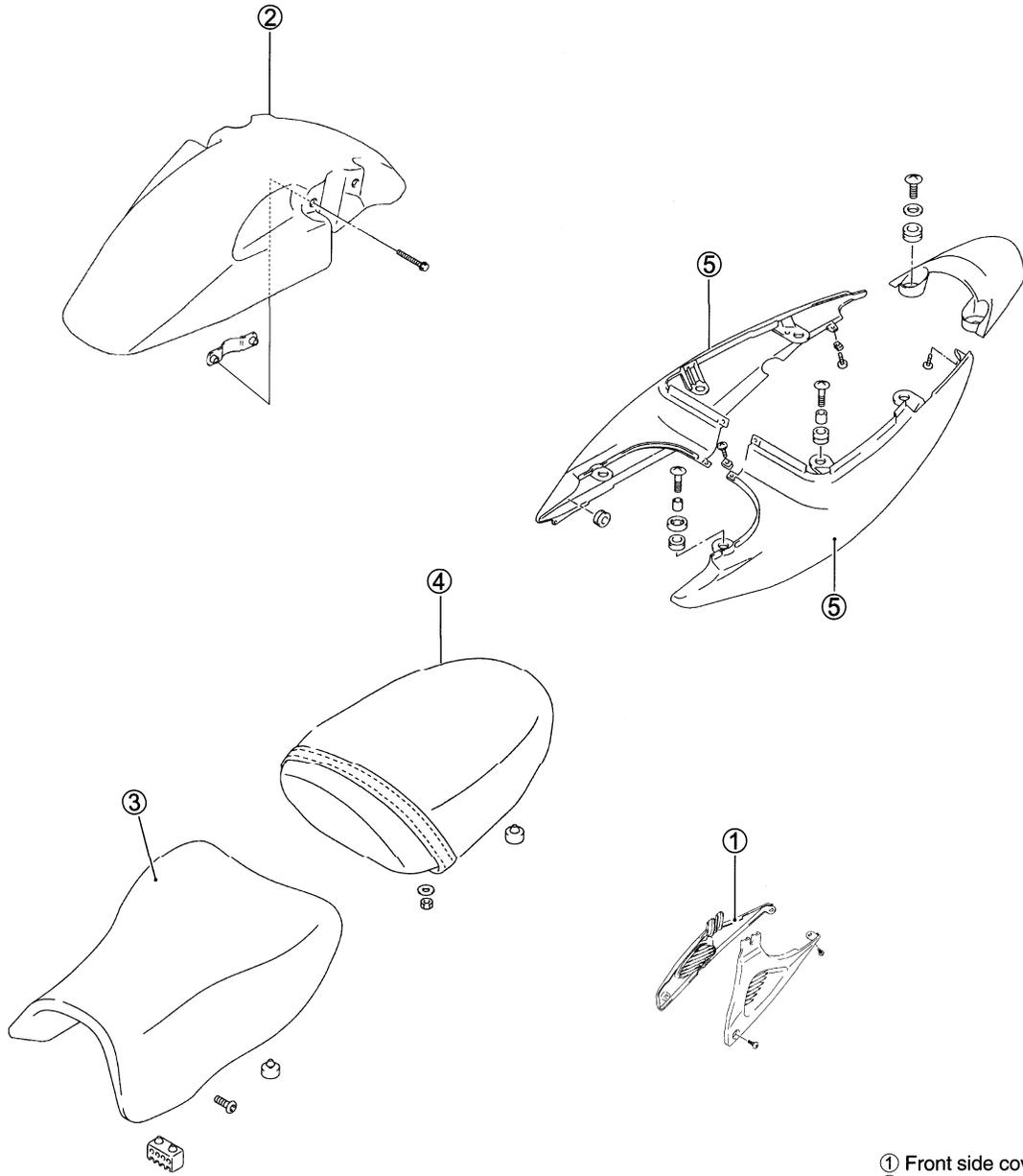


# CHASSIS

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# EXTERIOR PARTS CONSTRUCTION



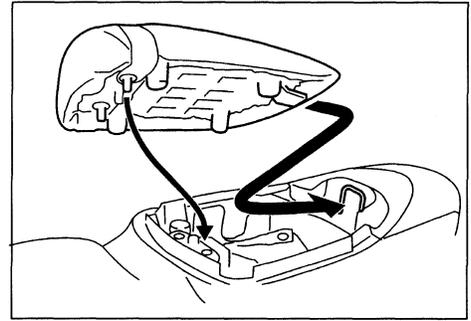
- ① Front side cover
- ② Front fender
- ③ Front seat
- ④ Rear seat
- ⑤ Seat tail cover

## REAR SEAT

- Remove the rear seat using the ignition key.

### NOTE:

*When remounting the rear seat, make sure to lock its striker.*

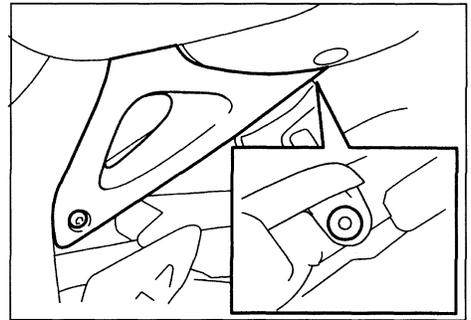


## FRAME SIDE COVER

- Remove the frame side cover bolts and fasteners.

### NOTE:

*When installing the frame side cover, first install the upper side to the front seat.*

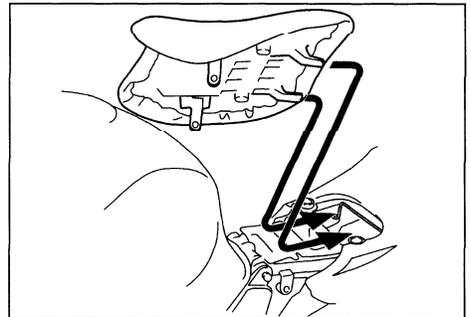


## FRONT SEAT

- Remove the frame side covers.
- Remove the front seat removing the bolts.
- Remount the front seat in the reverse order of removal.

### NOTE:

*When remount the front seat, make sure the seat hook is in retainer.*

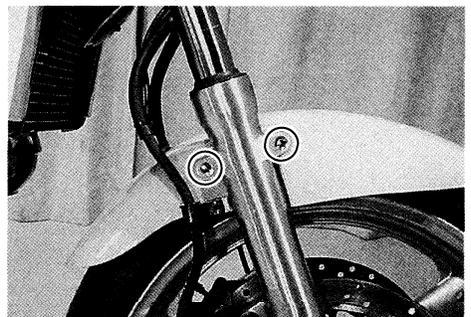
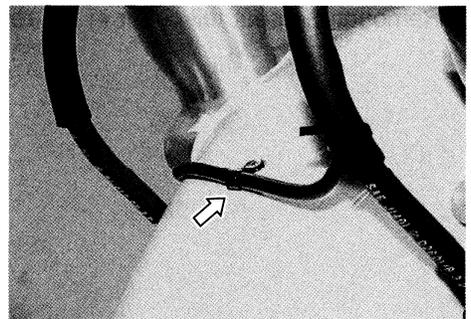


## FRONT FENDER

- Unhook the speed sensor lead wire from the front fender.
- Remove the front fender by removing its bolts.
- Remount the front fender in the reverse order of removal.

### NOTE:

*Face the triangle mark on the front fender plate to front side.*

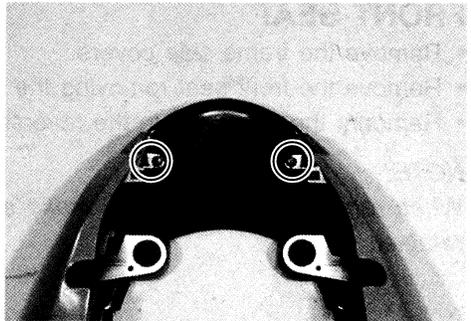
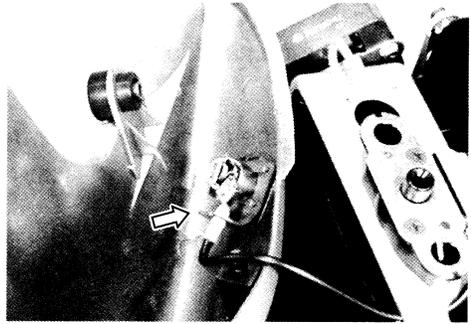
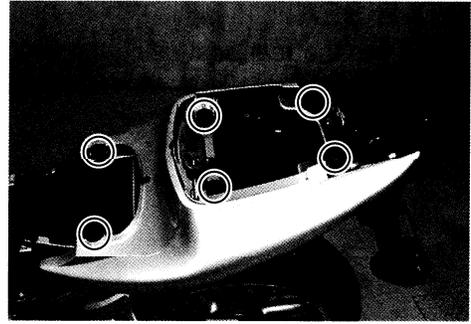


### SEAT TAIL COVER

- Remove the rear seat, the frame side covers and the front seat.
- Disconnect the seat lock cable.
- Remove the screws.

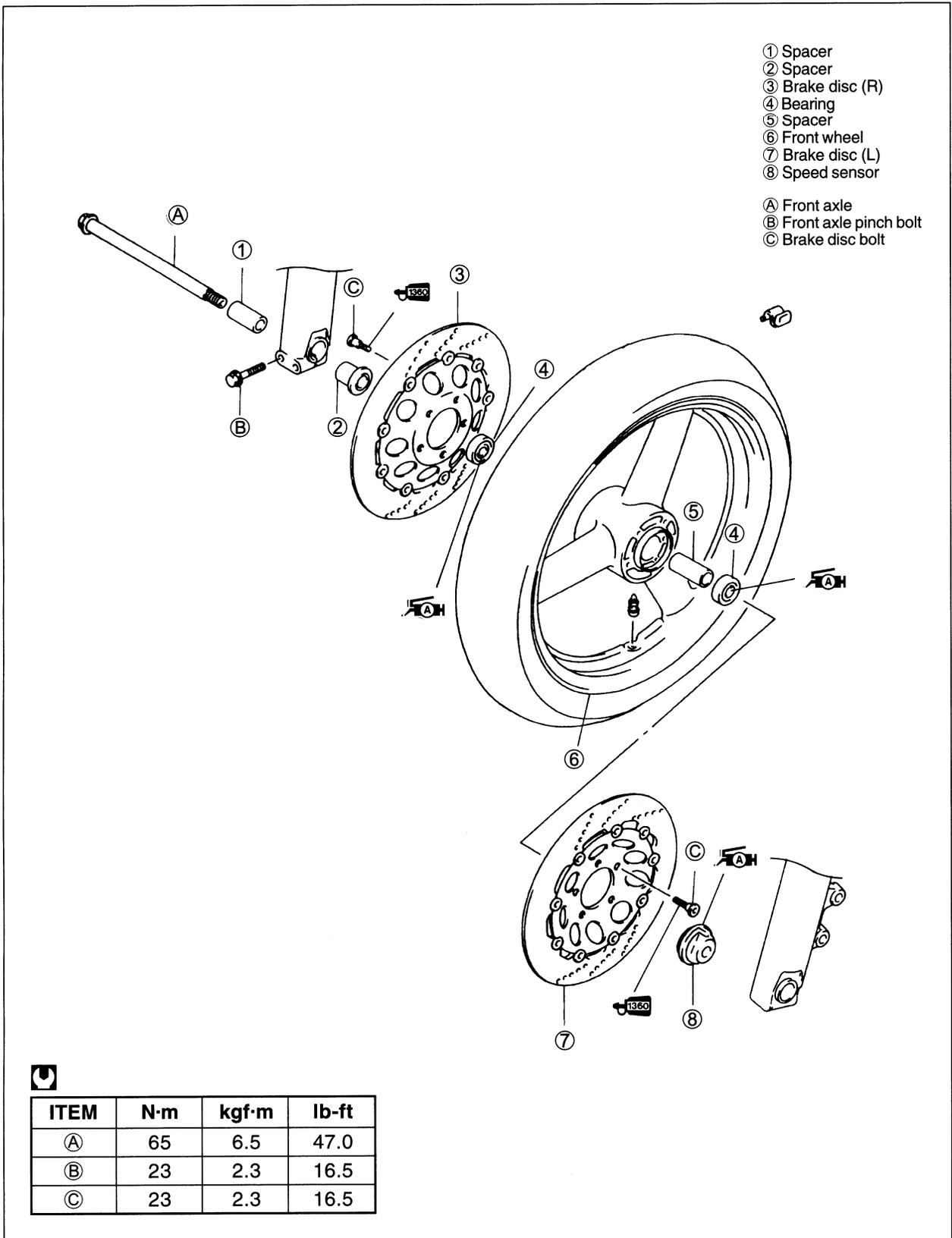
**NOTE:**

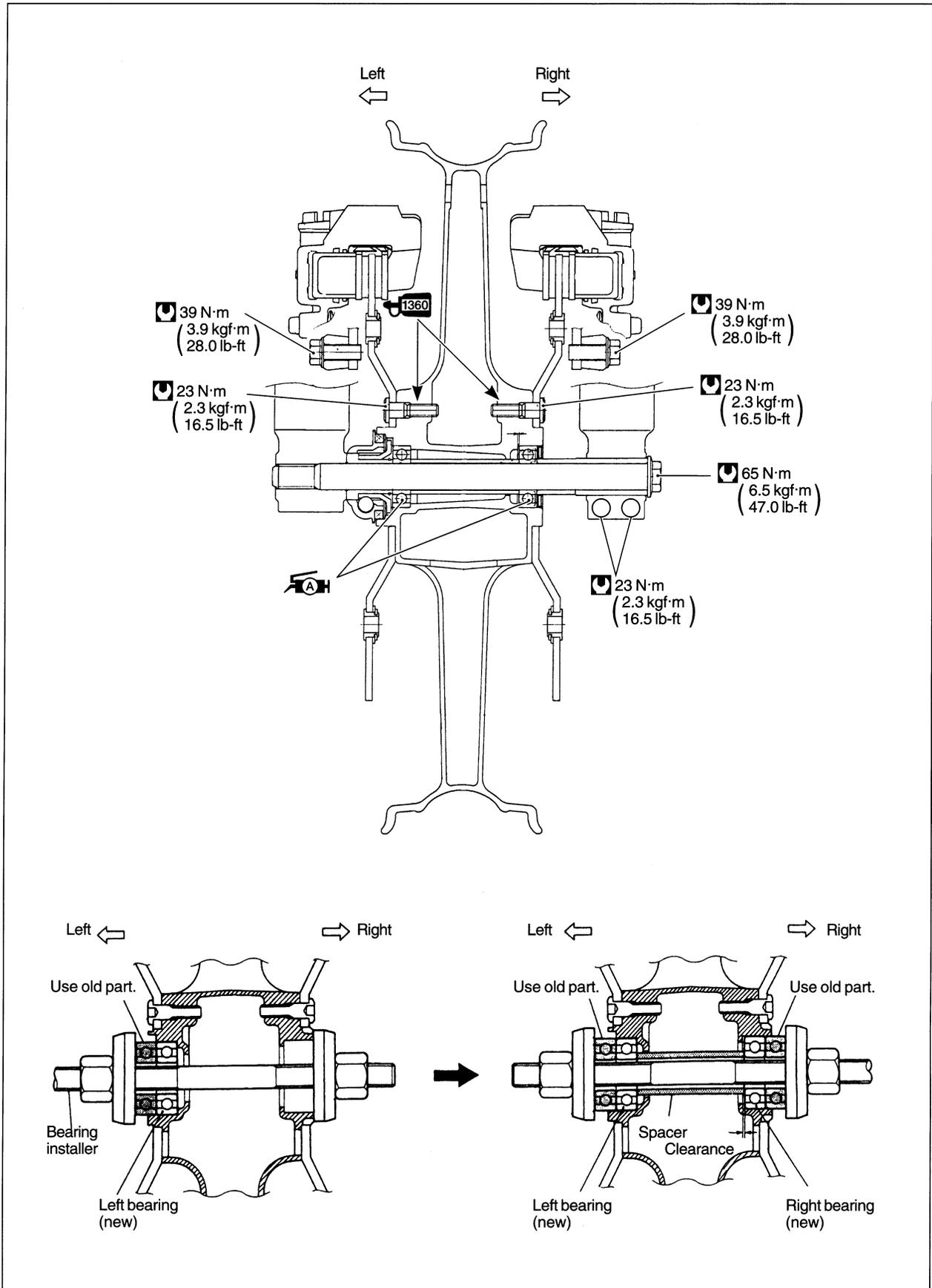
- \* *Not to expand the right and left seat tail covers larger than required to remove.*
- \* *Place the rags on the seat tail cover to prevent scratching the paint surface of the seat tail cover.*



- Remount the seat tail cover in the reverse order of removal.

# FRONT WHEEL CONSTRUCTION



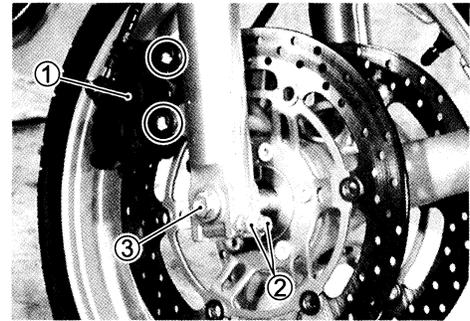


## REMOVAL

- Remove the front wheel by removing the following items.
  - ① Front brake calipers
  - ② Axle pinch bolts
  - ③ Front axle

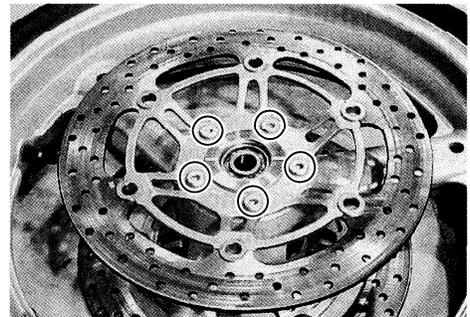
### NOTE:

- \* Be careful not to damage the engine or frame by a jack.
- \* Before raising the front wheel off the ground with a jack, loosen each bolt.
- \* After removing the front wheel, fit the both calipers temporarily to the original positions.
- \* Do not operate the brake lever while dismantling the front wheel.



## DISASSEMBLY

- Remove the brake discs.

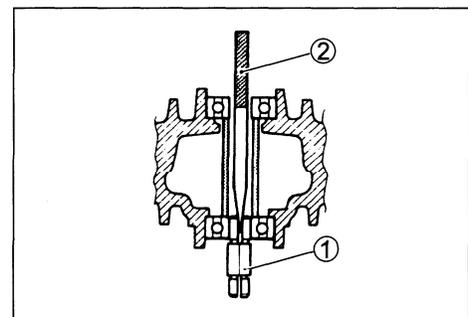


- Insert the adaptor ① into the wheel bearing.
- After inserting the wedge bar from the opposite side, lock the wedge bar ② in the slit of the adaptor.
- Drive out both wheel bearings by striking the wedge bar.

 09941-50111: Bearing remover

### ▲ CAUTION

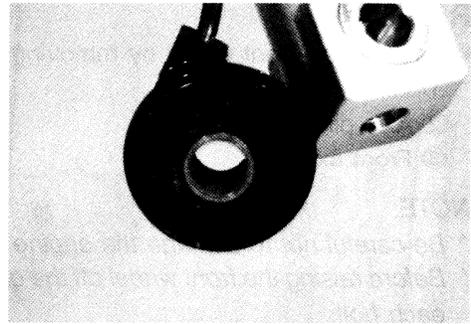
The removed bearings must be replaced with new ones.



## INSPECTION

### SPEED SENSOR

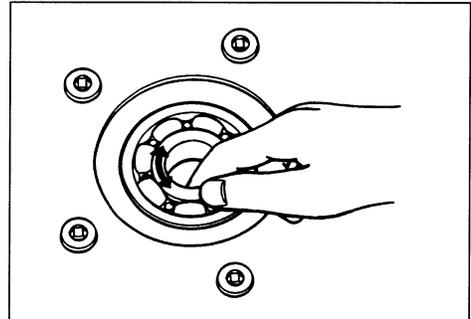
- Inspect the smooth rotation of the speed sensor rotor by hand.
- Inspect the dust seal lip for damage or wear.



### WHEEL BEARINGS

Inspect the play of the wheel bearings by finger while they are in the wheel. Rotate the inner race by finger to inspect for abnormal noise and smooth rotation.

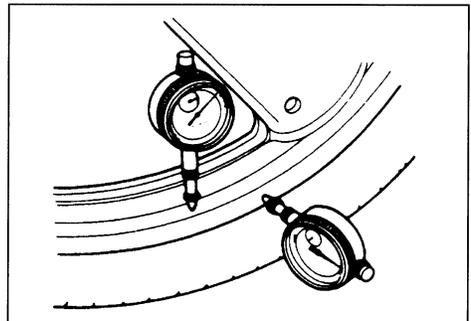
Replace the bearing in the following procedure if there is any thing unusual.



### FRONT 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. If bearing replacement fails to reduce the runout, replace the wheel.

**DATA** Wheel rim runout (Axial and Radial)  
Service Limit: 2.0 mm (0.08 in)

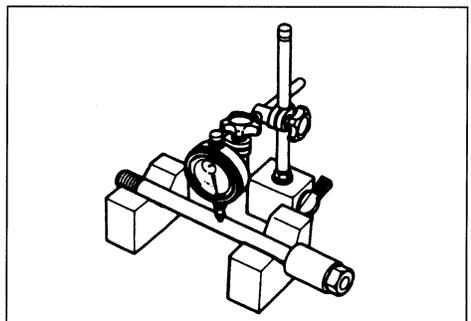


### FRONT AXLE

Using a dial gauge, check the front axle for runout. If the runout exceeds the limit, replace the front axle.

**TOOL** 09900-20606: Dial gauge (1/100 mm)  
09900-20701: Magnetic stand  
09900-21304: V-block set (100 mm)

**DATA** Front axle runout  
Service Limit: 0.25 mm (0.010 in)

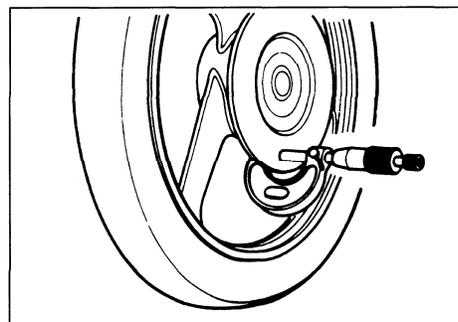


**BRAKE DISC**

- Visually check the brake disc for damage or cracks.
- Measure the thickness with a micrometer.
- Replace the disc if the thickness is less than the service limit or if damage is found.

**DATA** Brake disc thickness (Front)  
Service Limit: 4.0 mm (0.16 in)

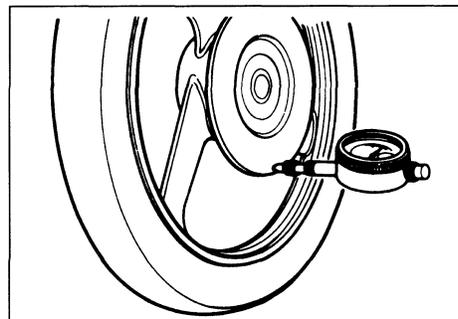
**TOOL** 09900-20205: Micrometer (0 – 25 mm)



- Measure the runout using the dial gauge.
- Replace the disc if the runout exceeds the service limit.

**TOOL** 09900-20606: Dial gauge (1/100 mm)  
09900-20701: Magnetic stand

**DATA** Brake disc runout (Front)  
Service Limit: 0.3 mm (0.012 in)

**TIRE**

(☞ 2-25, 6-64)

**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 SUZUKI SUPER GREASE “A” to the bearings before installing.

**FAH** 99000-25030: SUZUKI SUPER GREASE “A”

- Install the left side bearing using the special tool ①.
- Install the spacer.
- Install the right side bearing using the special tool ①.

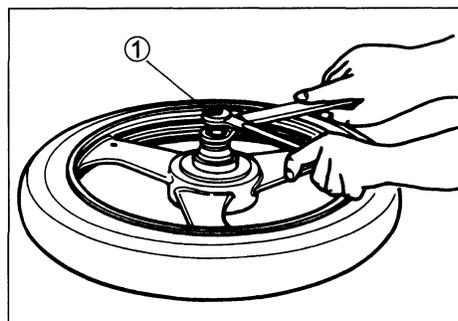
**NOTE:**

*The seal sides of the bearings should face outside.*

**TOOL** 09941-34513: Bearing/Steering race installer set

**CAUTION**

First install the left wheel bearing, then install the right wheel bearing. (☞ 6-6)



**BRAKE DISC**

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

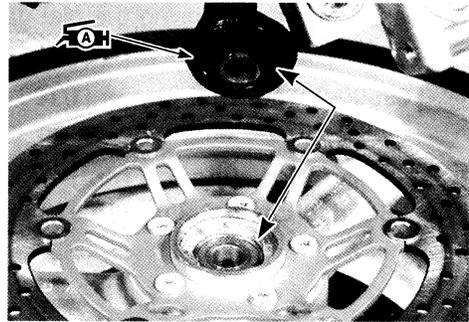
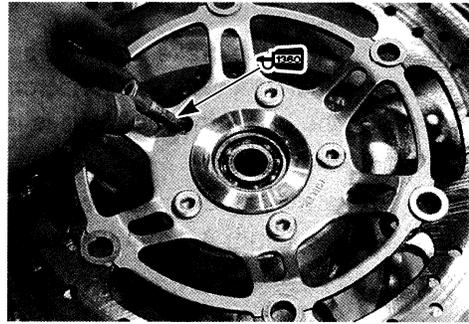
 **99000-32130: THREAD LOCK SUPER “1360”**

 **Brake disc bolt: 23 N·m (2.3 kgf·m, 16.5 lb-ft)**

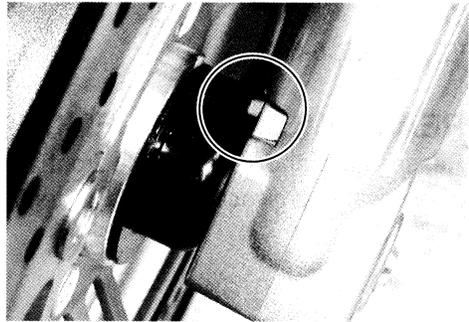
- Apply grease to the dust seal lip and the drive lugs.

 **99000-25030: SUZUKI SUPER GREASE “A”**

- Align the drive lugs with the recesses on the wheel hub and then fit the speed sensor onto the wheel hub.



- Have the stopper on the speed sensor touch the lug the front fork leg.

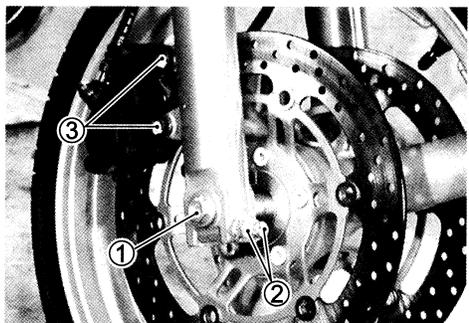


- Tighten each bolt to the specified torque.

 **Front axle ①: 65 N·m (6.5 kgf·m, 47.0 lb-ft)**

**Front axle pinch bolt ②: 23 N·m (2.3 kgf·m, 16.5 lb-ft)**

**Front brake caliper mounting bolt ③: 39 N·m (3.9 kgf·m, 28.0 lb-ft)**



**NOTE:**

\* Before installing the front axle, apply grease to it.

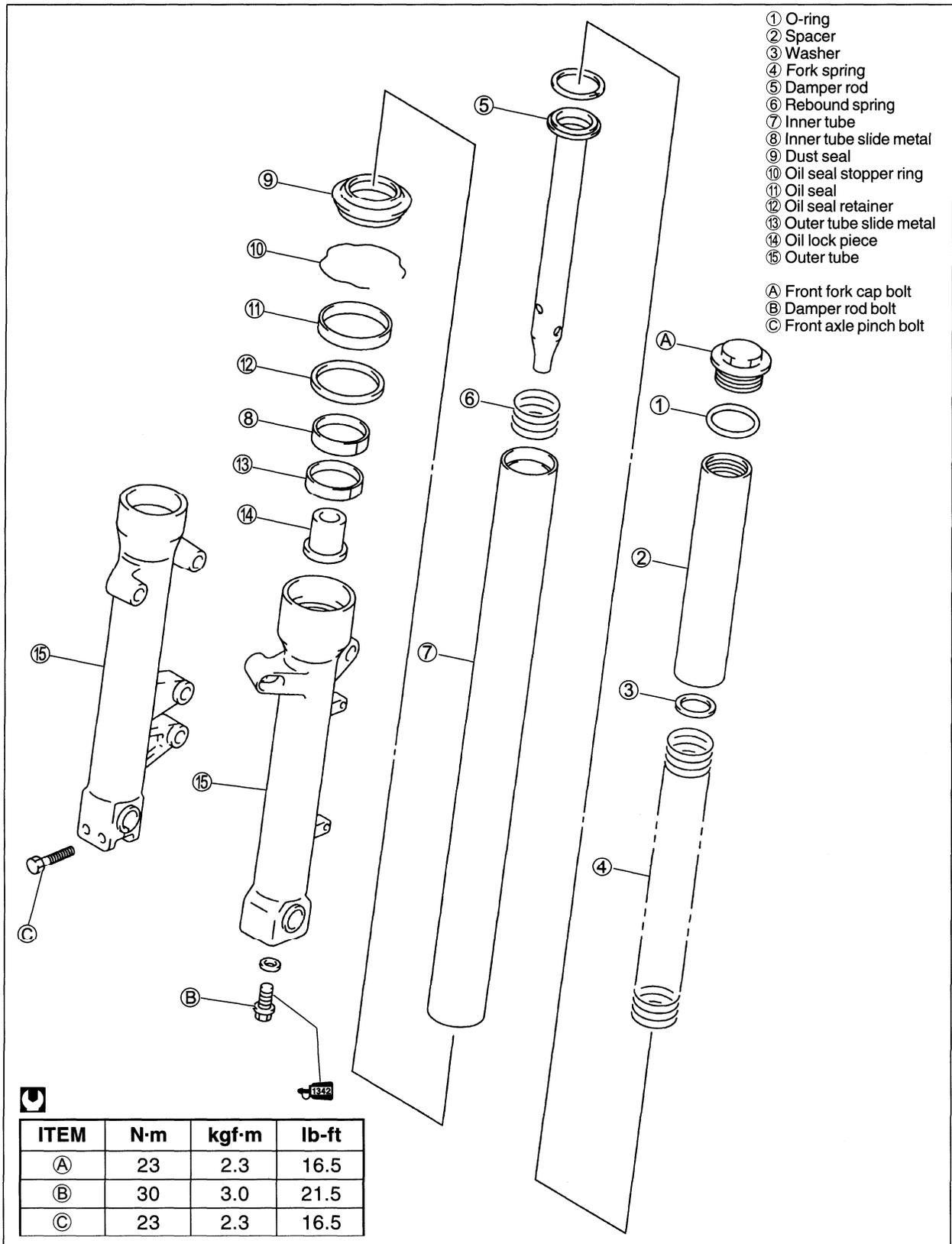
 **99000-25030: SUZUKI SUPER GREASE “A”**

\* Before tightening the front axle and front axle pinch bolts, move the front fork up and down four or five times.

\* Push the pistons all the way into the brake caliper and then remount the caliper.

\* After remounting the brake calipers, pump the brake lever a few times to check for proper brake operation.

# FRONT FORK CONSTRUCTION

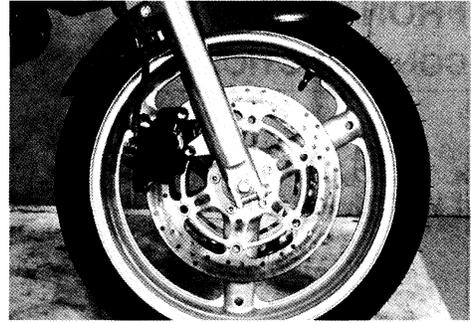


- ① O-ring
- ② Spacer
- ③ Washer
- ④ Fork spring
- ⑤ Damper rod
- ⑥ Rebound spring
- ⑦ Inner tube
- ⑧ Inner tube slide metal
- ⑨ Dust seal
- ⑩ Oil seal stopper ring
- ⑪ Oil seal
- ⑫ Oil seal retainer
- ⑬ Outer tube slide metal
- ⑭ Oil lock piece
- ⑮ Outer tube
  
- A Front fork cap bolt
- B Damper rod bolt
- C Front axle pinch bolt

ITEM	N·m	kgf·m	lb·ft
A	23	2.3	16.5
B	30	3.0	21.5
C	23	2.3	16.5

## REMOVAL AND DISASSEMBLY

- Remove the brake hose clamp bolt and speed sensor clamp bolt.
- Remove the front brake calipers. (☞ 6-48)
- Remove the front wheel. (☞ 6-9)
- Remove the front fender (☞ 6-3)



- Loosen the front fork upper clamp bolts.

**NOTE:**

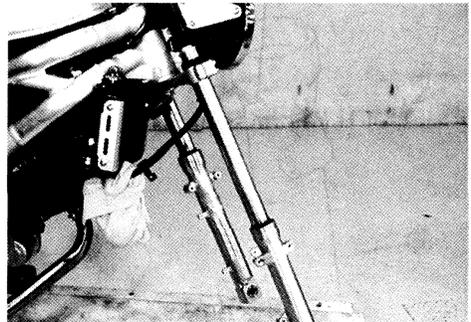
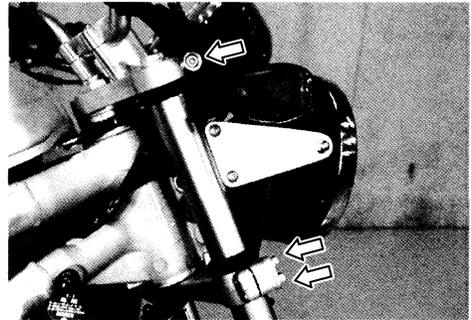
*Slightly loosen the front fork cap bolts before loosening the lower clamp bolts to facilitate later disassembly.*

- Loosen the front fork lower clamp bolts, left and right.

**NOTE:**

*Be careful not to drop the front fork when loosening the bolts.*

- Remove the front forks, left and right.

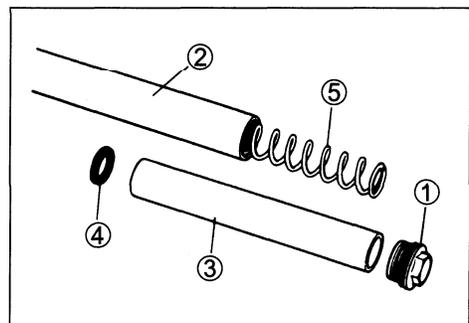


- Remove the front fork cap bolt ①.

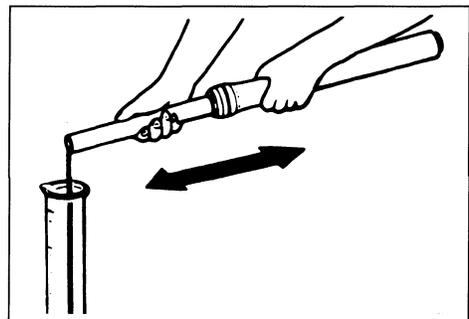
**▲ WARNING**

**Hold the front fork cap when removing it, or it will jump out of the front fork due to spring pressure.**

- Remove the spacer ③, the washer ④ and the spring ⑤ from the inner tube ②.

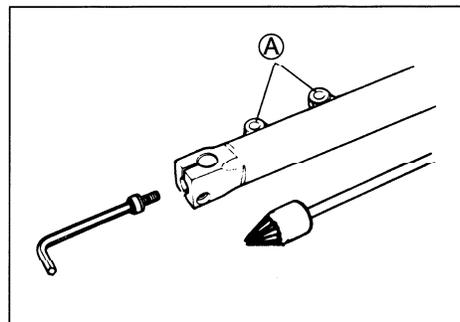


- Turn the fork upside down and stroke it several times to let out fork oil.
- Hold the fork upside down for a few minutes to drain oil.



- While holding the caliper mounting portion (A) by vise, remove the damper rod with the special tools.

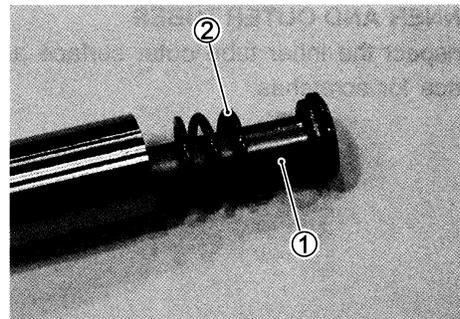
**TOOL** 09940-34520: "T" handle  
 09940-34531: Attachment "A"



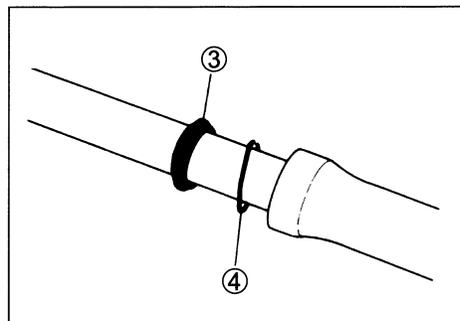
- Remove the damper rod (1) and the rebound spring (2).

**NOTE:**

*Be careful not to damage the inner tube.*



- Remove the dust seal (3) and the oil seal stopper ring (4).



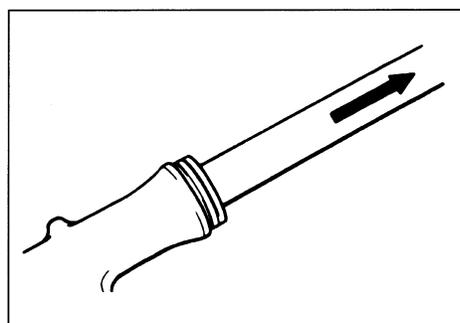
- Extract the inner tube from the outer tube.

**NOTE:**

*Be careful not to damage the inner tube.*

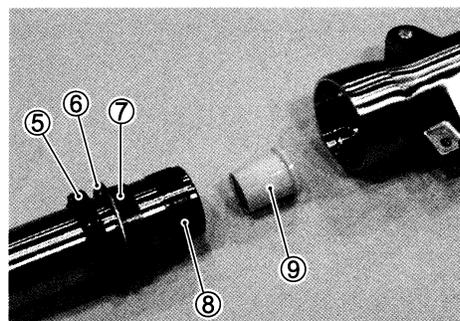
**▲ CAUTION**

**The "ANTI-FRICTION" metals, oil seals and dust seals must be replaced with new ones, when reassembling the front forks.**



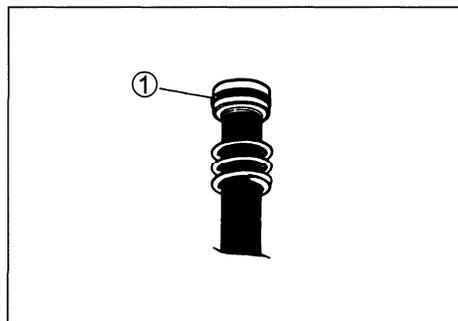
- Remove the following parts.

- ⑤ Oil seal
- ⑥ Oil seal retainer
- ⑦ Slide metal (Outer tube)
- ⑧ Slide metal (Inner tube)
- ⑨ Oil lock piece



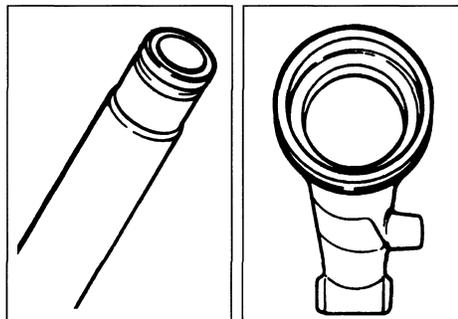
### INSPECTION

Inspect the damper rod ring ① for wear or damage. If it is worn or damaged, replace it with a new one.



### INNER AND OUTER TUBES

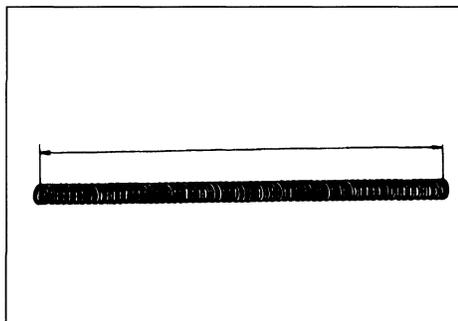
Inspect the inner tube outer surface and outer tube inner surface for scratches.



### FORK SPRING

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

**DATA** Fork spring free length  
Service Limit: 308 mm (12.13 in)



## REASSEMBLY AND REMOUNTING

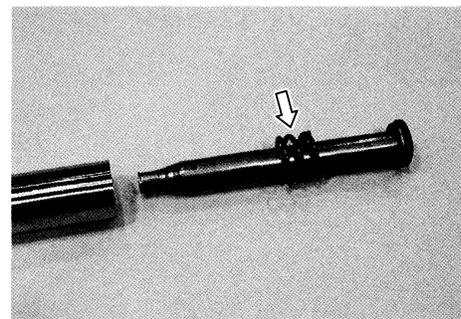
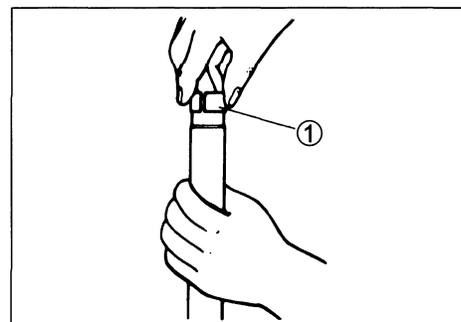
Reassemble and remount the front fork in the reverse order of removal and disassembly. Pay attention to the following points:

- Hold the inner tube vertically and clean the metal groove and install the slide metal ① by hand as shown.

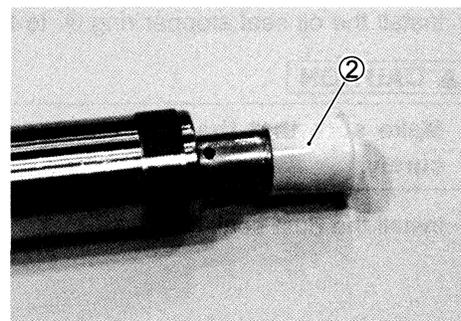
### ▲ CAUTION

Use special care to prevent damage to the “Teflon” coated surface of the inner tube slide metal when mounting it.

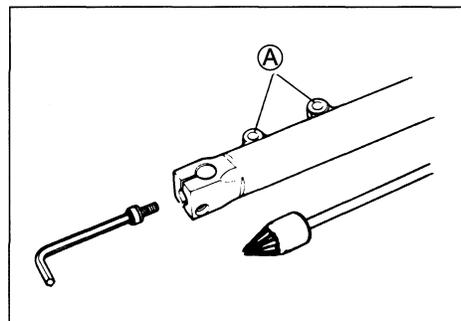
- Install the rebound spring and the damper rod to the inner tube.



- Install the oil lock piece ② to the damper rod.



- Hold the caliper mounting portion ① by vise and install the inner tube into the outer tube.



- Apply THREAD LOCK “1342” to the damper rod bolt and tighten it to the specified torque with the special tool.

 99000-32050: THREAD LOCK “1342”

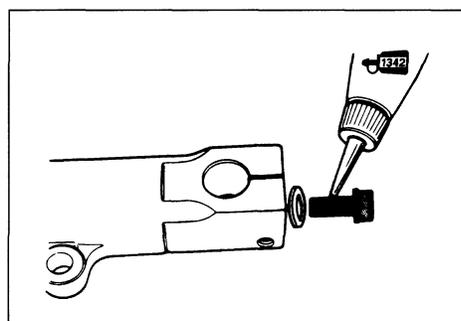
 09940-34520: “T” handle

09940-34531: Attachment “A”

 Damper rod bolt: 30 N·m (3.0 kgf·m, 21.5 lb-ft)

### ▲ CAUTION

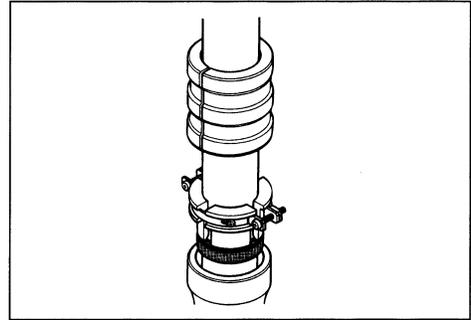
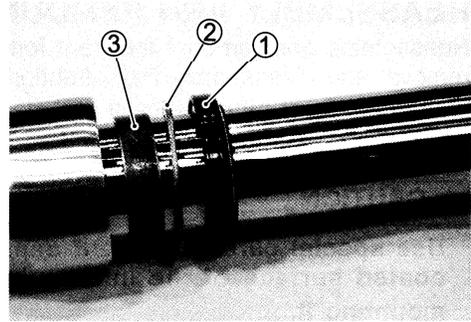
Use a new damper rod gasket to prevent oil leakage.



- Install the outer tube slide metal, the washer and the oil seal using the special tool.
- Apply fork oil to the oil seal lip.

**TOOL** 09940-52861: Front fork oil seal installer

- ① Oil seal
- ② Oil seal retainer
- ③ Outer tube slide metal

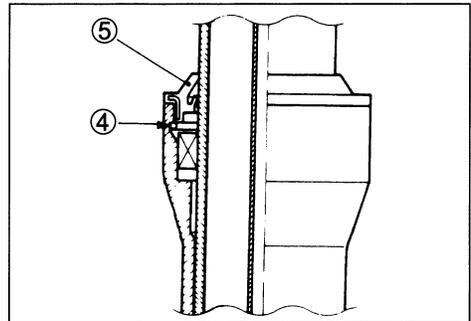


- Install the oil seal stopper ring ④ to the outer tube.

**CAUTION**

Make sure that the oil seal stopper ring ④ fitted securely.

- Install the dust seal ⑤.



- Pour the specified fork oil into the inner tube.
- Move the inner tube slowly until bubbles do not come out from oil.

**DATA** Fork oil type: SUZUKI FORK OIL G10 (#10) or equivalent fork oil

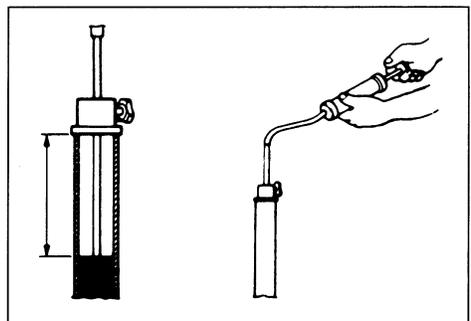
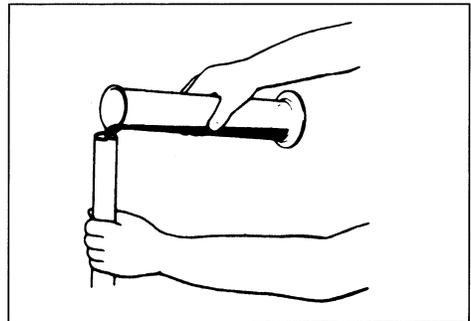
Fork oil capacity (each leg):  
491 ml (16.6/17.3 US/Imp oz)

**FORK** 99000-99044-10G: SUZUKI FORK OIL G10

- Compress the inner tube fully.
- Hold the front fork vertically and adjust fork oil level with the special tool.

**TOOL** 09943-74111: Front fork oil level gauge

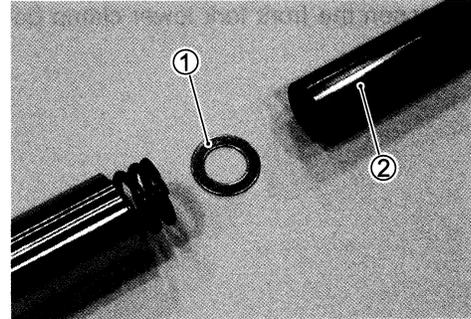
**DATA** Fork oil level  
Standard: 102 mm (4.02 in)



- Install the fork spring.



- Install the spring washer ① and the spacer ②.

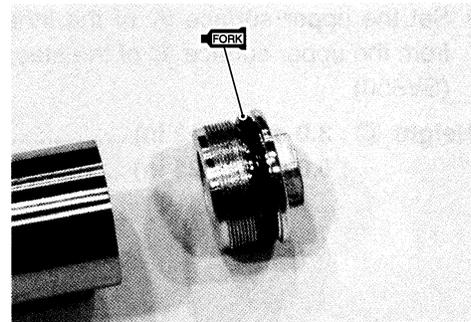


- Install the O-ring to the front fork cap bolt.
- Apply fork oil lightly to the O-ring.

**▲ CAUTION**

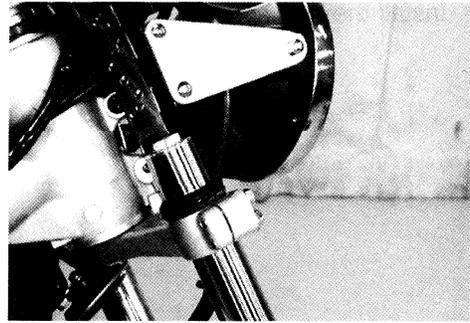
**Use a new O-ring to prevent oil leakage.**

- Install the front fork cap bolt to the inner tube temporarily.



- Install the front fork and tighten the front fork lower clamp bolt temporarily.
- Tighten the front fork cap bolt to the specified torque.

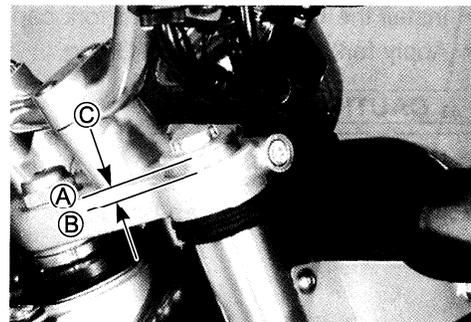
 **Front fork cap bolt: 23 N·m (2.3 kgf·m, 16.5 lb-ft)**



- Loosen the front fork lower clamp bolt.

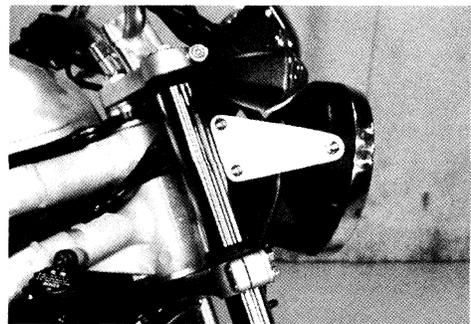
- Set the upper surface **Ⓐ** of the inner tube at the height **Ⓒ** from the upper surface **Ⓑ** of the steering stem upper bracket. (SV650)

**Height Ⓒ : 3.0 mm (0.12 in) ..... For E-03, 33**  
**: 6.0 mm (0.24 in) ..... For the others**

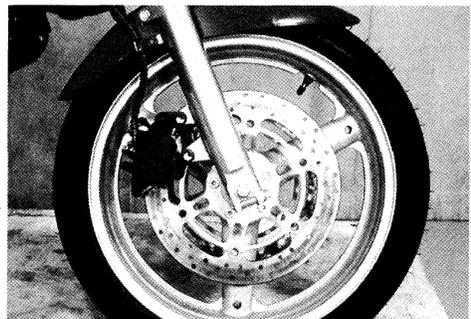


- Tighten the front fork upper clamp bolts and the lower clamp bolts.

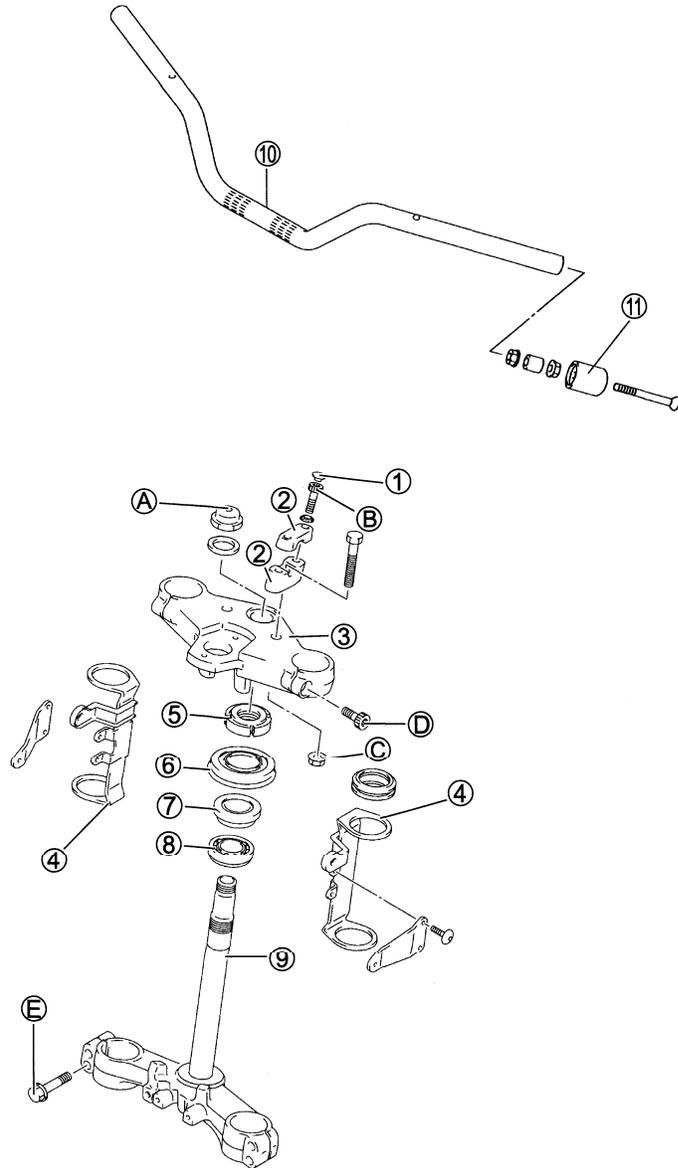
 **Front fork upper clamp bolt: 23 N·m (2.3 kgf·m, 16.5 lb-ft)**  
**Front fork lower clamp bolt: 23 N·m (2.3 kgf·m, 16.5 lb-ft)**



- Install the front fender. ( 6-3)
- Install the front wheel. ( 6-9)
- Install the brake caliper. ( 6-50)



# STEERING CONSTRUCTION



ITEM	N·m	kgf·m	lb·ft
A	65	6.5	47.0
B/D	23	2.3	16.5
E	23	2.3	16.5
C	45	4.5	32.5

- ① Handlebar holder bolt cap
- ② Handlebar holder
- ③ Steering stem upper bracket
- ④ Headlight housing holders
- ⑤ Steering stem nut
- ⑥ Dust seal
- ⑦ Steering stem upper bearing
- ⑧ Steering stem lower bearing
- ⑨ Steering stem
- ⑩ Handlebar
- ⑪ Handlebar balancer
- A Steering stem head nut
- B Handlebar clamp bolt
- C Handlebar holder nut
- D Front fork upper clamp bolt
- E Front fork lower clamp bolt

## HANDLEBARS

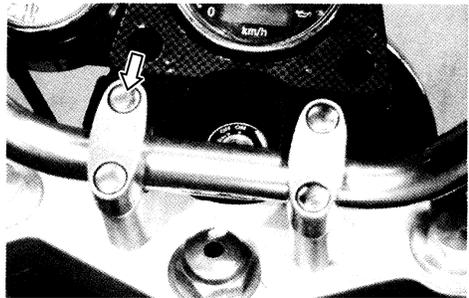
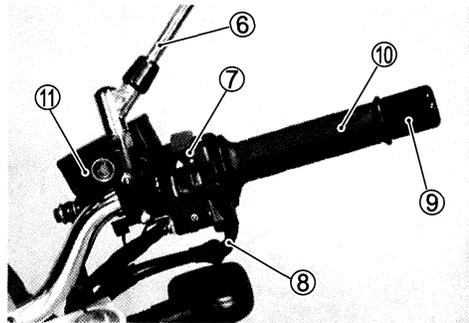
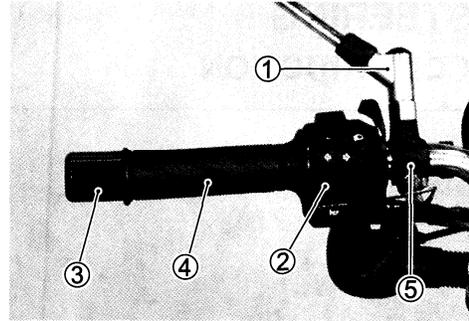
### REMOVAL

- Remove the following items from the left handlebar.
  - ① Rear view mirror
  - ② Left handlebar switch
  - ③ Handlebar balancer
  - ④ Grip rubber
  - ⑤ Clutch cable/Clutch lever holder
  
- Remove the following items from the right handlebar.
  - ⑥ Rear view mirror
  - ⑦ Right handlebar switch
  - ⑧ Throttle cables
  - ⑨ Handlebar balancer
  - ⑩ Throttle grip
  - ⑪ Front brake master cylinder/reservoir

**▲ CAUTION**

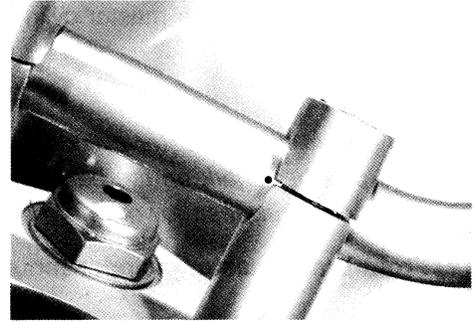
**Do not turn the front brake master cylinder upside down.**

- Remove the bolt caps.
- Remove the handlebar clamp bolts and then remove the handlebars.



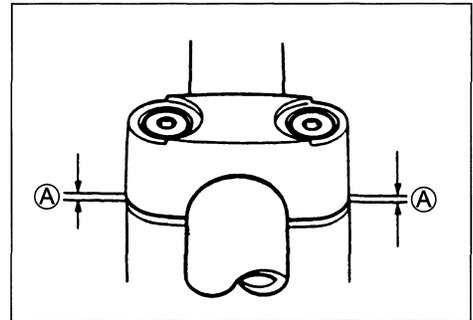
**INSTALLATION**

- Install the handlebars with the punched mark aligned with the handlebar clamp as shown.



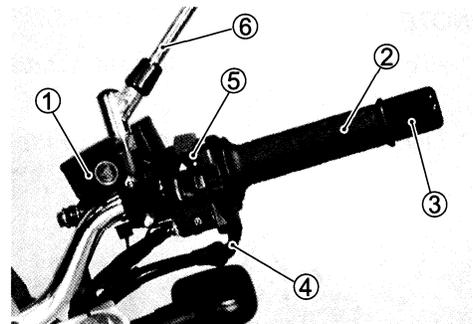
- The gap **A** between the handlebar clamps should be even.

 **Handlebar clamp bolt: 23 N·m (2.3 kgf·m, 16.5 lb-ft)**



- Install the following items to the right handlebar.

- ① Front brake master cylinder/reservoir
- ② Throttle grip
- ③ Handlebar balancer
- ④ Throttle cables
- ⑤ Right handlebar switch
- ⑥ Rear view mirror

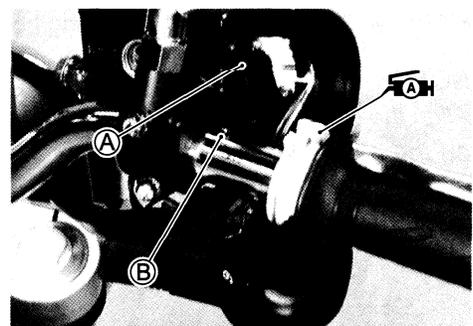
**NOTE:**

\* Apply grease to the throttle cable and the cable drum.

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

\* Align the portion **A** of the right handlebar switch with the hole **B** of the handlebar.

\* Adjust the throttle cable play. (👉 2-16)

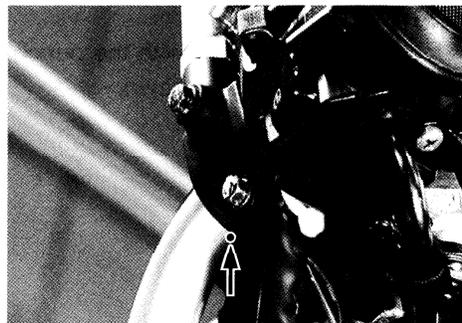


- Tighten the front brake master cylinder mounting bolts to the specified torque.

**NOTE:**

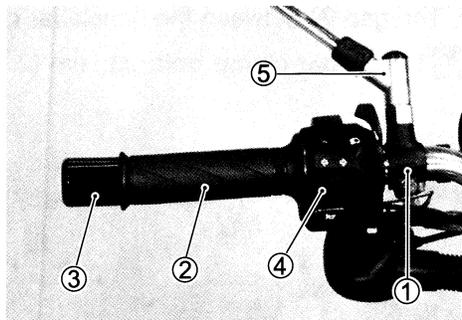
Align the front brake master cylinder holder's matching surface with the punched mark on the handlebar and tighten the upper mounting bolt first, then lower one.

 **Front brake master cylinder mounting bolt: 10 N·m (1.0 kgf·m, 7.0 lb-ft)**



- Install the following items to the left handlebar.

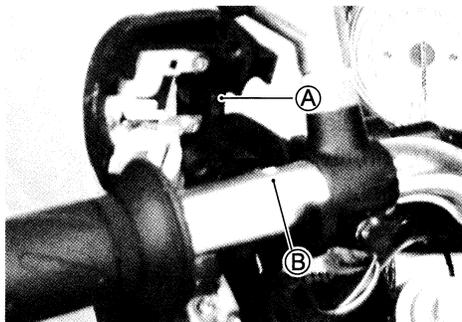
- ① Clutch cable/Clutch lever holder
- ② Grip rubber
- ③ Handlebar balancer
- ④ Left handlebar switch
- ⑤ Rear view mirror



**NOTE:**

\* Align the portion **(A)** of the left handlebar switch with the hole **(B)** of the handlebar.

\* Lightly adhere the grip rubber to the handlebar.



- Tighten the clutch holder mounting bolt to the specified torque.

**NOTE:**

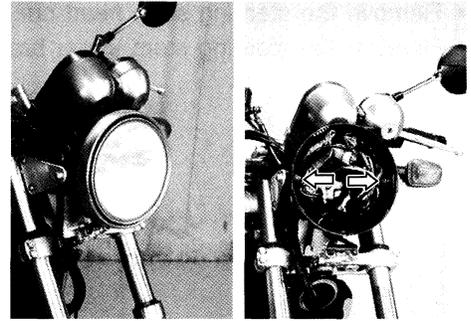
Align the clutch holder's matching surface with the punched mark on the handlebar.

 **Clutch holder mounting bolt: 10 N·m (1.0 kgf·m, 7.0 lb-ft)**



## STEERING REMOVAL

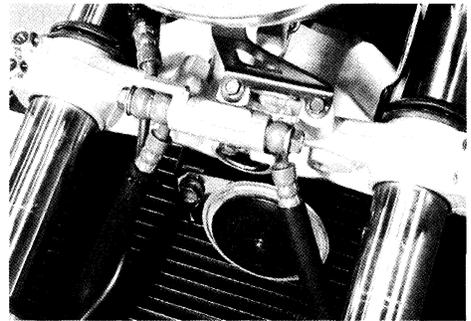
- Remove the front wheel. (☞ 6-7)
- Remove the headlight and its housing.



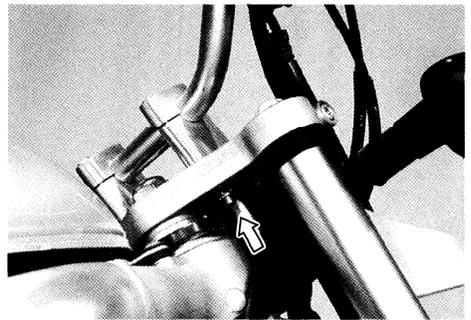
- Remove the brake hose joint.
- Remove the front brake assembly.

### ▲ CAUTION

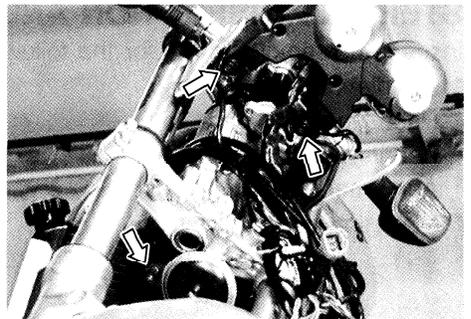
**Do not turn the front brake master cylinder upside down.**



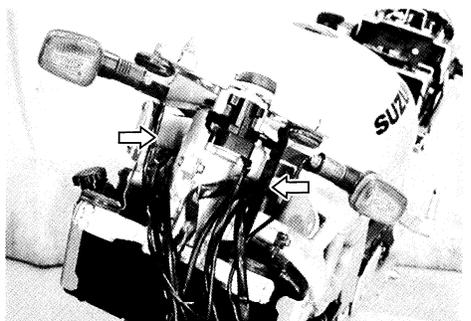
- Loosen the handlebar holder nuts.
- Remove the handlebars. (☞ 6-20)
- Remove the lower side handlebar holders.



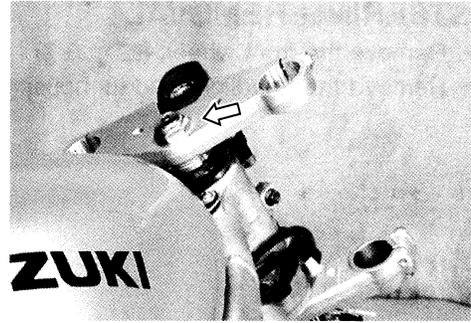
- Remove the speedometer assembly.
- Remove the horn.



- Remove the front fork. (☞ 6-12)
- Remove the headlight housing bracket.



- Remove the steering stem head nut.
- Remove the steering stem upper bracket.



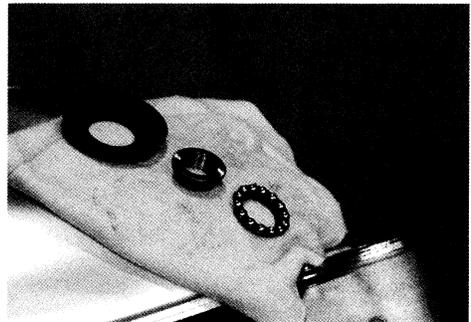
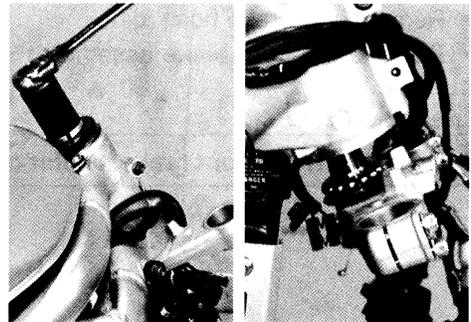
- Remove the steering stem nut using the special tool.

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

**NOTE:**

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

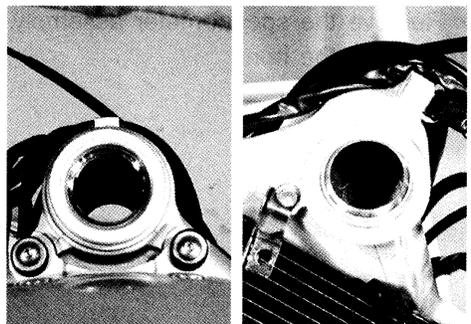
- Remove the steering stem.
- Remove the dust seal, the inner race and the bearing.



**STEERING INSPECTION AND DISASSEMBLY**

Inspect the removal parts for the following abnormalities.

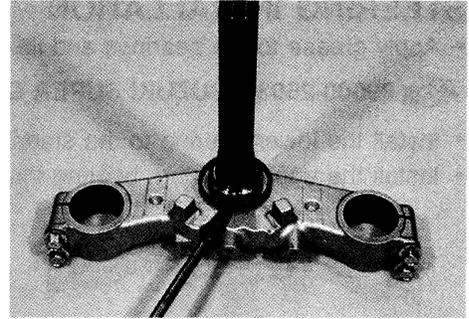
- \* Handlebars distortion
- \* Race wear and brinelling
- \* Bearing wear or damage
- \* Abnormal noise of bearing
- \* Distortion of steering stem



- Remove the steering stem lower bearing inner race with a chisel.

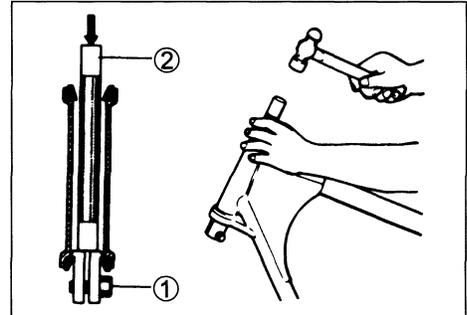
**▲ CAUTION**

The removed bearing inner race must be replaced with a new one.



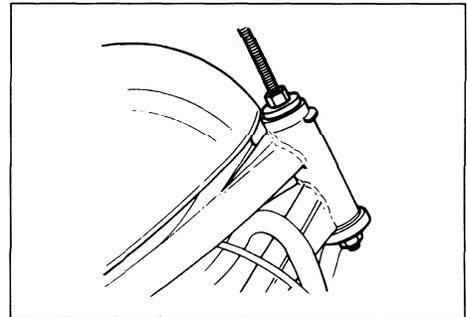
- Drive out the steering stem upper and lower bearing races with the special tool.

**TOOL** 09941-54911: Bearing outer race remover ①  
09941-74911: Steering bearing installer ②



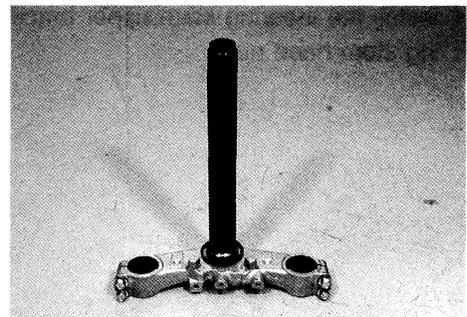
- Press in the upper and lower bearing outer races with the special tools.

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



- Press in the lower bearing inner race and dust seat with the special tool.

**TOOL** 09941-74911: Steering bearing installer

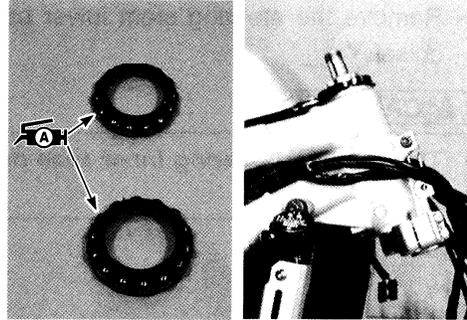


## STEERING INSTALLATION

- Apply grease to the bearings and lip of dust seal.

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

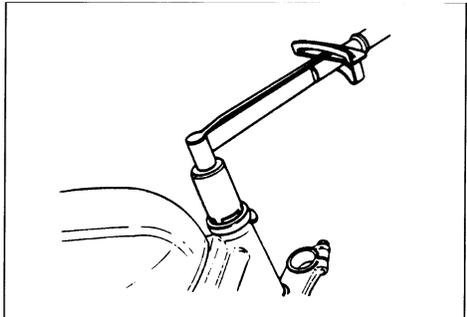
- Install the lower bearing to the steering stem lower bracket.
- Install the upper bearing, bearing inner race and dust seal.



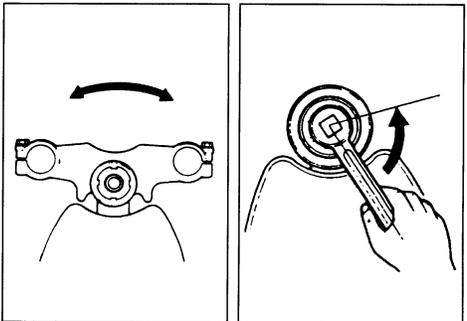
- Tighten the steering stem nut to the specified torque with the special tools.

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

 **Steering stem nut: 45 N·m (4.5 kgf·m, 32.5 lb-ft)**



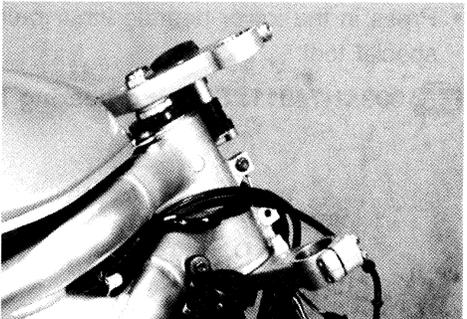
- Turn the steering stem lower bracket about five or six times to the left and right so that the angular ball bearings will be seated properly.
- Loosen the stem nut by 1/4 – 1/2 turn.



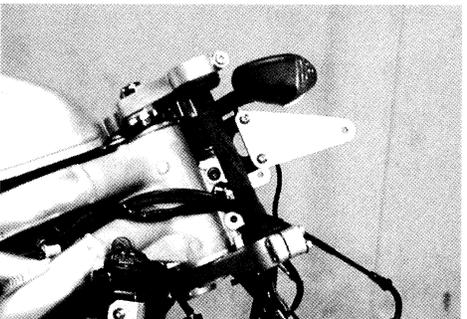
**NOTE:**

*This adjustment will vary from motorcycle to motorcycle.*

- Install the steering stem upper bracket and tighten the steering stem head nut.

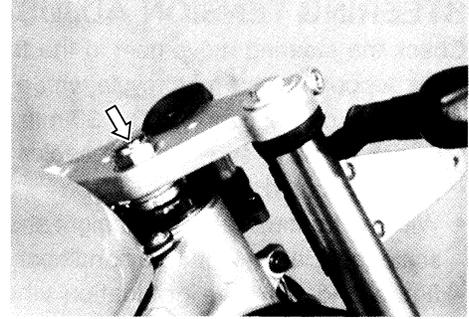


- Install the front fork with the headlight housing bracket. ( 6-18)

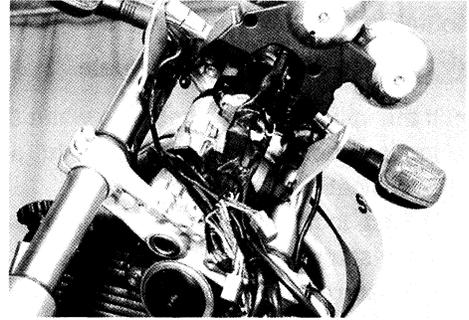


- Tighten the steering stem head nut to the specified torque.

 **Steering stem head nut: 65 N·m (6.5 kgf·m, 47.0 lb-ft)**

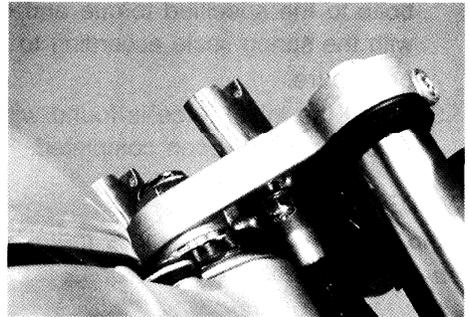


- Install the horn.
- Install the speedometer assembly.

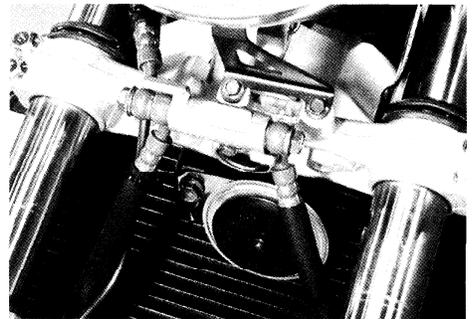


- Install the handlebar holders temporarily.
- Install the handlebars. ( 6-21)
- Tighten the handlebar holder nut to the specified torque.

 **Handlebar holder nut: 45 N·m (4.5 kgf·m, 32.5 lb-ft)**



- Install the front brake assembly. ( 6-18)



- Install the headlight housing and the headlight.
- Install the front wheel. ( 6-10)



## STEERING TENSION ADJUSTMENT

Check the steering movement in the following procedure.

- By supporting the motorcycle with 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. (☞ 8-13)
- 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.

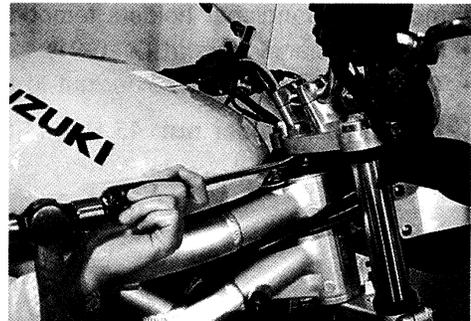
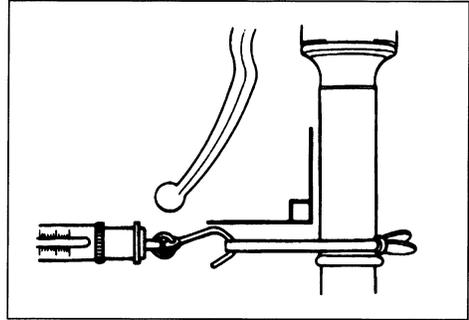
**Initial force: 200 – 500 grams**

 **09940-92720: Spring scale**

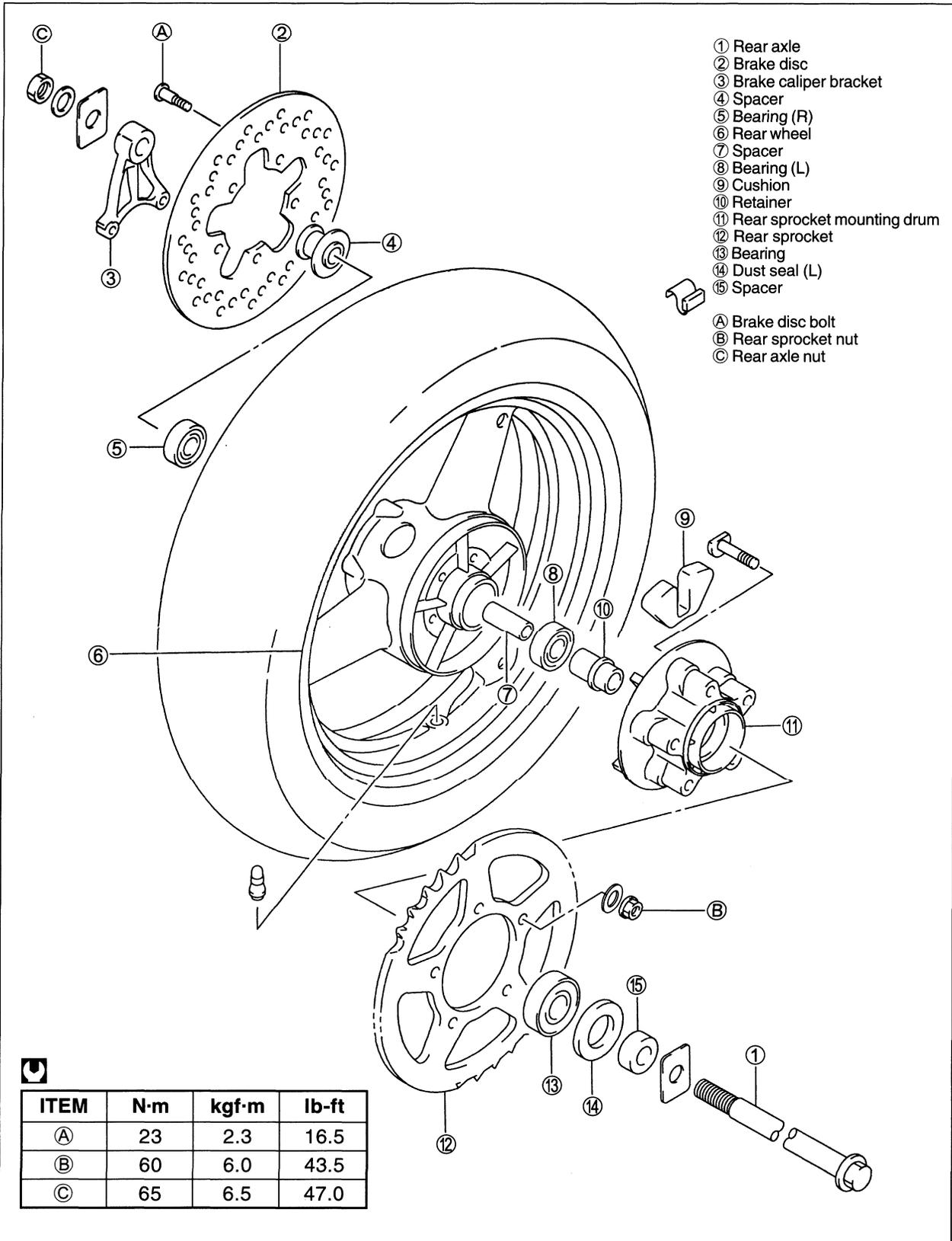
- If the initial force on the scale when the handlebar starts turning is either too heavy or too light, adjust it till it satisfies the specification.
  - 1) First, loosen the front fork lower clamp bolts and the steering stem head nut, and then adjust the steering stem nut by loosening or tightening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

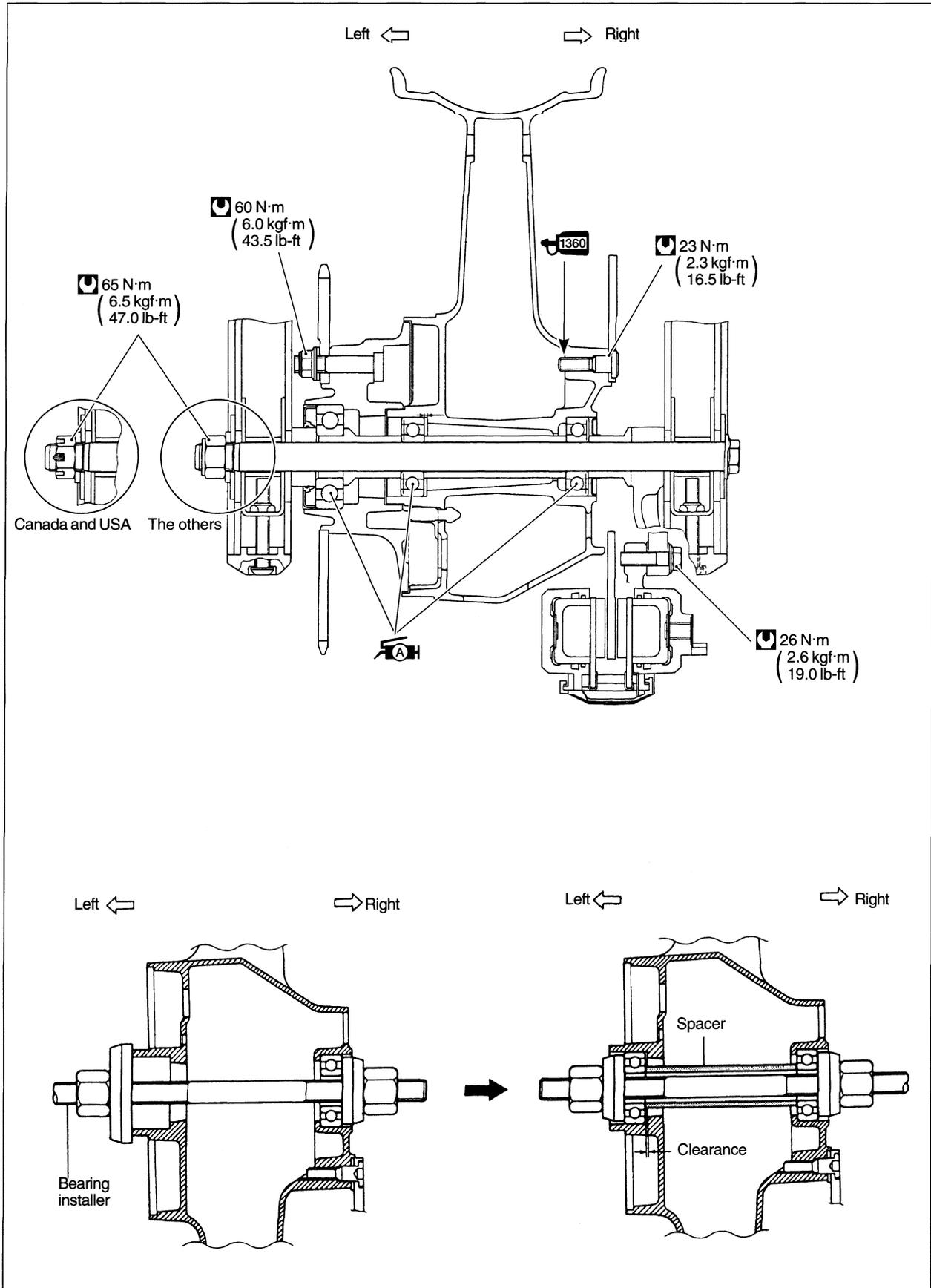
**NOTE:**

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



# REAR WHEEL CONSTRUCTION



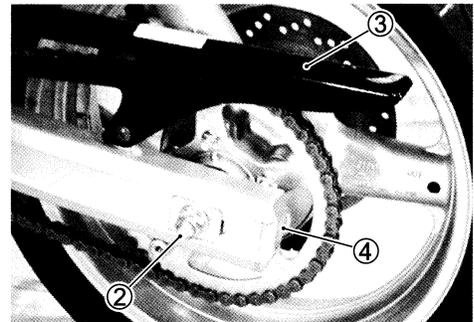
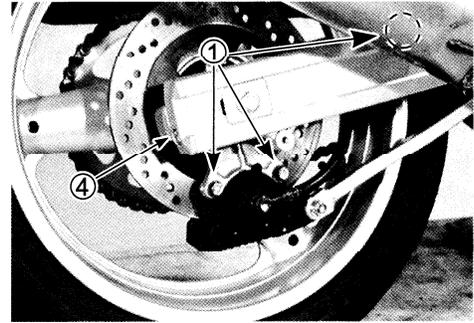


## REMOVAL

- Remove the rear wheel by removing the following items.
  - ① Rear brake caliper mounting bolts/Brake hose clamp
  - ② Rear axle/nut
  - ③ Chain case
  - ④ Chain adjuster

### NOTE:

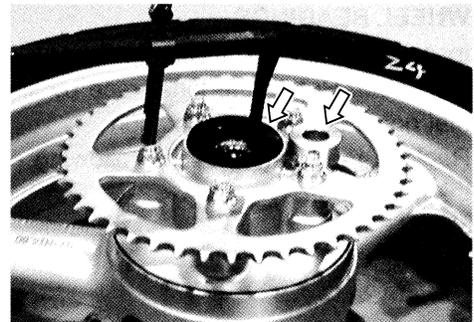
- \* Be careful not to damage the engine or fram by a jack.
- \* Before raising the rear wheel off the ground with a jack, loosen each bolt.
- \* Do not operate the brake lever while dismounting the rear wheel.



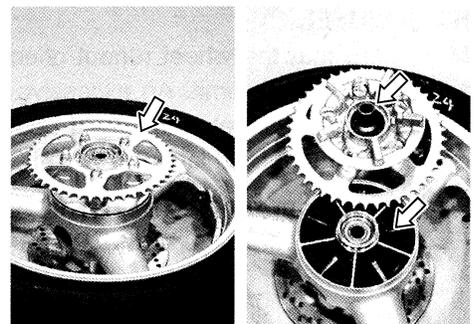
## DISASSEMBLY

- Remove the spacer.
- Remove the oil seal with the special tool.

**TOOL** 09913-50121: Oil seal remover



- Draw out the rear sprocket mounting drum from the wheel hub.
- Remove the rear sprocket mounting drum retainer and wheel damper.
- Separate the rear sprocket from its mounting drum by removing nuts.

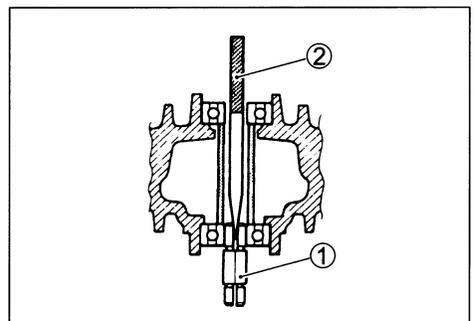


- Insert the adaptor ① into the wheel bearing.
- After inserting the wedge bar from the opposite side, lock the wedge bar ② in the slit of the adaptor.
- Drive out both wheel bearings by striking the wedge bar.

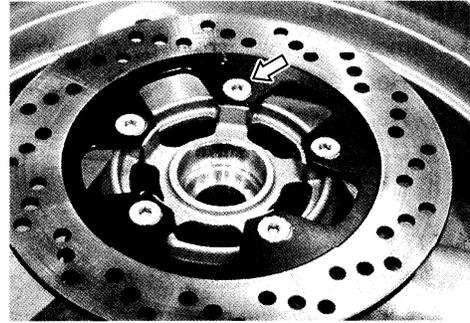
**TOOL** 09941-50111: Bearing remover

### ▲ CAUTION

The removed bearings must be replaced with new ones.



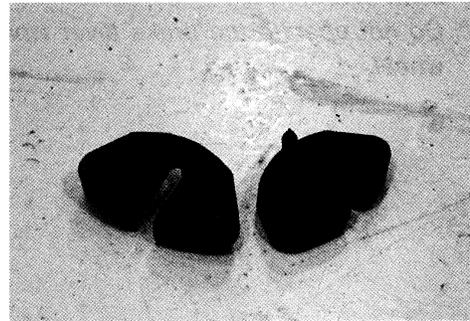
- Remove the rear brake disc.



## INSPECTION

### WHEEL DAMPER

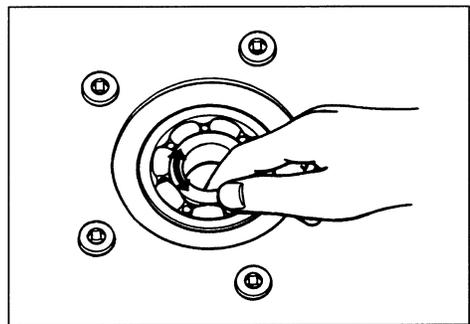
Inspect the damper for wear and damage.  
Replace the damper if there is anything unusual.



### WHEEL BEARINGS

Inspect the play of the wheel bearings by finger while they are in the wheel. Rotate the inner race by finger to inspect for abnormal noise and smooth rotation.

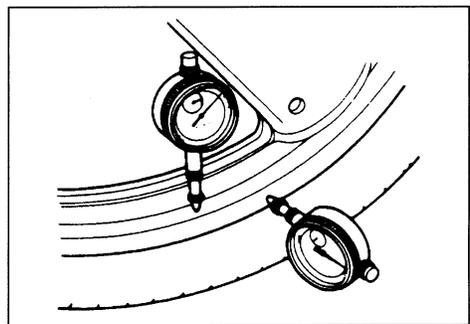
Replace the bearing in the following procedure if there is anything unusual.



### REAR 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. If bearing replacement fails to reduce the runout, replace the wheel.

**DATA** Wheel rim runout (Axial and Radial)  
Service Limit: 2.0 mm (0.08 in)

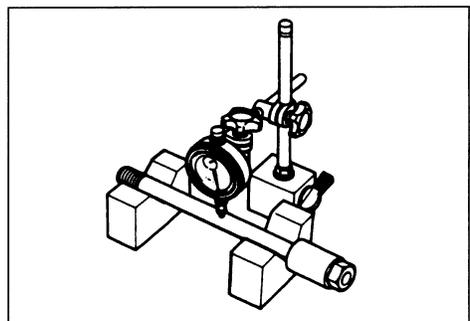


### REAR AXLE

Using a dial gauge, check the rear axle for runout.  
If the runout exceeds the limit, replace the rear axle.

**TOOL** 09900-20606: Dial gauge (1/100 mm)  
09900-20701: Magnetic stand  
09900-21304: V-block set (100 mm)

**DATA** Rear axle runout  
Service Limit: 0.25 mm (0.010 in)

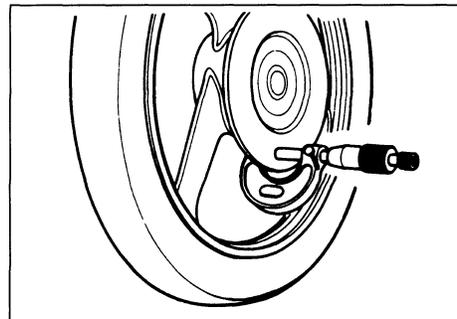


**BRAKE DISC**

Visually check the brake disc for damage or cracks.  
 Measure the thickness with a micrometer.  
 Replace the disc if the thickness is less than the service limit or if damage is found.

**DATA** Brake disc thickness (Rear)  
 Service Limit: 4.5 mm (0.18 in)

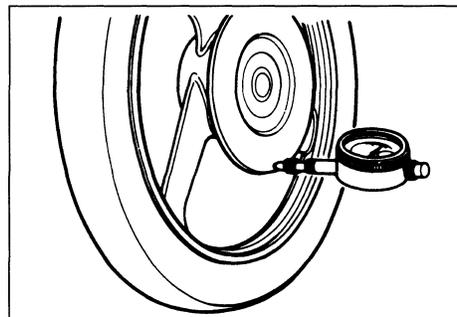
**TOOL** 09900-20205: Micrometer (0 – 25 mm)



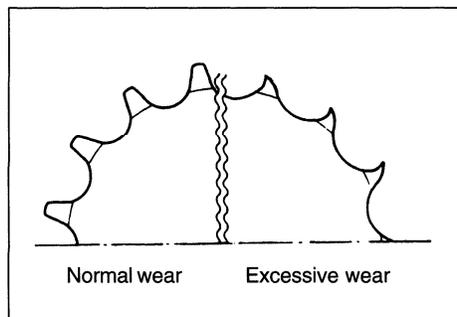
Measure the runout with a dial gauge.  
 Replace the disc if the runout exceeds the service limit.

**DATA** Brake disc runout (Rear)  
 Service Limit: 0.30 mm (0.012 in)

**TOOL** 09900-20606: Dial gauge (1/100 mm)  
 09900-20701: Magnetic stand

**SPROCKET**

Inspect the sprocket teeth for wear. If they are worn as shown, replace the two sprockets and drive chain as a set.

**Tire**

(👉 2-25, 6-64)

## REASSEMBLY AND REMOUNTING

Reassemble and remount the rear wheel in the reverse order of removal and disassembly.

Pay attention to the following points:

- Apply grease to the bearings before installing.

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

- Install the right side bearing using the special tool ①.
- Install the spacer.
- Install the left side bearing using the special tool ①.

### NOTE:

The seal sides of bearings should face out side.

 **09924-84510: Bearing installer set**

### CAUTION

First install the right wheel bearing, then install the left wheel bearing. (👉 6-30)

- Install the bearing into the sprocket mounting drum using the special tool.

 **09924-84530: Bearing installer**

- Apply grease to the lip of the oil seal.

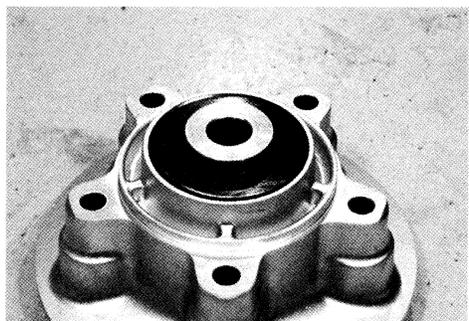
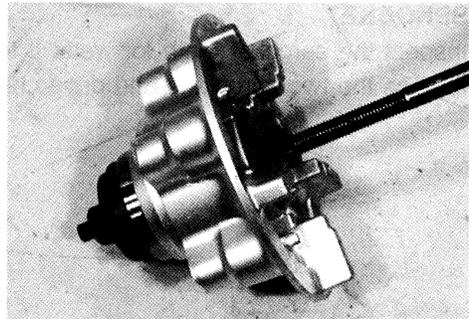
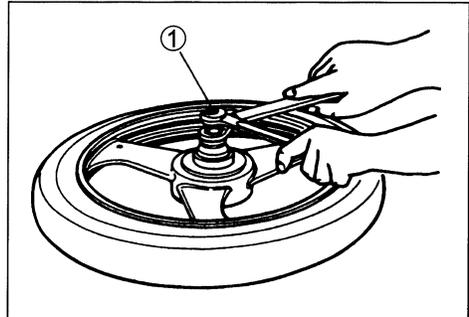
 **99000-25030: SUZUKI SUPER GREASE "A"**

- Install the spacer.

### CAUTION

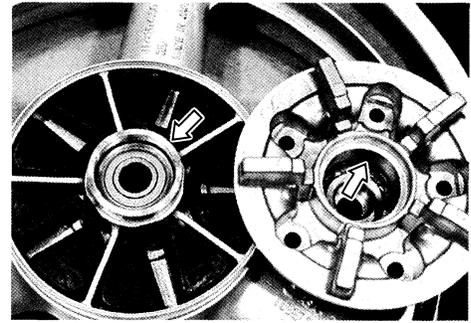
Be careful not to damage the oil seal lip when installing the spacer.

- Install the wheel damper.



- After installing the wheel damper, apply grease to the rear wheel and the sprocket mounting drum.

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

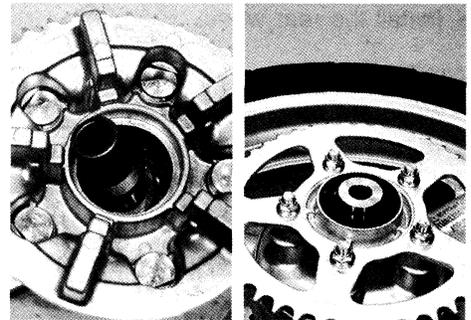


- Install the rear sprocket to the rear sprocket mounting drum and tighten its mounting nut temporarily.

**NOTE:**

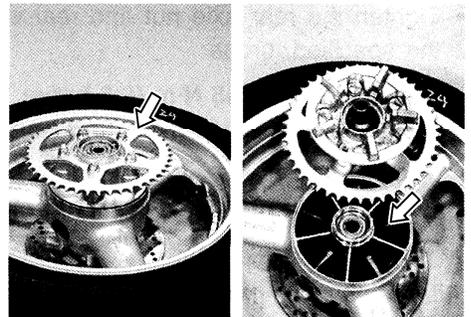
*Face the stamped mark on the sprocket to outside.*

- Install the retainer to the rear sprocket mounting drum.



- Install the rear sprocket mounting drum to the wheel.
- Tighten the rear sprocket mounting nut to the specified torque.

 **Rear sprocket nut: 60 N·m (6.0 kgf·m, 43.5 lb-ft)**



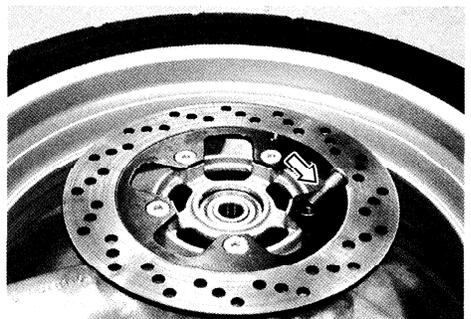
- Apply THREAD LOCK SUPER "1360" to the disc bolts and tighten them to the specified torque.

**NOTE:**

*Make sure that the brake disc is clean and free of any grease matter.*

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

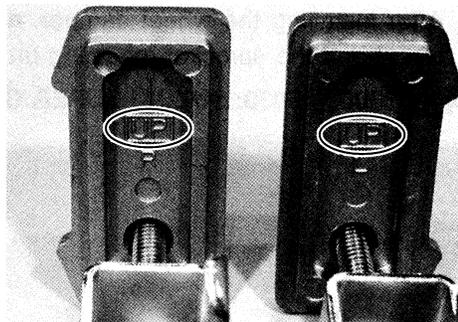
 **Brake disc bolt: 23 N·m (2.3 kgf·m, 16.5 lb-ft)**



- Install the chain adjusters to the swingarm.

**NOTE:**

Face the "UP" mark of the chain adjuster.



- Install the rear wheel.

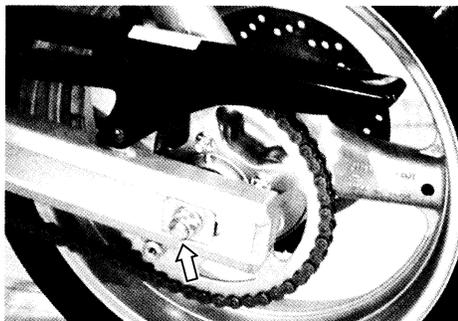
**NOTE:**

\* Push the pistons all the way into the brake caliper and then remount the caliper.

\* Before installing the rear axle, apply grease to it.

 99000-25030: SUZUKI SUPER GREASE "A"

- Adjust the chain slack. ( 2-21)



- Tighten the rear axle nut and rear caliper mounting bolts to the specified torque.

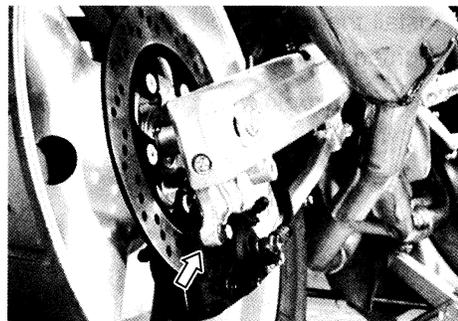
 **Rear axle nut: 65 N·m (6.5 kgf·m, 47.0 lb-ft)**

**Rear brake caliper mounting bolt: 26 N·m  
(2.6 kgf·m, 19.0 lb-ft)**

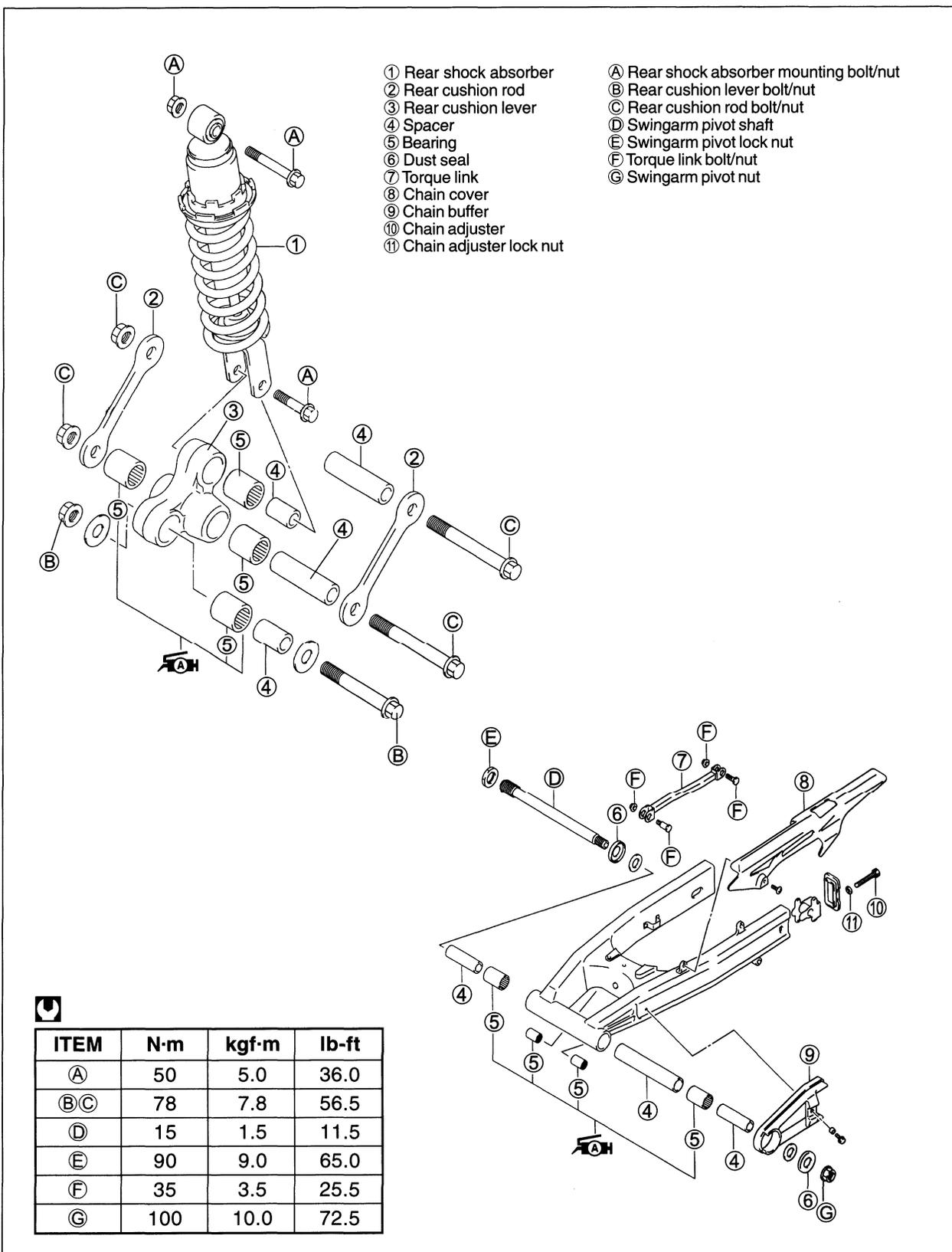
**Torque link nut: 35 N·m (3.5 kgf·m, 25.5 lb-ft)**

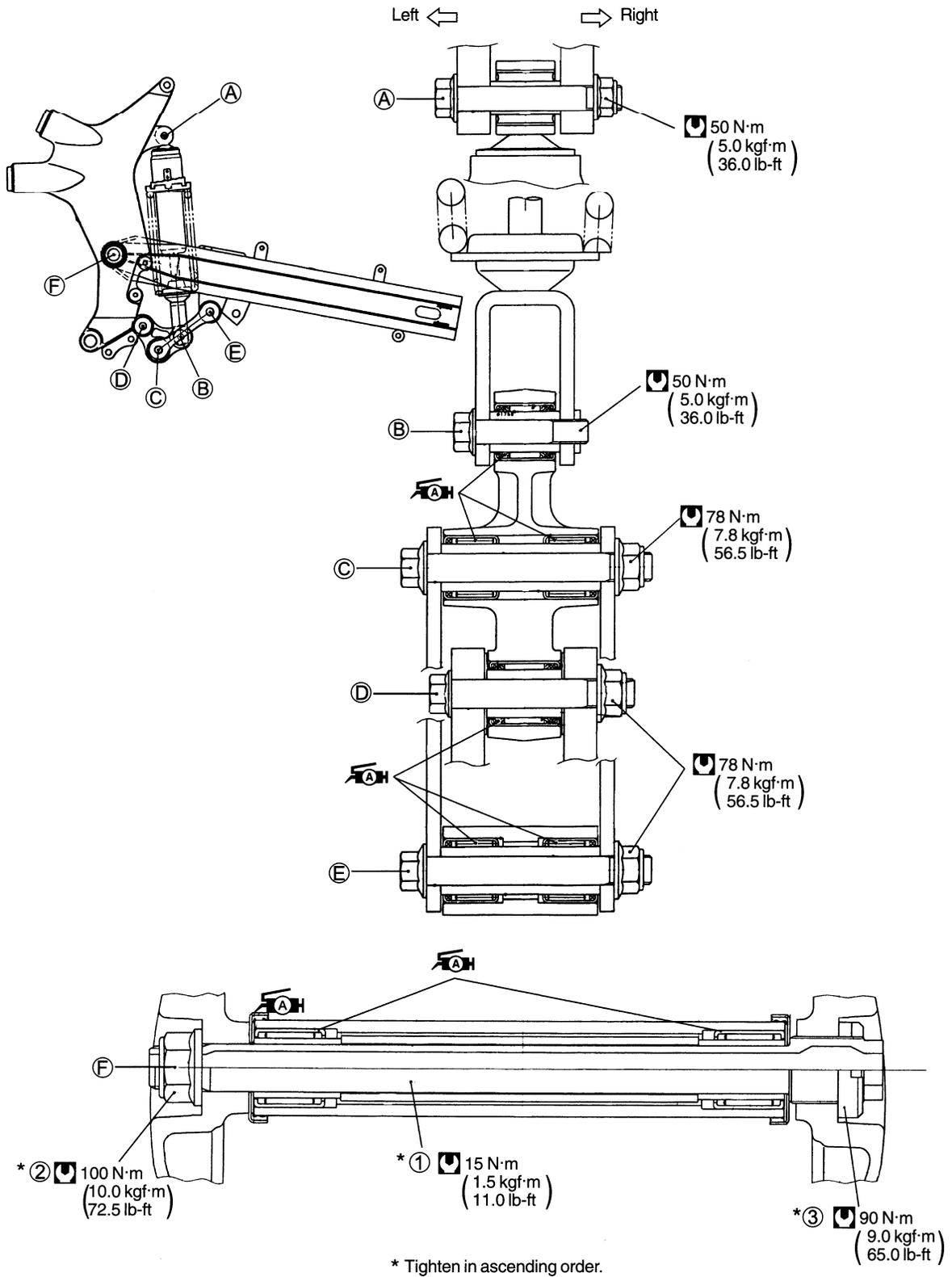
**NOTE:**

After remounting the all items, pump the brake pedal a few times to check for proper brake operation.



# REAR SUSPENSION CONSTRUCTION

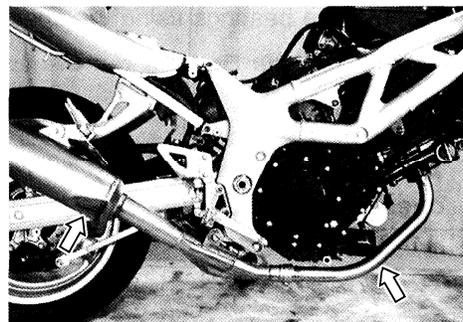




## REAR SHOCK ABSORBER AND CUSHION ROD

### REMOVAL

- Remove the front seat. (☞ 6-3)
- Remove the battery.
- Remove the fuel tank. (☞ 4-5)
- Remove the exhaust pipe/muffler. (☞ 3-6)

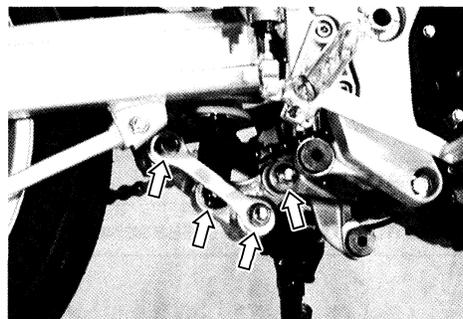


- Raise the rear wheel off the ground with a jack.

### NOTE:

- \* Be careful not to damage the engine or frame by a jack.
- \* Before raising the rear wheel off the ground with a jack, loosen each bolts of nuts.

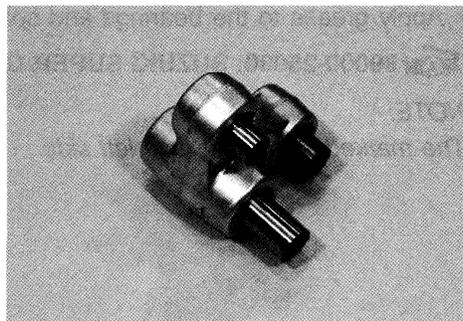
- Remove the cushion rod bolt sand nuts.
- Remove the rear shock absorber mounting bolt (Lower side).
- Remove the cushion lever.
- Remove the rear shock absorber by removing its mounting bolt (upper side).



## INSPECTION AND DISASSEMBLY

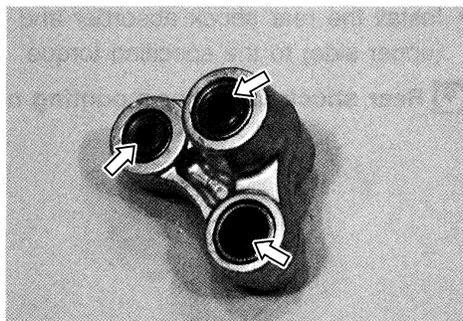
### Spacer

- Remove the spacer from the cushion lever.
- Inspect the spacers and washers for any flaws or other damage. If any defects are found, replace the spacers and washers with the new ones.



### Bearing

- Insert the spacers into each bearing and check the play to move the spacer up and down.
- If an excessive play is noted, replace the bearing with a new one.

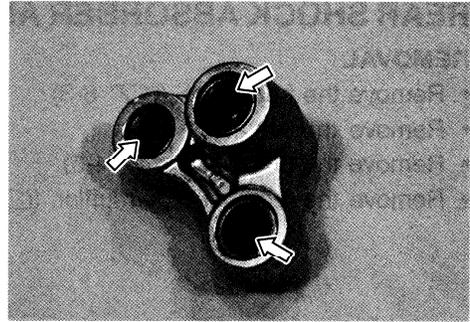


- Remove the bearings using the special tool.

 09921-20220: Bearing remover set

**▲ CAUTION**

The removed bearings must be replaced with the new ones.



**Rear shock absorber**

Inspect the rear shock absorber unit for damage and oil leakage if any defects are found, replace the rear shock absorber unit with a new one.

**▲ CAUTION**

Do not attempt to disassemble the rear shock absorber.



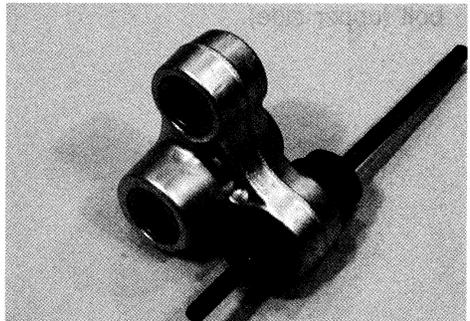
**REASSEMBLY AND REMOUNTING**

Reassemble and remount the rear shock absorber unit in the reverse order of removal and disassembly.

Pay attention to the following points:

- Install the bearings into the cushion lever using the special tool.

 09924-84521: Bearing installer set



- Apply grease to the bearings and spacers.

 99000-25030: SUZUKI SUPER GREASE "A"

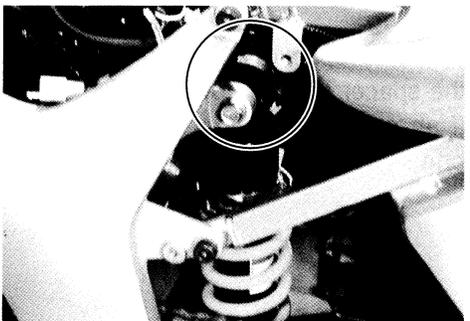
NOTE:

*The marked side must face left side.*



- Install the rear shock absorber and tighten its mounting nut (upper side) to the specified torque.

 Rear shock absorber mounting nut: 50 N·m  
(5.0 kgf·m, 36.0 lb-ft)

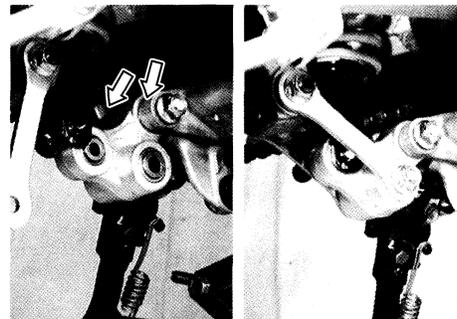


- Install the cushion lever and tighten each bolt and nut to the specified torque.

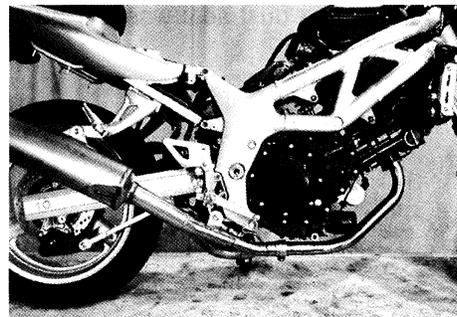
 **Rear shock absorber mounting bolt: 50 N·m**  
(5.0 kgf·m, 36.0 lb-ft)

**Rear cushion lever mounting nut: 78 N·m**  
(7.8 kgf·m, 56.5 lb-ft)

**Rear cushion rod mounting nut: 78 N·m**  
(7.8 kgf·m, 56.5 lb-ft)



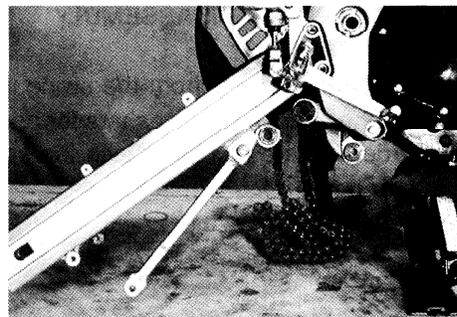
- Install the exhaust pipe/muffler. ( 3-18)
- Install the fuel tank. ( 4-6)
- Install the battery.
- Install the front and rear seat. ( 6-3)



## SWINGARM

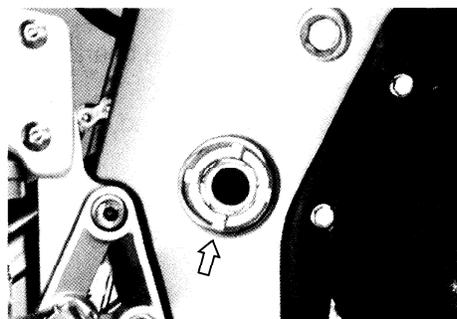
### REMOVAL

- Remove the rear brake caliper. ( 6-57)
- Remove the rear wheel. ( 6-31)
- Remove the rear shock absorber and the cushion lever. ( 6-39)
- Remove the brake hose and the torque link.

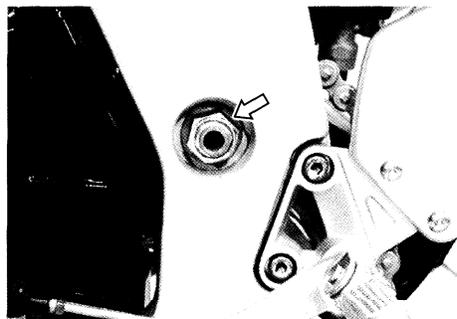


- Remove the swingarm pivot shaft lock nut using the special tool.

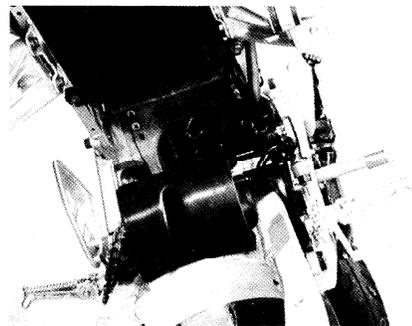
 **09940-14940: Swingarm pivot shaft lock nut socket wrench**



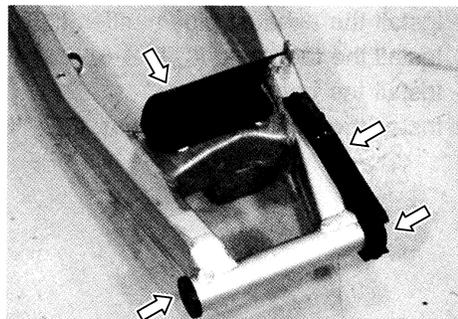
- Remove the pivot shaft nut.



- Remove the swingarm.



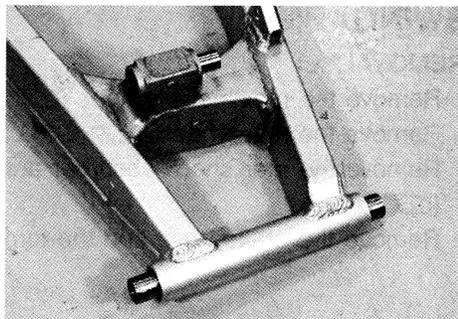
- Remove the dust seal washer, the chain buffer and the mud guard.



### INSPECTION AND DISASSEMBLY

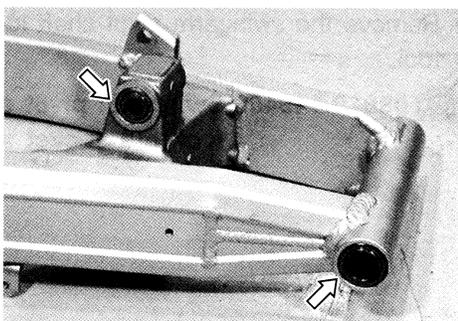
#### Spacer

- Remove the spacer from the swingarm.
- Inspect the spacers and washers for any flaws or other damage. If any defects are found, replace the spacers and washers with the new ones.



#### Bearing

Insert the spacers into each bearing and check the play to move the spacer up and down. If an excessive play is noted, replace the bearing with a new one.

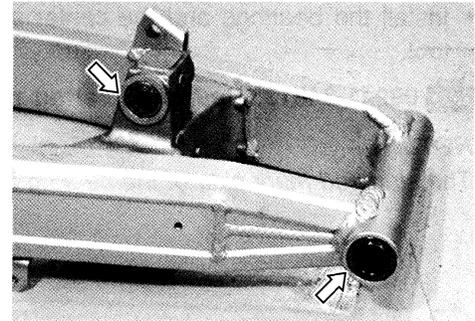


- Remove the bearings using the special tool.

**TOOL** 09921-20220: Bearing remover set

**▲ CAUTION**

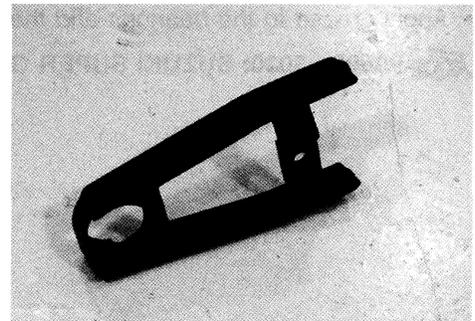
The removed bearings must be replaced with new ones.



### Chain buffer

Inspect the chain buffer for wear and damage.

If any defects are found, replace the chain buffer with a new one.

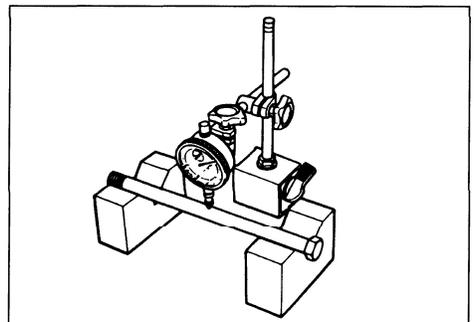


### Swingarm pivot shaft

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

**TOOL** 09900-20606: Dial gauge (1/100 mm, 10 mm)  
 09900-20701: Magnetic stand  
 09900-21304: V-block (100 mm)

**DATA** Swingarm pivot shaft runout  
 Service Limit: 0.3 mm (0.01 in)



### SWINGARM

Inspect the swingarm for damage and distortion.

### REASSEMBLY AND REMOUNTING

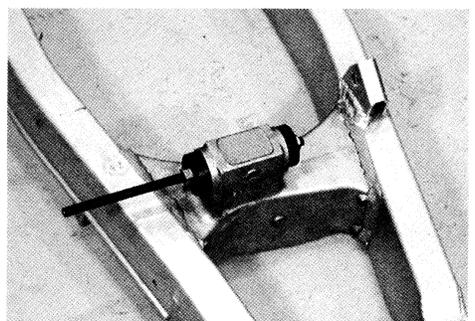
Reassemble and remount the swingarm in the reverse order of removal and disassembly. Pay attention to the following points:

- Install the bearing using the special tool.

**TOOL** 09924-84521: Bearing installer

**NOTE:**

The stamped mark side of the bearing must face to the outside.

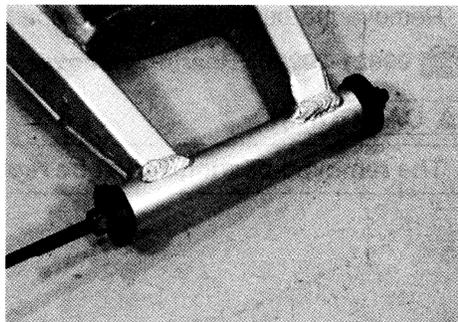


- Install the bearings and the center spacer using the special tool.

 **09941-34513: Bearing/Steering race installer**

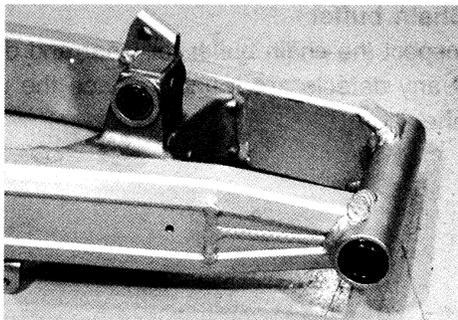
**NOTE:**

*The stamped mark side of the bearing must face to the outside.*

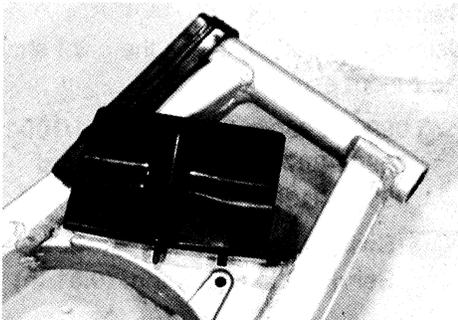


- Apply grease to the bearings and the spacers.

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



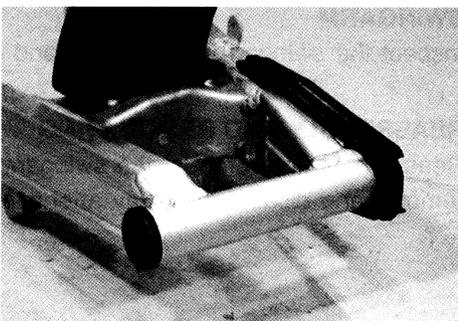
- Install the mud guard and the chain buffer.



- Apply grease to the dust seal and the washer.

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

- Install the dust seal and the washer.

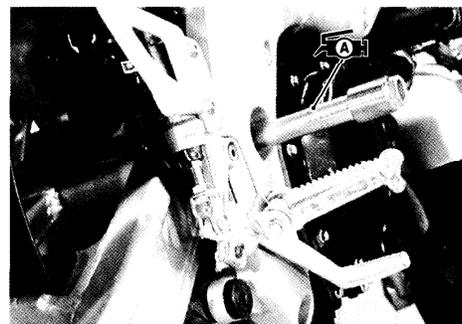


- Install the swingarm to the frame.

**NOTE:**

Apply grease to the swingarm pivot shaft before installing.

 99000-25030: SUZUKI SUPER GREASE "A"



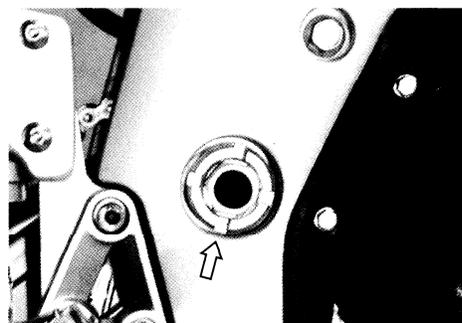
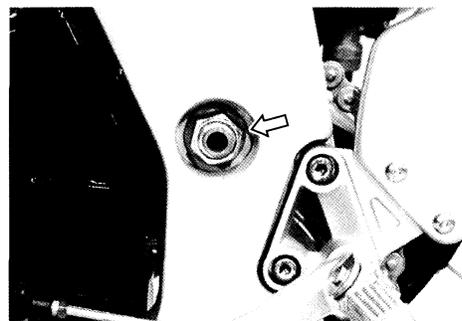
- Tighten each item in ascending order (① to ③) to the specified torque using the specified torque.

 ① Swingarm pivot shaft: 15 N·m (1.5 kgf·m, 11.0 lb-ft)

② Swingarm pivot shaft nut: 100 N·m  
(10.0 kgf·m, 72.5 lb-ft)

③ Swingarm pivot shaft lock nut: 90 N·m  
(9.0 kgf·m, 65.0 lb-ft)

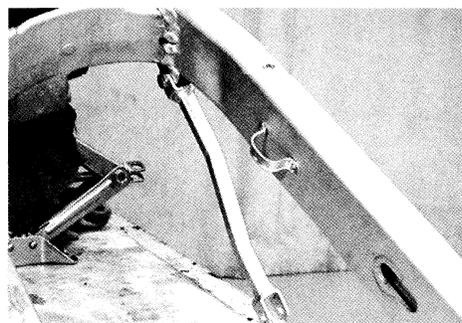
 09940-14940: Swingarm pivot shaft lock nut socket wrench



- Install the brake hose and torque link.

 Torque link nut/bolt: 35 N·m (3.5 kgf·m, 25.5 lb-ft)

- Install the rear shock absorber and cushion lever. ( 6-40)
- Install the rear wheel. ( 6-34)
- Install the rear brake caliper. ( 6-57)



## SUSPENSION SETTING

After installing the rear suspension, adjust the spring preload:

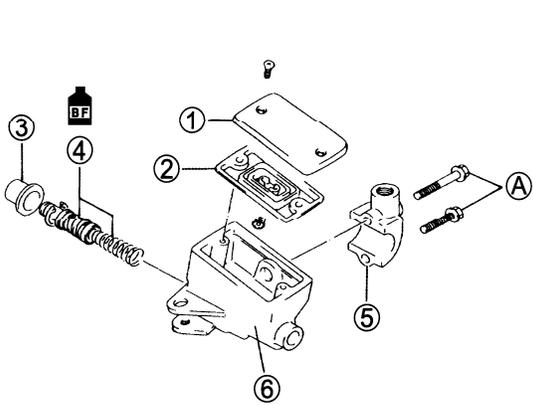
### SPRING PRE-LOAD ADJUSTMENT

Position "7" provides the stiffest spring pre-load.

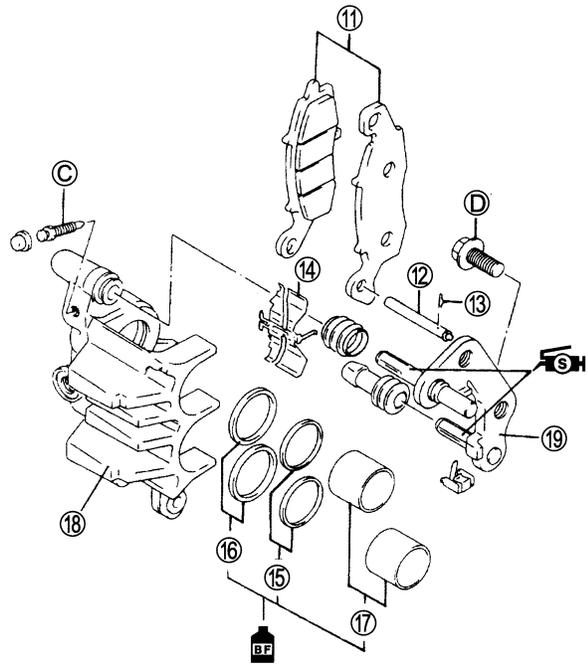
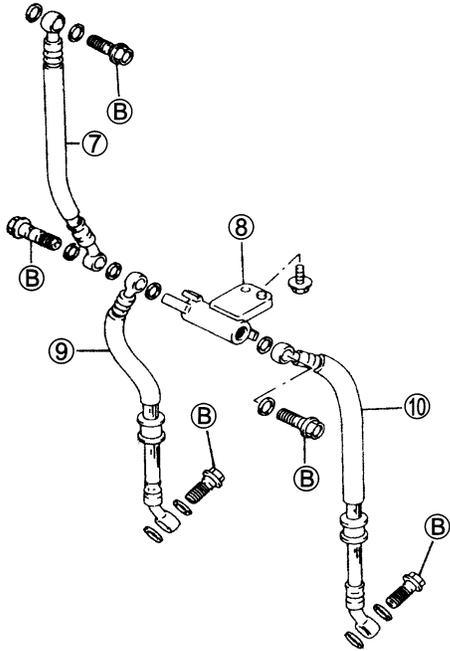
Position "1" provides the softest spring pre-load.

STD position : 2

# FRONT BRAKE CONSTRUCTION



- ① Master cylinder reservoir cap
  - ② Diaphragm
  - ③ Dust boot
  - ④ Piston/cup set
  - ⑤ Master cylinder clamp
  - ⑥ Master cylinder
  - ⑦ Brake hose #1
  - ⑧ Brake hose joint
  - ⑨ Brake hose #2 (R)
  - ⑩ Brake hose #2 (L)
  - ⑪ Brake pads
  - ⑫ Brake pad mounting pin
  - ⑬ Clip
  - ⑭ Spring
  - ⑮ Dust seal
  - ⑯ Piston seal
  - ⑰ Brake caliper pistons
  - ⑱ Brake caliper
  - ⑲ Brake caliper holder
- (A) Master cylinder clamp bolt  
 (B) Brake hose union bolt  
 (C) Air bleeder valve  
 (D) Brake caliper mounting bolt



ITEM	N·m	kgf·m	lb·ft
(A)	10	1.0	7.0
(B)	23	2.3	16.5
(C)	7.5	0.75	5.5
(D)	39	3.9	28.0

**▲ WARNING**

- \* This brake system is filled with an ethylene glycol-based DOT 4 brake fluid. Do not use or mix different types of fluid, such as silicone-based or petroleum-based fluids.
- \* Do not use any brake fluid taken from old, used or unsealed containers. Never reuse brake fluid left over from the last servicing or which has been stored for long periods of time.
- \* When storing brake fluid, seal the container completely and keep it away from children.
- \* When replenishing brake fluid, take care not to get dust into the fluid.
- \* When washing brake components, use new brake fluid. Never use cleaning solvent.
- \* A contaminated brake disc or brake pad reduces braking performance. Discard contaminated pads and clean the disc with high quality brake cleaner or a neutral detergent.

**▲ CAUTION**

Handle brake fluid with care: the fluid reacts chemically with paint, plastics, rubber materials etc..

**BRAKE FLUID REPLACEMENT**

- Place the motorcycle on a level surface and keep the handlebars straight.
- Remove the brake fluid reservoir cap and diaphragm by removing the cap stopper.
- Suck up the old brake fluid as much as possible.
- Fill the reservoir with new brake fluid.

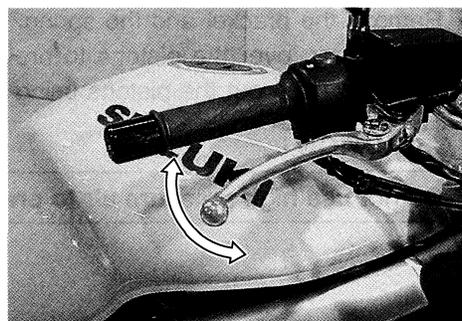
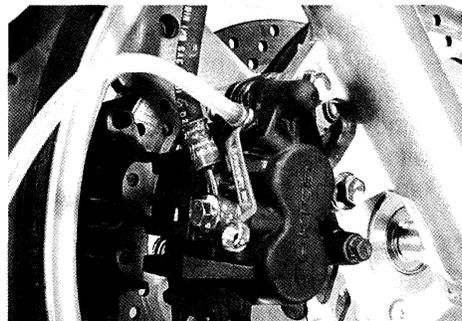
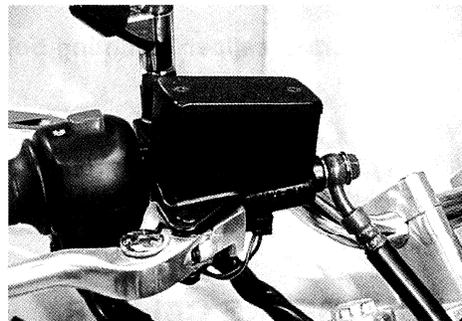
**DATA Brake fluid type**

**Specification: DOT 4**

- Connect a cleaner hose to the caliper air bleeder valve and insert the other end of hose into a receptacle.
- Loosen the air bleeder valve and pump the brake lever until old brake fluid flows out of the bleeder system.
- Close the caliper air bleeder valve and disconnect a clear hose. Fill the reservoir with new brake fluid to the upper mark of the reservoir.

**▲ CAUTION**

Bleed air from the brake system. (🔧 2-24)



## BRAKE PAD REPLACEMENT

- Remove the brake caliper.

**NOTE:**

Before removing the brake pads, push the piston all the way into the caliper to facilitate later replacement.

- Remove the brake pads by removing the clip and pad mounting pin.

**▲ CAUTION**

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

- Install the new brake pads.

**NOTE:**

Install the pad shim to the piston side brake pad.

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

**🔧 Front brake caliper mounting bolt: 39 N·m (3.9 kgf·m, 28.0 lb-ft)**

**NOTE:**

After replacing the brake pads, pump the brake lever few times to check for proper brake operation and then check the brake fluid level.

## FRONT BRAKE CALIPER

### REMOVAL AND DISASSEMBLY

- Drain brake fluid. (🔧 6-47)
- Remove the brake hose from the caliper by removing the union bolt and catch the brake fluid in a suitable receptacle.
- Remove the brake caliper by removing the caliper mounting bolts.
- Remove the brake pad.

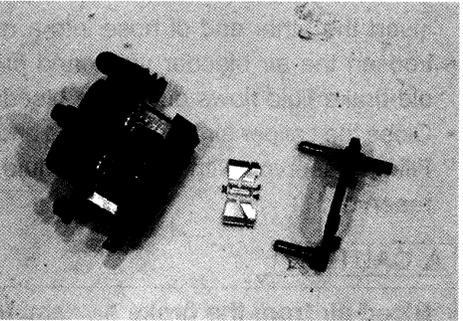
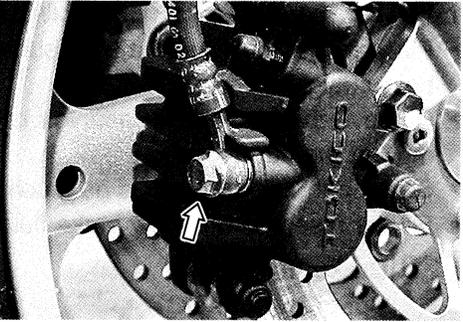
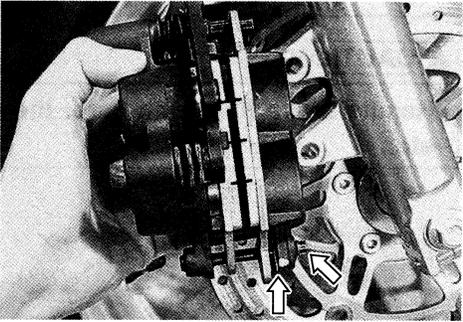
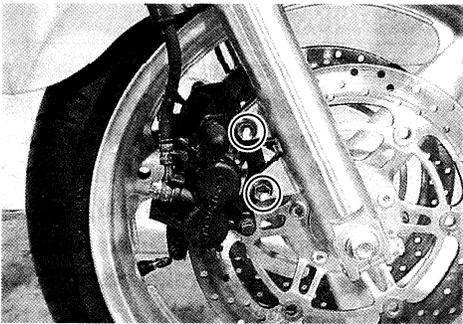
**NOTE:**

Place a rag underneath the union bolt on the brake caliper to catch any split brake fluid.

- Remove the bracket and the spring.
- Place a rag over the pistons to prevent it from popping out and then force out the pistons using compressed air.

**▲ CAUTION**

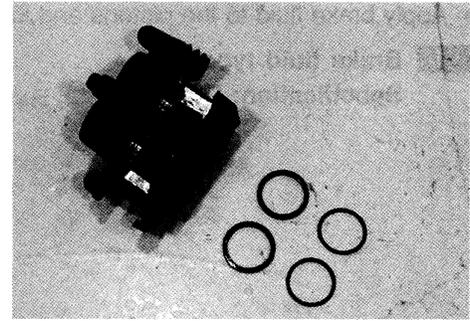
**Do not use high pressure air to prevent piston damage.**



- Remove the dust seal and piston seal.

**▲ CAUTION**

- \* Be careful not to scratch the caliper cylinder bore.
- \* Do not reuse the dust seal and piston seal to prevent fluid leakage.

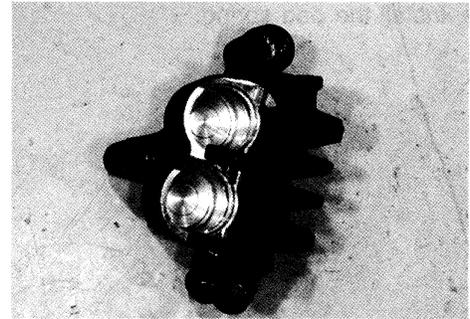


**BRAKE CALIPER INSPECTION**

- Inspect the brake caliper cylinder wall for nicks, scratches or other damage.

**BRAKE CALIPER PISTON INSPECTION**

- Inspect the brake caliper piston surface for any scratches or other damage.



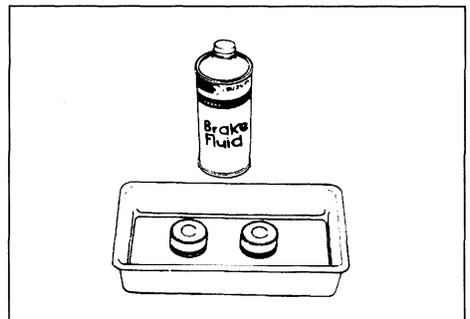
**REASSEMBLY**

- Wash the caliper bores and pistons with specified brake fluid. Particularly wash the dust seal grooves and piston seal grooves.

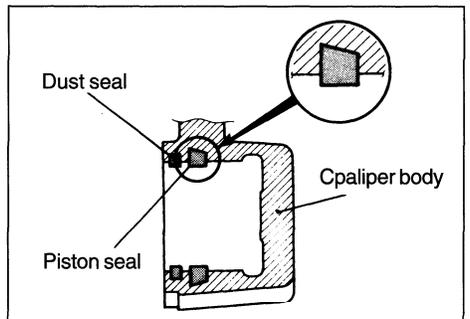
**DATA** Brake fluid type  
Specification: DOT 4

**▲ CAUTION**

- \* Wash the caliper components with fresh brake fluid before reassembly.
- \* Do not wipe the brake fluid off after washing the components.
- \* When washing the components, use the specified brake fluid. Never use different types of fluid or cleaning solvent such as gasoline, kerosene or the others.
- \* Replace the piston seals and dust seals with new ones when reassembly. Apply the brake fluid to both seals when installing them.

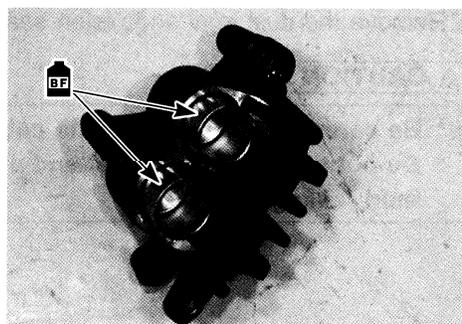


- Install the piston seal and dust seal into the caliper cylinder grooves as shown.

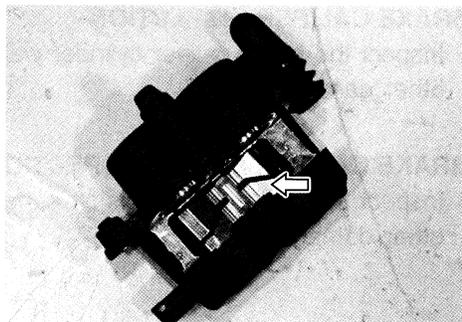


- Apply brake fluid to the pistons and install them to the caliper.

**DATA** Brake fluid type  
Specification: DOT 4

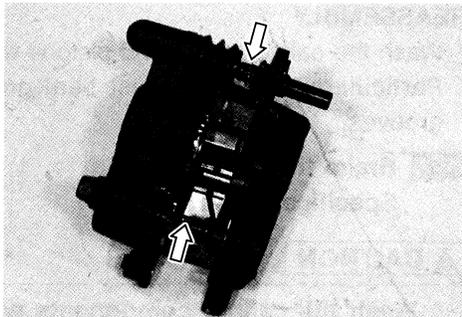


- Install the pad spring.



- Apply silicone grease to the brake caliper holder slide pins and install it to the caliper.

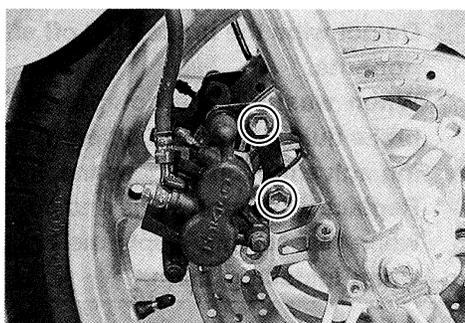
**SH** 99000-25100: SUZUKI SILICONE GREASE



### REMountING

- Install the brake pads. (☞ 6-48)
- Install the brake calipers and tighten its mounting bolts to the specified torque.

**U** Front brake caliper mounting bolt: 39 N·m  
(3.9 kgf·m, 28.0 lb-ft)

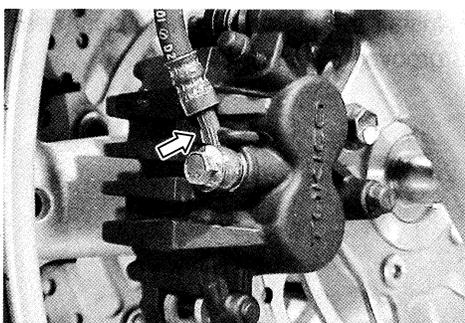


- Install the brake hose. (☞ 8-20)
- After touching the brake hose union to the stopper, tighten the union bolt to the specified torque.

**U** Brake hose union bolt: 23 N·m (2.3 kgf·m, 16.5 lb-ft)

### CAUTION

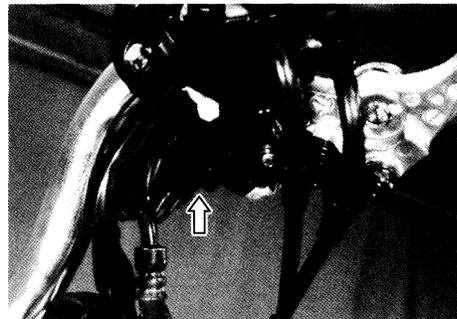
- \* Use new seal washers to prevent fluid leakage.
- \* Bleed air from the system after reassembling the caliper. (☞ 2-24)



## FRONT MASTER CYLINDER

### REMOVAL AND DISASSEMBLY

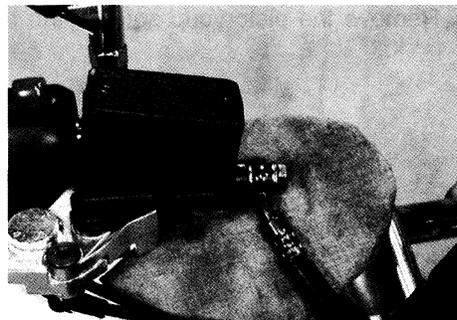
- Drain brake fluid. (☞ 6-47)
- Disconnect the brake light switch lead wire.



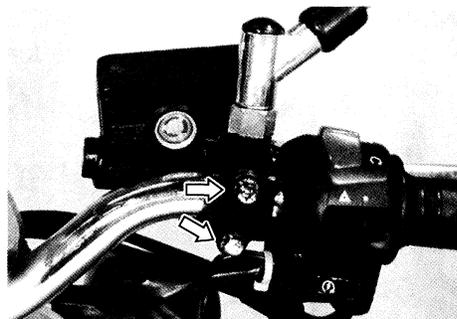
- Place a rag underneath the brake hose union bolt on the master cylinder to catch any split brake fluid. Remove the brake hose union bolt and disconnect the brake hose.

#### ▲ CAUTION

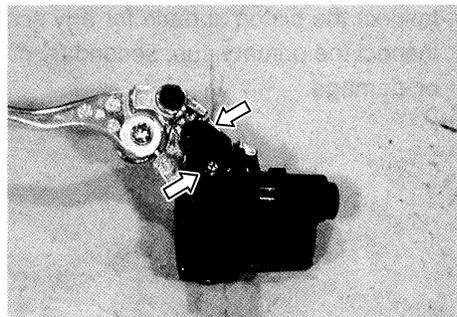
**Immediately wipe off any brake fluid contacting any part of the motorcycle. The brake fluid reacts chemically with paint, plastics and rubber materials, etc., and will damage them severely.**



- Remove the master cylinder.



- Remove the brake lever and the brake light switch.

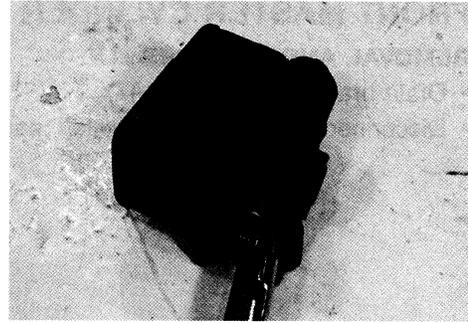


- Remove the dust boot.

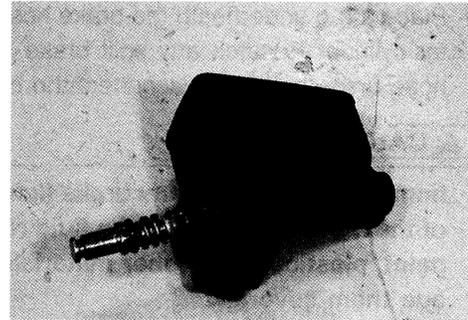


- Remove the circlip.

 09900-06108: Snap ring pliers

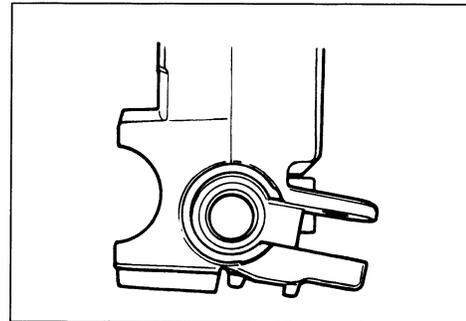


- Remove the piston/cup set and the return spring.

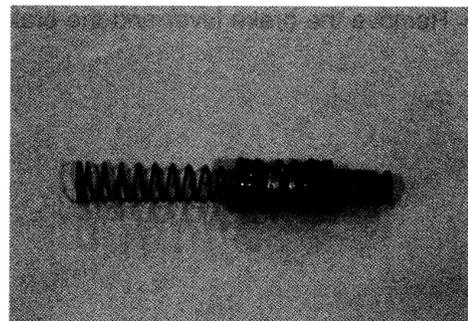


### INSPECTION

- 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 boot for wear or damage.



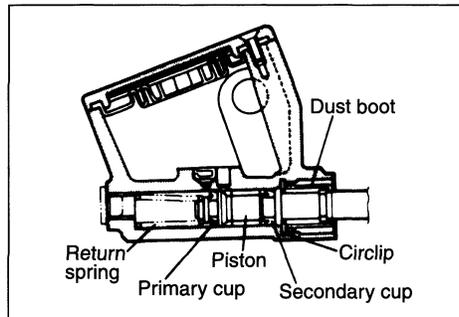
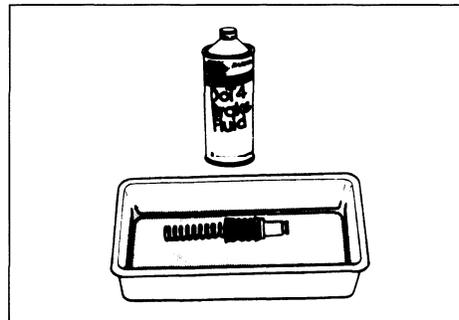
**REASSEMBLY AND REMOUNTING**

Reassemble 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.
- \* Do not wipe the components with a rag.
- \* Apply brake fluid to the cylinder bore and all the component to be inserted into the bore.

- Install the piston/cup set into the master cylinder.

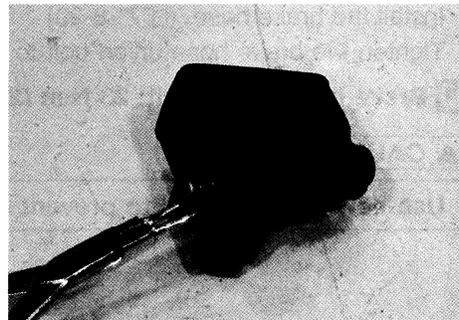


- Install the circlip.

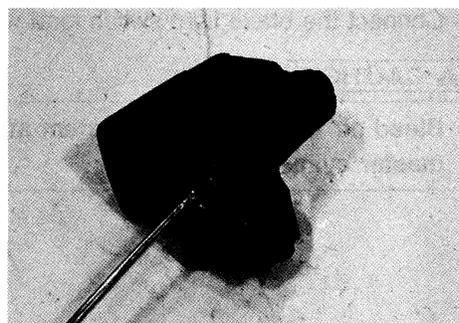
**TOOL** 09900-06108: Snap ring pliers

**▲ CAUTION**

The round edge side of the circlip must be against to inside.



- Install the dust boot.



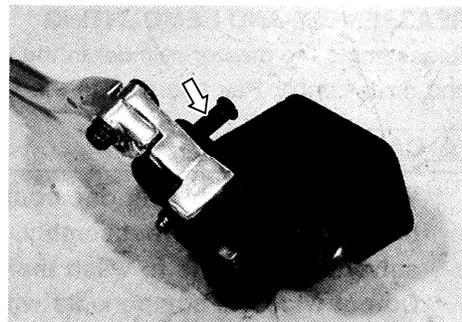
- Install the brake lever and the brake light switch.

**NOTE:**

\* Apply grease to the brake lever pivot bolt when installing.

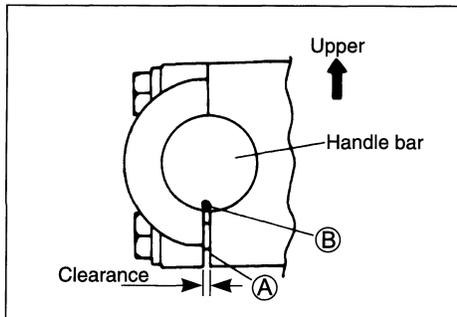
 **99000-25030: SUZUKI SUPER GREASE "A"**

\* Align the projection on the brake light switch with the hole on the master cylinder.



- When remounting the brake master cylinder onto the handlebar, align the master cylinder holder's mating surface (A) with punched mark (B) on the handlebar and tighten the upper clamp bolt first as shown.

 **Front brake master cylinder mounting bolt: 10 N·m (1.0 kgf·m, 7.0 lb-ft)**



- Install the brake hose. ( 8-20)
- Tighten the brake hose union bolt to the specified torque.

 **Brake hose union bolt: 23 N·m (2.3 kgf·m, 16.5 lb-ft)**

**CAUTION**

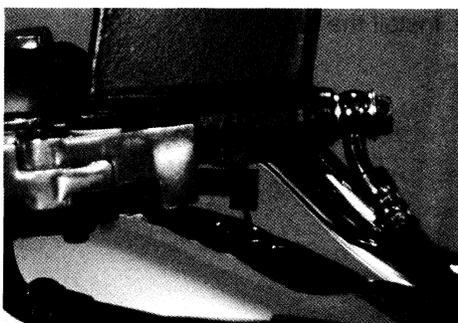
Use new seal washers to prevent fluid leakage.



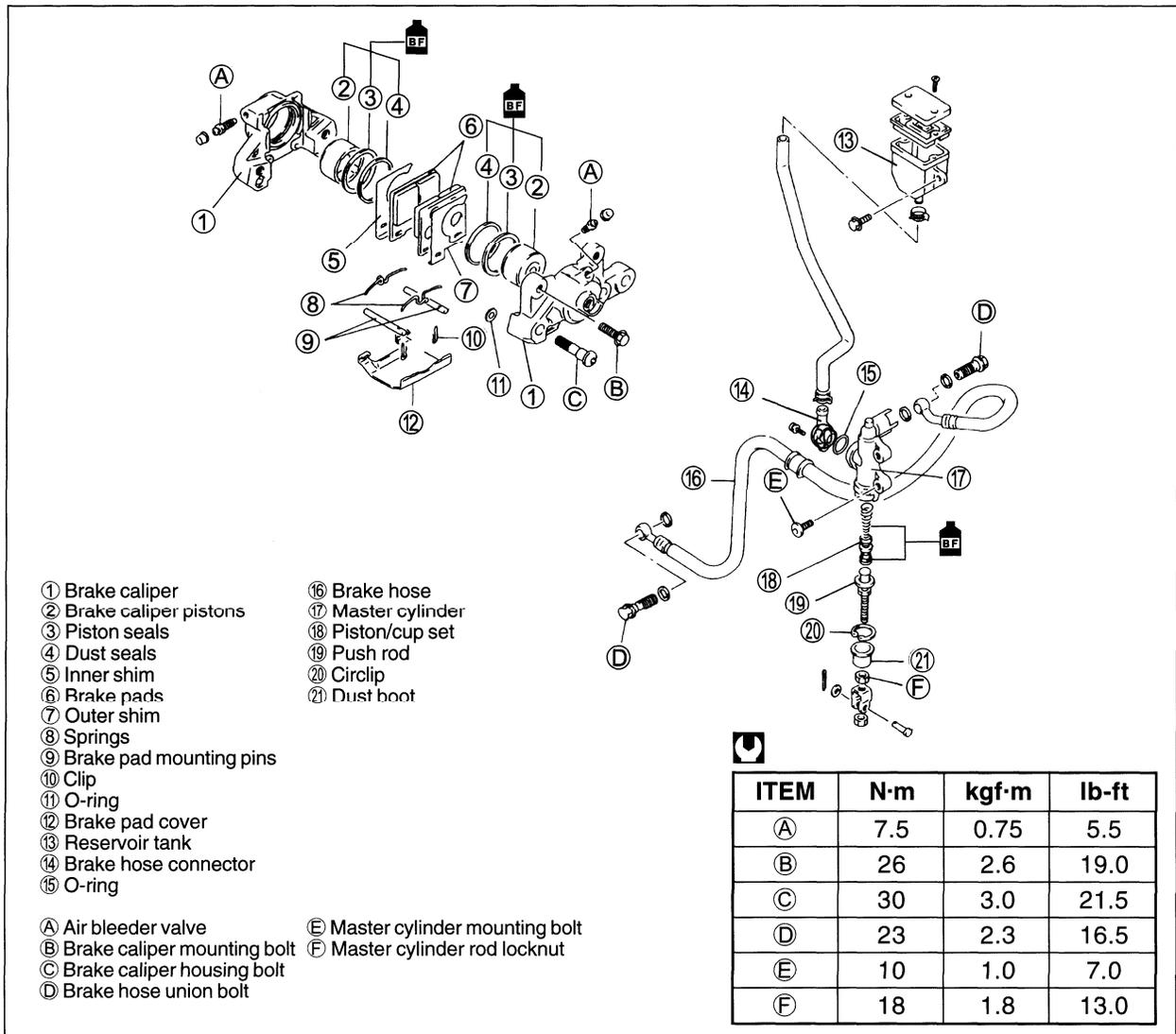
- Connect the brake light switch lead wire.

**CAUTION**

Bleed air from the brake system after reassembling the master cylinder. ( 2-24)



## REAR BRAKE CONSTRUCTION



### ⚠ WARNING

- \* This brake system is filled with an ethylene glycol-based DOT 4 brake fluid. Do not use or mix different types of fluid, such as silicone-based or petroleum-based brake fluids.
- \* Do not use any brake fluid taken from old, used or unsealed containers. Never reuse brake fluid left over from the last servicing or which has been stored for long periods of time.
- \* When storing brake fluid, seal the container completely and keep it away from children.
- \* When replenishing brake fluid, take care not to get dust into the fluid.
- \* When washing brake components, use new brake fluid. Never use cleaning solvent.
- \* A contaminated brake disc or brake pad reduces braking performance. Discard contaminated pads and clean the disc with high quality brake cleaner or a neutral detergent.

### ⚠ CAUTION

Handle brake fluid with care: the fluid reacts chemically with paint, plastics, rubber materials etc..

## BRAKE FLUID REPLACEMENT

- Remove the front and rear seats. (👉 6-3)
- Remove the seat tail cover. (👉 6-4)
- Remove the master cylinder reservoir cap and diaphragm.
- Suck up the old brake fluid as much as possible.
- Fill the reservoir with new brake fluid.

**DATA** Brake fluid type  
Specification: DOT 4

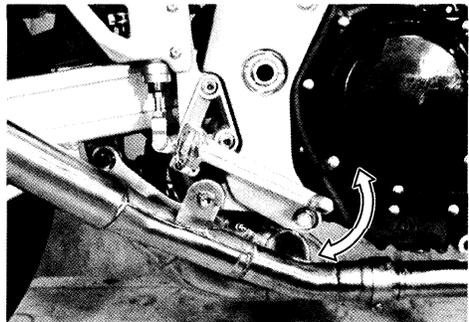
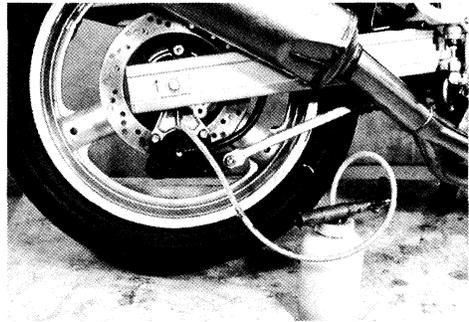
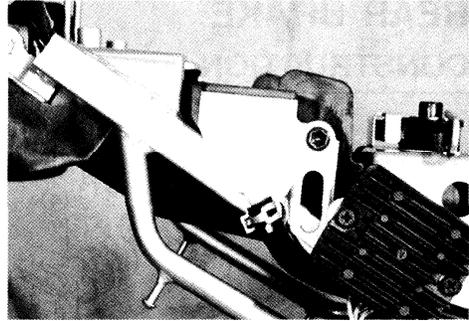
- Connect a clear hose to the air bleeder valve and insert the other end of the hose into a receptacle.
- Loosen the air bleeder valve and pump the brake pedal until the old brake fluid is completely out of the brake system.
- Close the air bleeder valve and disconnect the clear hose. Fill the reservoir with new brake fluid to the upper end of the inspection window.

### NOTE:

*Bleed air from the back side air bleeder valve in the same manner of the front side one.*

### ▲ CAUTION

Bleed air from the brake system. (👉 2-24)

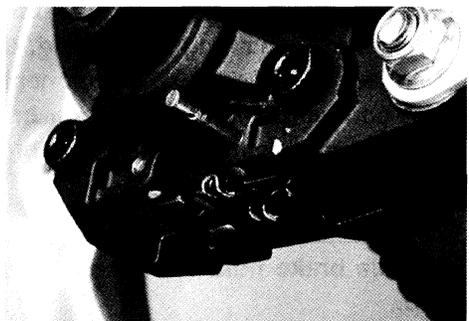


## BRAKE PAD REPLACEMENT

- Remove the brake pad cover.

### NOTE:

*Push the pistons all the way into the brake caliper to facilitate new brake pad installation.*



- Remove the clip.
- Remove the brake pads along with the shims by removing the brake pad mounting pins and springs.

**▲ CAUTION**

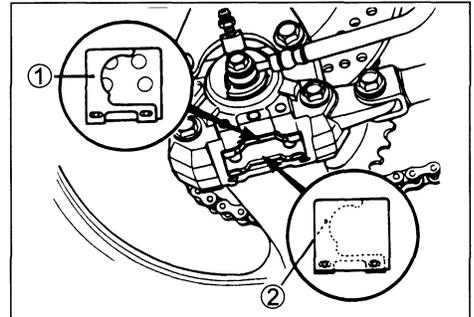
- \* Do not operate the brake pedal while dismantling the pads.
- \* Replace the brake pads as a set, otherwise braking performance will be adversely affected.



- Install the new brake pads and shims.

**▲ CAUTION**

Be sure to install the shims ①, ② properly as shown.



**NOTE:**

After replacing the brake pads, pump the brake pedal few times to operate the brake correctly and then check the brake fluid level.

## REAR BRAKE CALIPER

### REMOVAL AND DISASSEMBLY

- Remove the union bolt and catch the brake fluid in a suitable receptacle.

**▲ CAUTION**

Never reuse the brake fluid left over from previous servicing and stored for long periods.

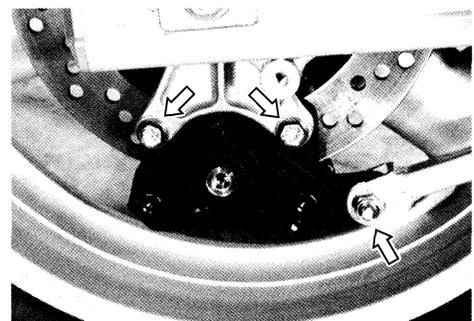
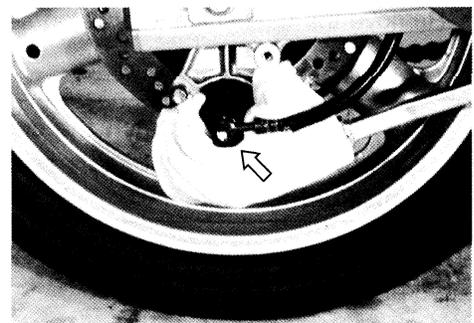
**▲ WARNING**

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

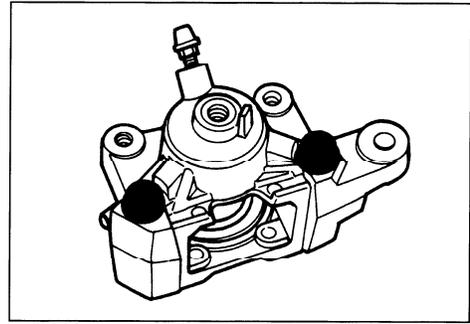
- Remove the brake caliper mounting bolts and torque link bolt.

**NOTE:**

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



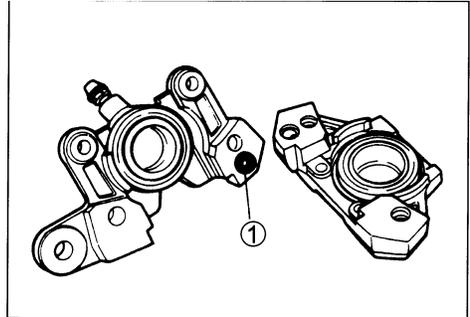
- Remove the brake pads. (➡ 6-56)
- Remove the caliper housing bolts.
- Separate the caliper halves.



- Remove the O-ring ①.

**▲ CAUTION**

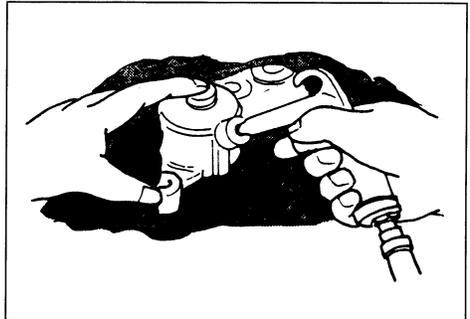
Replace the O-ring with a new one.



- Place a rag over the piston to prevent it from popping out and then force out the pistons using compressed air.

**▲ CAUTION**

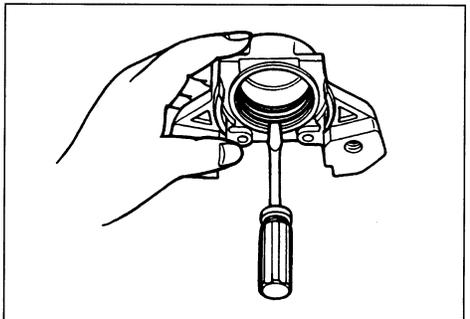
Do not use high pressure air to prevent piston damage.



- Remove the dust seals and piston seals.

**▲ CAUTION**

- \* Be careful not to scratch the caliper cylinder bore.
- \* Do not reuse the dust seals and piston seals to prevent fluid leakage.

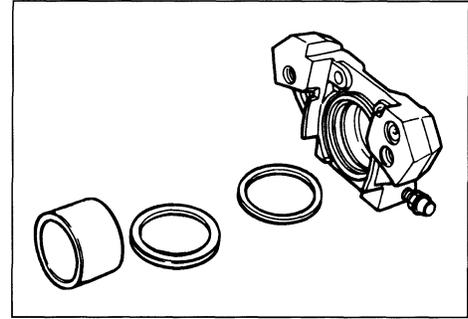


**BRAKE CALIPER INSPECTION**

- Inspect the brake caliper cylinder wall for nicks, scratches or other damage.

**BRAKE CALIPER PISTON INSPECTION**

- Inspect the brake caliper piston surface for any scratches or other damage.

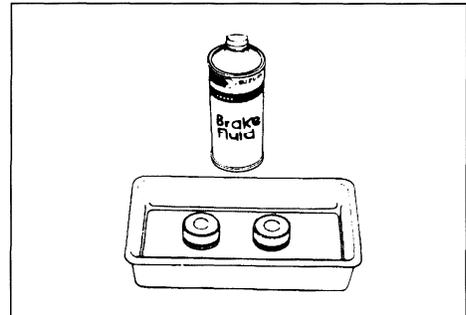
**REASSEMBLY**

- Wash the caliper bores and pistons with specified brake fluid. Particularly wash the dust seal grooves and piston seal grooves.

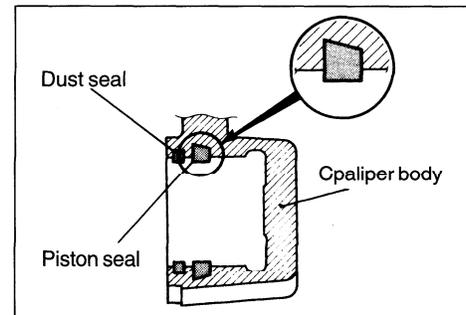
**DATA** Brake fluid type  
Specification: DOT 4

**CAUTION**

- \* Wash the caliper components with fresh brake fluid before reassembly.
- \* Do not wipe the brake fluid off after washing the components.
- \* When washing the components, use the specified brake fluid. Never use different types of fluid or cleaning solvent such as gasoline, kerosene or the others.
- \* Replace the piston seals and dust seals with new ones when reassembly. Apply the brake fluid to both seals when installing them.

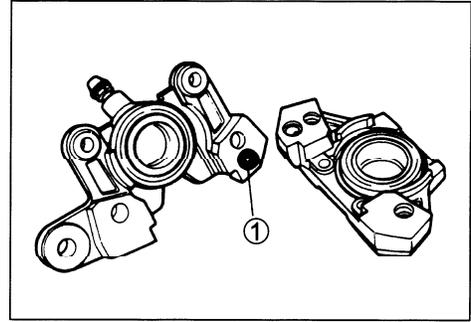


- Install the piston seal and dust seal into the caliper cylinder grooves as shown.



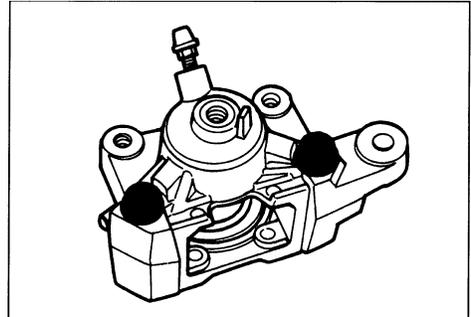
- Install the O-ring ①.
- Apply brake fluid to the pistons and install them to the caliper.

**DATA** Brake fluid type  
Specification: DOT 4



- Tighten the brake caliper housing bolt to the specified torque.

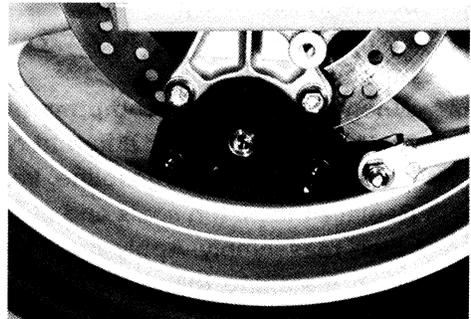
**🔧** Brake caliper housing bolt: 30 N·m (3.0 kgf·m, 21.5 lb-ft)



### REMountING

- Install the brake pads. (👉 6-56)
- Install the brake calipers and tighten its mounting bolts and torque link nut to the specified torque.

**🔧** Rear brake caliper mounting bolt: 26 N·m  
(2.6 kgf·m, 19.0 lb-ft)  
Torque link nut: 35 N·m (3.5 kgf·m, 25.5 lb-ft)

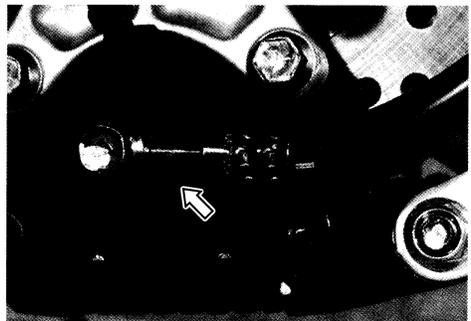


- Install the brake hose. (👉 8-21)
- After touching the brake hose union to the stopper, tighten the union bolt to the specified torque.

**🔧** Brake hose union bolt: 23 N·m (2.3 kgf·m, 16.5 lb-ft)

### ⚠ CAUTION

- \* Use new seal washers to prevent fluid leakage.
- \* Bleed air from the system after reassembling the caliper. (👉 2-24)



## REAR MASTER CYLINDER

### REMOVAL AND DISASSEMBLY

- Drain brake fluid. (🔧 6-56)
- Remove the brake hose connector and the O-ring.

#### ⚠ CAUTION

Replace the O-ring with a new one.

- Place a rag underneath the brake hose union bolt on the master cylinder to catch any spilt brake fluid. Remove the brake hose union bolt and disconnect the brake hose.

#### ⚠ CAUTION

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

- Remove the cotter pin, the washer and the pin.

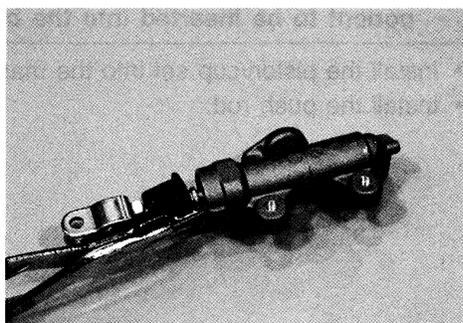
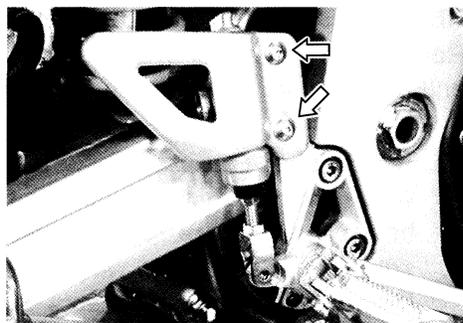
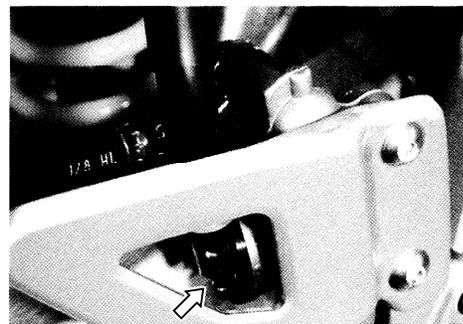
#### ⚠ CAUTION

Replace the cotter pin with a new one.

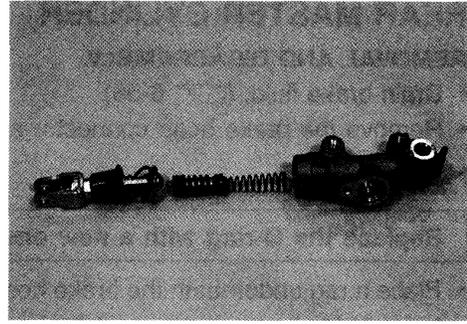
- Remove the master cylinder and the footrest plate by removing the mounting bolts and push rod.

- Pull the dust boot out and remove the circlip.

 09900-06108: Snap ring pliers

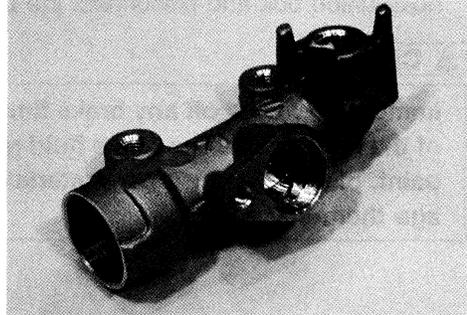


- Remove the push rod, piston cup set and the return spring.



**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/secondary cup and all of the rubber parts for damage.



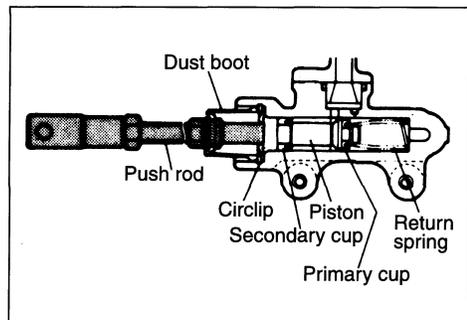
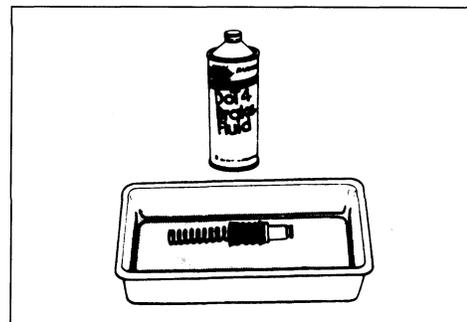
**REASSEMBLY AND REMOUNTING**

Reassemble 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.
- \* Do not wipe the components with a rag.
- \* Apply brake fluid to the cylinder bore and all the component to be inserted into the bore.

- Install the piston/cup set into the master cylinder.
- Install the push rod.



- Install the circlip.

 09900-06108: Snap ring pliers

**▲ CAUTION**

The round edge side of the circlip must be against to inside.

- Install the dust boot.

- Tighten the rear brake master cylinder mounting bolts to the specified torque.

 **Rear brake master cylinder mounting bolt: 10 N·m (1.0 kgf·m, 7.0 lb-ft)**

- Install the pin, the washer and the cotter pin.

- After touching the brake hose union to the stopper, tighten the union bolt to the specified torque.

 **Brake hose union bolt: 23 N·m (2.3 kgf·m, 16.5 lb-ft)**

**▲ CAUTION**

Use new seal washers to prevent fluid leakage.

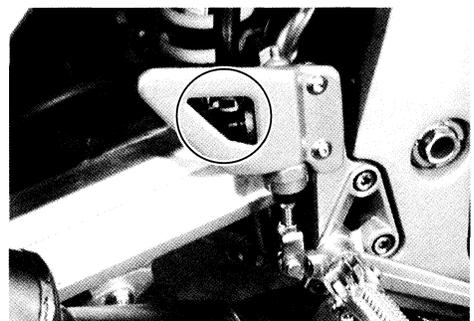
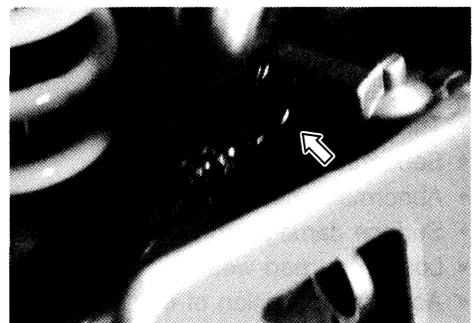
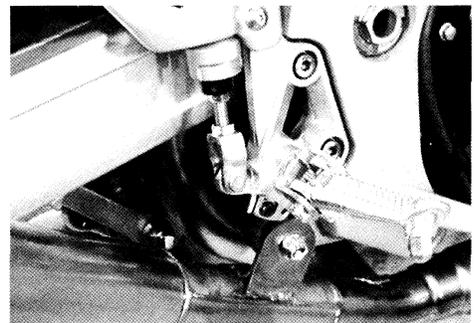
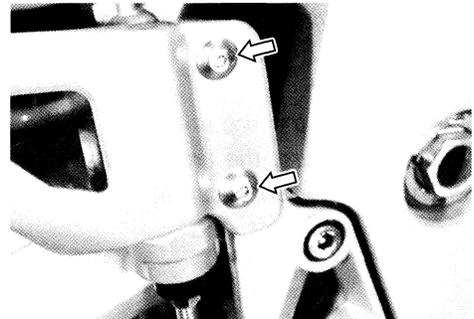
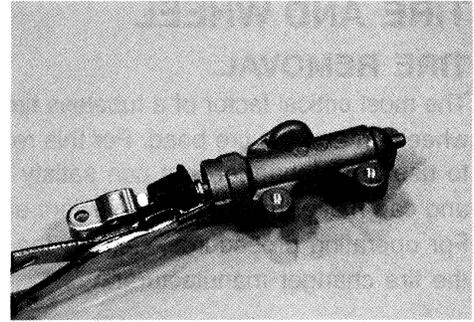
- Install the brake hose connector.

**▲ CAUTION**

Use a new O-ring to prevent the fluid leakage.

**▲ CAUTION**

Bleed air from the brake system after reassembling the master cylinder. (☞ 2-24)



## TIRE AND WHEEL

### TIRE REMOVAL

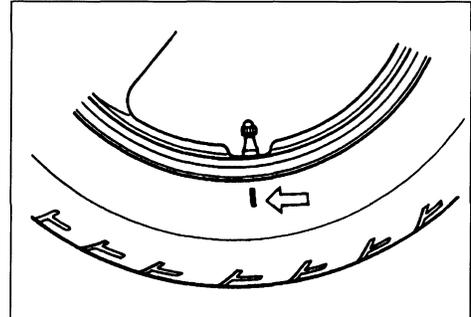
The most critical factor of a tubeless tire is the seal between the wheel rim and the tire bead. For this reason, it is recommended to use a tire changer that can satisfy this sealing requirement and can make the operation efficient as well as functional.

For operating procedures, refer to the instructions supplied by the tire changer manufacturer.

#### NOTE:

*When removing the tire in the case of repair or inspection, mark the tire with a chalk to indicate the tire position relative to the valve position.*

*Even though the tire is refitted to the original position after repairing puncture, the tire may have to be balanced again since such a repair can cause imbalance.*

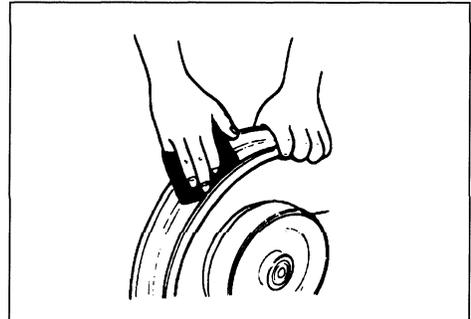


### INSPECTION

#### WHEEL INSPECTION

Wipe the wheel clean and check for the following:

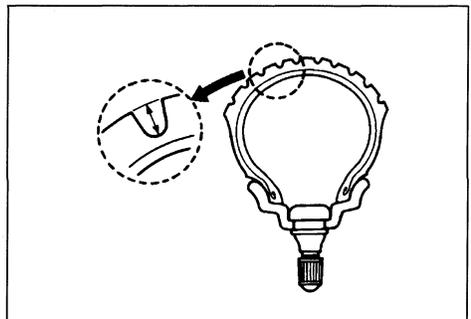
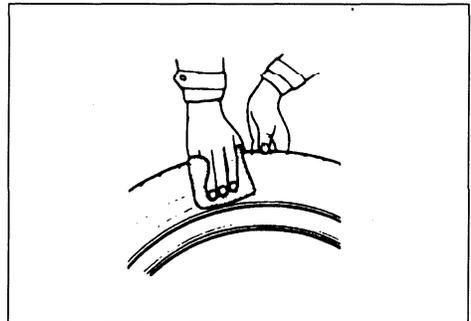
- Distortion and crack
- Nick or scratch on bead
- Wheel rim runout: Limit 2.0 mm (Axial and Radial)



#### TIRE INSPECTION

Tire must be checked for the following points:

- Nick and rupture on side wall
- Thread remaining depth
- Separation of cord
- Abnormal, uneven wear on tread
- Surface damage on bead
- Localized tread wear due to skidding (Flat spot)
- Abnormal condition of inner liner

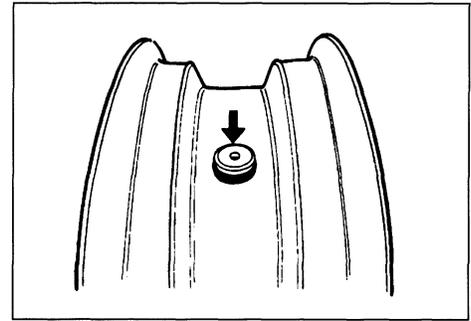


**VALVE INSPECTION**

Inspect the valve after the tire is removed from the rim.  
Replace the valve with a new one if the seal rubber is peeling or has damage.

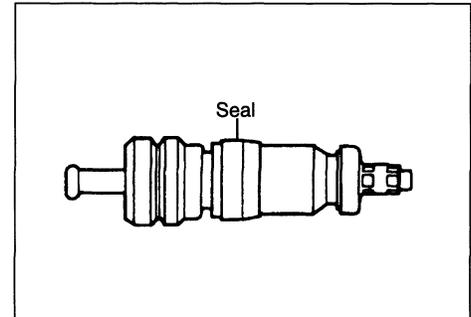
**NOTE:**

*If the external appearance of the valve shows no abnormal condition, removing of the valve is not necessary.*



Inspect the valve core.

If the seal has abnormal deformation, replace the valve with a new one.

**VALVE INSTALLATION**

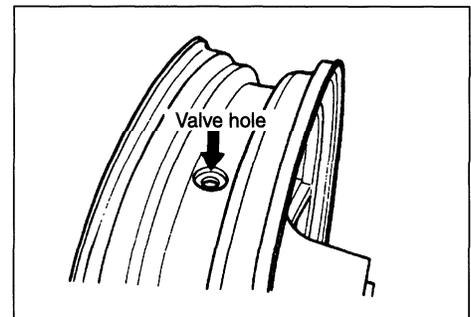
Any dust or rust around the valve hole must be cleaned off.  
Then install the valve in the rim.

**NOTE:**

*To properly install the valve into the valve hole, apply a special tire lubricant or neutral soapy liquid to the valve.*

**▲ CAUTION**

**Be careful not to damage the lip of valve.**

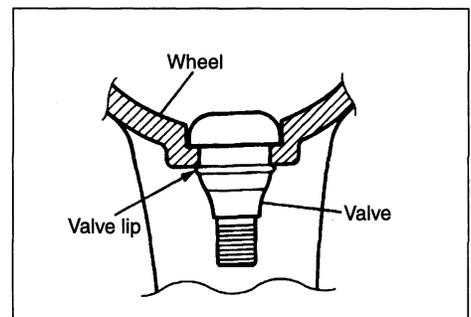
**TIRE INSTALLATION**

- Apply tire lubricant to the tire bead.
- When installing the tire onto the wheel, observe the following points.

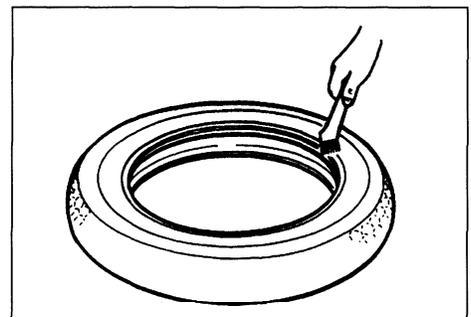
**▲ CAUTION**

**Do not reuse the valve which has been once removed.**

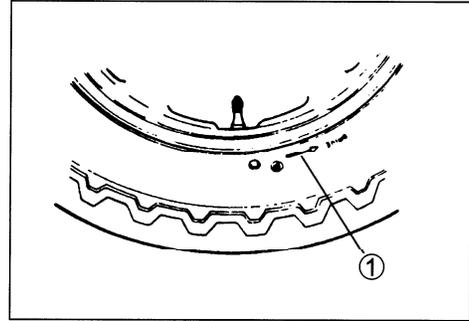
- The tire is designed to have specified rotational direction.

**▲ CAUTION**

**Never use oil, grease or gasoline on the tire bead in place of tire lubricant.**



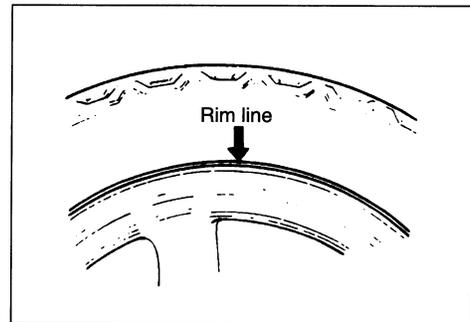
- When installing the tire, the arrow ① on the side wall should point the direction of wheel rotation.
- Align the chalk mark put on the tire at the time of removal with the valve position.



- For installation procedure of tire onto the wheel, follow the instructions given by the tire changer manufacturer.
- Bounce the tire several times while rotating. This makes the tire bead expand outward to contact the wheel, thereby facilitating air inflation.
- Pump up the tire with air.

**▲ WARNING**

- \* Do not inflate the tire to more than 400 kPa (4.0 kgf/cm<sup>2</sup>). If inflated beyond this limit, the tire can burst and possibly cause injury. Do not stand directly over the tire while inflating.
- \* In the case of preset pressure air inflator, pay special care for the set pressure adjustment.



- In this condition, check the “rim line” cast on the tire side walls. The line must be equidistant from the wheel rim all around. If the distance between the rim line and wheel rim varies, this indicates that the bead is not properly seated. If this is the case, deflate the tire completely and unseat the bead for both sides. Coat the bead with lubricant and fit the tire again.
- When the bead has been fitted properly, inflate air and adjust the pressure to specification.
- As necessary, adjust the tire balance.

**▲ CAUTION**

**Do not run with a repaired tire at a high speed.**

**DATA Cold inflation tire pressure**

	Front	Rear
Solo riding	225 kPa (2.25 kgf/cm <sup>2</sup> , 33 psi)	250 kPa (2.50 kgf/m <sup>2</sup> , 36 psi)
Dual riding	225 kPa (2.25 kgf/cm <sup>2</sup> , 33 psi)	250 kPa (2.50 kgf/m <sup>2</sup> , 36 psi)