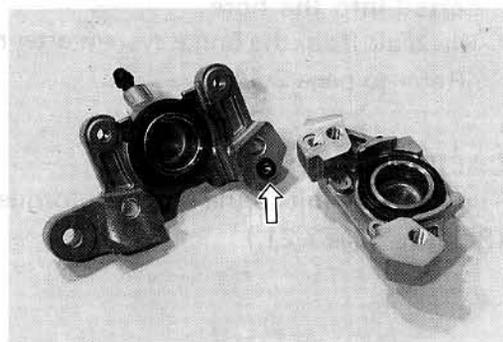
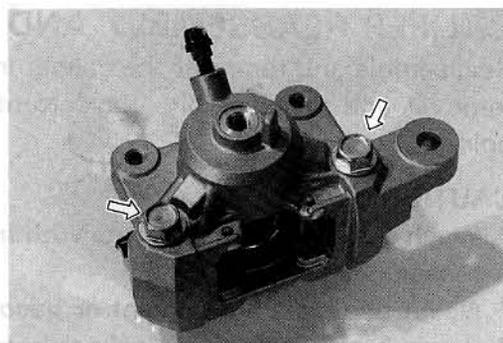
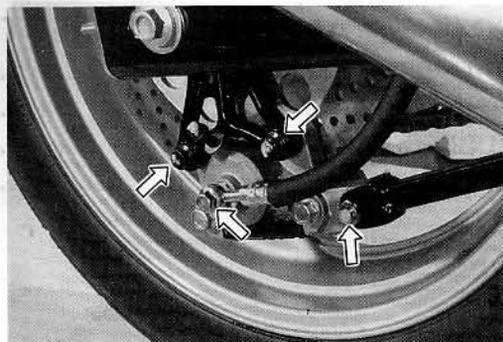
*Manipulate and completely wipe off any brake fluid existing on any part of the motorcycle. The fluid reacts chemically with paint, plastic and rubber materials, etc. and will damage them if allowed to remain.*

- Place a rag over the piston to prevent it from popping out and push out the piston by using an air gun.

### CAUTION:

**Do not use high pressure air to prevent piston damage.**

- Remove the dust seal, piston and piston seal out of the caliper.



## CALIPER AND DISC INSPECTION

<b>CALIPER</b> .....	Refer to page 7-7.
<b>PISTON</b> .....	Refer to page 7-7.
<b>RUBBER PARTS</b> .....	Refer to page 7-7.
<b>DISC</b> .....	Refer to page 7-8.

## CALIPER REASSEMBLY AND REMOUNTING

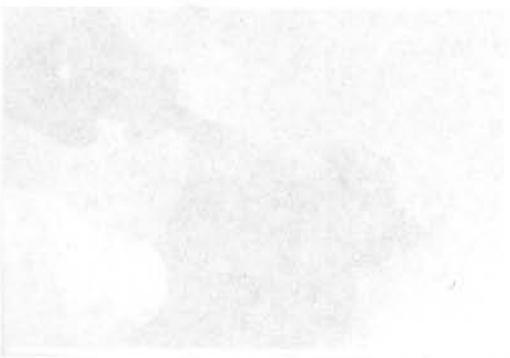
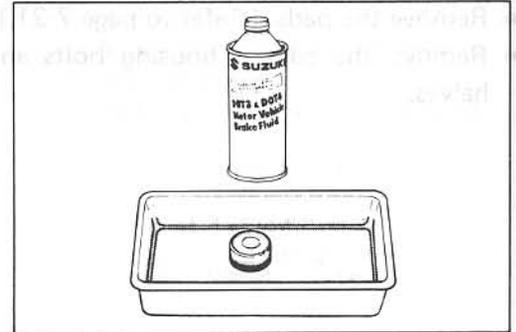
Reassemble and remount the caliper in the reverse order of removal and disassembly. Pay attention to the following points:

### CAUTION:

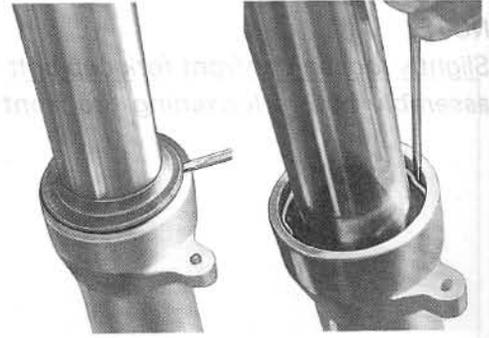
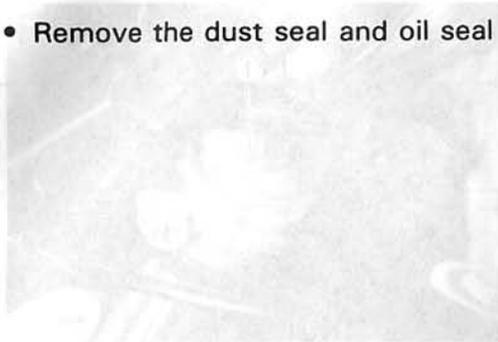
- \* Wash the caliper components with fresh brake fluid before reassembly.
- \* Never use cleaning solvent or gasoline to wash them.
- \* Apply brake fluid to the caliper bore and piston to be inserted into the bore.
- \* Bleed air from the brake system after reassembling the caliper. (Refer to page 2-14.)

### CALIPER BOLTS

Tighten each bolt to the specified torque.  
(Refer to page 7-21.)



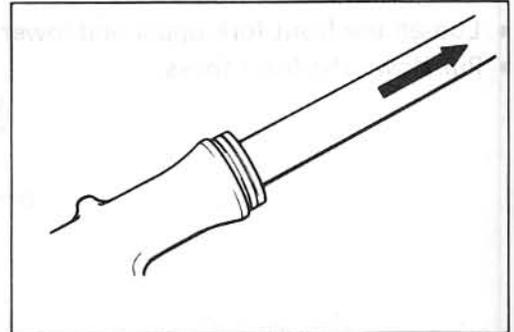
- Remove the dust seal and oil seal stopper ring.



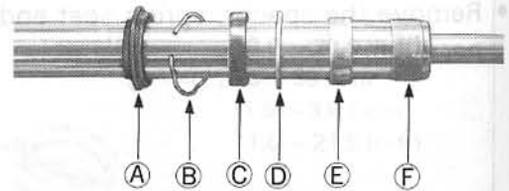
- Separate the inner tube out of the outer tube.

**CAUTION:**

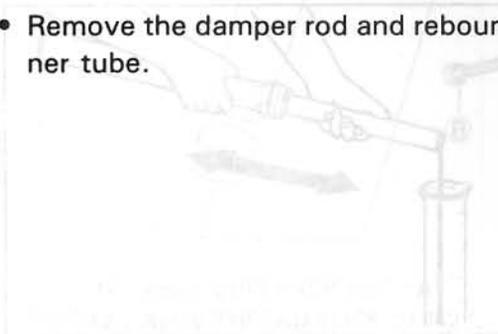
The outer tube and inner tube "anti-friction" metals must be replaced along with the oil seal and dust seal.



- (A) Dust seal
- (B) Oil seal stopper ring
- (C) Oil seal
- (D) Oil seal retainer
- (E) Anti-friction metal (Outer)
- (F) Anti-friction metal (Inner)

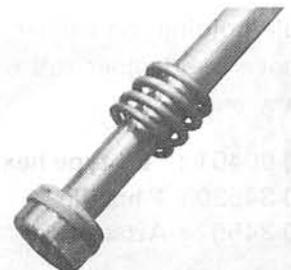


- Remove the damper rod and rebound spring out of the inner tube.



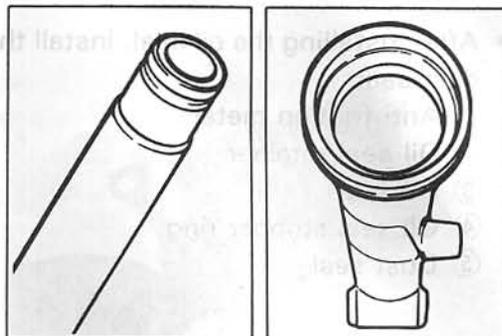
**INSPECTION  
DAMPER ROD RING**

Inspect the damper rod ring for wear or damage.



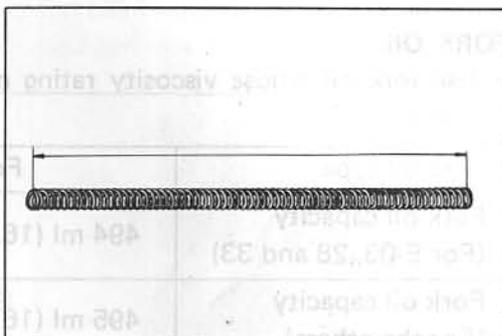
**INNER AND OUTER TUBES**

Inspect the inner tube sliding surface and outer tube sliding surface for any scuffing.

**FORK SPRING**

Measure the fork spring free length. If it is shorter than the service limit, replace it with a new one.

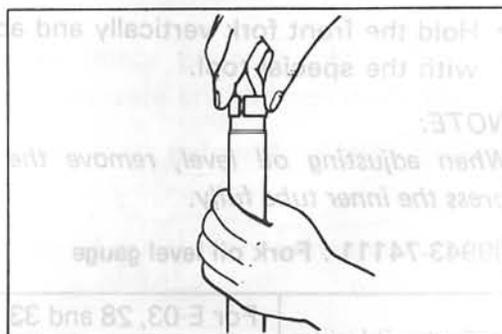
Service limit : 262 mm (10.3 in)

**REASSEMBLY AND REMOUNTING**

Reassemble and remount the front fork in the reverse order of removal and disassembly. Pay attention to the following points:

**INNER TUBE METAL**

- Hold the inner tube vertically and clean the metal groove and install the metal by hand as shown.

**CAUTION:**

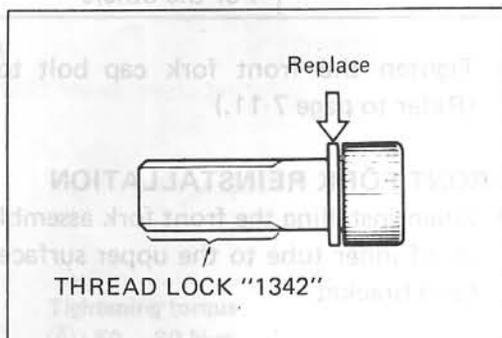
Use special care to prevent damage to the "Teflon" coated surface of the "anti-friction" metal when installing it.

**DAMPER ROD BOLT**

- Replace the gasket with a new one. Apply THREAD LOCK "1342" to the damper rod bolt and tighten it to the specified torque.

99000-32050 : THREAD LOCK "1342"

Tightening torque : 25 – 35 N·m  
(2.5 – 3.5 kg·m, 18.0 – 25.5 lb·ft)

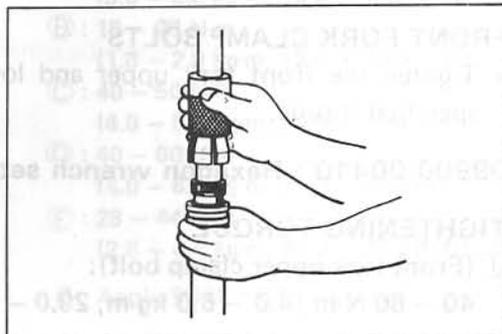
**OUTER TUBE METAL, OIL SEAL AND DUST SEAL**

- Clean the metal groove of outer tube and metal outer surface.
- Install the outer tube metal, oil seal retainer and oil seal.

09940-50113 : Front fork oil seal installer

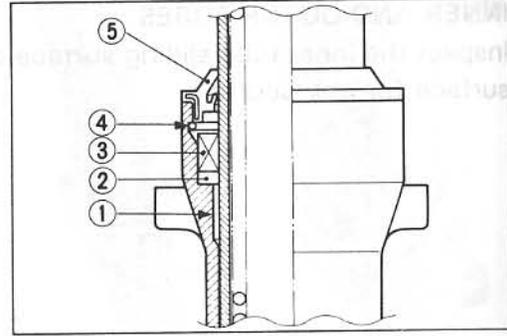
**CAUTION:**

Use special care to prevent damage to the "Teflon" coated surface of the "anti-friction" metal when installing it.



- After installing the oil seal, install the oil stopper ring and dust seal.

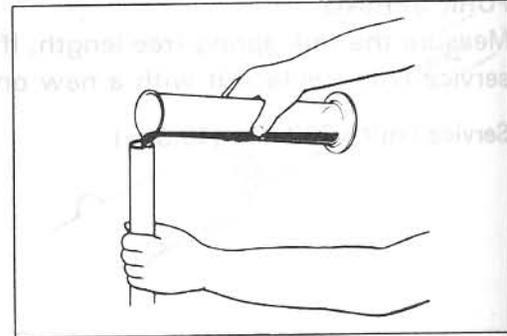
- ① Anti-friction metal
- ② Oil seal retainer
- ③ Oil seal
- ④ Oil seal stopper ring
- ⑤ Dust seal



**FORK OIL**

- Use fork oil whose viscosity rating meets the specifications below.

Fork oil type	For oil # 10
Fork oil capacity (For E-03, 28 and 33)	494 ml (16.7/17.4 US/Imp oz)
Fork oil capacity (For the others)	495 ml (16.7/17.4 US/Imp oz)



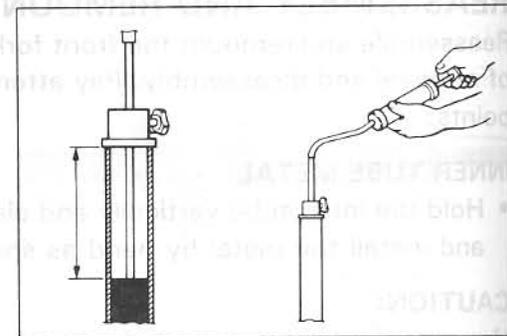
- Hold the front fork vertically and adjust the fork oil level with the special tool.

**NOTE:**

When adjusting oil level, remove the fork spring and compress the inner tube fully.

**09943-74111 : Fork oil level gauge**

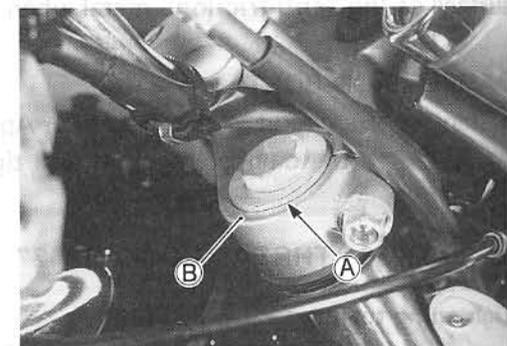
Fork oil level	For E-03, 28 and 33	106 mm (4.17 in)
	For the others	105 mm (4.13 in)



- Tighten the front fork cap bolt to the specified torque. (Refer to page 7-11.)

**FRONT FORK REINSTALLATION**

- When installing the front fork assembly, set the upper surface ① of inner tube to the upper surface ② of the steering stem head bracket.



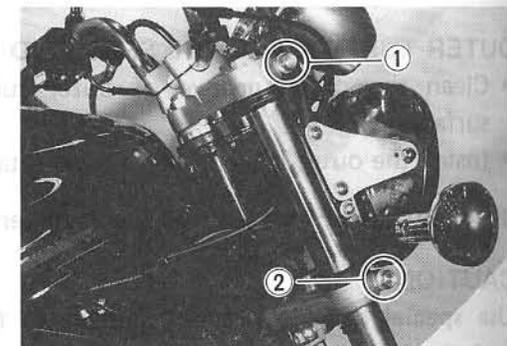
**FRONT FORK CLAMP BOLTS**

- Tighten the front fork upper and lower clamp bolts to the specified torque.

**09900-00410 : Hexagon wrench set**

**TIGHTENING TORQUE**

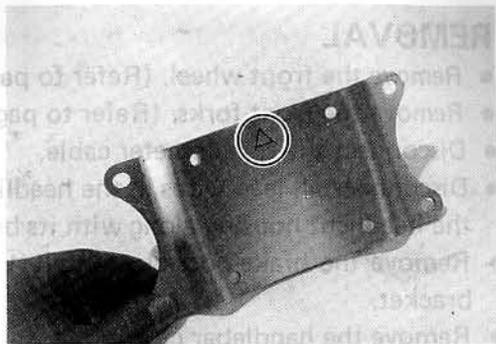
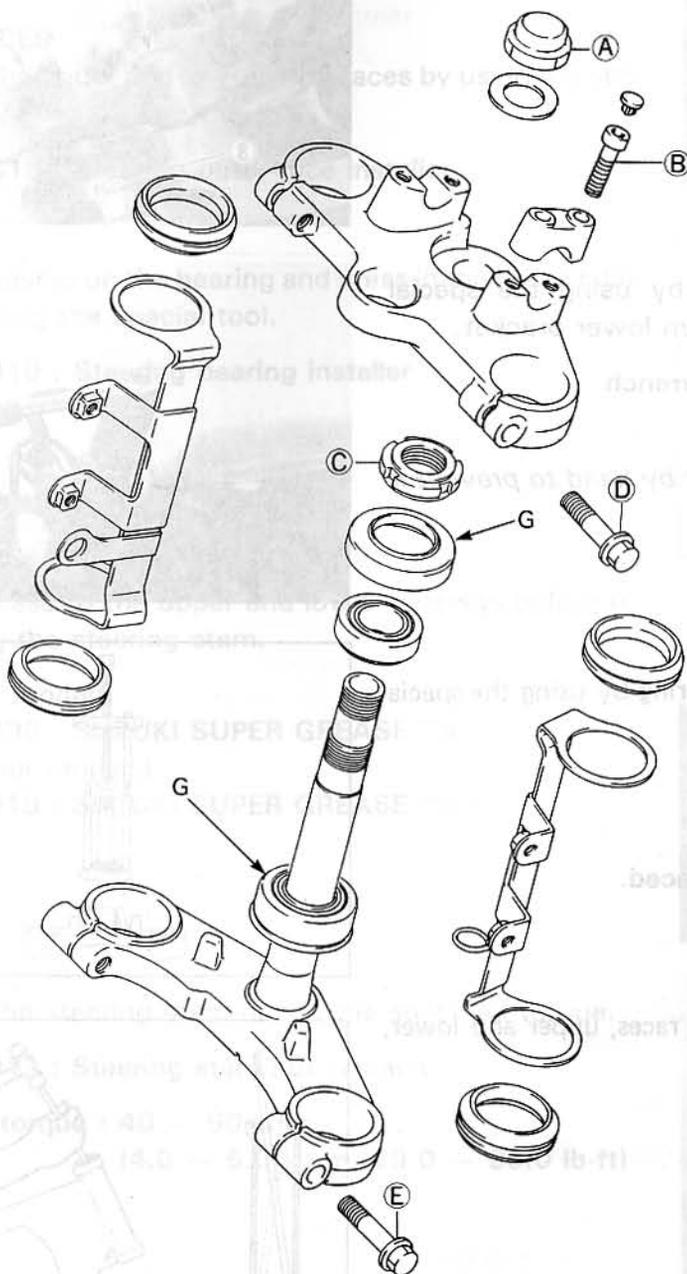
- ① (Front fork upper clamp bolt):  
40 – 60 N·m (4.0 – 6.0 kg·m, 29.0 – 43.5 lb·ft)
- ② (Front fork lower clamp bolt):  
28 – 44 N·m (2.8 – 4.4 kg·m, 20.0 – 32.0 lb·ft)



- The triangle mark on the fender brace faces front side.

**NOTE:**

Before tightening the front fender brace mounting screws, move the front fork up and down 4 or 5 times.

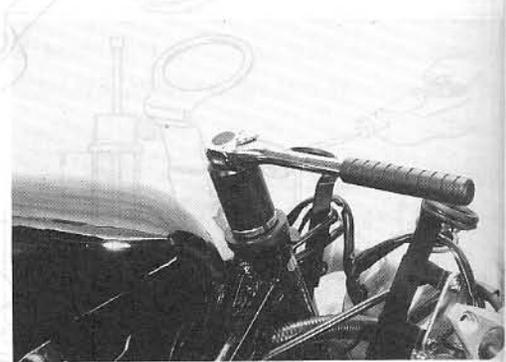
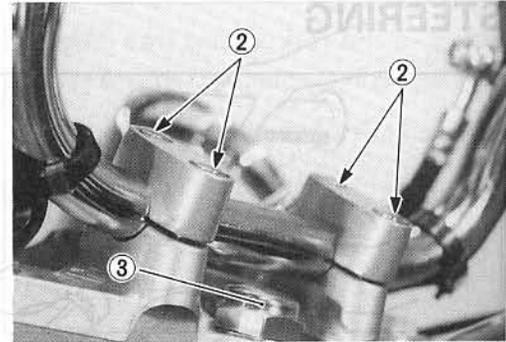
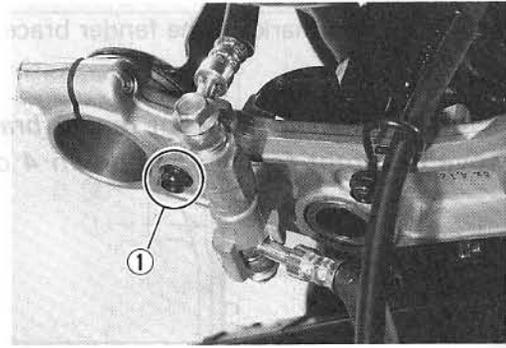
**STEERING****Tightening torque**

- A** : 50 – 80 N·m  
(5.0 – 8.0 kg·m, 36.0 – 58.0 lb·ft)
- B** : 18 – 28 N·m  
(1.8 – 2.8 kg·m, 13.0 – 20.0 lb·ft)
- C** : 40 – 50 N·m  
(4.0 – 5.0 kg·m, 29.0 – 36.0 lb·ft)
- D** : 40 – 60 N·m  
(4.0 – 6.0 kg·m, 29.0 – 43.5 lb·ft)
- E** : 28 – 44 N·m  
(2.8 – 4.4 kg·m, 20.0 – 32.0 lb·ft)

**G** : Apply SUPER GREASE "A".

## REMOVAL

- Remove the front wheel. (Refer to page 7-1.)
- Remove the front forks. (Refer to page 7-11.)
- Disconnect the speedometer cable.
- Disconnect all lead wires in the headlight housing and remove the headlight housing along with its brackets.
- Remove the brake hose clamp bolt ① from the steering lower bracket.
- Remove the handlebar clamp bolts ②.
- Remove the steering stem head nut ③.
- Remove the steering stem head bracket along with the tachometer, speedometer and ignition switch.



- Remove the steering stem nut by using the special tool, then remove the steering stem lower bracket.

### 09940-14911 : Steering stem nut wrench

#### NOTE:

Hold the steering stem lower bracket by hand to prevent it from falling.

## DISASSEMBLY

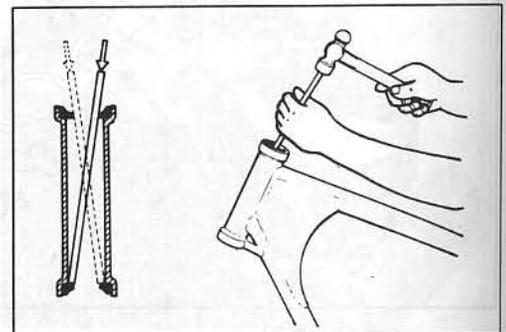
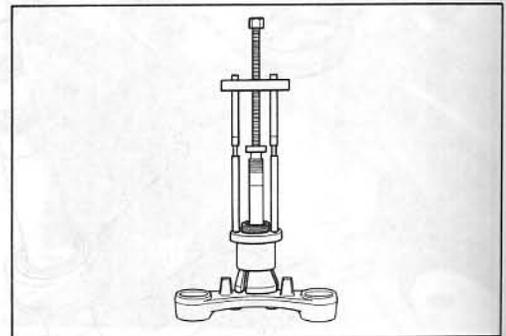
- Remove the steering stem lower bearing by using the special tools.

### 09941-84510 : Bearing remover

#### CAUTION:

The removed bearing should be replaced.

- Drive out the steering stem bearing races, upper and lower, by using an appropriate drift.



## INSPECTION

Inspect the removed parts for the following abnormalities.

- \* Handlebar distortion
- \* Handlebar clamp wear
- \* Race wear and brinelling
- \* Bearing wear or damage
- \* Abnormal noise of bearing
- \* Distortion of steering stem

## REASSEMBLY AND REMOUNTING

Reassemble and remount the steering stem in the reverse order of removal and disassembly. Pay attention to the following points:

### OUTER RACES

- Press in the upper and lower outer races by using the special tool.

**09941-34513 : Steering outer race installer**

### BEARING

- Place a washer on the bearing and press in the lower bearing by using the special tool.

**09941-74910 : Steering bearing installer**

- Apply grease to the upper and lower bearings before re-mounting the steering stem.

(For U.S.A. model)

**99000-25030 : SUZUKI SUPER GREASE "A"**

(For the other models)

**99000-25010 : SUZUKI SUPER GREASE "A"**

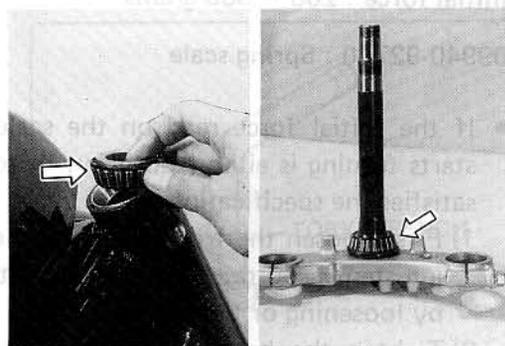
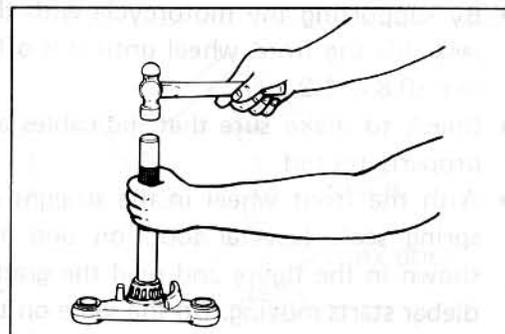
### STEM NUT

- Tighten the steering stem nut to the specified torque.

**09940-14911 : Steering stem nut wrench**

**Tightening torque : 40 — 50 N·m**

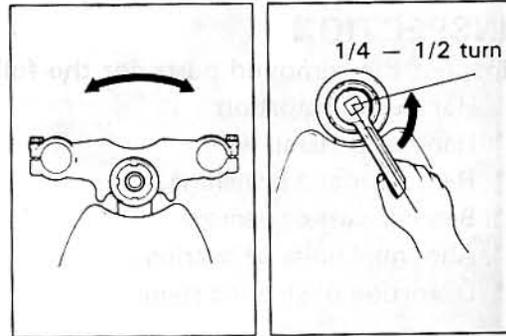
**(4.0 — 5.0 kg·m, 29.0 — 36.0 lb-ft)**



- Turn the steering stem lower bracket about five or six times to the left and right so that the taper roller bearing will be seated properly.
- Turn back the stem nut by 1/4 – 1/2 turn.

**NOTE:**

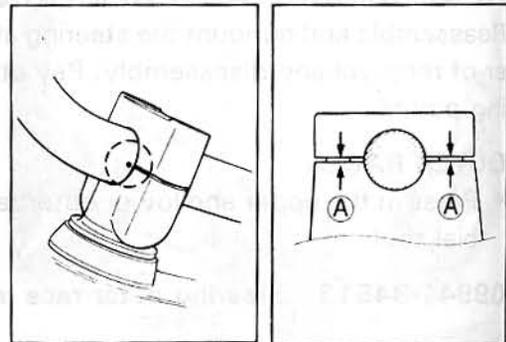
*This adjustment will vary from motorcycle to motorcycle.*

**HANDLEBAR**

- Set the handlebar to match its punched mark to the mating face of the holder.
- Secure the each handlebar clamp in such a way that the clearances (A) ahead and behind the handlebar are equalized.

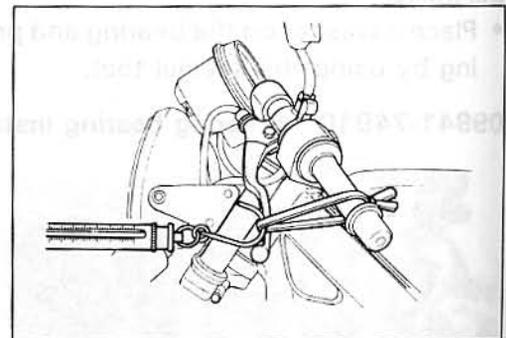
**Tightening torque : 18 – 28 N·m**

**(1.8 – 2.8 kg-m, 13.0 – 20.0 lb-ft)**

**STEERING TENSION ADJUSTMENT**

Check the steering movement in the following procedure.

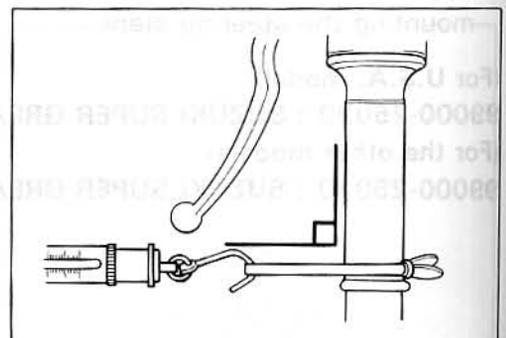
- By supporting the motorcycle with the center stand and a jack, lift the front wheel until it is off the floor by 20 – 30 mm (0.8 – 1.2 in).
- Check to make sure that the cables and wire harnesses are properly routed.
- With the front wheel in the straight ahead state, hitch the spring scale (special tool) on one handlebar grip end as shown in the figure and read the graduation when the handlebar starts moving. Do the same on the other grip end.



**Initial force : 200 – 500 grams**

**09940-92710 : Spring scale**

- If the initial force read on the scale when the handlebar starts turning is either too heavy or too light, adjust it till it satisfies the specification.
  - 1) First, loosen the front fork upper clamp bolts and steering stem head nut, and then adjust the steering stem nut by loosening or tightening it.
  - 2) Tighten the head nut and clamp bolts to the specified torque and re-check the initial force with the spring scale according to the previously described procedure.

**Tightening torque**

**Stem head nut ① : 50 – 80 N·m**  
**(5.0 – 8.0 kg-m, 36.0 – 58.0 lb-ft)**

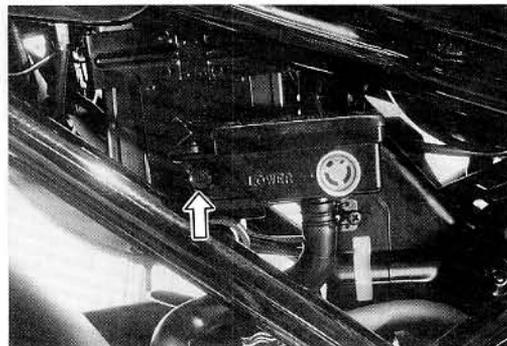
**Front fork upper clamp bolt ② : 40 – 60 N·m**  
**(4.0 – 6.0 kg-m, 29.0 – 43.5 lb-ft)**

- 3) If the initial force is found within the specified range, adjustment has been completed.



## MASTER CYLINDER REMOVAL AND DISASSEMBLY

- Remove the reservoir tank mounting bolt.

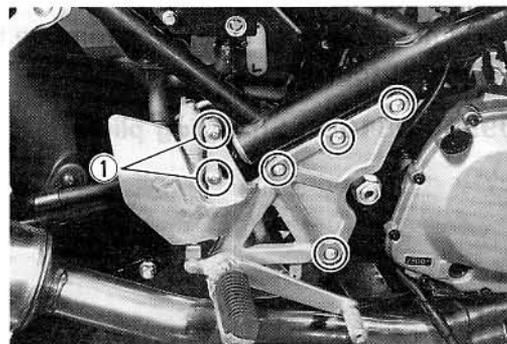


- Remove the right footrest bracket mounting bolts.

### NOTE:

Slightly loosen the master cylinder mounting bolts ① before removing the right footrest bracket mounting bolts.

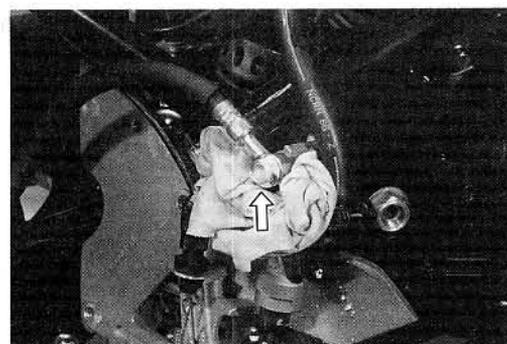
09900-00410: Hexagon wrench set



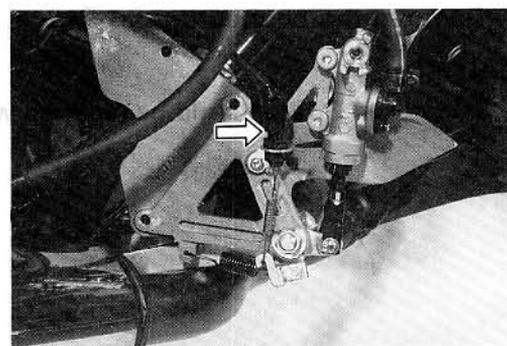
- Place a rag underneath the union bolt on the master cylinder to catch spilled drops of brake fluid. Unscrew the union bolt and disconnect the brake hose from the master cylinder joint.

### CAUTION:

Immediately and completely wipe off any brake fluid contacting any part of the motorcycle. The fluid reacts chemically with paint, plastics and rubber materials, etc. and will damage them severely.

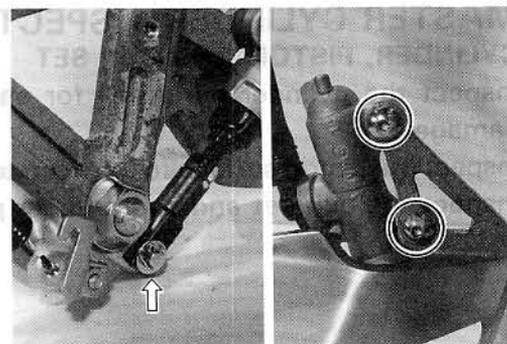


- Remove the rear brake light switch.

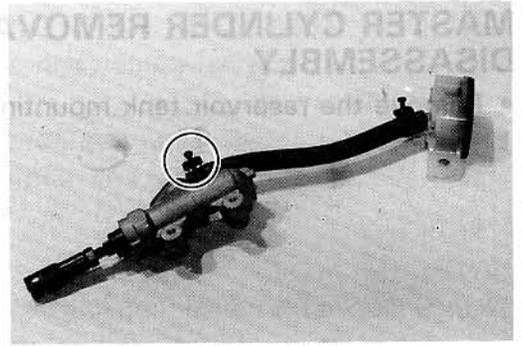


- Pull out cotter pin and remove the push rod pin.
- Remove the master cylinder from the right footrest bracket.

09900-00410: Hexagon wrench set

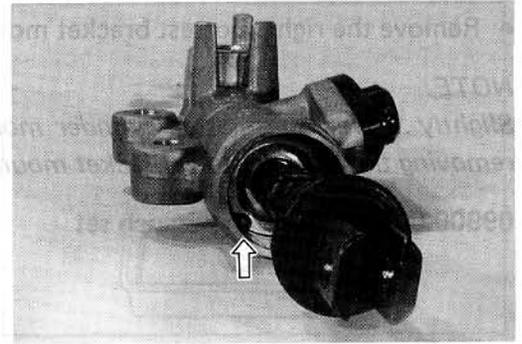


- Remove the reservoir tank hose.
- Remove the reservoir tank cap and drain brake fluid from the reservoir tank.

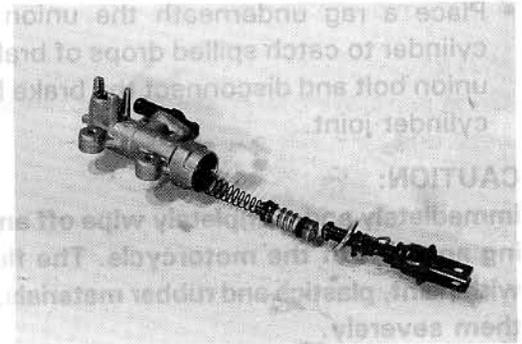


- Remove the dust seal, then remove the circlip by using the special tool.

09900-06105 : Snap ring pliers



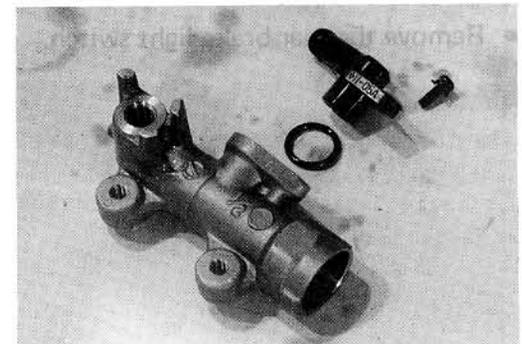
- Remove the push rod, piston, primary cup and spring.



- Remove the connector and O-ring.

**CAUTION:**

The removed O-ring should be replaced with a new one.



**MASTER CYLINDER INSPECTION  
CYLINDER, PISTON AND CUP SET**

Inspect the cylinder bore wall for any scratches or other damage.

Inspect the piston surface for any scratches or other damage.

Inspect the cup set and each rubber part for damage.

## MASTER CYLINDER REASSEMBLY AND REMOUNTING

Reassemble and remount the master cylinder in the reverse order of removal and disassembly. Pay attention to the following points:

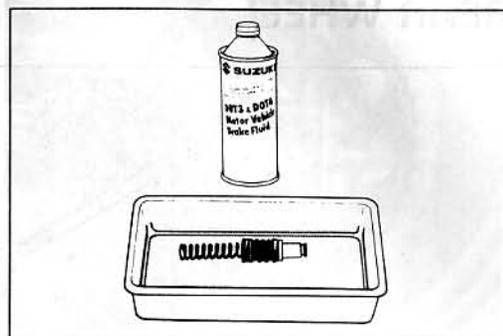
### CAUTION:

**Wash the master cylinder components with fresh brake fluid before reassembly. Never use cleaning solvent or gasoline to wash them. Apply brake fluid to the cylinder bore and all the internals to be inserted into the bore.**

### CAUTION:

Bleed air from the brake system after reassembling master cylinder. (Refer to page 2-14.)

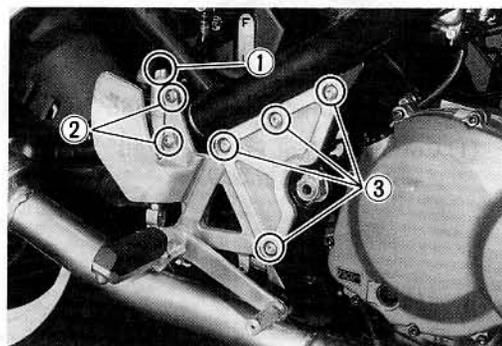
Adjust the rear brake light switch and brake pedal height after installation. (Refer to page 2-14.)



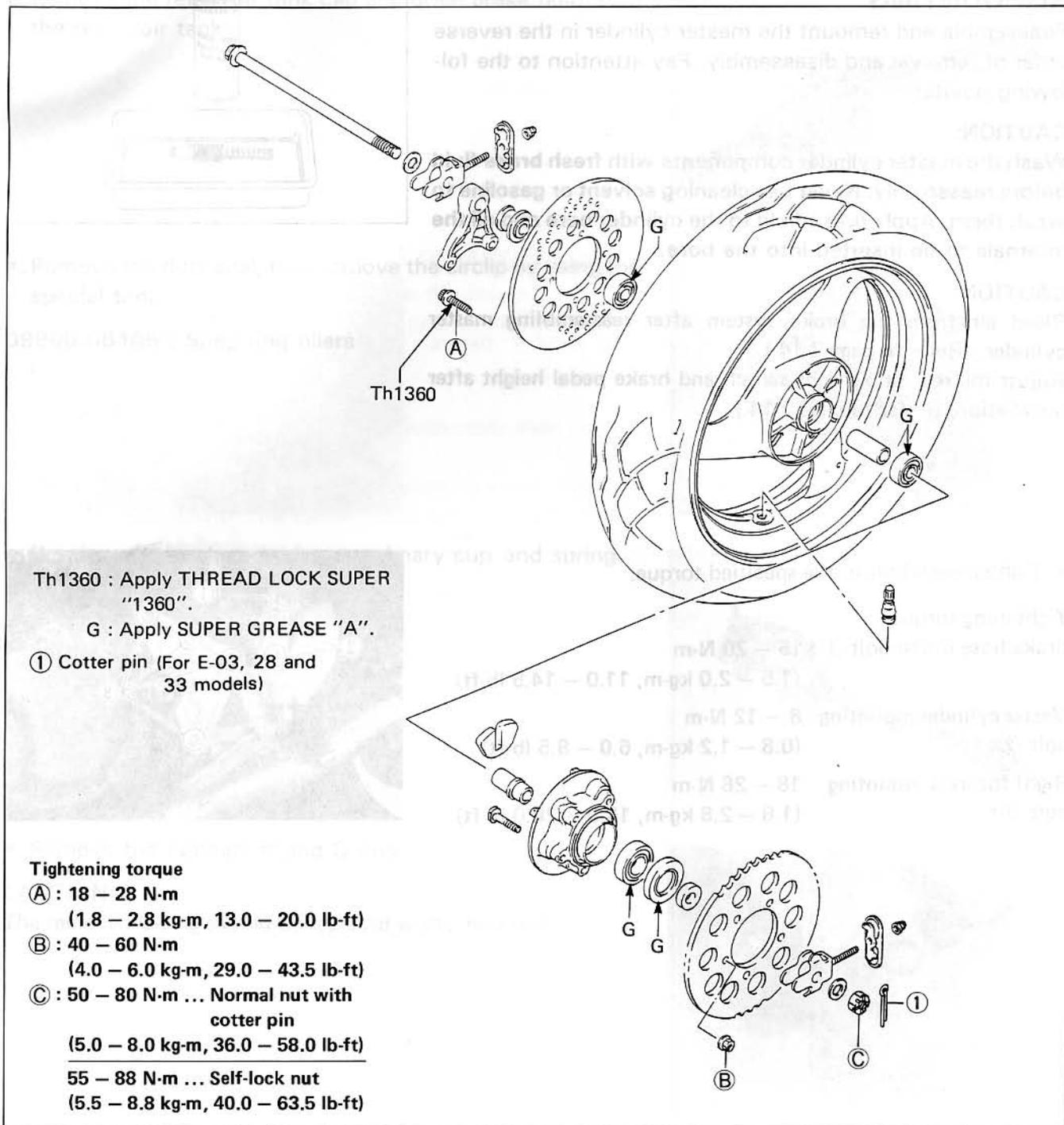
- Tighten each bolt to the specified torque.

### Tightening torque

Brake hose union bolt ①:	15 – 20 N·m (1.5 – 2.0 kg-m, 11.0 – 14.5 lb-ft)
Master cylinder mounting bolt ②:	8 – 12 N·m (0.8 – 1.2 kg-m, 6.0 – 8.5 lb-ft)
Right footrest mounting bolt ③:	18 – 28 N·m (1.8 – 2.8 kg-m, 13.0 – 20.0 lb-ft)



## REAR WHEEL

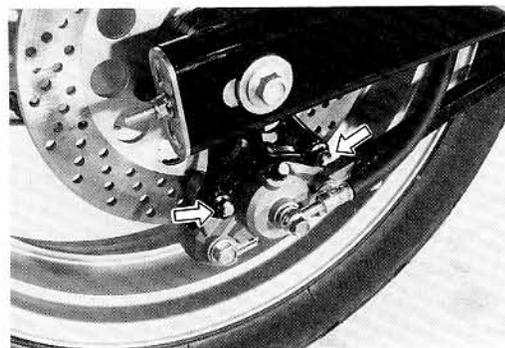


## REMOVAL

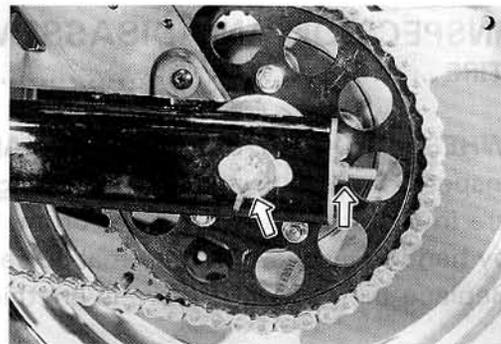
- Support the motorcycle with the center stand.
- Remove the rear brake caliper mounting bolts and lower the caliper along with the torque link.

### NOTE:

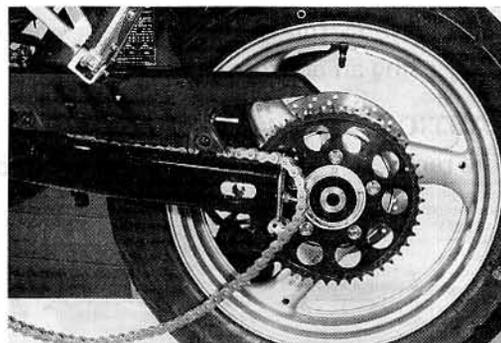
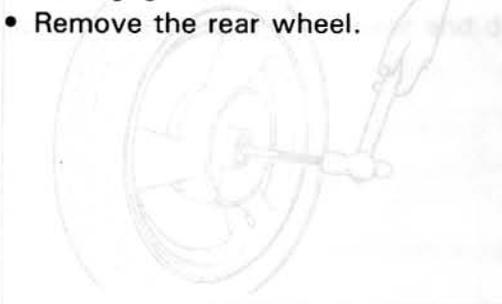
*Do not operate the brake pedal while removing the rear wheel.*



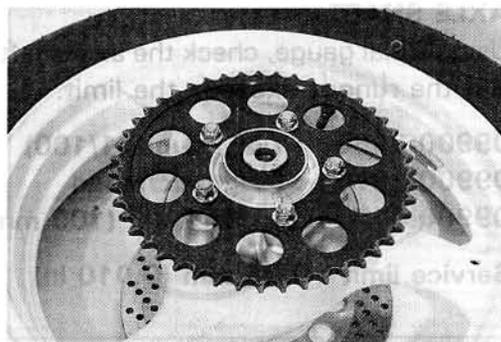
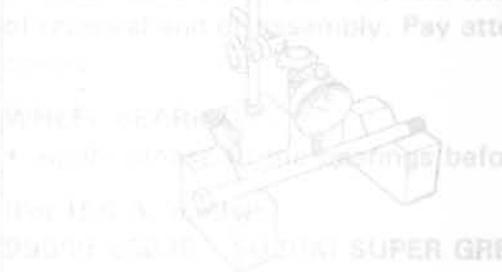
- Remove the cotter pin. (For E-03, 28 and 33 models)
- Remove the rear axle nut.
- Loosen the chain adjusting nuts, left and right.
- Draw out the axle shaft.



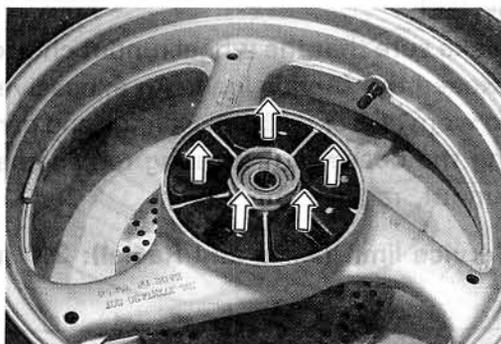
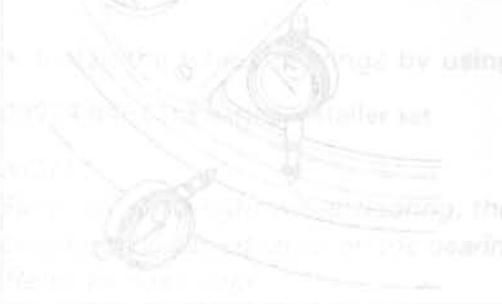
- Disengage the drive chain from the rear sprocket.
- Remove the rear wheel.



- Remove the rear sprocket along with its mounting drum off the wheel hub.

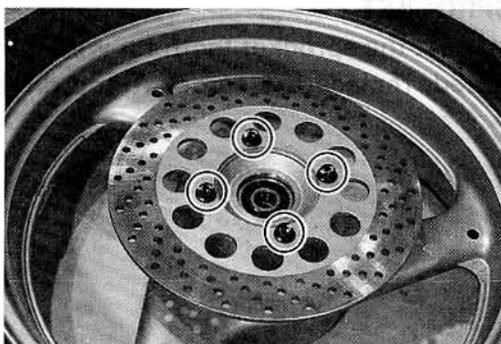


- Remove the five dampers out of the wheel hub.



- Remove the brake disc by removing the mounting bolts.

09900-00410 : Hexagon wrench set



## INSPECTION AND DISASSEMBLY

**TIRE** ..... Refer to page 7-33.

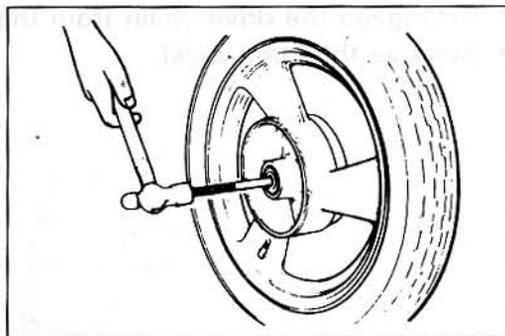
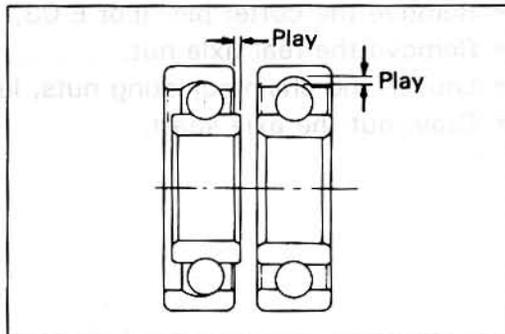
### WHEEL AND SPROCKET DRUM BEARINGS

Inspect the play of respective bearings by hand while they are in the wheel and sprocket drum. Rotate the inner race by hand to inspect for abnormal noise and smooth rotation. Replace the bearing if there is anything unusual.

- Drive out the wheel bearings and sprocket drum bearing by using an appropriate tool.

#### CAUTION:

The removed bearings should be replaced with new ones.



### AXLE SHAFT

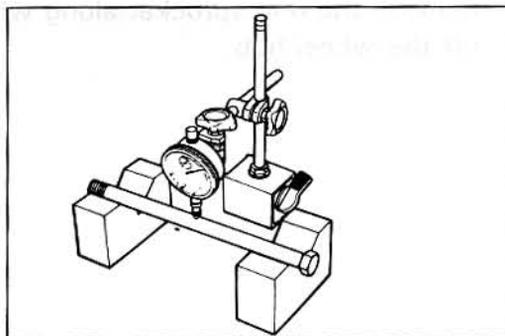
Using a dial gauge, check the axle shaft for runout and replace it if the runout exceeds the limit.

09900-20606 : Dial gauge (1/100)

09900-20701 : Magnetic stand

09900-21304 : V-block set (100 mm)

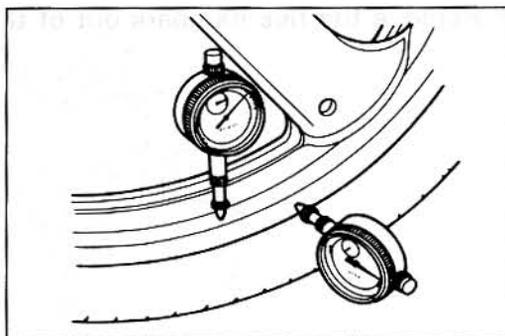
Service limit : 0.25 mm (0.010 in)



### WHEEL

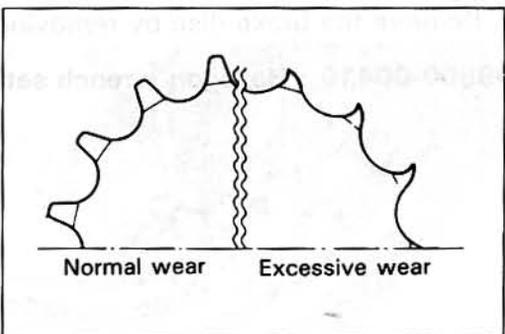
Make sure that the wheel runout checked as shown does not exceed the service limit. An excessive runout is usually due to worn or loose wheel bearings and can be reduced by replacing the bearings. If bearing replacement fails to reduce the runout, replace the wheel.

Service limit (Axial and Radial): 2.0 mm (0.08 in)



### SPROCKET

Inspect the sprocket teeth for wear. If they are worn as illustrated, replace the sprocket and drive chain.



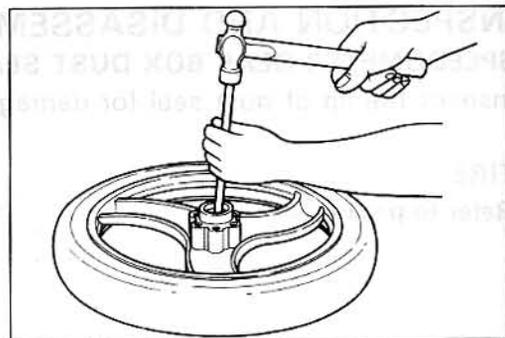
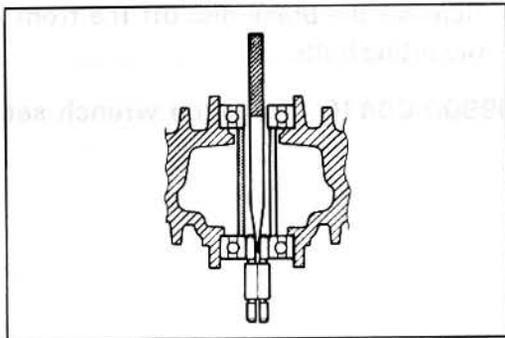
- Drive out both wheel bearings by using the special tool in the following procedures.

**09941-50110 : Bearing remover**

- Insert the adaptor into the wheel bearing.
- After inserting the wedge bar from the opposite side, lock the wedge bar in the slit of the adaptor.
- Drive out the wheel bearing by knocking the wedge bar.

**CAUTION:**

The removed bearings should be replaced with new ones.



**REASSEMBLY AND REMOUNTING**

Reassemble and remount the front wheel in the reverse order of removal and disassembly. Pay attention to the following points:

**WHEEL BEARING**

- Apply grease to the bearing before installing.

(For U.S.A. model)

**99000-25030 : SUZUKI SUPER GREASE "A"**

(For the other models)

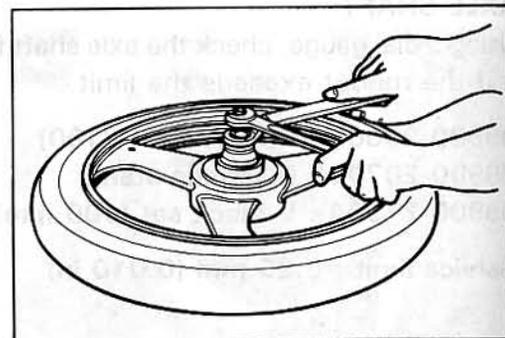
**99000-25010 : SUZUKI SUPER GREASE "A"**

- Install the wheel bearings as follows by using the special tool.

**09924-84511 : Bearing installer set**

**NOTE:**

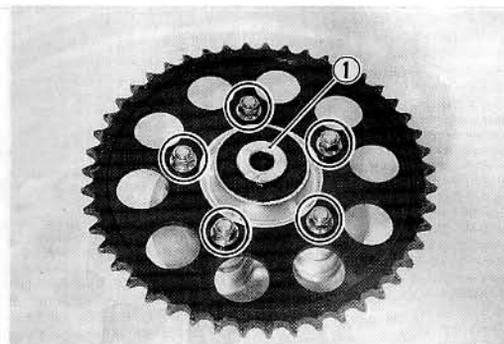
First install the left wheel bearing, then install the right wheel bearing. The sealed cover on the bearing is positioned outside. Refer to the illustration on next page.



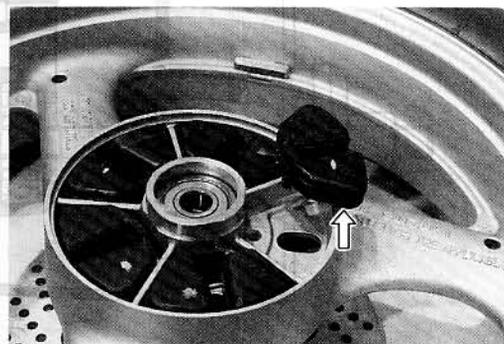
- Remove the rear sprocket by removing the mounting nuts.
- Remove the spacer ①.  
Inspect the lip of dust seal for damage.

**CAUTION:**

The removed dust seal should be replaced with a new one.

**DAMPER**

Inspect the dampers for wear and damage.

**REASSEMBLY AND REMOUNTING**

Reassemble and remount the rear wheel in the reverse order of removal and disassembly. Pay attention to the following points:

**WHEEL BEARING**

- Apply grease to the bearings before installing.

(For U.S.A. model)

**99000-25030 : SUZUKI SUPER GREASE "A"**

(For the other models)

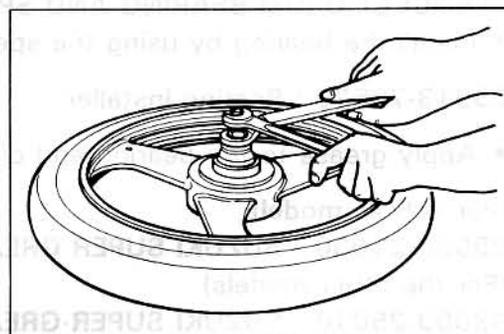
**99000-25010 : SUZUKI SUPER GREASE "A"**

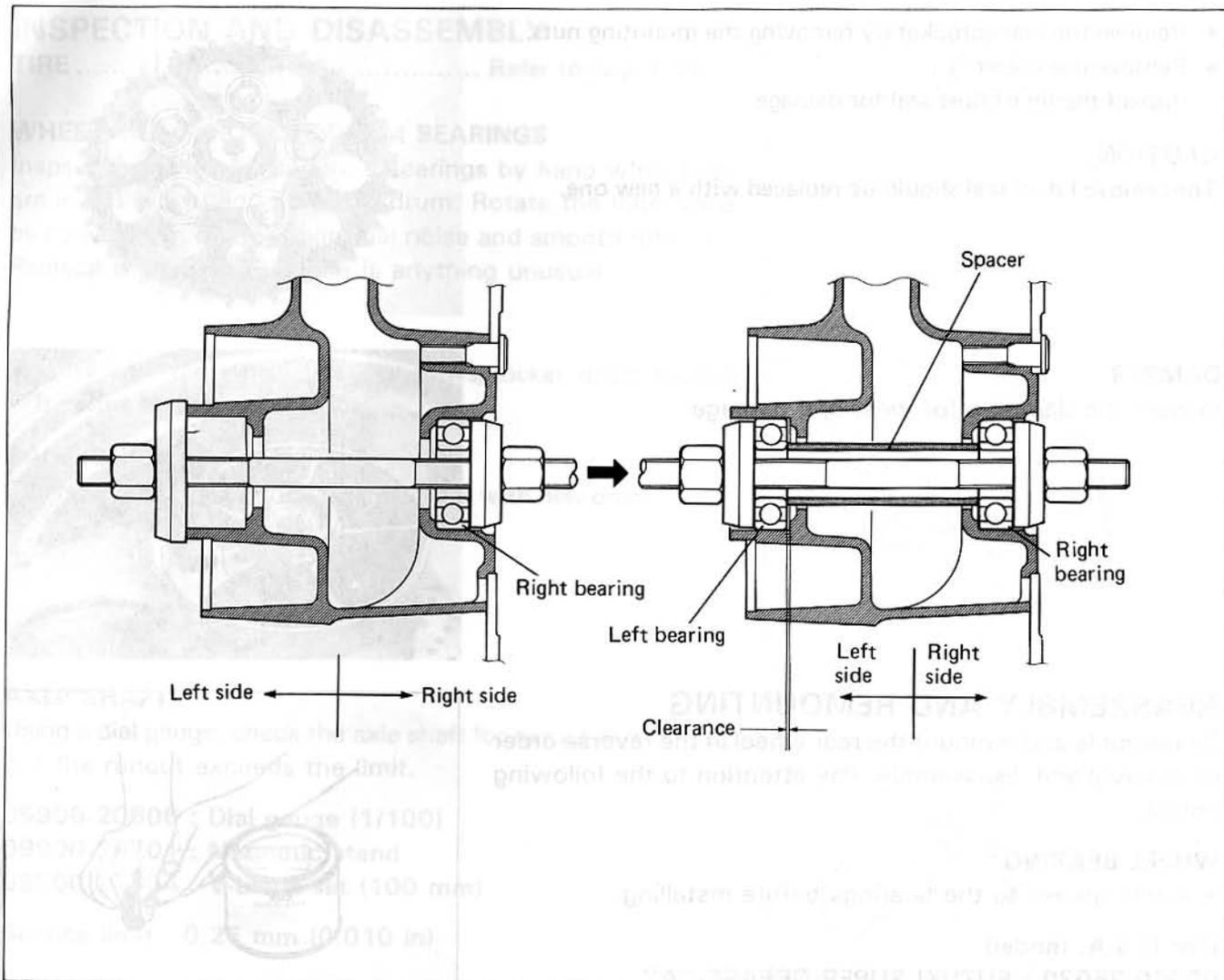
- Install the wheel bearings by using the special tools.

**09924-84511: Bearing installer set**

**NOTE:**

First install the right wheel bearing, then install the left wheel bearing. The sealed cover on the bearing is positioned outside. Refer to next page.





### SPROCKET DRUM BEARING AND SPROCKET

- Install the bearing by using the special tool.

#### 09913-75520 : Bearing installer

- Apply grease to the bearing and oil seal lip.

(For U.S.A. model)

99000-25030 : SUZUKI SUPER GREASE "A"

(For the other models)

99000-25010 : SUZUKI SUPER GREASE "A"

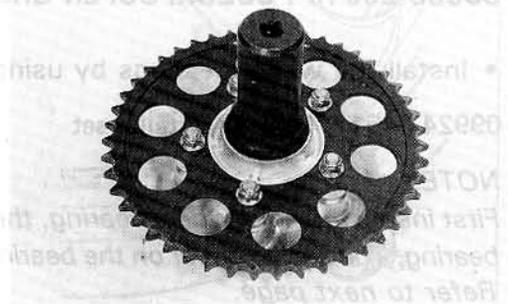
#### NOTE:

When installing the rear sprocket on its mounting drum, the stamped mark on the sprocket is positioned outside.

- Tighten the sprocket mounting nuts to the specified torque.

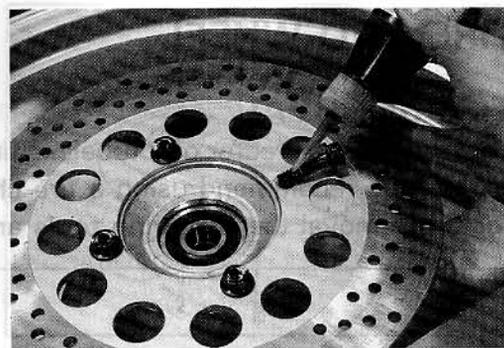
Tightening torque : 40 – 60 N·m

(4.0 – 6.0 kg·m, 29.0 – 43.5 lb·ft)



### BRAKE DISC

- Make sure that the brake disc is clean and free of any greasy matter.
- Apply **THREAD LOCK SUPER "1360"** to the disc bolts and tighten them to the specified torque.



**99000-32130: THREAD LOCK SUPER "1360"**

**Tightening torque : 18 – 28 N·m  
(1.8 – 2.8 kg·m, 13.0 – 20.0 lb·ft)**

### TIGHTENING TORQUE

**Axle nut:**

**50 – 80 N·m (5.0 – 8.0 kg·m, 36.0 – 58.0 lb·ft) . . . Normal nut with cotter pin**

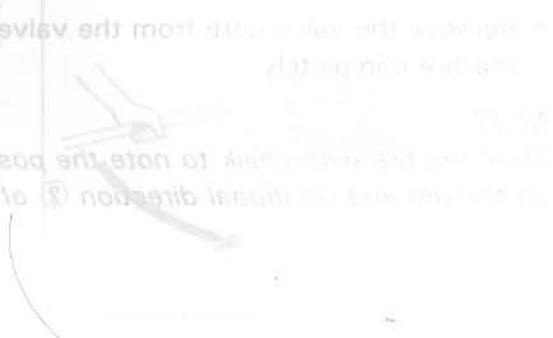
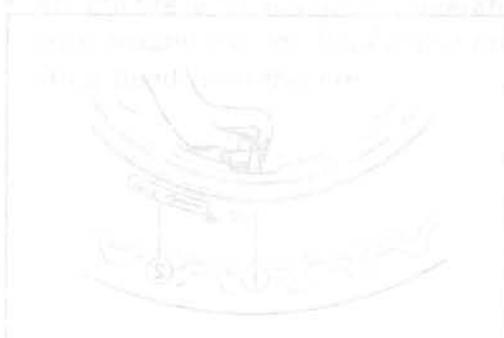
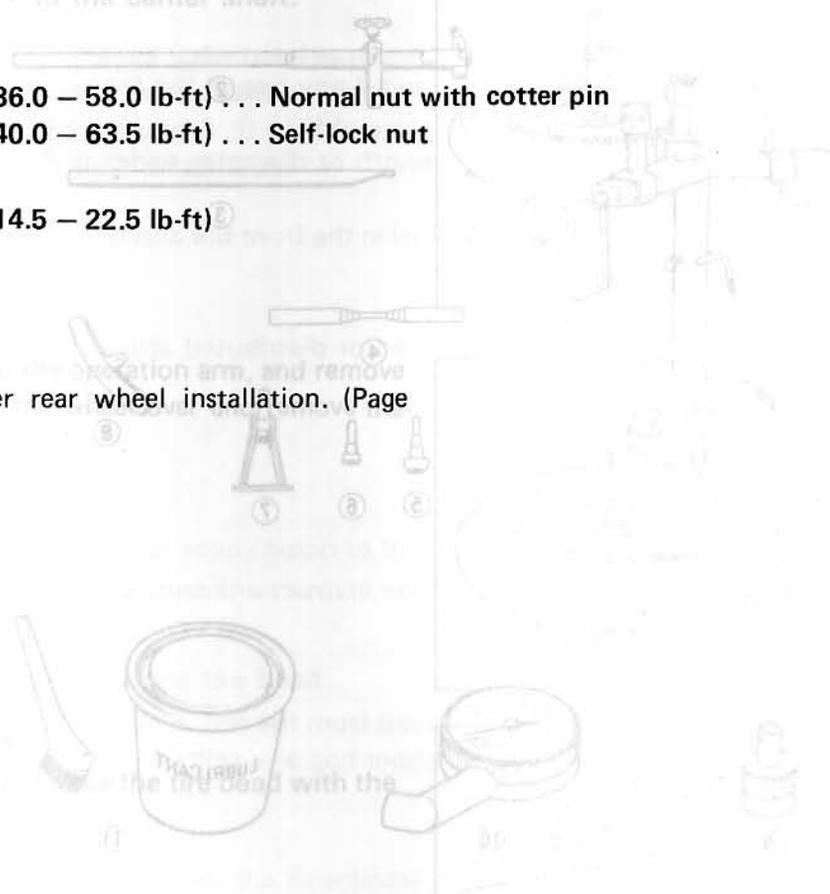
**55 – 88 N·m (5.5 – 8.8 kg·m, 40.0 – 63.5 lb·ft) . . . Self-lock nut**

**Brake caliper mounting bolt:**

**21 – 31 N·m (2.1 – 3.1 kg·m, 14.5 – 22.5 lb·ft)**

### ADJUSTMENT

- Adjust the chain slack after rear wheel installation. (Page 2-11.)

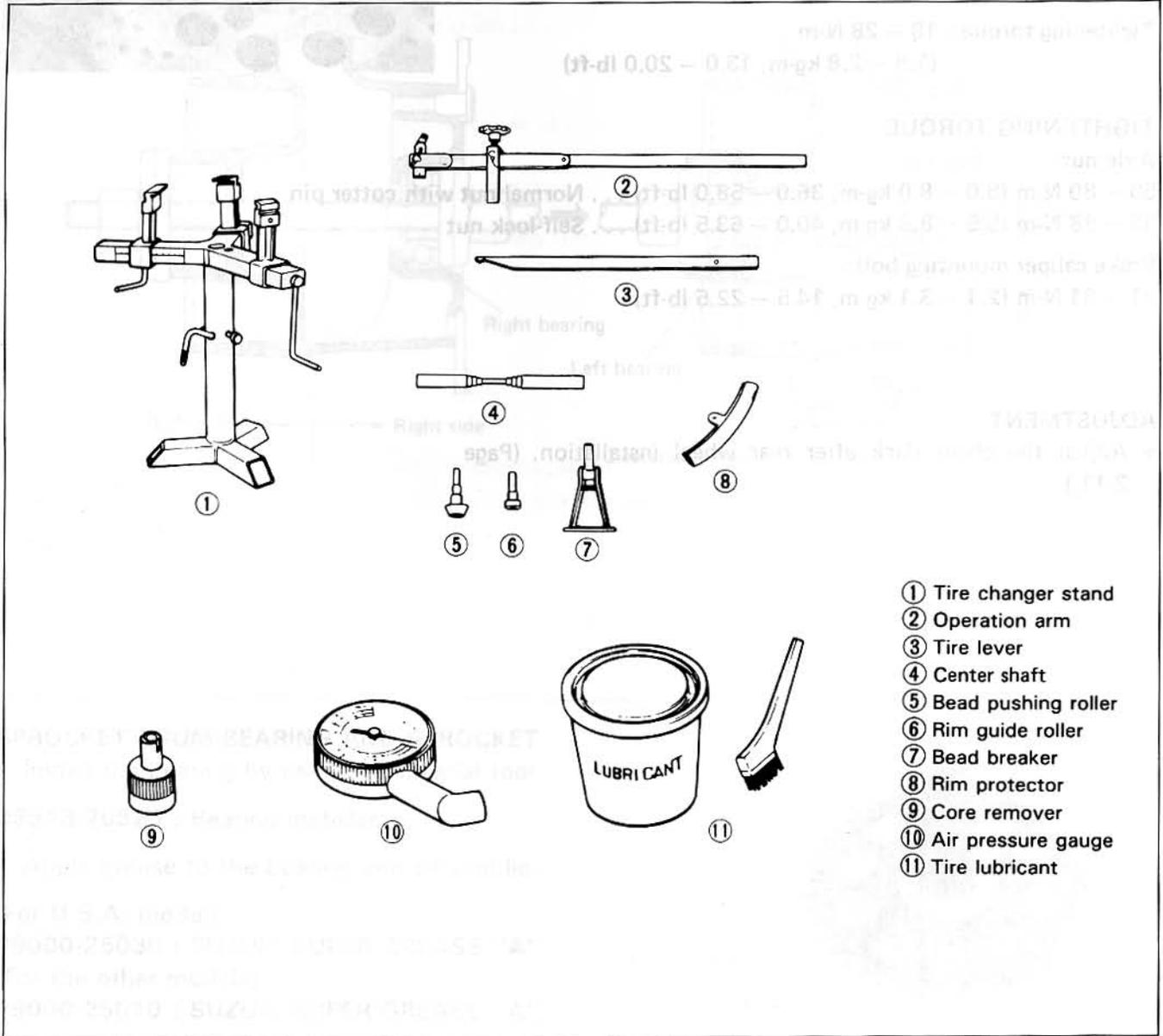


## TIRE AND WHEEL

### TIRE REMOVAL

The most critical factor of a tubeless tire is the seal between the wheel rim and the tire bead. Because of this, we recommend using a tire changer which is also more efficient than tire levers.

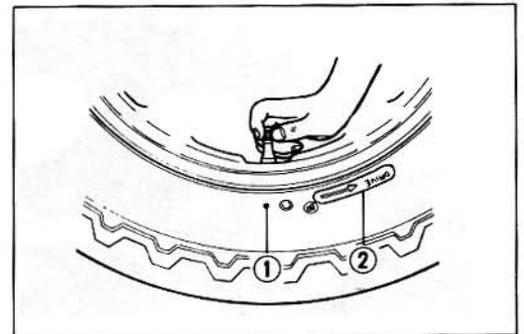
For tire removal the following tools are required.



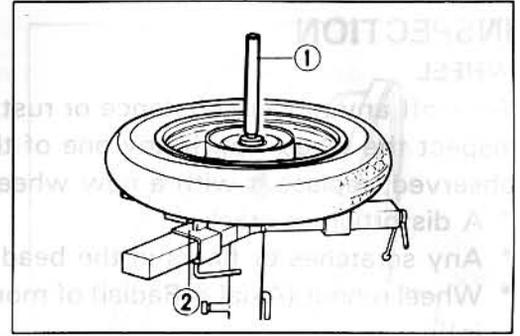
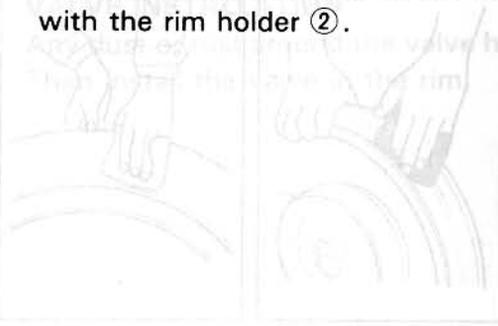
- Remove the valve core from the valve stem, and deflate the tire completely.

#### NOTE:

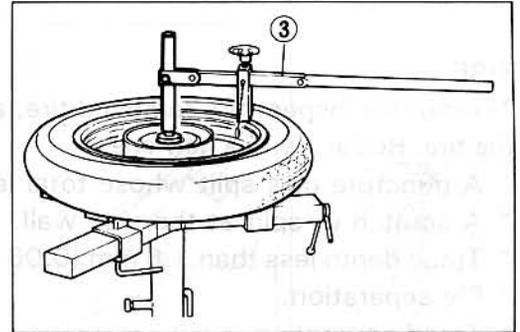
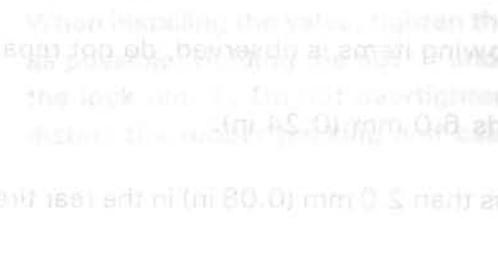
Mark the tire with chalk to note the position ① of the tire on the rim and rotational direction ② of the tire.



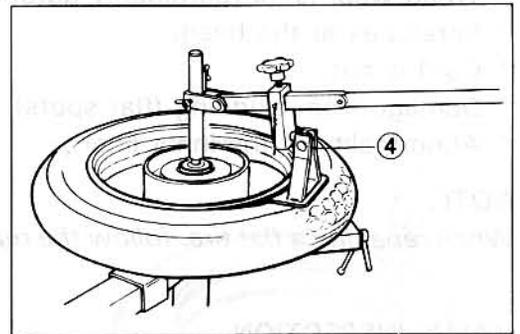
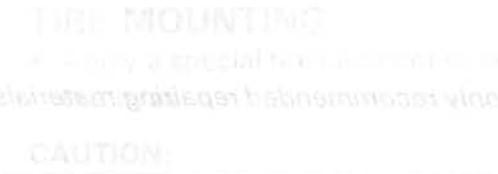
- Place the center shaft ① to the wheel, and fix the wheel with the rim holder ②.



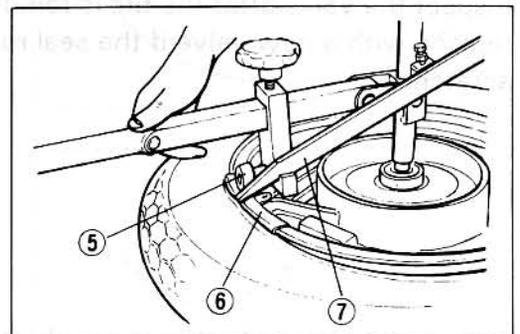
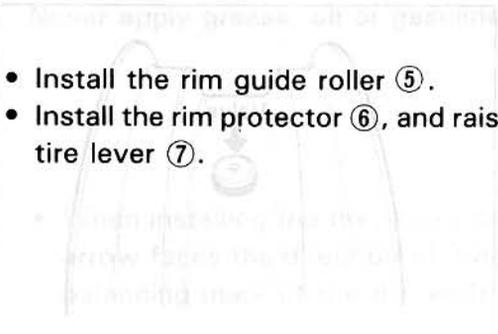
- Attach the operation arm ③ to the center shaft.



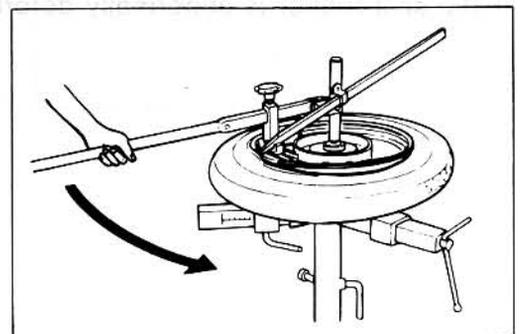
- Attach the bead breaker ④ to the operation arm, and remove the bead from the rim. Turn the wheel over and remove the other bead from the rim.



- Install the rim guide roller ⑤.
- Install the rim protector ⑥, and raise the tire bead with the tire lever ⑦.



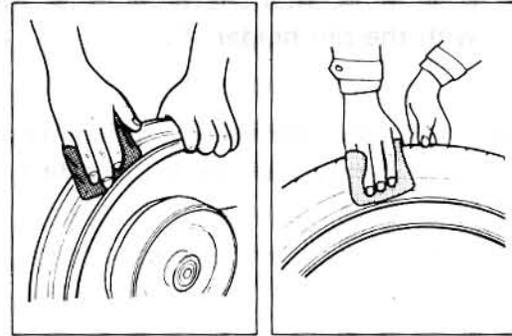
- Set the tire lever against the operation arm, and rotate the lever around the rim. Repeat this procedure to remove the other bead from the rim.



**INSPECTION****WHEEL**

Wipe off any rubber substance or rust from the wheel, and inspect the wheel rim. If any one of the following items is observed, replace it with a new wheel.

- \* A distortion or crack.
- \* Any scratches or flaws in the bead seating area.
- \* Wheel runout (Axial & Radial) of more than 2.0 mm (0.08 in).

**TIRE**

Thoroughly inspect the removed tire, and if any one of the following items is observed, do not repair the tire. Replace with a new one.

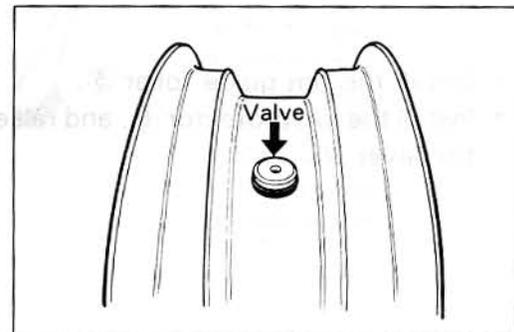
- \* A puncture or a split whose total length or diameter exceeds 6.0 mm (0.24 in).
- \* A scratch or split at the side wall.
- \* Tread depth less than 1.6 mm (0.06 in) in the front tire and less than 2.0 mm (0.08 in) in the rear tire.
- \* Ply separation.
- \* Tread separation.
- \* Tread wear is extraordinarily deformed or distributed around the tire.
- \* Scratches at the bead.
- \* Cord is cut.
- \* Damage from skidding (flat spots).
- \* Abnormality in the inner liner.

**NOTE:**

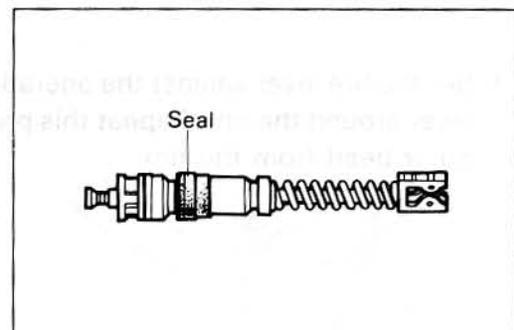
*When repairing a flat tire, follow the repair instructions and use only recommended repairing materials.*

**VALVE INSPECTION**

Inspect the valve after the tire is removed from the rim, and replace with a new valve if the seal rubber has any splits or scratches.

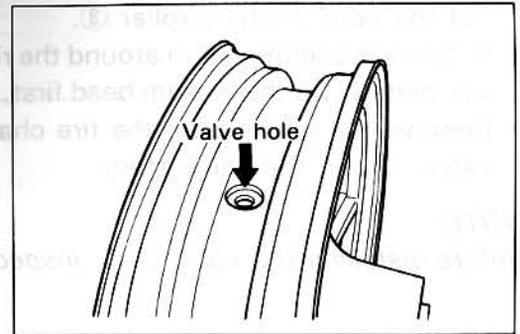


Inspect the removed valve core and replace with the new one if the seal rubber is abnormally deformed or worn.



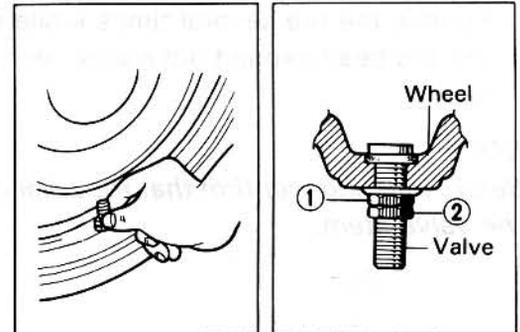
## VALVE INSTALLATION

Any dust or rust around the valve hole must be cleaned off. Then install the valve in the rim.



### CAUTION:

When installing the valve, tighten the nut ① by hand as much as possible. Holding the nut ① under this condition, tighten the lock nut ②. Do not overtighten the nut ① as this may distort the rubber packing and cause an air leak.

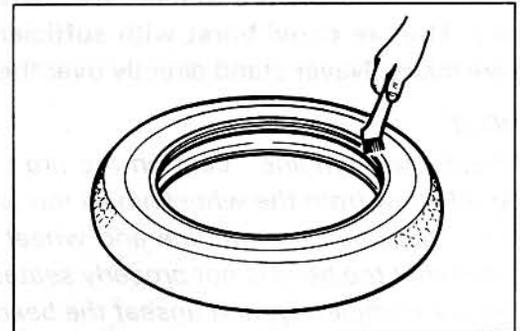


## TIRE MOUNTING

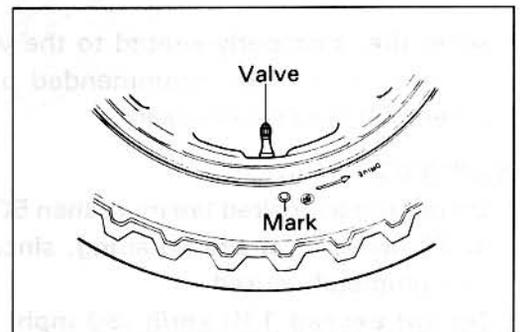
- Apply a special tire lubricant or neutral soapy liquid to the tire bead.

### CAUTION:

Never apply grease, oil or gasoline to the tire bead.



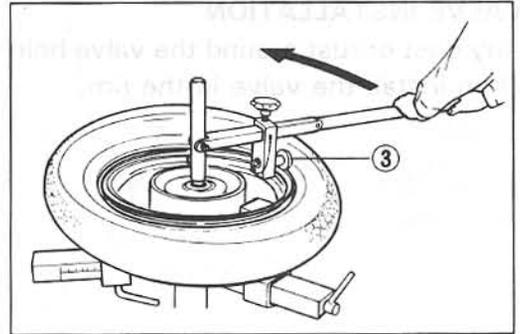
- When installing the tire, make certain that the directional arrow faces the direction of wheel rotation and align the balancing mark of the tire with the valve as shown.



- Set the bead pushing roller ③.
- Rotate the operation arm around the rim to mount the bead completely. Do the bottom bead first, then the upper bead.
- Remove the wheel from the tire changer, and install the valve core in the valve stem.

**NOTE:**

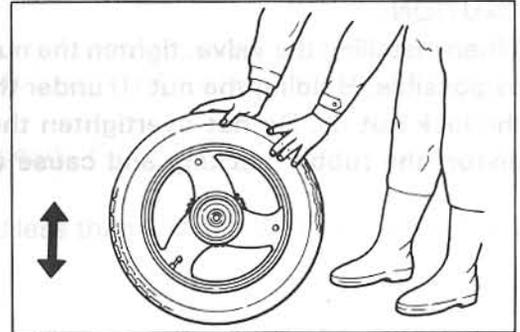
*Before installing the valve core, inspect the core.*



- Bounce the tire several times while rotating. This makes the tire bead expand outwards, and thus makes inflation easier.

**NOTE:**

*Before inflating, confirm that the balance mark lines up with the valve stem.*



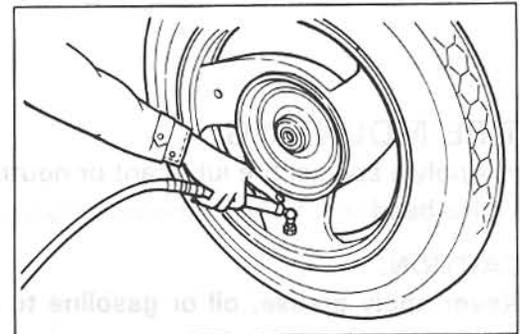
- Pump up the tire with air.

**WARNING:**

**Do not inflate the tire to more than 400 kPa (4.0 kg/cm<sup>2</sup>, 56 psi). The tire could burst with sufficient force to cause severe injury. Never stand directly over the tire while inflating it.**

**NOTE:**

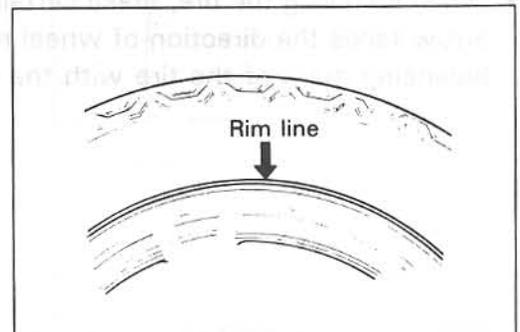
*Check the "rim line" cast on the tire side walls. It must be equidistant from the wheel rim all the way around. If the distance between the rim line and wheel rim varies, this indicates that the bead is not properly seated. If this is so, deflate the tire completely, and unseat the bead for both sides. Coat the bead with lubricant, and try again.*



- After tire is properly seated to the wheel rim, adjust the air-pressure to the recommended pressure. Correct the wheel balance if necessary.

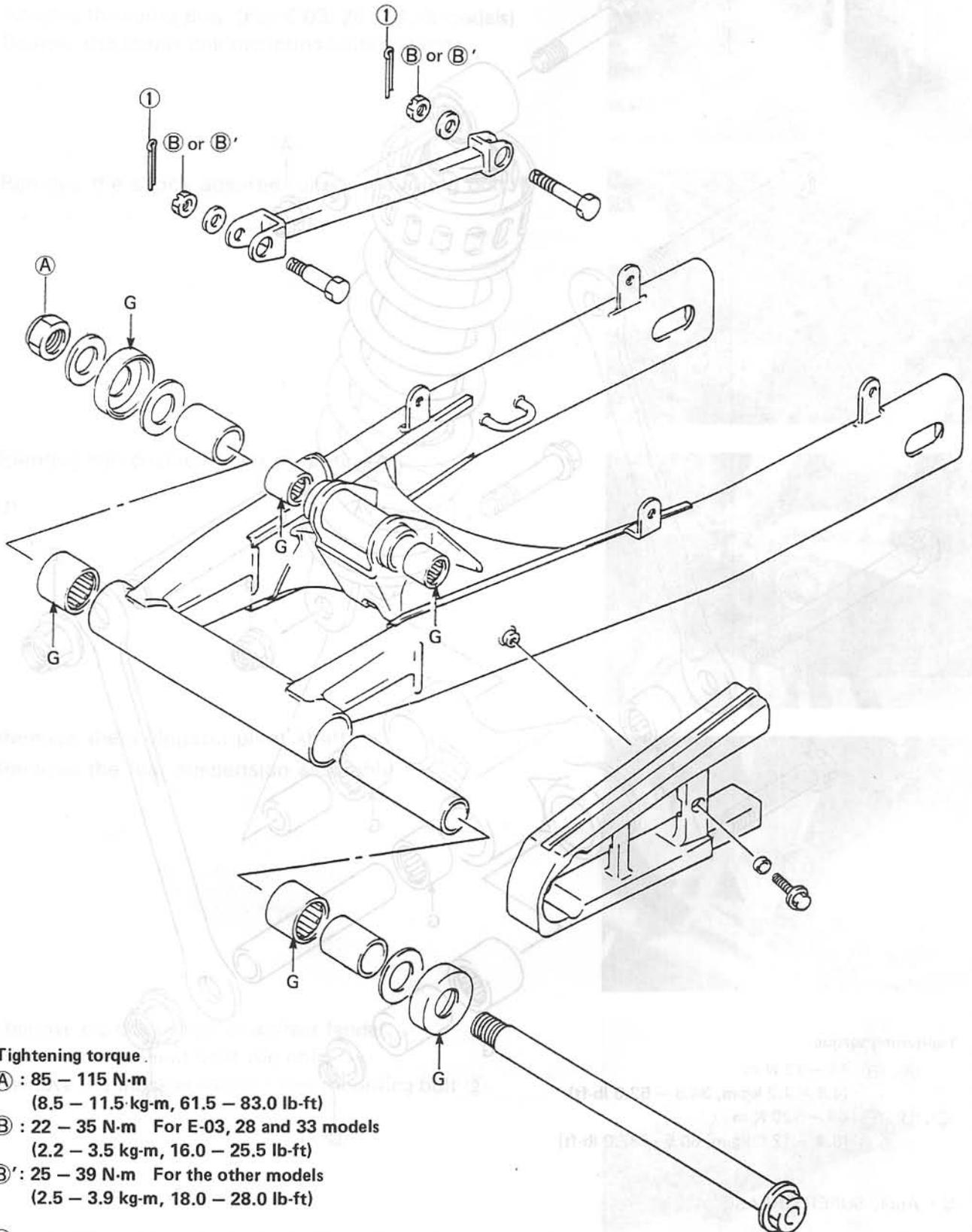
**WARNING:**

- \* Do not run a repaired tire more than 50 km/h (30 mph) within 24 hours after tire repairing, since the patch may not be completely cured.
- \* Do not exceed 130 km/h (80 mph) with a repaired tire.



## REAR SUSPENSION

## SWINGARM



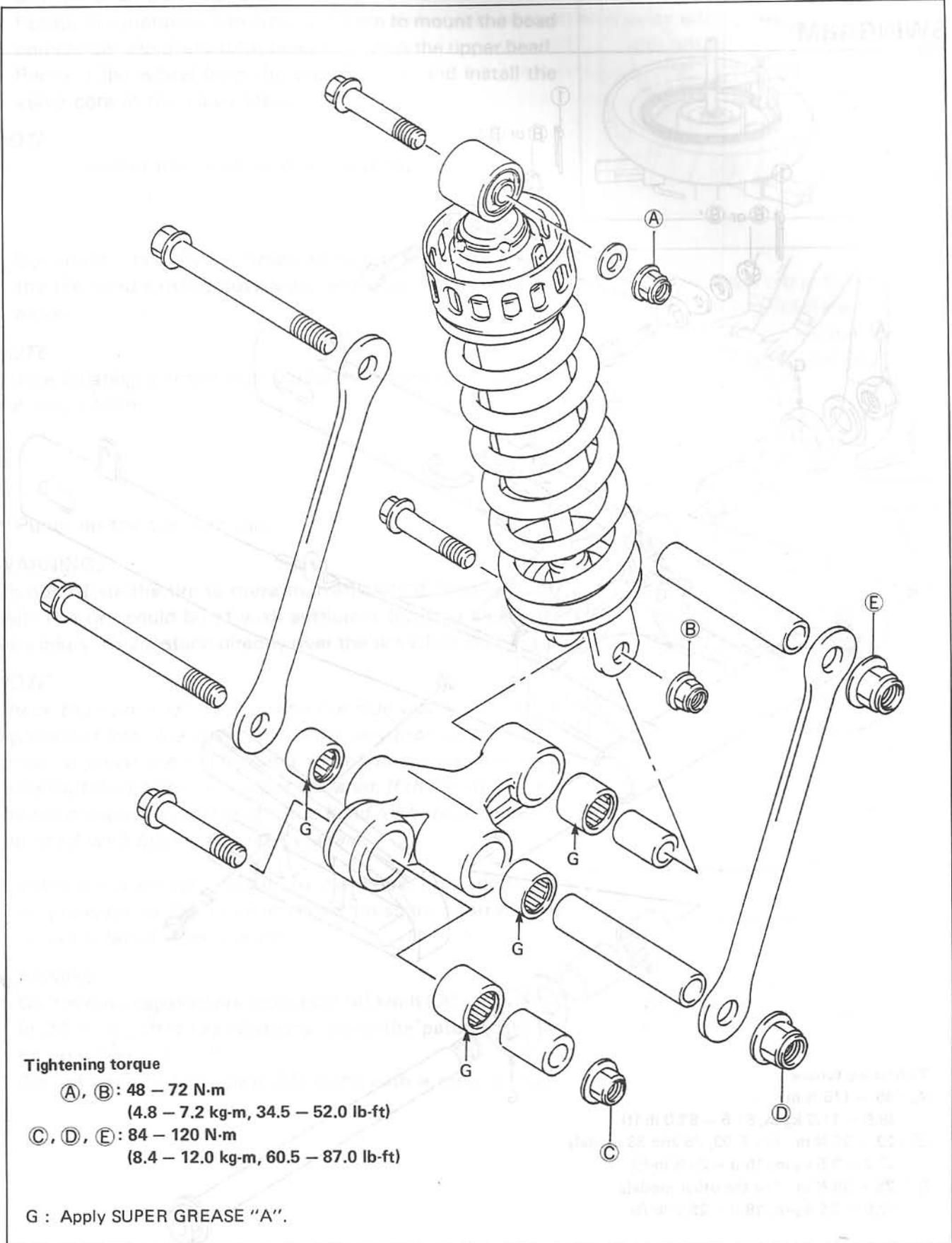
## Tightening torque.

- A** : 85 – 115 N·m  
 (8.5 – 11.5 kg·m, 61.5 – 83.0 lb·ft)
- B** : 22 – 35 N·m For E-03, 28 and 33 models  
 (2.2 – 3.5 kg·m, 16.0 – 25.5 lb·ft)
- B'** : 25 – 39 N·m For the other models  
 (2.5 – 3.9 kg·m, 18.0 – 28.0 lb·ft)

① : Cotter pin (For E-03, 28 and 33 models)

G : Apply SUPER GREASE "A".

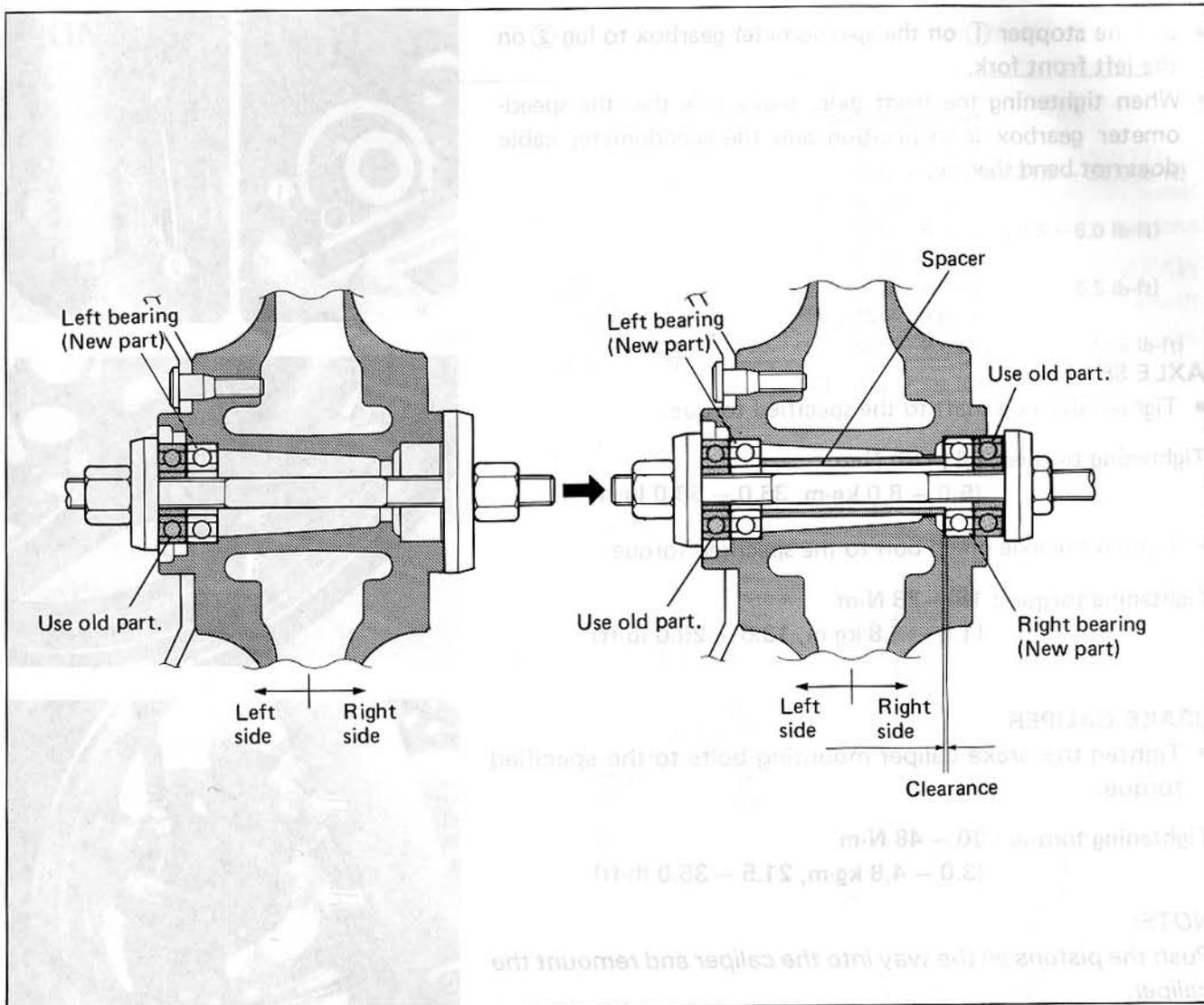
## SHOCK ABSORBER AND CUSHION LEVER



## Tightening torque

- (A), (B): 48 – 72 N·m  
 (4.8 – 7.2 kg·m, 34.5 – 52.0 lb-ft)
- (C), (D), (E): 84 – 120 N·m  
 (8.4 – 12.0 kg·m, 60.5 – 87.0 lb-ft)

G : Apply SUPER GREASE "A".



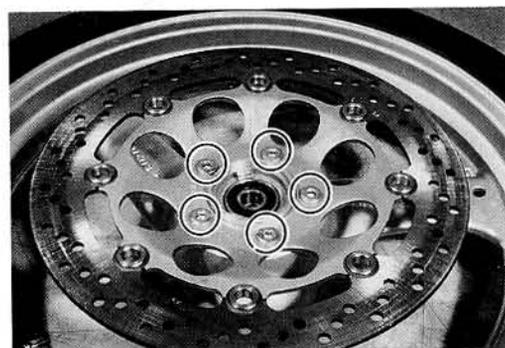
### BRAKE DISC

- Make sure that the brake disc is clean and free of any greasy matter. Apply **THREAD LOCK SUPER "1360"** to the disc mounting bolts and tighten them to the specified torque.

Tightening torque : 18 – 28 N·m

(1.8 – 2.8 kg·m, 13.0 – 20.0 lb-ft)

**99000-32130 : THREAD LOCK SUPER "1360"**



### SPEEDOMETER GEARBOX

- Before installing the speedometer gearbox, apply grease to its dust seal lip.

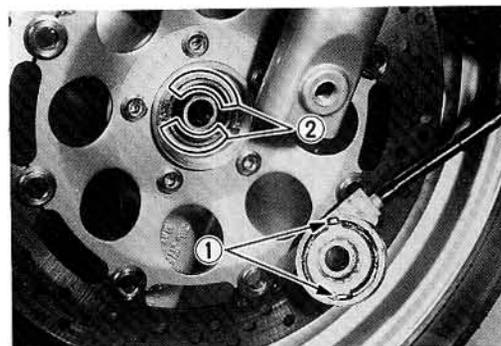
(For U.S.A. model)

**99000-25030 : SUZUKI SUPER GREASE "A"**

(For the other models)

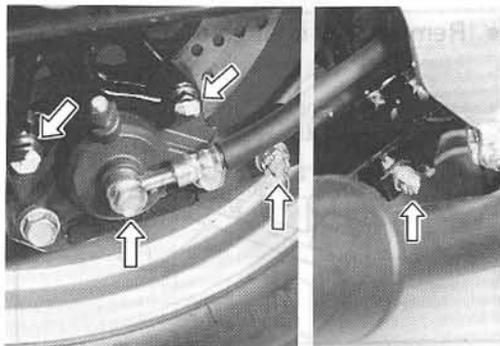
**99000-25010 : SUZUKI SUPER GREASE "A"**

- Fit the drive lugs ① into the recesses ② of the wheel hub.

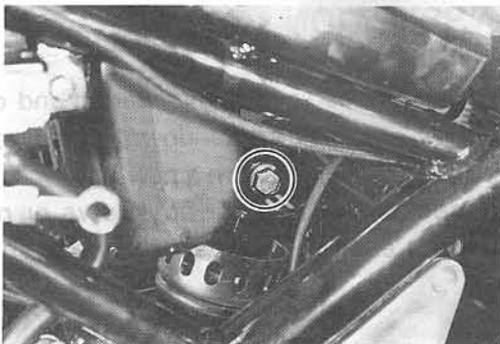


## REMOVAL

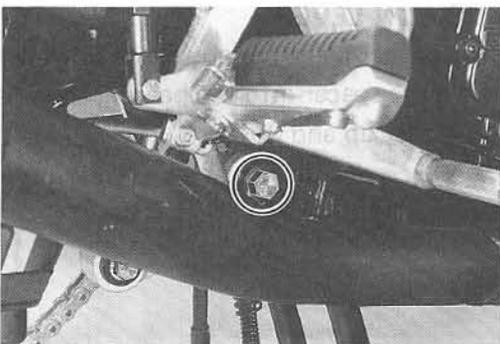
- Remove the brake hose union bolt. (Refer to page 7-22.)
- Remove the brake caliper and rear wheel. (Refer to page 7-27.)
- Remove the cotter pins. (For E-03, 28 and 33 models)
- Remove the torque link mounting bolts and nuts.



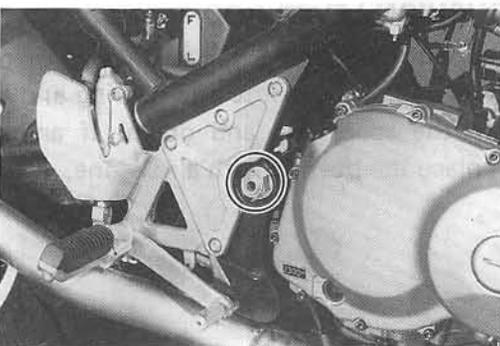
- Remove the shock absorber upper mounting bolt.



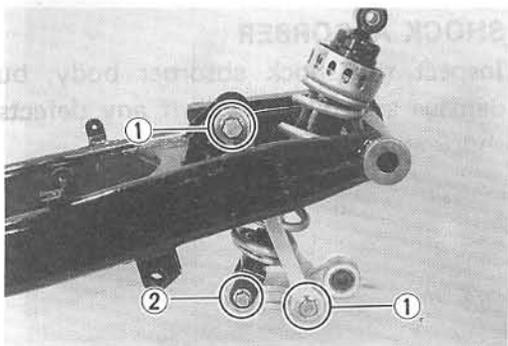
- Remove the cushion lever mounting bolt.



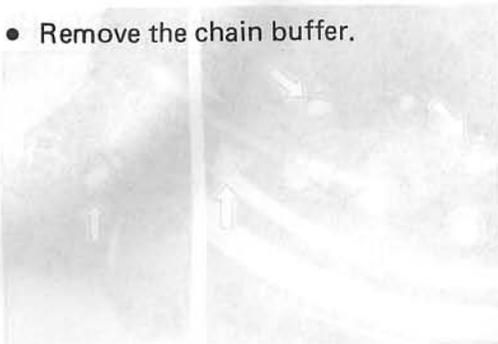
- Remove the swingarm pivot shaft.
- Remove the rear suspension assembly.



- Remove the drive chain cover/rear fender.
- Remove the cushion lever/rod bolts ①.
- Remove the shock absorber lower mounting bolt ②.

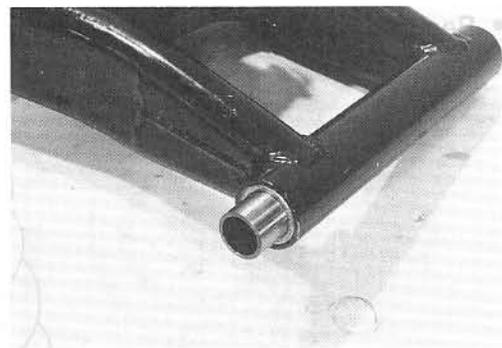
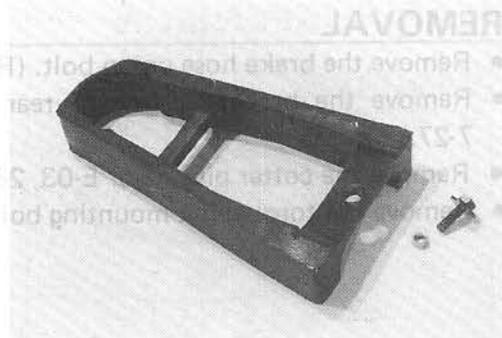
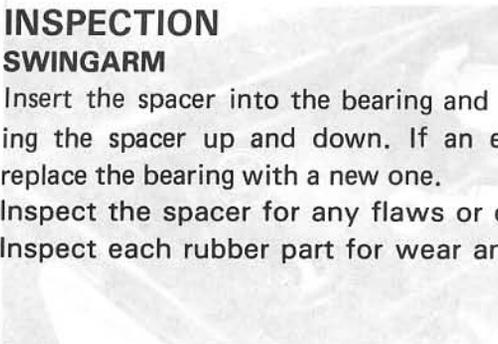


- Remove the chain buffer.



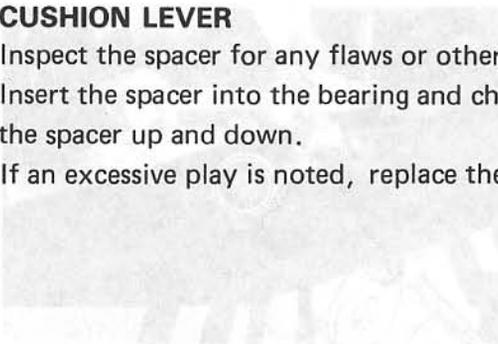
### INSPECTION SWINGARM

Insert the spacer into the bearing and check the play by moving the spacer up and down. If an excessive play is noted, replace the bearing with a new one. Inspect the spacer for any flaws or other damage. Inspect each rubber part for wear and damage.



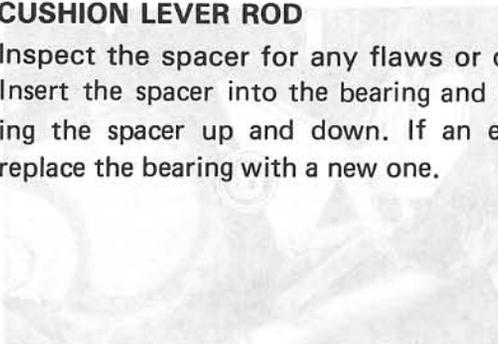
### CUSHION LEVER

Inspect the spacer for any flaws or other damage. Insert the spacer into the bearing and check the play by moving the spacer up and down. If an excessive play is noted, replace the bearing with a new one.



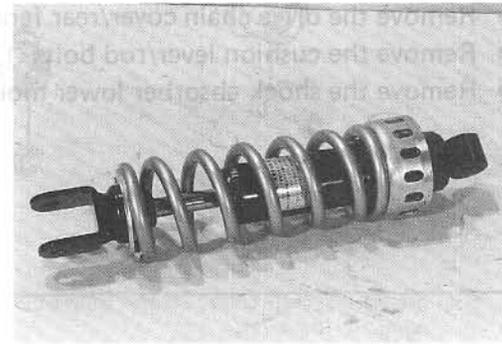
### CUSHION LEVER ROD

Inspect the spacer for any flaws or other damage. Insert the spacer into the bearing and check the play by moving the spacer up and down. If an excessive play is noted, replace the bearing with a new one.



### SHOCK ABSORBER

Inspect the shock absorber body, bushing and bearing for damage and oil leakage. If any defects are found, replace the shock absorber with a new one.



**SWINGARM PIVOT SHAFT**

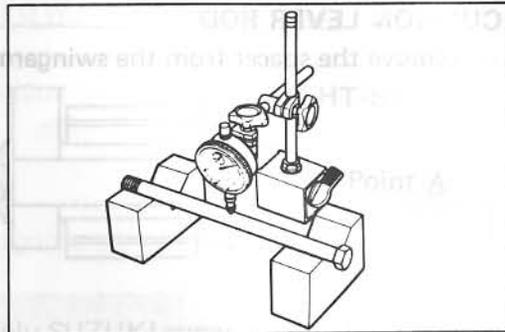
Using a dial gauge, check the pivot shaft runout and replace it if the runout exceeds the limit.

09900-20606 : Dial gauge (1/100)

09900-20701 : Magnetic stand

09900-21304 : V-block set (100 mm)

Service limit : 0.3 mm (0.01 in)


**DISASSEMBLY**  
**SWINGARM**

- Remove the dust seals, washers and spacers from the swingarm pivot.

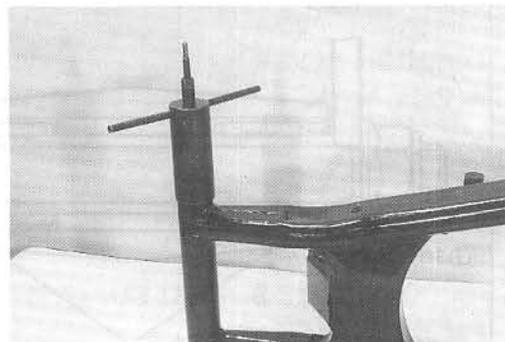


- Remove the swingarm bearings by using the special tool.

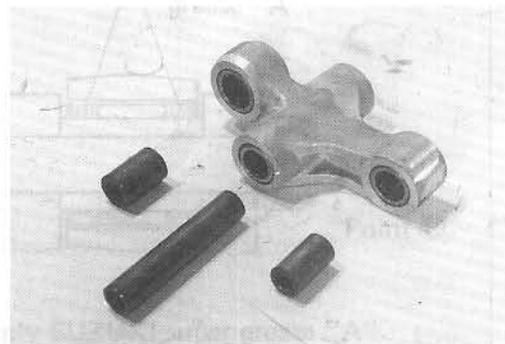
09941-44910: Swingarm bearing remover

**CAUTION:**

The removed bearings should be replaced with new ones.

**CUSHION LEVER**

- Remove the spacers.



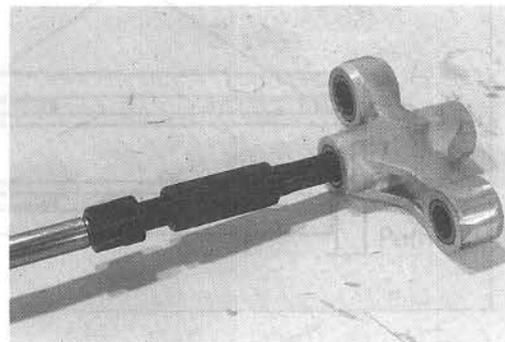
- Remove the bearings by using the special tool.

09923-73210: Bearing remover

09930-30102: Sliding shaft

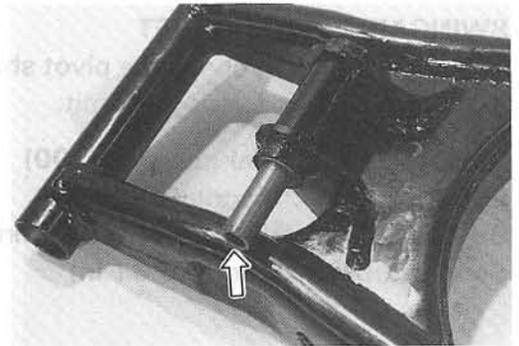
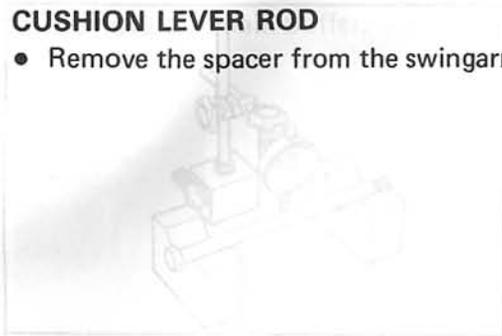
**CAUTION:**

The removed bearings should be replaced with new ones.



### CUSHION LEVER ROD

- Remove the spacer from the swingarm.



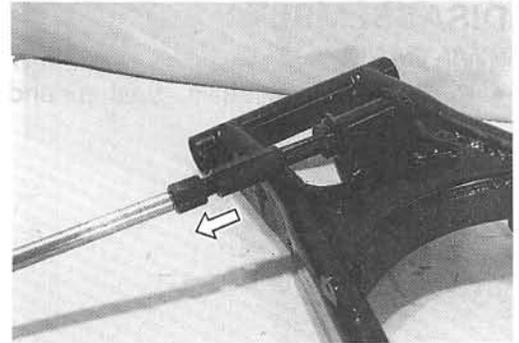
- Remove the bearing from the swingarm.

09923-73210: Bearing remover

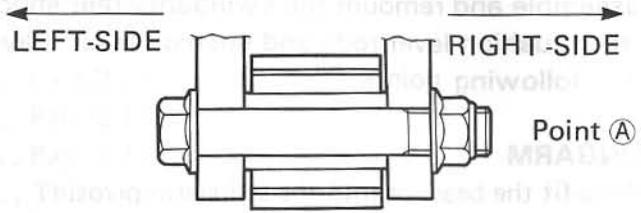
09930-30102: Sliding shaft

### CAUTION:

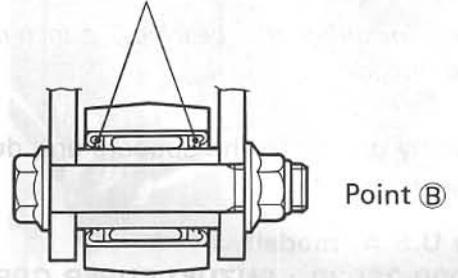
The removed bearings should be replaced with new ones.



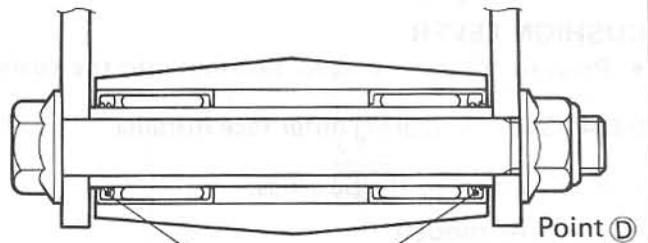
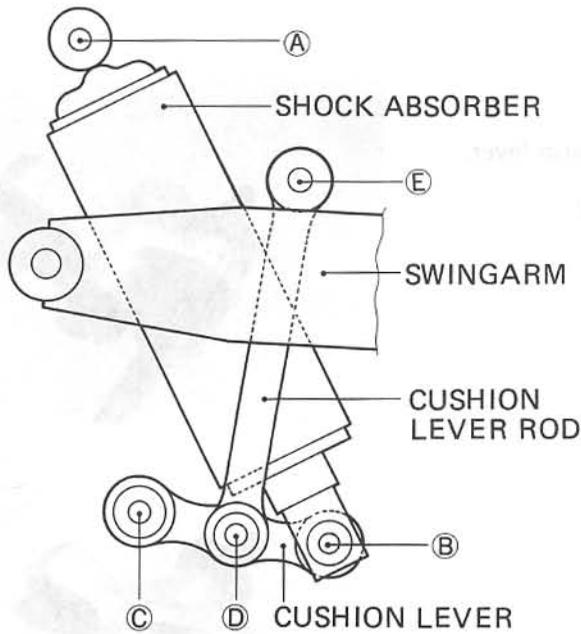
REASSEMBLY INFORMATION



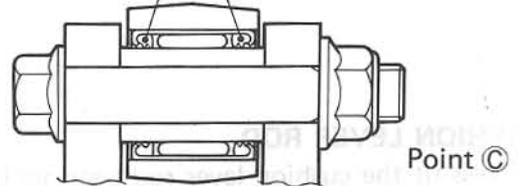
Apply SUZUKI super grease "A".



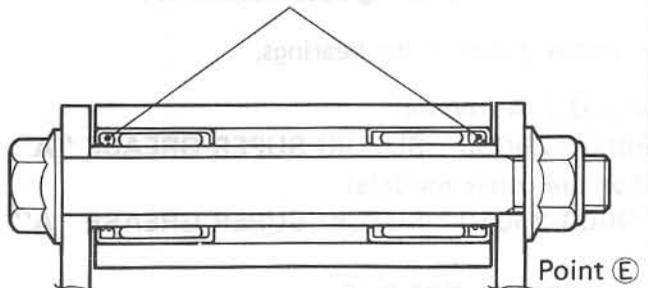
Tightening torque			
ITEM	N·m	kg·m	lb·ft
A	48 - 72	4.8 - 7.2	34.5 - 52.0
B			
C	84 - 120	8.4 - 12.0	60.5 - 87.0
D			
E			



Apply SUZUKI super grease "A".



Apply SUZUKI super grease "A".



## REASSEMBLY AND REMOUNTING

Reassemble and remount the swingarm, rear shock absorber, rear cushion lever rods and cushion lever. Pay attention to the following points:

### SWINGARM

- Press-fit the bearings into the swingarm pivot.

**09941-34513 : Steering outer race installer**

#### NOTE:

*When installing the bearings, punch-marked side of bearing faces outside.*

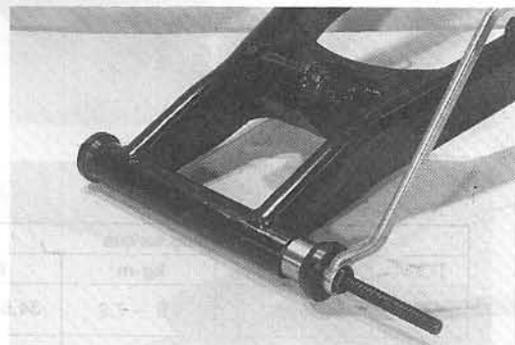
- Apply grease to the spacers and dust seals when installing them.

(For U.S.A. model)

**99000-25030 : SUZUKI SUPER GREASE "A"**

(For the other models)

**99000-25010 : SUZUKI SUPER GREASE "A"**



### CUSHION LEVER

- Press-fit the cushion lever bearings into the cushion lever.

**09941-34513: Steering outer race installer**

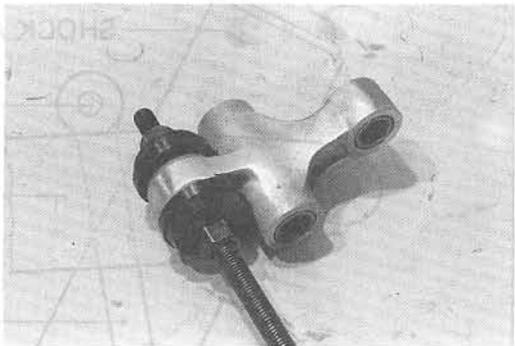
- Apply grease to the bearings.

(For U.S.A. model)

**99000-25030 : SUZUKI SUPER GREASE "A"**

(For the other models)

**99000-25010 : SUZUKI SUPER GREASE "A"**



### CUSHION LEVER ROD

- Press-fit the cushion lever rod bearings into the cushion lever rod pivot.

**09941-34513: Steering outer race installer**

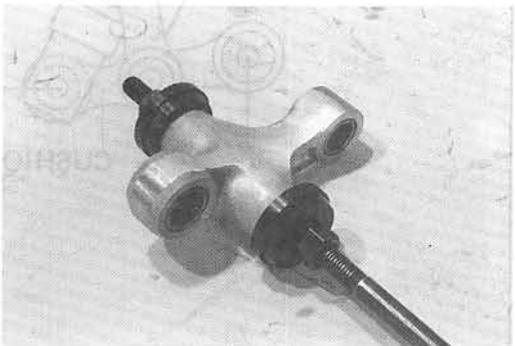
- Apply grease to the bearings.

(For U.S.A. model)

**99000-25030 : SUZUKI SUPER GREASE "A"**

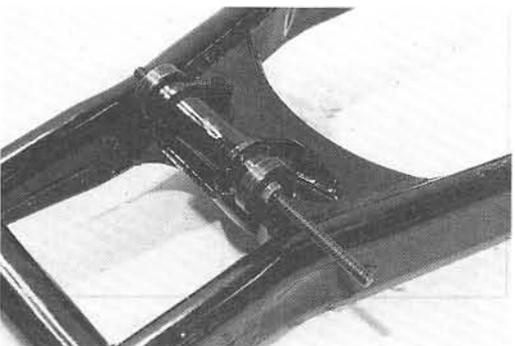
(For the other models)

**99000-25010 : SUZUKI SUPER GREASE "A"**

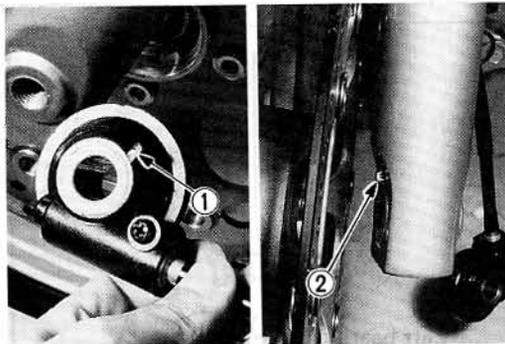


### TIGHTENING TORQUE

- Install the rear suspension and tighten each nut to the specified torque. (Refer to page 7-44.)



- Set the stopper ① on the speedometer gearbox to lug ② on the left front fork.
- When tightening the front axle, make sure that the speedometer gearbox is in position and the speedometer cable does not bend sharply.



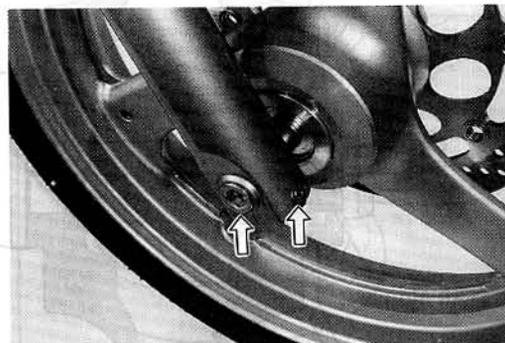
**AXLE SHAFT**

- Tighten the axle shaft to the specified torque.

**Tightening torque : 50 – 80 N·m  
(5.0 – 8.0 kg·m, 36.0 – 58.0 lb-ft)**

- Tighten the axle pinch bolt to the specified torque.

**Tightening torque : 18 – 28 N·m  
(1.8 – 2.8 kg·m, 13.0 – 20.0 lb-ft)**



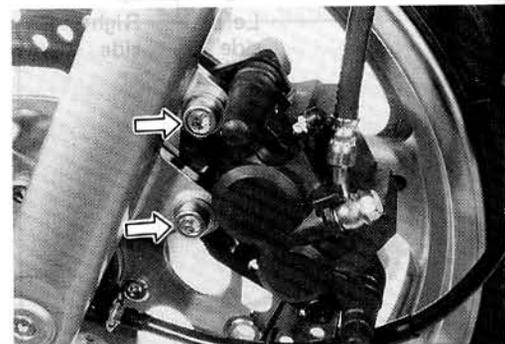
**BRAKE CALIPER**

- Tighten the brake caliper mounting bolts to the specified torque.

**Tightening torque : 30 – 48 N·m  
(3.0 – 4.8 kg·m, 21.5 – 35.0 lb-ft)**

**NOTE:**

*Push the pistons all the way into the caliper and remount the caliper.*



BRAKE DISC  
 • Make sure that the brake disc is clean and free of any greasy matter. Apply THREAD LOCK SUPERIOR to the mounting bolts and tighten them to the specified torque.  
 Tightening torque : 18 – 28 N·m  
 (1.8 – 2.8 kg·m, 13.0 – 20.0 lb-ft)

80000-32150 : THREAD LOCK SUPERIOR  
 80000-32150 : SUZUKI SUPER GREASE "A"  
 (for the other models)  
 82000-36030 : SUZUKI SUPER GREASE "A"  
 (for U.S.A. models)

• Before installing the speedometer gearbox, apply grease to its dust seal.  
 SPEEDOMETER GEARBOX  
 • Fit the drive lug 1 into the recesses 2 of the wheel hub.

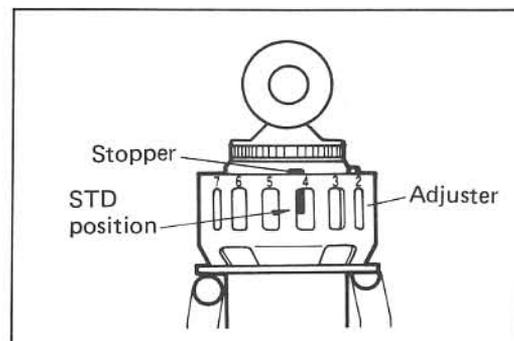
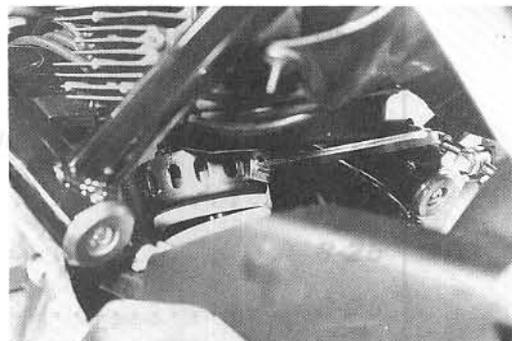
## FINAL INSPECTION AND ADJUSTMENT

After installing the rear suspension and rear wheel, the following adjustments are required before driving motorcycle.

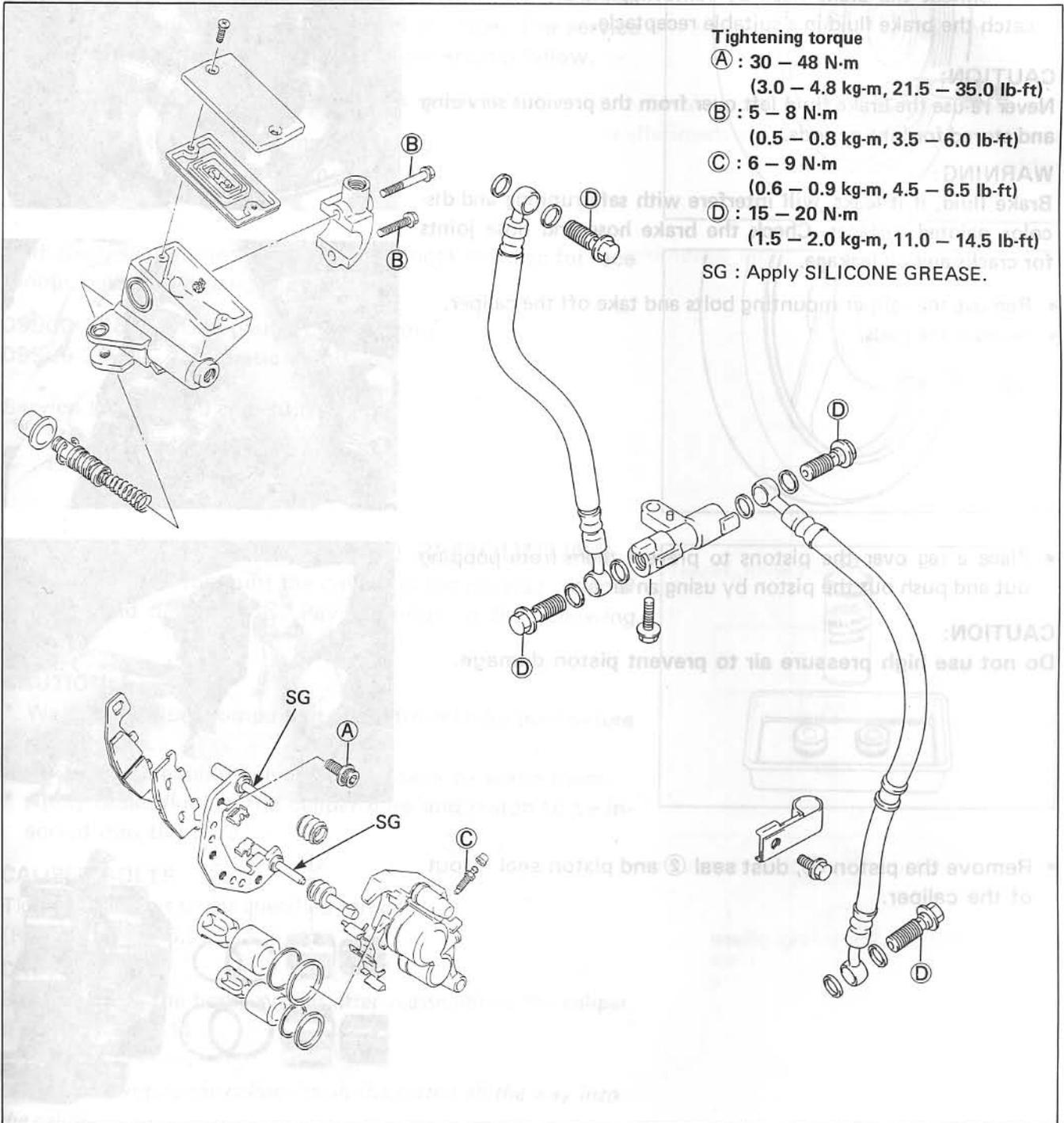
- \* Drive chain ..... Page 2-11
- \* Rear brake ..... Page 2-14
- \* Tire pressure ..... Page 2-16
- \* Shock absorber ..... This page

## SHOCK ABSORBER SPRING PRE-LOAD

- \* Position "1" provides the softest spring pre-load.
- \* Position "7" provides the stiffest spring pre-load.  
(Factory setting : 4/7)



## FRONT BRAKE

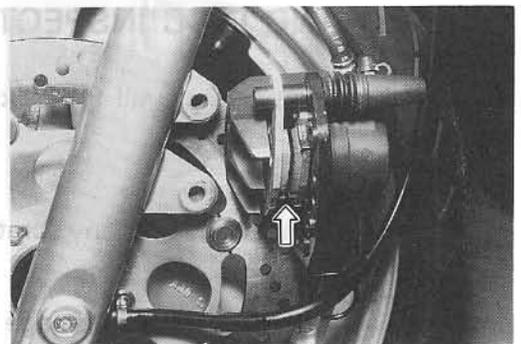


## BRAKE PAD REPLACEMENT

- Remove the brake caliper by removing the mounting bolts.
- Remove the pads.

## CAUTION:

- \* Do not operate the brake lever while removing the pads.
- \* Replace the brake pad as a set, otherwise braking performance will be adversely affected.



## CALIPER REMOVAL AND DISASSEMBLY

- Disconnect the brake hose by removing the union bolt and catch the brake fluid in a suitable receptacle.

### CAUTION:

Never re-use the brake fluid left over from the previous servicing and stored for long periods.

### WARNING:

Brake fluid, if it leaks, will interfere with safe running and discolor painted surfaces. Check the brake hose and hose joints for cracks and oil leakage.

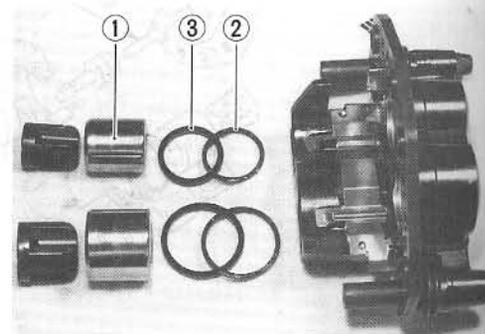
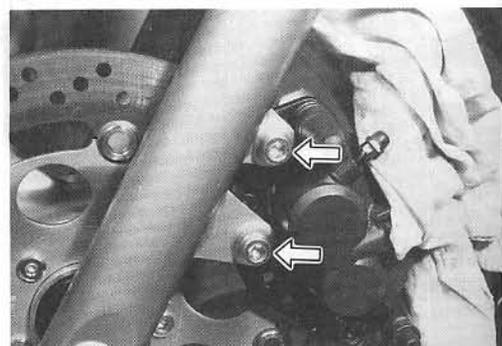
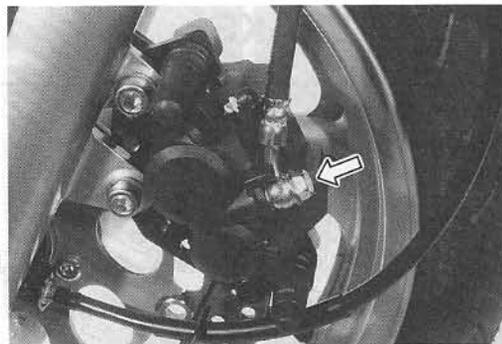
- Remove the caliper mounting bolts and take off the caliper.
- Remove the pads.

- Place a rag over the pistons to prevent them from popping out and push out the piston by using an air gun.

### CAUTION:

Do not use high pressure air to prevent piston damage.

- Remove the piston ①, dust seal ② and piston seal ③ out of the caliper.



## CALIPER AND DISC INSPECTION

### CALIPER

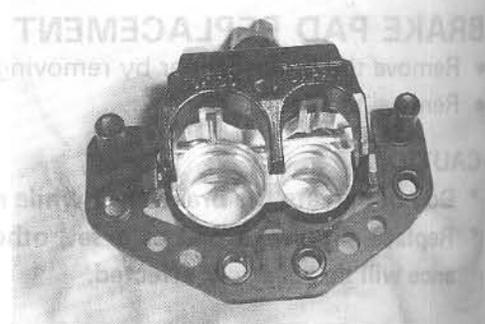
Inspect the caliper bore wall for nicks, scratches or other damage.

### PISTON

Inspect the piston surface for any scratches or other damage.

### RUBBER PARTS

Inspect each rubber part for damage and wear.

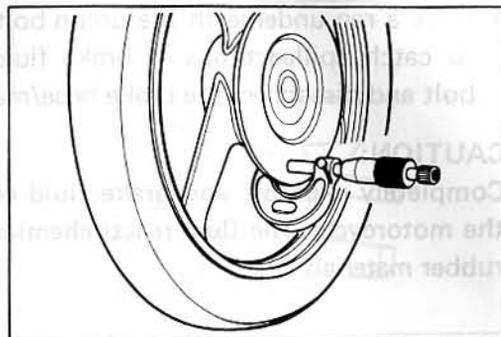


**DISC**

Using a micrometer, check the disc for wear, its thickness can be checked with disc and wheel in place. The service limits for the thickness of the discs are shown below.

**09900-20205 : Micrometer (0 – 25 mm)**

**Service limit** (Front) : 4.0 mm (0.16 in)  
(Rear) : 5.5 mm (0.22 in)

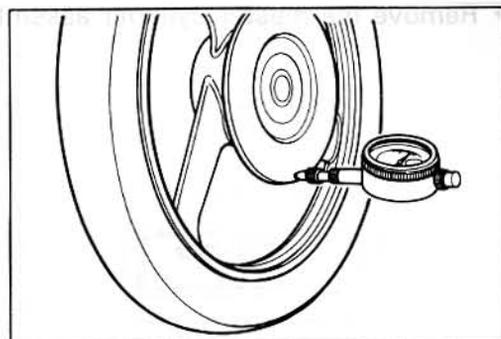


With the disc mounted on the wheel, check the disc for face runout with a dial gauge, as shown.

**09900-20606 : Dial gauge (1/100 mm)**

**09900-20701 : Magnetic stand**

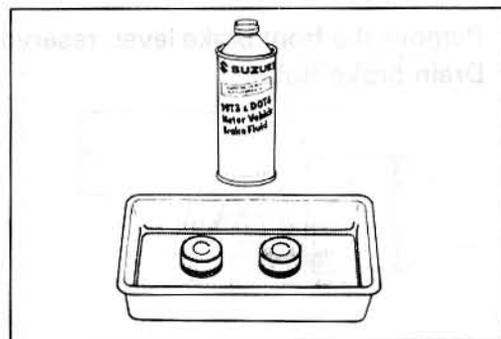
**Service limit : 0.30 mm (0.012 in)**

**CALIPER REASSEMBLY AND REMOUNTING**

Reassemble and remount the caliper in the reverse order of removal and disassembly. Pay attention to the following points:

**CAUTION:**

- \* Wash the caliper components with fresh brake fluid before reassembly.
- \* Never use cleaning solvent or gasoline to wash them.
- \* Apply brake fluid to the caliper bore and piston to be inserted into the bore.

**CALIPER BOLTS**

Tighten each bolt to the specified torque.  
(Refer to page 7-6.)

**CAUTION:**

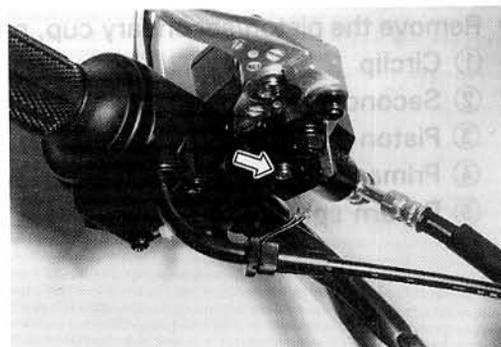
Bleed air from the brake system after reassembling the caliper.  
(Refer to page 2-14.)

**NOTE:**

*Before remounting the caliper, push the piston all the way into the caliper.*

**MASTER CYLINDER REMOVAL AND DISASSEMBLY**

- Remove the front brake light switch.

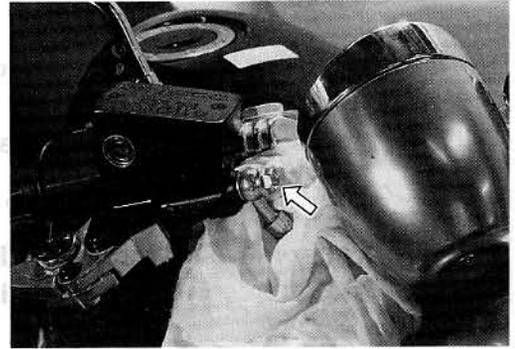


## 7-9 CHASSIS

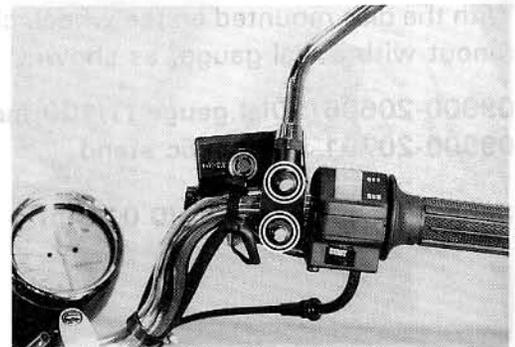
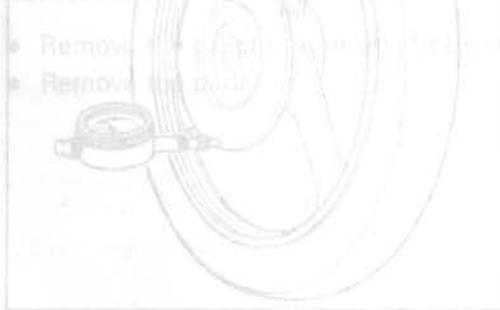
- Place a rag underneath the union bolt on the master cylinder to catch spilled drops of brake fluid. Unscrew then union bolt and disconnect the brake hose/master cylinder joint.

### CAUTION:

Completely wipe off any brake fluid adhering to any parts of the motorcycle. The fluid reacts chemically with paint, plastics, rubber materials, etc.



- Remove the master cylinder assembly.

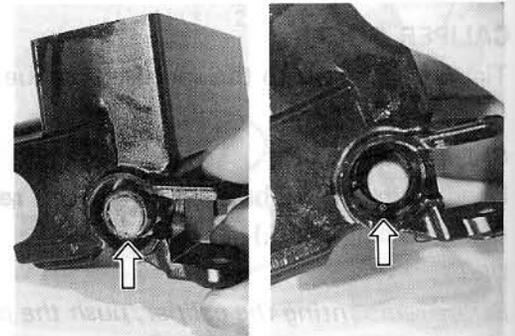


- Remove the front brake lever, reservoir cap and diaphragm.
- Drain brake fluid.



- Remove the dust seal, then remove the circlip by using the special tool.

**09900-06108 : Snap ring pliers**



- Remove the piston/secondary cup, primary cup and spring.

- ① Circlip
- ② Secondary cup
- ③ Piston
- ④ Primary cup
- ⑤ Return spring

