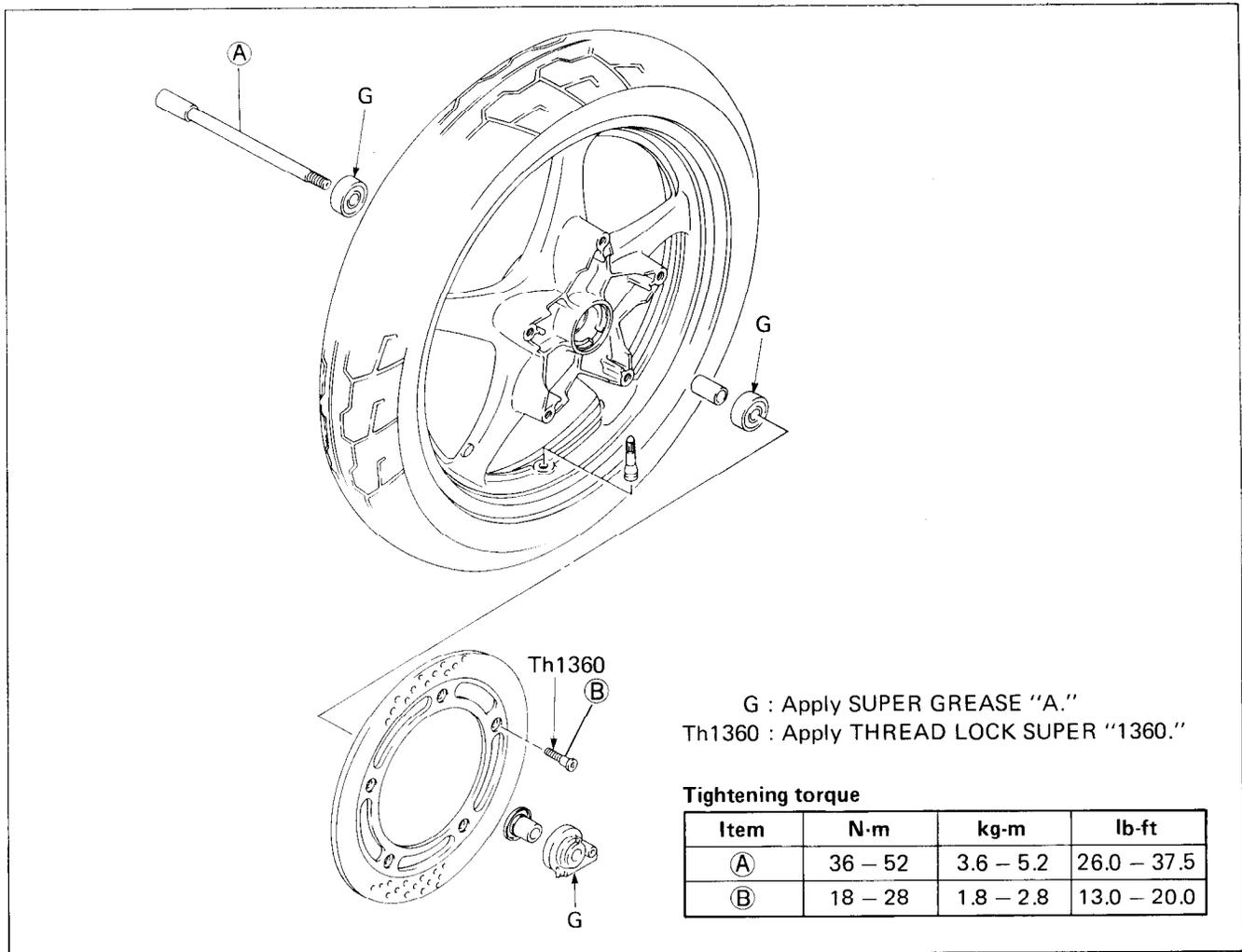


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FRONT WHEEL



REMOVAL

1. Support the motorcycle with the center stand and a jack.
2. Loosen the axle pinch bolt.

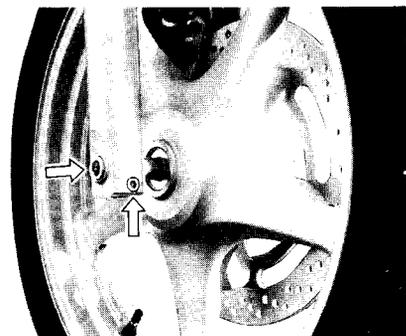
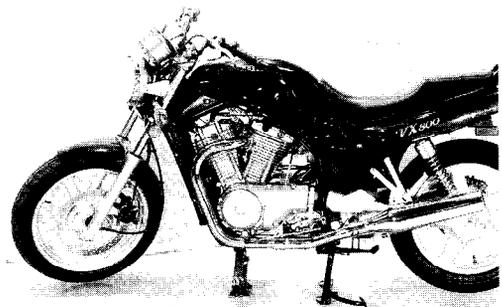
09900-00410 : Hexagon wrench set

3. Remove the axle shaft and the front wheel.

09900-18710 : 12 mm hexagon socket

CAUTION:

Do not operate the brake lever while dismounting the front wheel.



INSPECTION AND DISASSEMBLY

SPEEDOMETER GEAR BOX DUST SEAL

Inspect the lip of dust seal for damage.

TIRE

Refer to page 8-31.



WHEEL BEARINGS

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

To remove the wheel bearings, use the special tool in the following procedures:

09941-50110 : Bearing remover

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

CAUTION:

The removed bearings should be replaced with new ones.

AXLE SHAFT

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

09900-20606 : Dial gauge (1/100)

09900-20701 : Magnetic stand

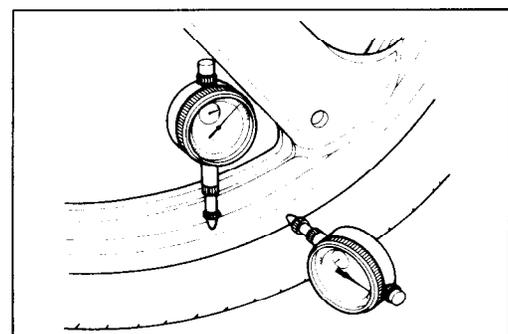
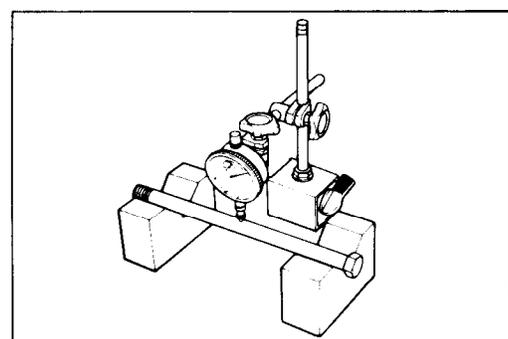
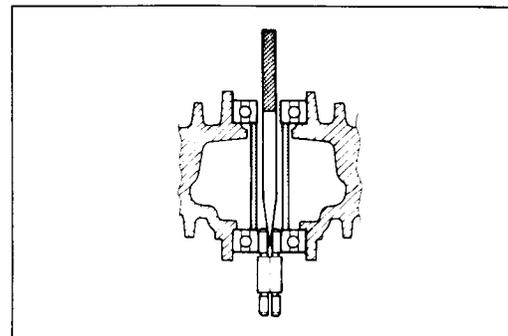
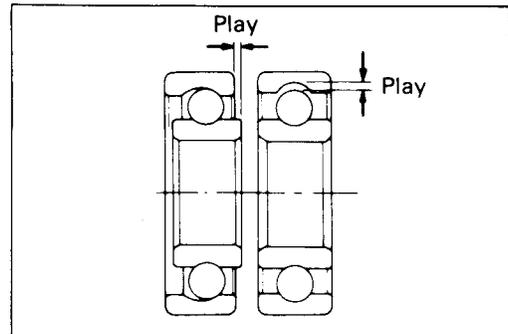
09900-21304 : V-block set (100 mm)

Service limit : 0.25 mm (0.010 in)

WHEEL

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

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



REASSEMBLY AND REMOUNTING

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

WHEEL BEARING

- Apply grease to the bearing before installing.

(For U.S.A. model)

99000-25030 : SUZUKI SUPER GREASE "A"

(For the other models)

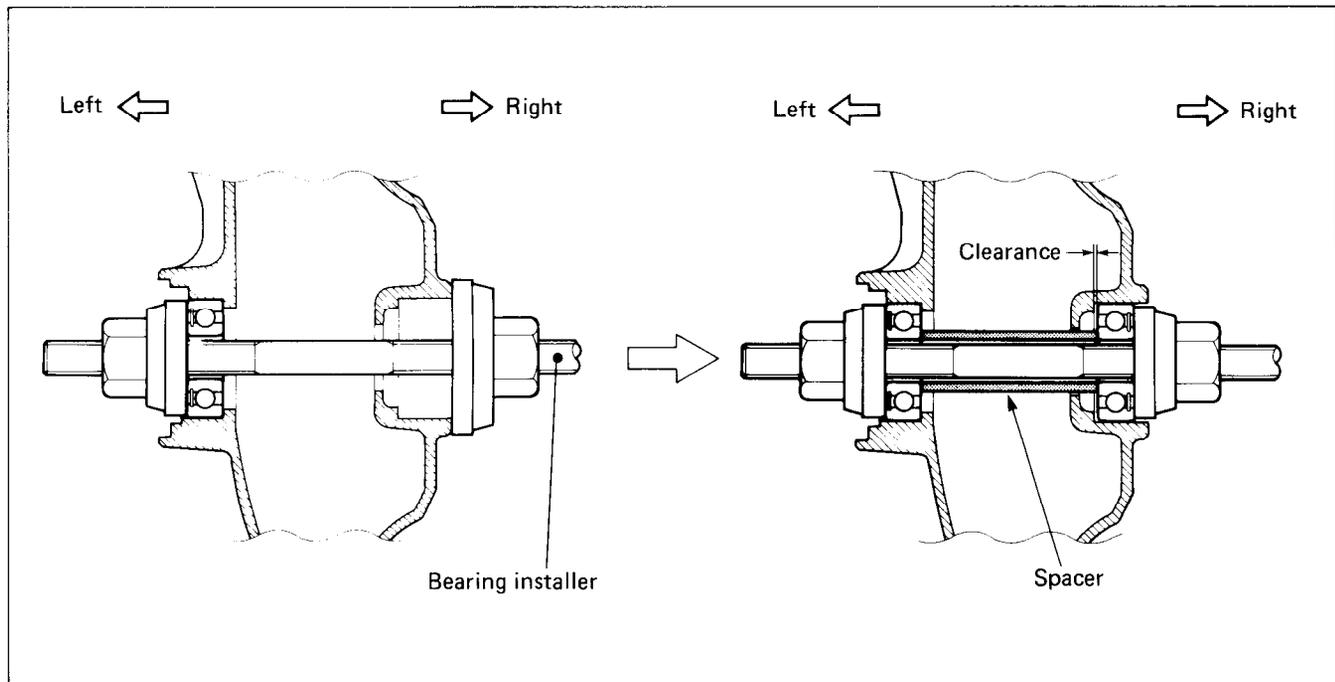
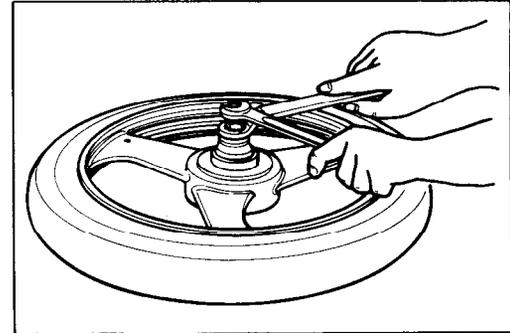
99000-25010 : SUZUKI SUPER GREASE "A"

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

09924-84510 : Bearing installer set

NOTE:

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



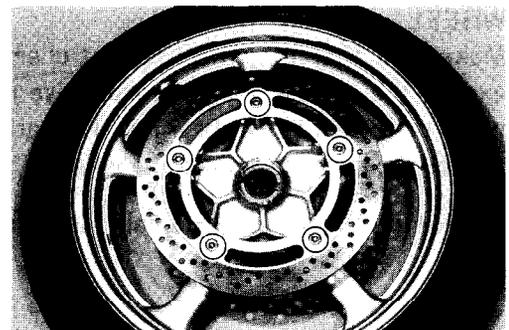
BRAKE DISC

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

99000-32130 : THREAD LOCK SUPER "1360"

Tightening torque : 18 – 28 N·m

(1.8 – 2.8 kg·m, 13.0 – 20.0 lb·ft)



SPEEDOMETER GEARBOX

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

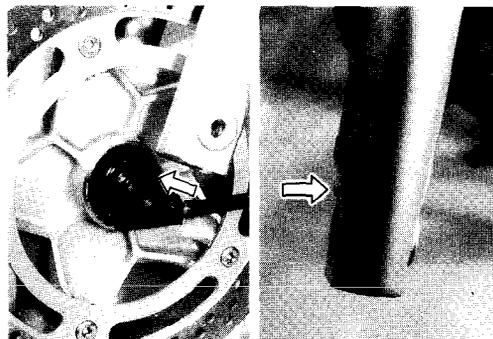
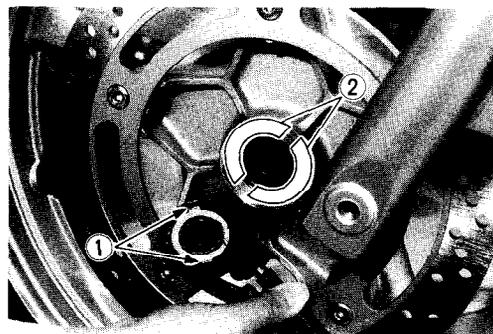
(For U.S.A. model)

99000-25030 : SUZUKI SUPER GREASE "A"

(For the other models)

99000-25010 : SUZUKI SUPER GREASE "A"

- Fit two drive lugs ① into recesses ② of the wheel hub.
- Set the stopper on the speedometer gearbox to lug on the left front fork.
- When tightening the front axle, make sure that the speedometer gearbox is in position and the speedometer cable does not bend sharply.

**AXLE SHAFT**

- Tighten the axle shaft to the specified torque.

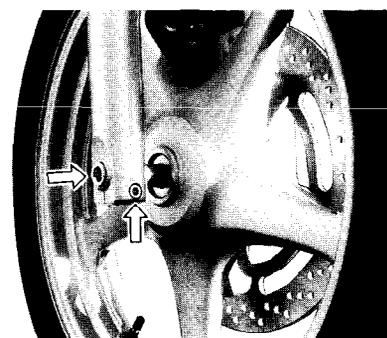
Tightening torque : 36 – 52 N·m

(3.6 – 5.2 kg-m, 26.0 – 37.5 lb-ft)

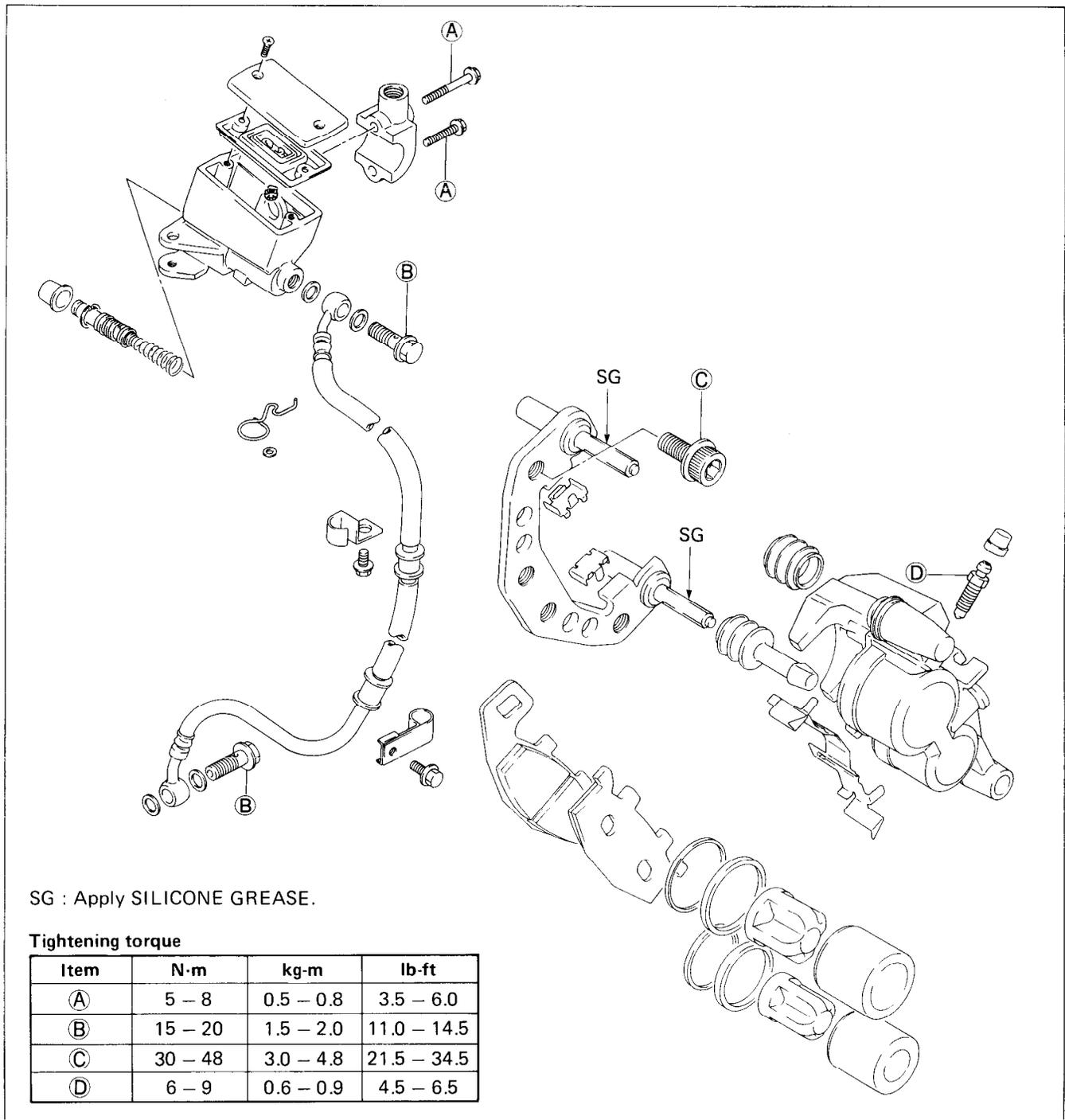
- Tighten the axle pinch bolt to the specified torque.

Tightening torque : 18 – 28 N·m

(1.8 – 2.8 kg-m, 13.0 – 20.0 lb-ft)



FRONT BRAKE



BRAKE PAD REPLACEMENT

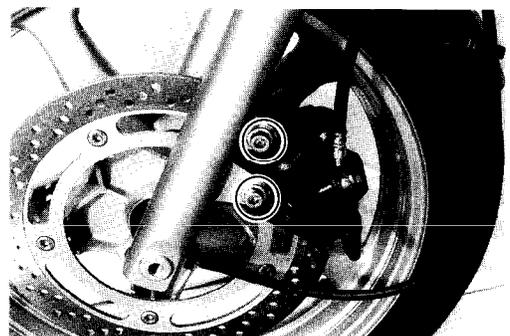
1. Remove the brake caliper by removing the mounting bolts.

09900-00410 : Hexagon wrench set

2. Remove the pads.

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.



CALIPER REMOVAL AND DISASSEMBLY

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

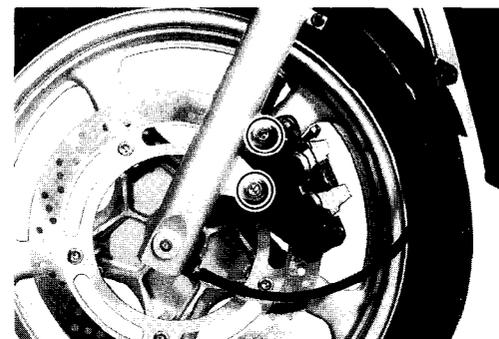
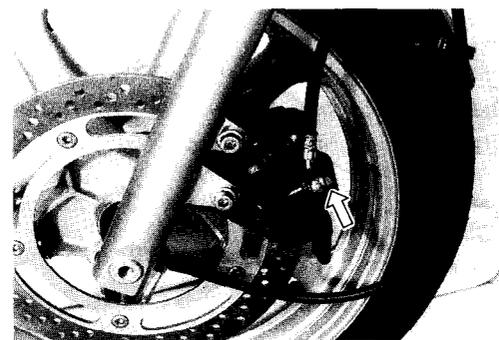
CAUTION:

Never reuse the brake fluid left over from 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 joint for cracks and oil leakage.

2. Remove the caliper mounting bolts and take off the caliper.
3. Remove the pads.



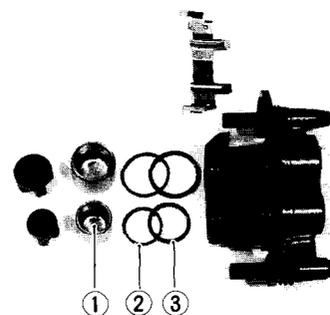
4. Place a rag over the pistons to prevent them from popping out and push out the pistons by using the air gun.

CAUTION:

Do not use high pressure air to prevent piston damage.



5. Remove the pistons ①, dust seals ② and piston seals ③ out of the caliper.



CALIPER AND DISC INSPECTION

CALIPER

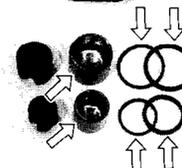
Inspect the caliper bore wall for nicks, scratches or other damage.

PISTON

Inspect the piston surface for any scratches or other damage.

RUBBER PARTS

Inspect each rubber part for damage and wear.

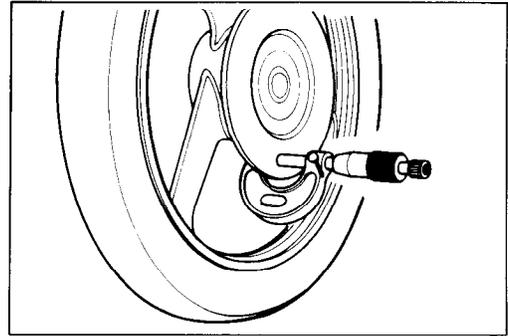


DISC

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

09900-20205 : Micrometer (0 – 25 mm)

Service limit (Front) : 5.0 mm (0.20 in)
 (Rear) : 5.5 mm (0.22 in)

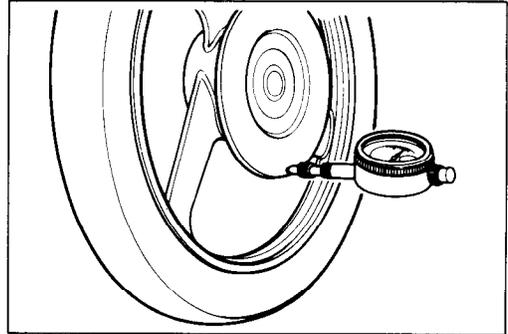


With the disc mounted on the wheel, check the disc for face runout with a dial gauge, as shown.

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

09900-20701 : Magnetic stand

Service limit : 0.30 mm (0.012 in)

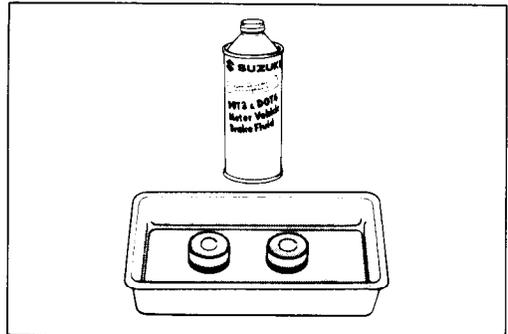


CALIPER REASSEMBLY AND REMOUNTING

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

CAUTION:

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



CALIPER BOLTS

- Tighten each bolt to the specified torque.

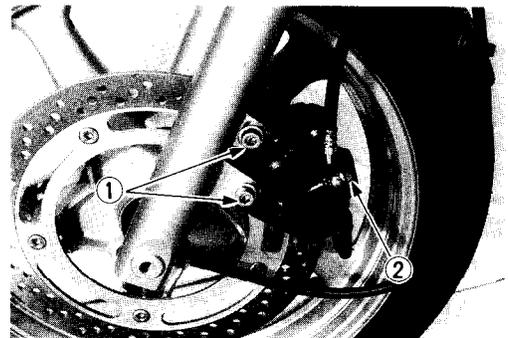
Tightening torque

Front brake caliper

mounting bolt ① : 30 – 48 N·m
 (3.0 – 4.8 kg·m, 21.5 – 34.5 lb-ft)

Brake hose

union bolt ② : 15 – 20 N·m
 (1.5 – 2.0 kg·m, 11.0 – 14.5 lb-ft)



CAUTION:

Bleed air after reassembling the caliper. (Refer to page 2-13).

NOTE:

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

MASTER CYLINDER REMOVAL AND DISASSEMBLY

1. Remove the front brake light switch lead wires.

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

CAUTION:

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

3. Remove the master cylinder assembly.

4. Remove the front brake lever, reservoir cap and diaphragm.

5. Drain brake fluid.

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

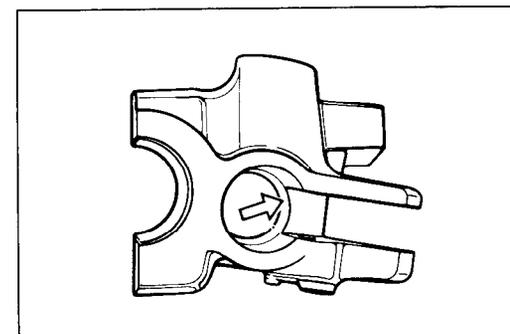
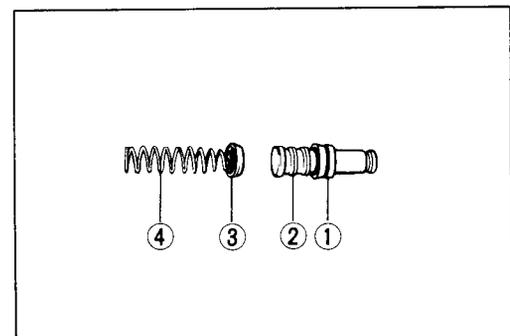
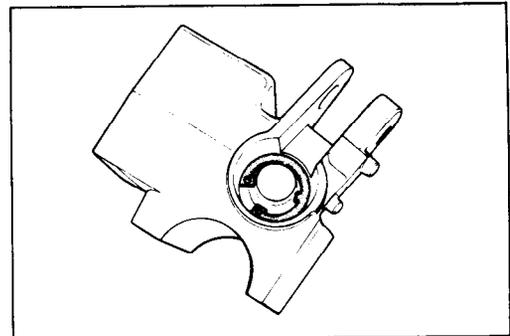
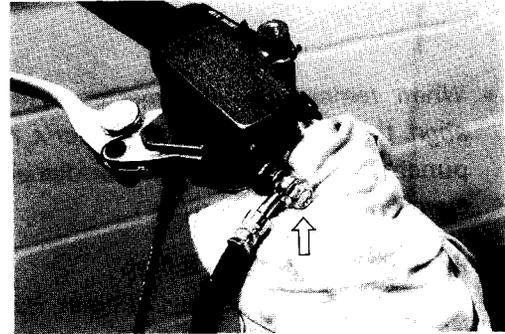
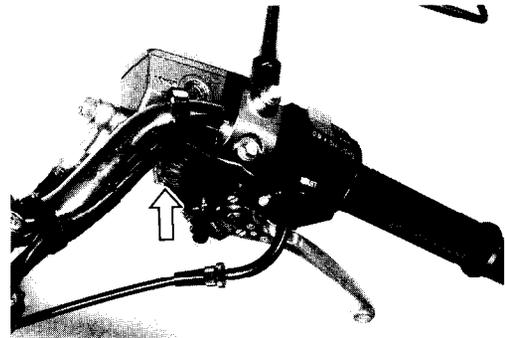
09900-06108 : Snap ring pliers

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

- ① Secondary cup
- ② Piston
- ③ Primary cap
- ④ Return spring

MASTER CYLINDER INSPECTION

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



MASTER CYLINDER REASSEMBLY AND REMOUNTING

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

CAUTION:

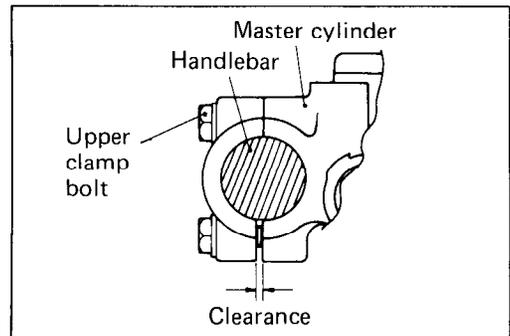
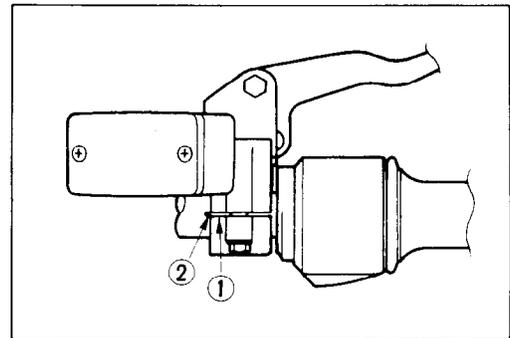
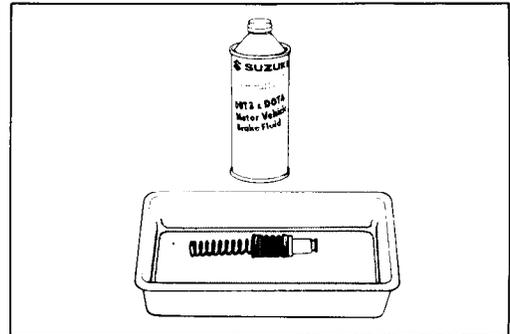
- * Wash the master cylinder components with fresh brake fluid before reassembly. Never use cleaning solvent or gasoline to wash them.
- * Apply brake fluid to the cylinder bore and all the component to be inserted into the bore.

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

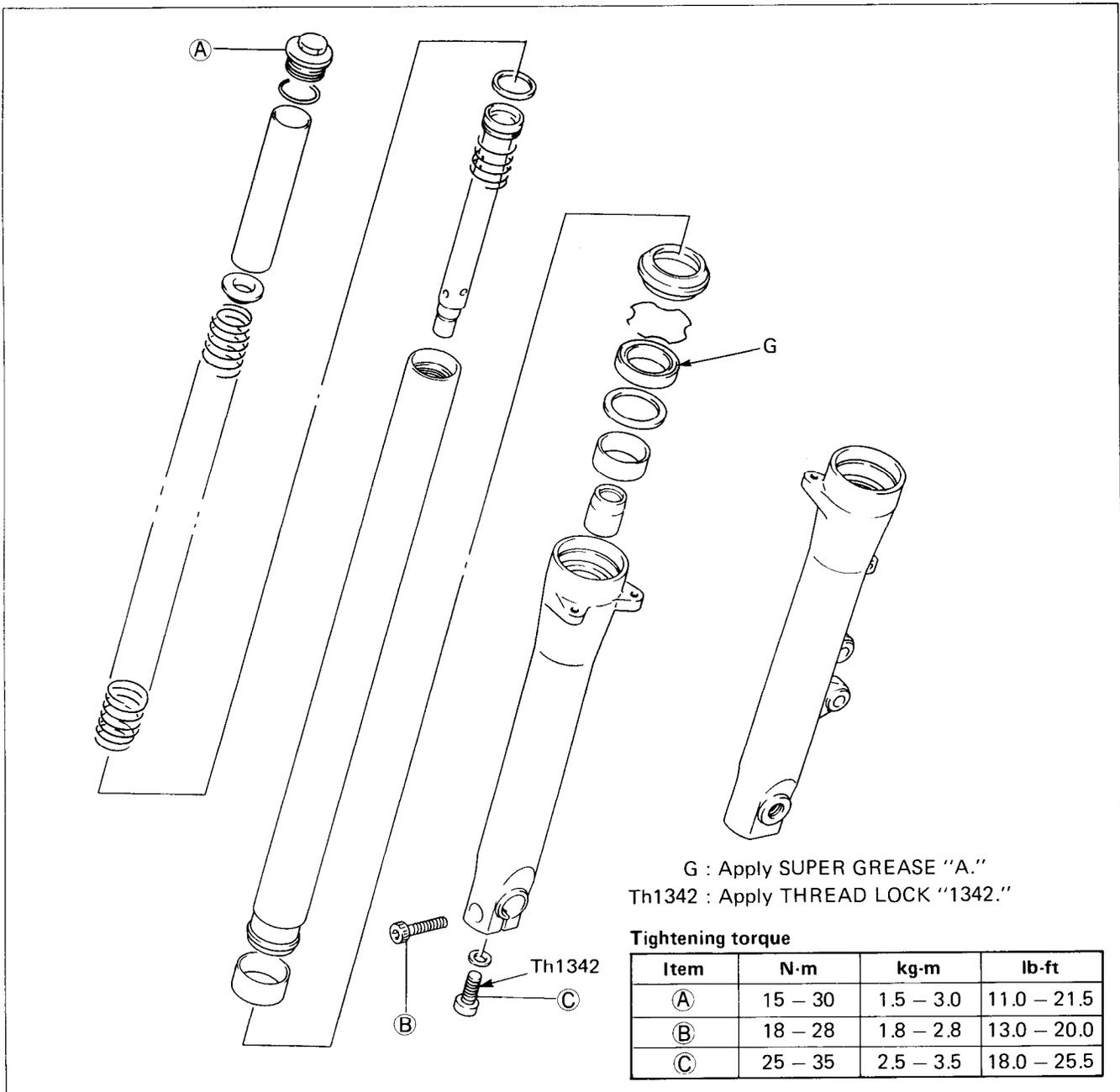
Tightening torque : 5 – 8 N·m
 (0.5 – 0.8 kg-m, 3.5 – 6.0 lb-ft)

CAUTION:

Bleed air after reassembling master cylinder.
 (Refer to page 2-13).



FRONT FORK



REMOVAL

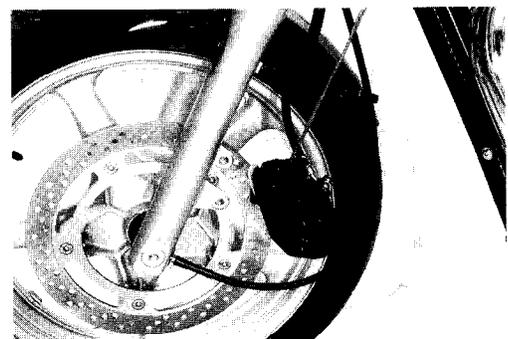
1. Support the motorcycle with the center stand and a jack.
2. Remove the front wheel. (Refer to page 8-1.)
3. Remove the brake caliper.

09900-00401 : "L" type hexagon wrench set

CAUTION:

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

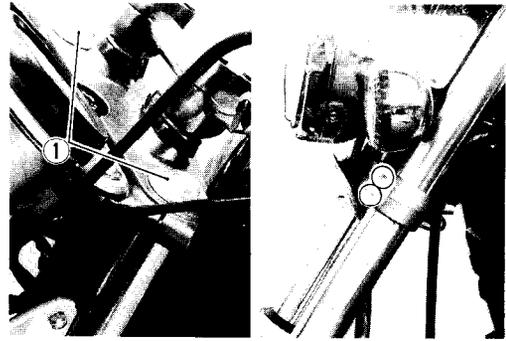
4. Disconnect the speedometer cable from the speedometer and remove the front fender.
5. Remove the fender brace.



NOTE:

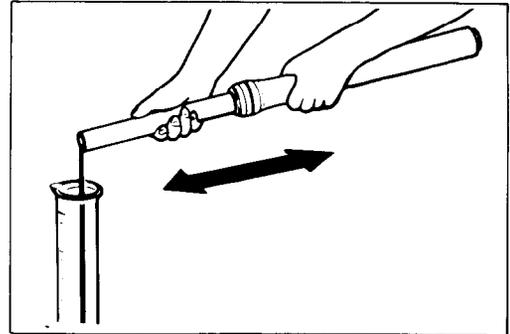
Slightly loosen the front fork cap bolts ① to facilitate later disassembly before loosening the front fork clamp bolts.

6. Loosen the front fork upper and lower clamp bolts.
7. Remove the front forks.



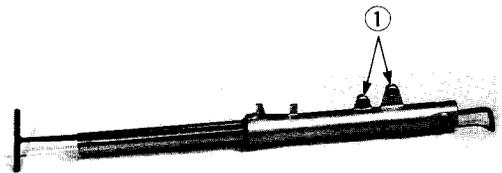
DISASSEMBLY

1. Remove the front fork cap bolt.
2. Remove the spacer, spring seat and spring out of the inner tube.
3. Turn the fork upside down and stroke it several times to let out fork oil.
4. Hold the fork upside down for a few minutes to drain oil.

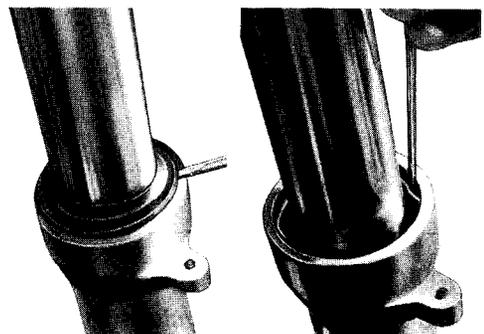


5. While holding the caliper mounting portion ① by vise and remove the damper rod with the special tool and the hexagon wrench.

- 09900-00401 : "L" type hexagon wrench set
- 09940-34520 : T-handle
- 09940-34592 : Attachment "G"



6. Remove the dust seal and the oil seal stopper ring.
7. Pull the inner tube out of the outer tube.

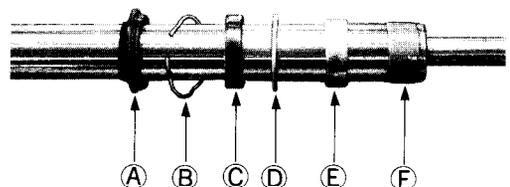


CAUTION:

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

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

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



INSPECTION

DAMPER ROD RING

Inspect the damper rod ring for wear or damage.

INNER AND OUTER TUBE

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

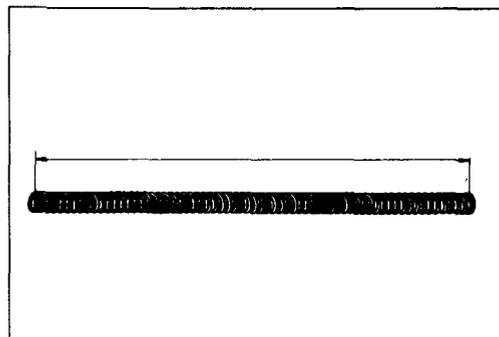


FORK SPRING

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

Service limit :

For E-01, 03, 28, 33 models	353 mm (13.9 in)
For the other models	348 mm (13.7 in)



REASSEMBLY AND REMOUNTING

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

INNER TUBE METAL

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

CAUTION:

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

DAMPER ROD BOLT

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

99000-32050 : THREAD LOCK "1342"

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

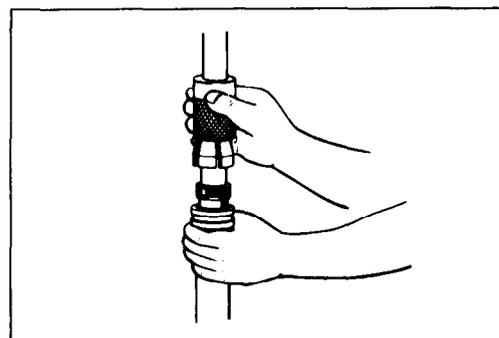
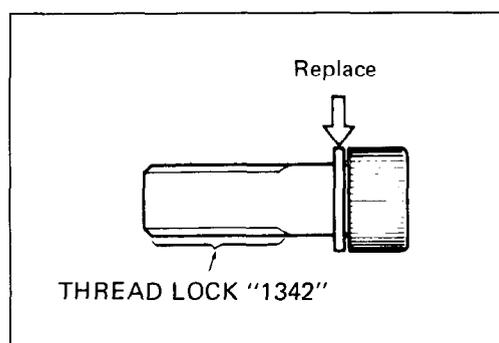
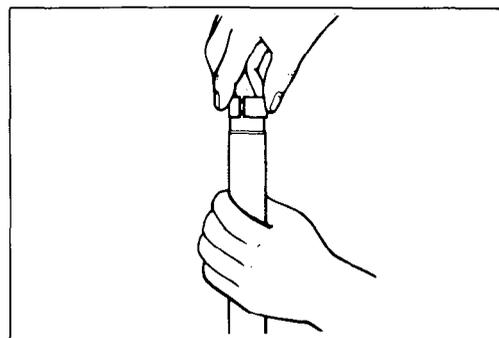
OUTER TUBE METAL, OIL SEAL AND DUST SEAL

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

09940-50113 : Front fork oil seal installer

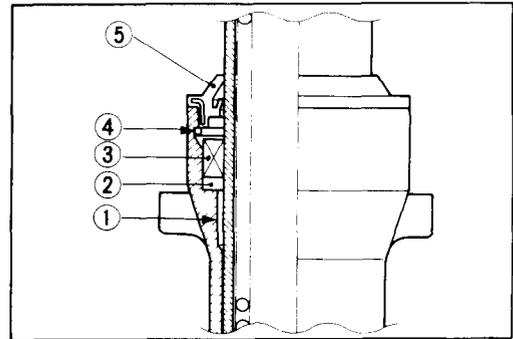
CAUTION:

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



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

- ① "Anti-friction" metal (Outer tube metal)
- ② Oil seal retainer
- ③ Oil seal
- ④ Oil seal stopper ring
- ⑤ Dust seal



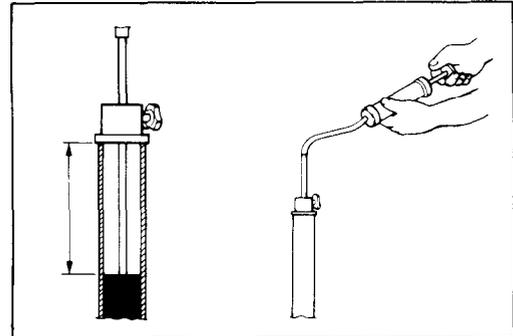
FORK OIL

- Use fork oil whose viscosity rating meet specifications below.

Fork oil type	Fork oil #10
Fork oil capacity (each leg) for E-01, 03, 28, 33 models	388 ml (13.1/13.7 US/Imp. oz)
Fork oil capacity (each leg) for the other models	392 ml (13.2/13.8 US/Imp. oz)

99000-99044-10G : SUZUKI FORK OIL #10

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



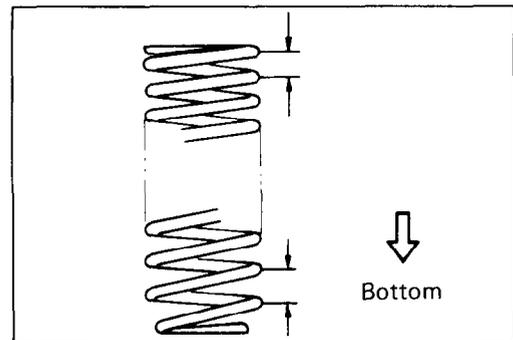
NOTE:

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

09943-74111 : Fork oil level gauge

Standard oil level :

For E-01, 03, 28, 33 models	142 mm (5.59 in)
For the other models	138 mm (5.43 in)



FORK SPRING

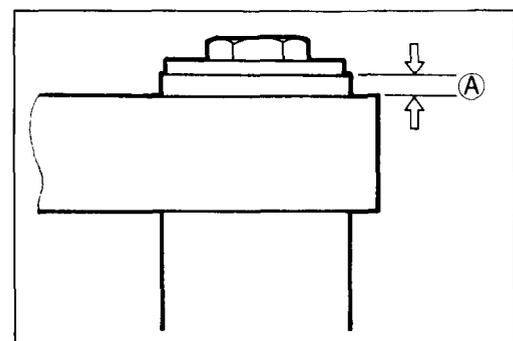
- When installing the fork spring, its large pitch end should position in bottom.

FRONT FORK REMOUNTING

- When remounting the front fork assembly, set the upper surface of the inner tube to (A) height from that of the steering stem upper bracket.

Height (A) :

For E-01, 03, 28, 33 models	0 mm (0 in)
For the other models	5.0 mm (0.20 in)

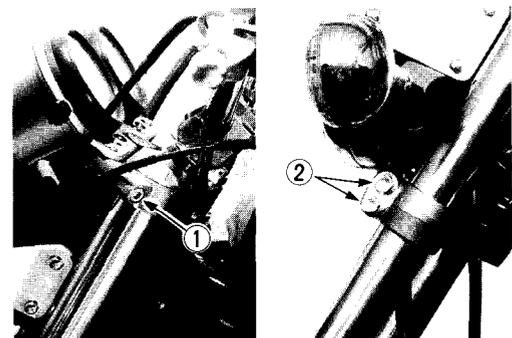


CLAMP BOLTS

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

09900-00410 : Hexagon wrench set

Tightening torque (① & ②) : 18 – 20 N·m
 (1.8 – 2.8 kg·m,
 13.0 – 20.0 lb·ft)

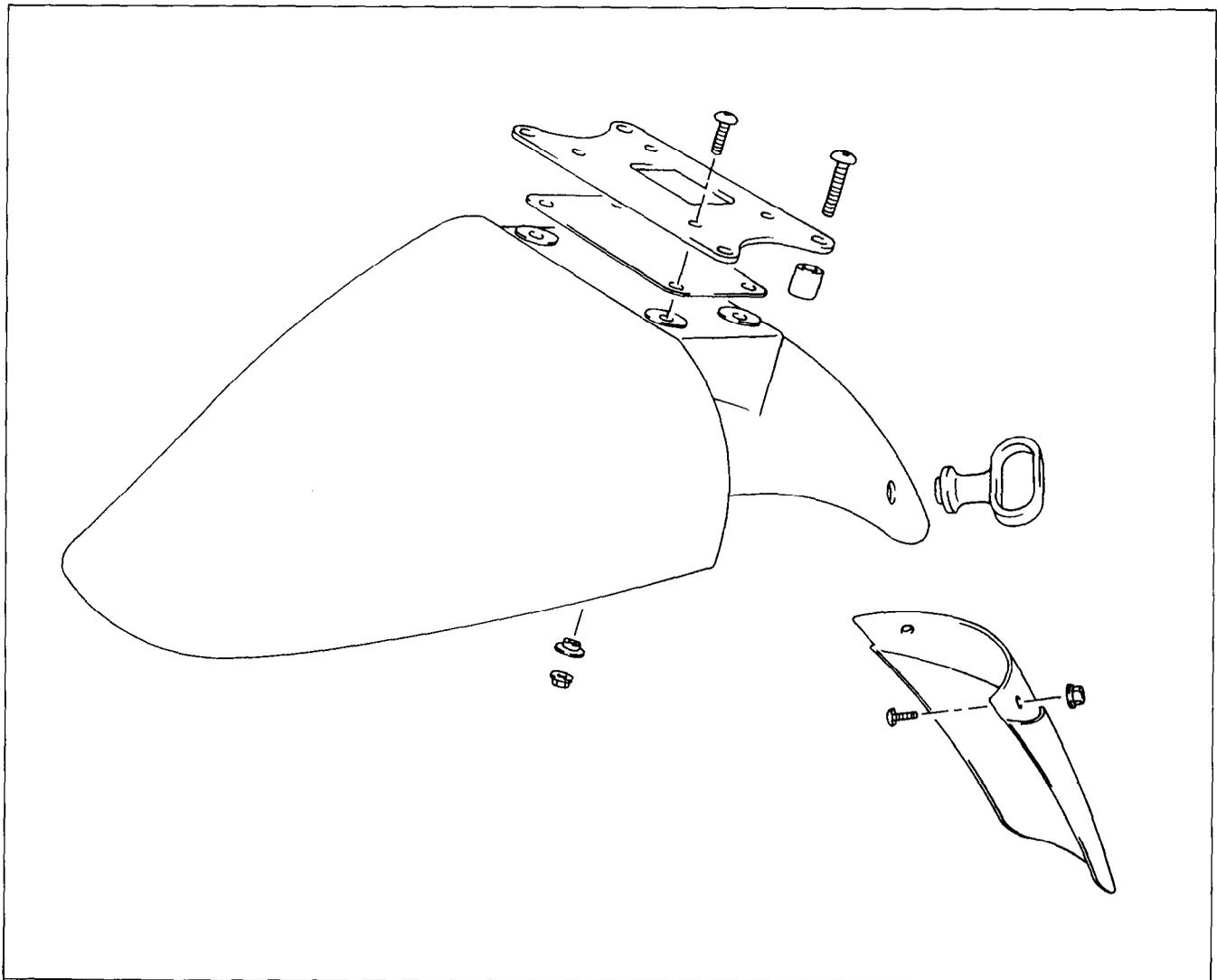


- Set the front fender brace in the direction as shown in the photograph.

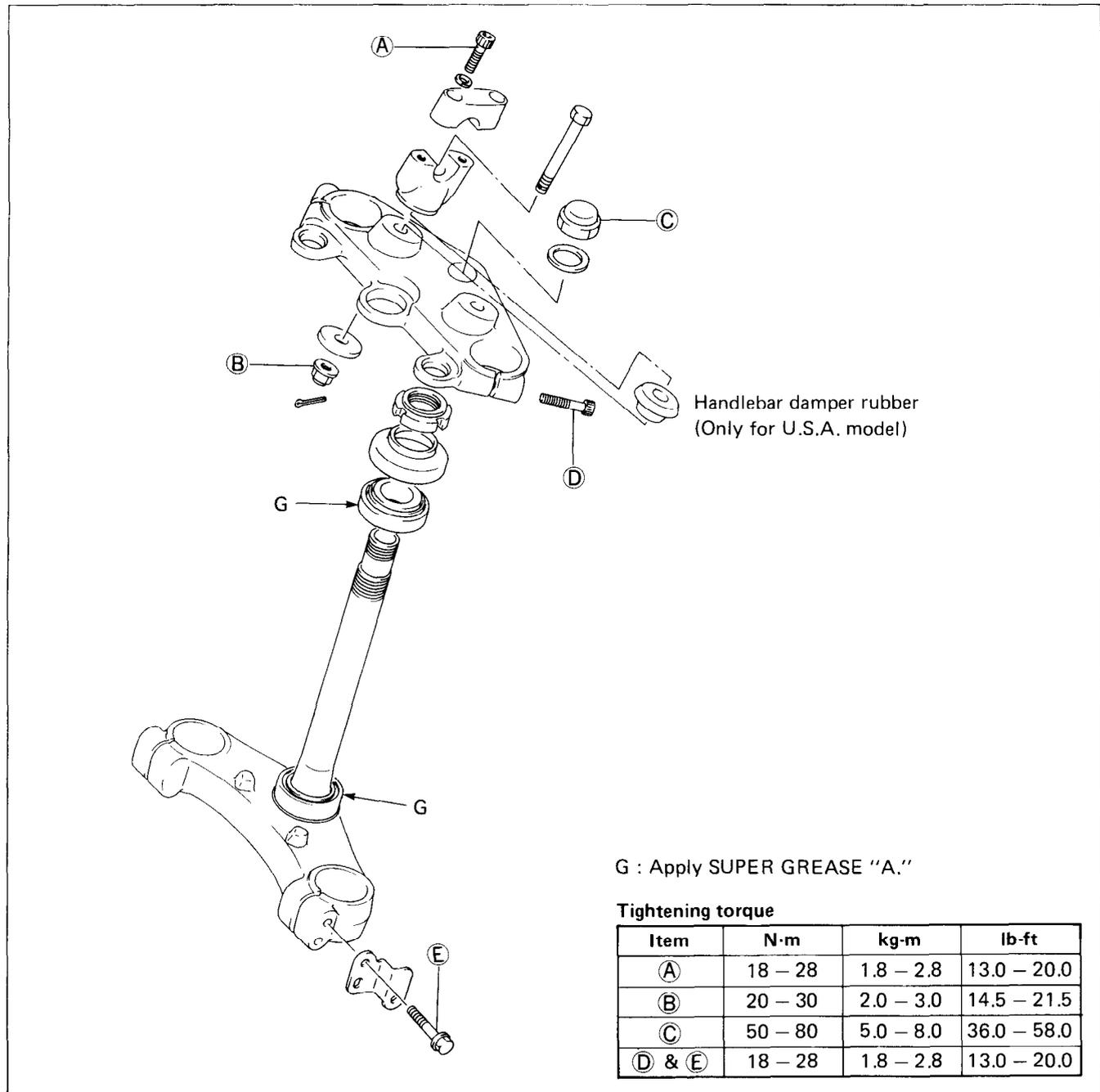


NOTE:

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

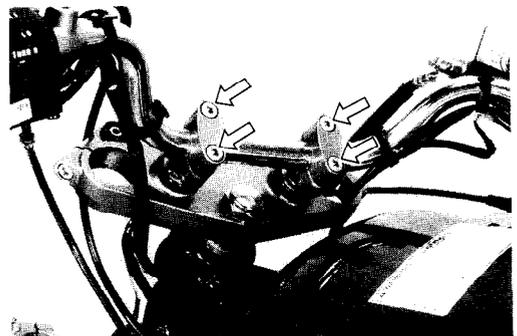


STEERING



REMOVAL

1. Disconnect lead wires in the headlight housing and remove the headlight.
2. Remove the horn.
3. Disconnect the speedometer cable and remove the tachometer and speedometer.
4. Remove the front wheel. (Refer to page 8-1.)
5. Remove the brake hose clamp bolt from the steering lower bracket.
6. Remove the front forks. (Refer to page 8-10.)
7. Remove the handlebar clamp bolts.



8. Remove the steering stem head nut.
9. Remove the steering stem head by disconnecting the ignition switch lead wire coupler.
10. Remove the steering stem nut by using the special tool, then remove the steering stem lower bracket.

09940-14911 : Steering stem nut wrench

NOTE:

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

11. Disassemble the handlebar holders.

INSPECTION

Inspect the removed parts for the following abnormalities.

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

DISASSEMBLY

1. Remove the steering stem upper bearing.
2. Remove the steering stem lower bearing by using the special tool.

09941-84510 : Bearing remover

CAUTION:

The removed bearing should be replaced with a new one.

3. Drive out the steering stem bearing races, upper and lower, by using the special tools.

09941-54911 : Bearing outer race remover

09941-74910 : Steering bearing installer

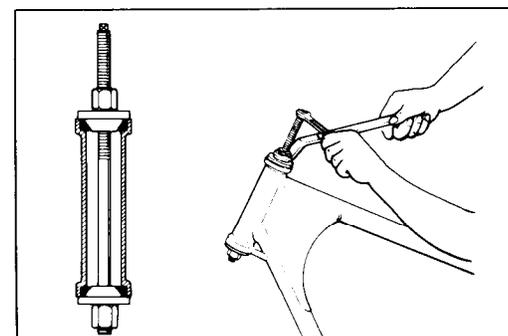
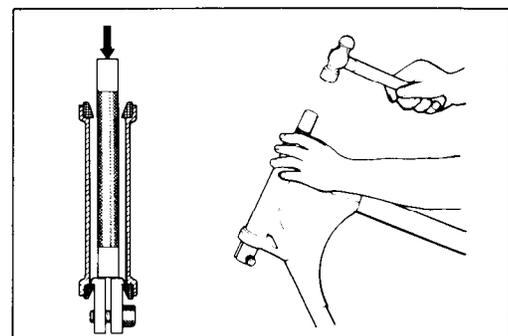
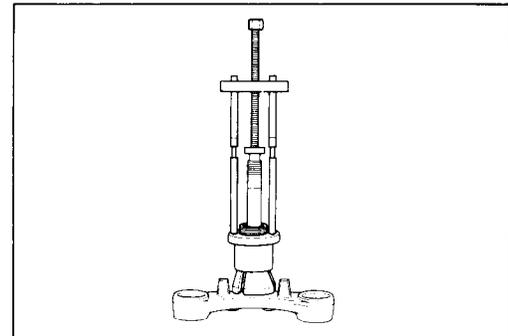
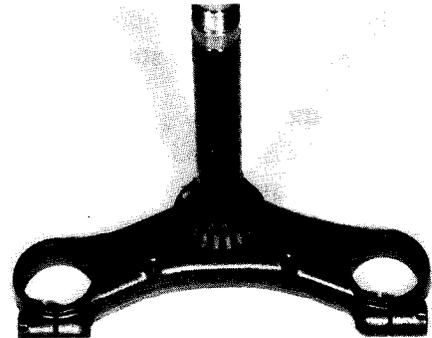
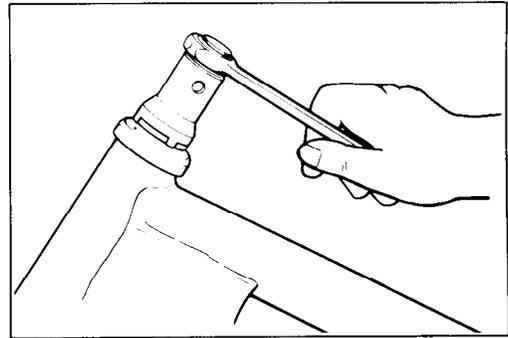
REASSEMBLY AND REMOUNTING

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

OUTER RACES

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

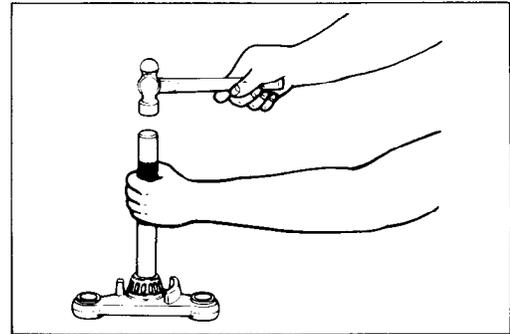
09941-34513 : Steering outer race installer



BEARING

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

09941-74910 : Steering bearing installer



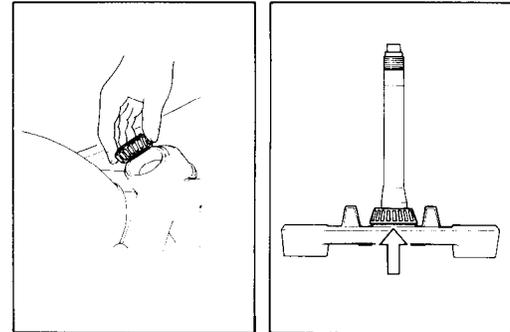
- Apply grease to the upper and lower bearings before re-mounting the steering stem.

(For U.S.A. model)

99000-25030 : SUZUKI SUPER GREASE "A"

(For the other models)

99000-25010 : SUZUKI SUPER GREASE "A"

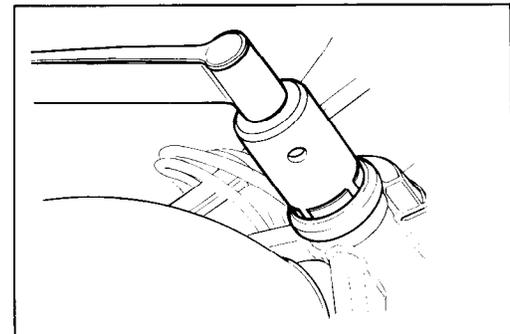


STEM NUT

- Tighten the steering stem nut to the specified torque.

09940-14911 : Steering stem nut wrench

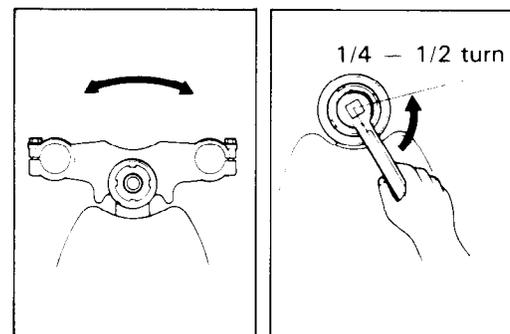
Tightening torque : 40 – 50 N·m
(4.0 – 5.0 kg-m, 29.0 – 36.0 lb-ft)



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

NOTE:

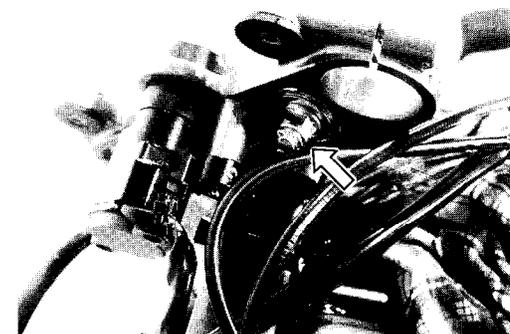
This adjustment will vary from motorcycle to motorcycle.



HANDLEBAR HOLDER

- Tighten the handlebar holder mounting nuts to the specified torque.

Tightening torque : 20 – 30 N·m
(2.0 – 3.0 kg-m, 14.5 – 21.5 lb-ft)

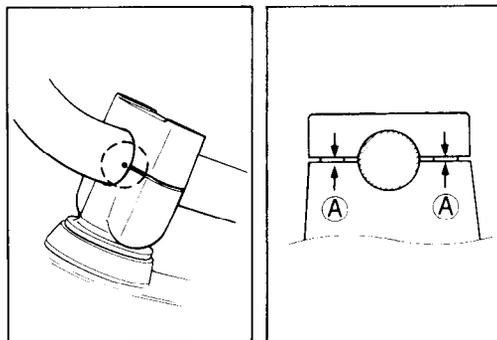


HANDLEBAR

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

Tightening torque : 18 – 28 N·m

(1.8 – 2.8 kg·m, 13.0 – 20.0 lb·ft)

**STEERING TENSION ADJUSTMENT**

Check the steering movement in the following procedure.

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

Initial force : 200 – 500 grams

09940-92710 : Spring scale

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

Tightening torque

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

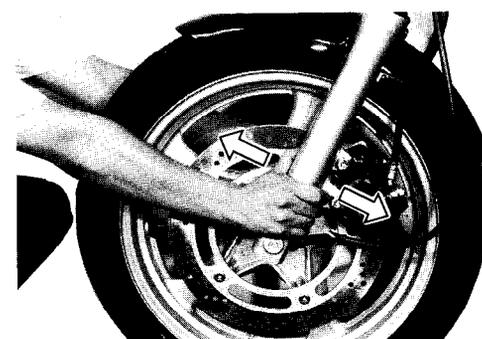
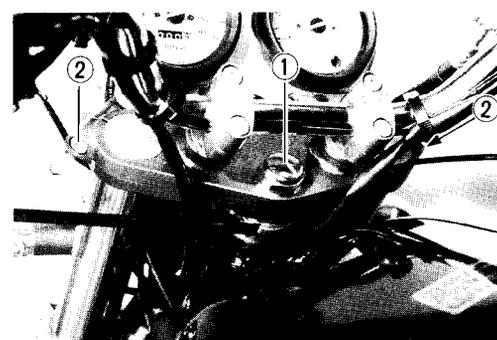
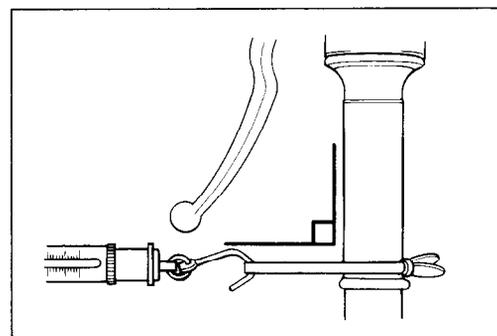
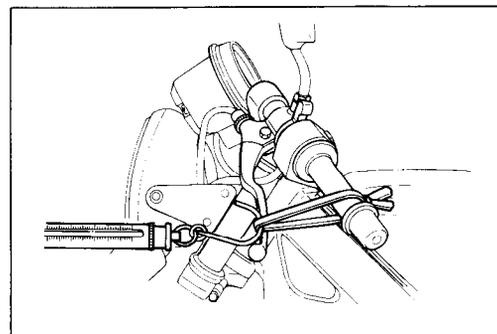
Front fork upper clamp bolt ② : 18 – 28 N·m
(1.8 – 2.8 kg·m, 13.0 – 20.0 lb·ft)

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

NOTE:

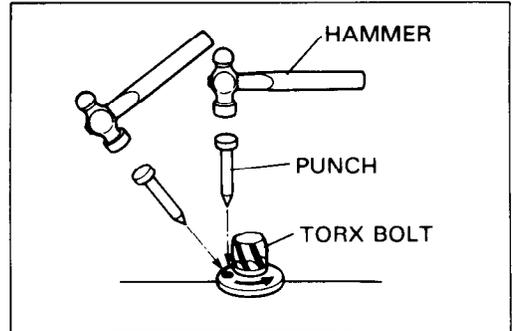
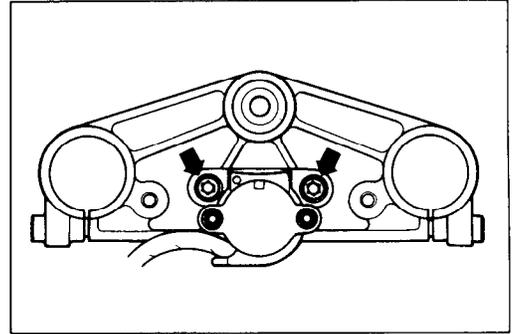
Hold the front fork legs, move them back and forth and make sure that the steering is not loose.

- Lower the jack.



IGNITION SWITCH

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



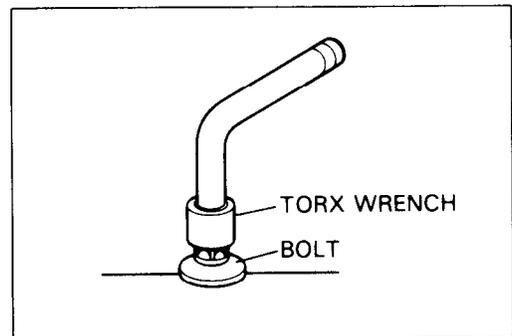
- To install the ignition switch, always use the new special bolt and follow the procedures below:

NOTE:

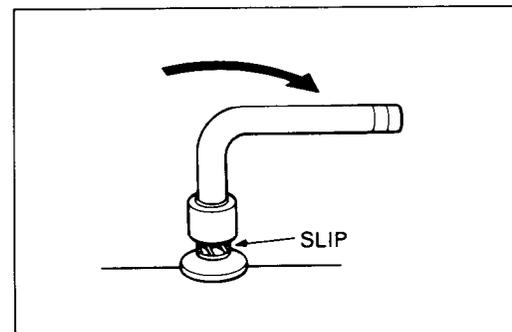
The spare ignition switch comes equipped with the special bolts, however, the bolt is also individually available as spare parts.

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

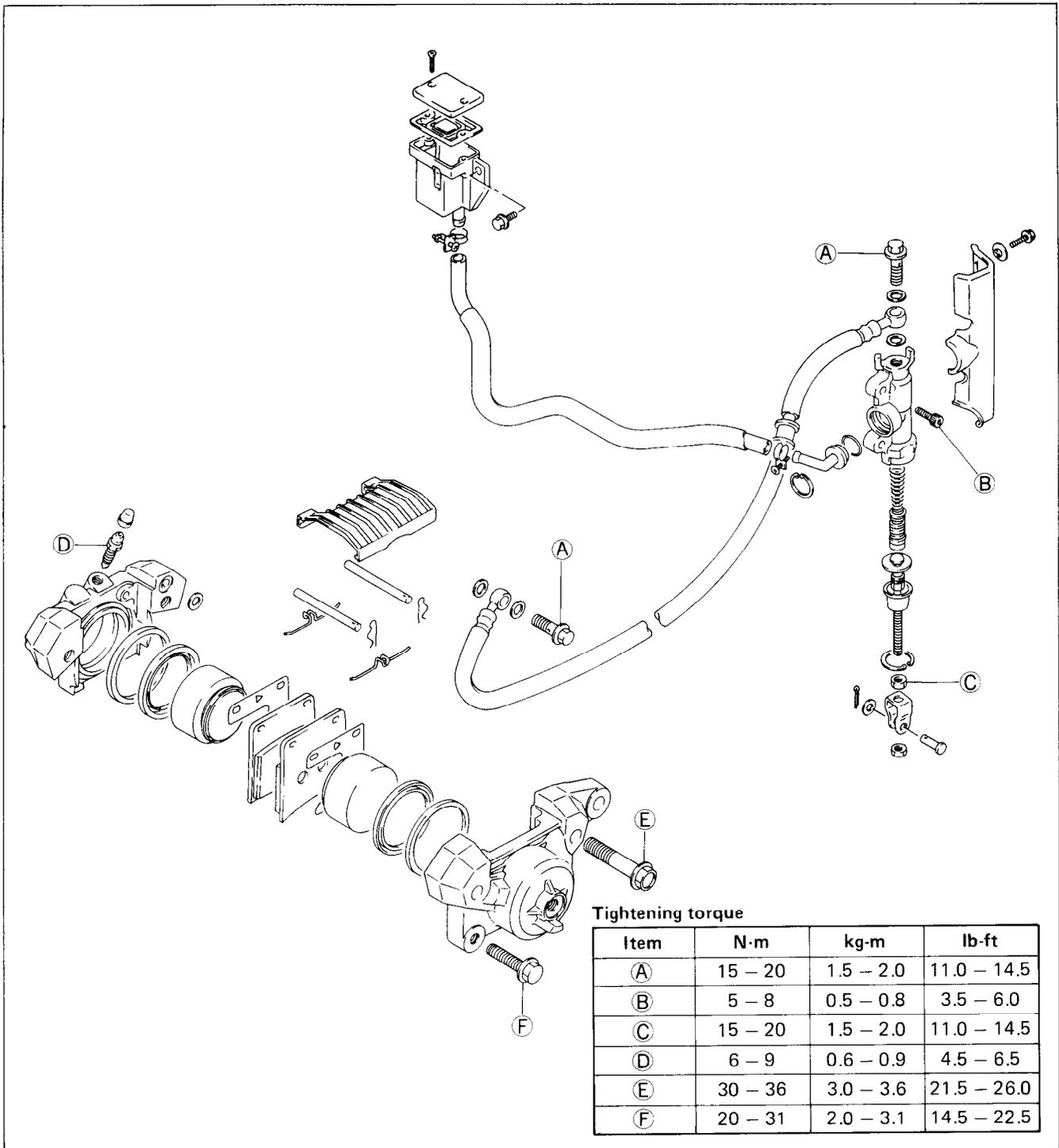
09930-11910 : Torx wrench



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



REAR BRAKE



BRAKE PAD REPLACEMENT

1. Remove the dust seal cover.
2. Remove the clips, pins and springs.
3. Remove the pads.

CAUTION:

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

CALIPER REMOVAL AND DISASSEMBLY

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

CAUTION:

Never reuse the brake fluid left over from 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 joint for cracks and oil leakage.

2. Remove the caliper mounting bolts.
3. Remove the torque link bolt and nut, and take off the caliper.

NOTE:

Slightly loosen the caliper housing bolts ① to facilitate later disassembly before removing the caliper mounting bolts.

4. Remove the pads.
5. Remove the caliper housing bolts and separate the caliper halves.
6. Remove the O-ring.

NOTE:

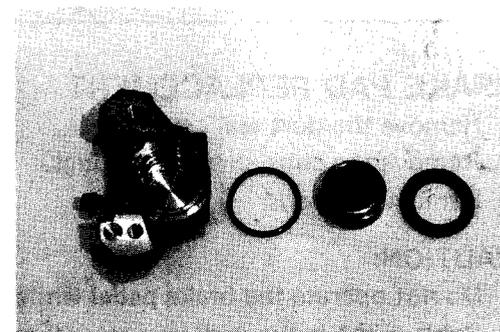
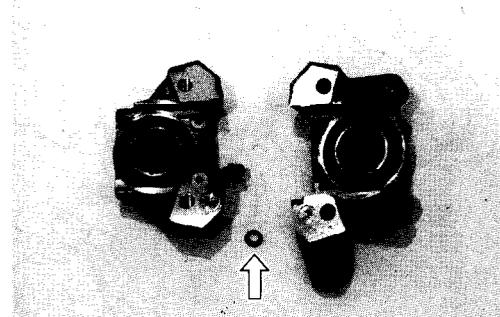
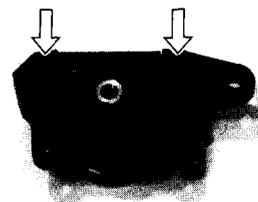
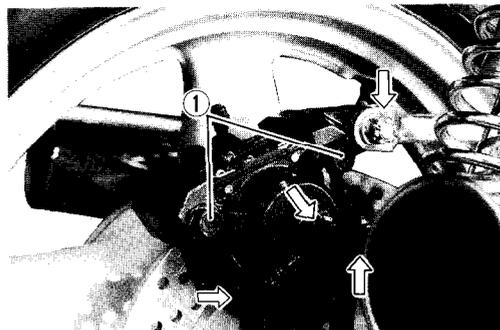
Once separate the caliper halves, replace the O-ring with a new one.

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

CAUTION:

Do not use high pressure air to prevent piston damage.

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



CALIPER AND DISC INSPECTION

- CALIPER Refer to page 8-6.
- PISTON Refer to page 8-6.
- RUBBER PARTS Refer to page 8-6.
- DISC Refer to page 8-7.

CALIPER REASSEMBLY AND REMOUNTING

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

CAUTION:

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

Tightening torque

Rear brake caliper

housing bolt ① : 30 – 36 N·m
(3.0 – 3.6 kg-m, 21.5 – 26.0 lb-ft)

Torque link

nut ② : 22 – 35 N·m
(2.2 – 3.5 kg-m, 16.0 – 25.5 lb-ft)

Rear brake caliper

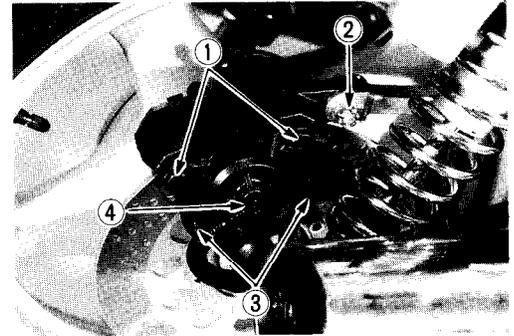
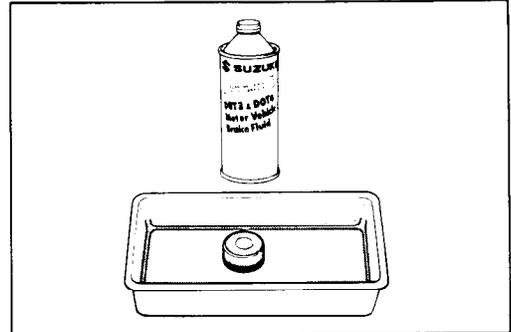
mounting bolt ③ : 20 – 31 N·m
(2.0 – 3.1 kg-m, 14.5 – 22.5 lb-ft)

Brake hose

union bolt ④ : 15 – 20 N·m
(1.5 – 2.0 kg-m, 11.0 – 14.5 lb-ft)

CAUTION:

Bleed air after reassembling the caliper.
(Refer to page 2-13.)



MASTER CYLINDER REMOVAL AND DISASSEMBLY

1. Remove the seat.
2. Remove the master cylinder cover and brake pedal boss bolt.

09900-00401 : "L" type hexagon wrench set

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

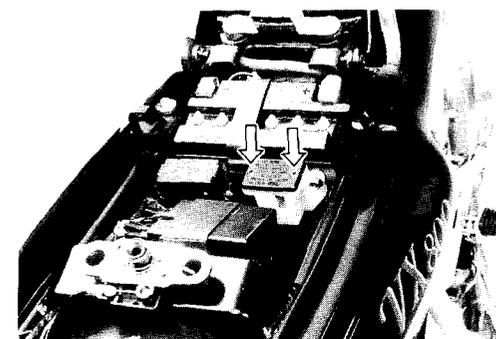
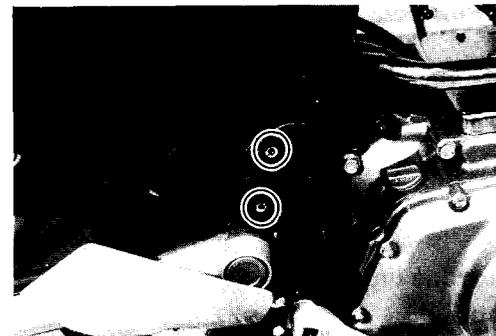
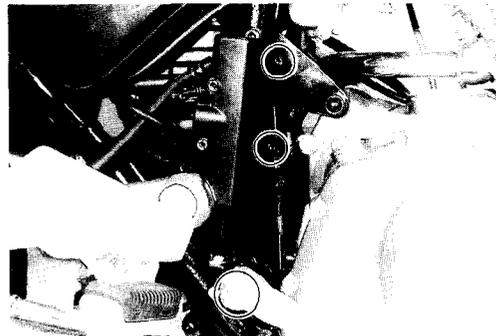
CAUTION:

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

4. Remove the master cylinder mounting bolts.

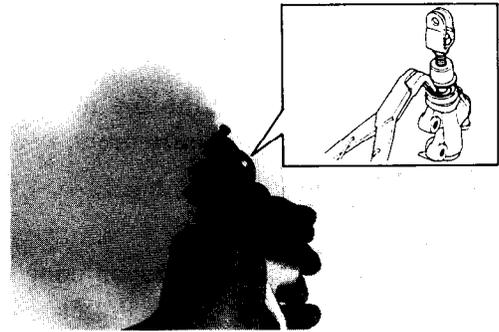
5. Disconnect the reservoir tank hose from the master cylinder by loosening the clamp screw and catch the brake fluid in a suitable receptacle.
6. Remove the master cylinder assembly.

7. Remove the reservoir tank cap and drain brake fluid from the reservoir tank.

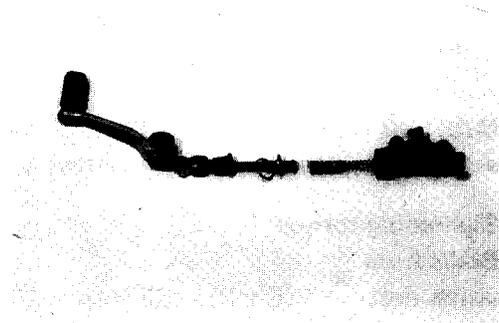


8. Remove the dust seal, then remove the circlip by using the special tool.

09900-06105 : Snap ring pliers



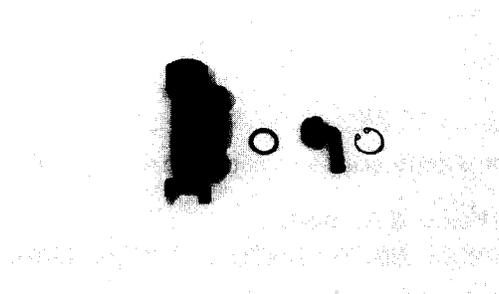
9. Remove the push rod, piston, primary cup and spring.



10. Remove the connector and O-ring.

CAUTION:

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



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

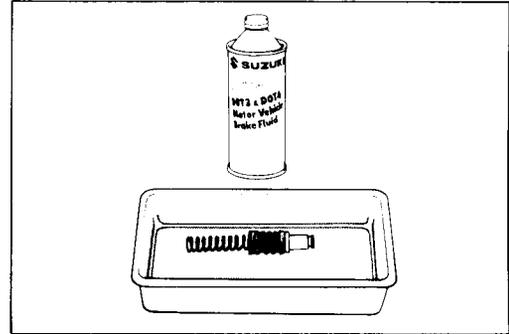
- Inspect the cylinder bore wall for any scratches or other damage.
- Inspect the piston surface for any scratches or other damage.
- Inspect the cup set and each rubber part for wear or damage.

MASTER CYLINDER REASSEMBLY AND REMOUNTING

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

CAUTION:

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



MASTER CYLINDER BOLTS

- Tighten each bolt to the specified torque.

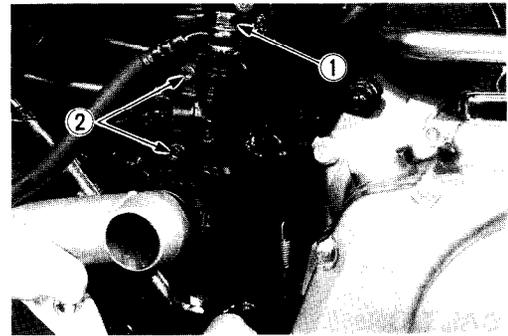
Tightening torque

Brake hose

union bolt ① : 15 – 20 N·m
(1.5 – 2.0 kg·m, 11.0 – 14.5 lb-ft)

Master cylinder

mounting bolt ② : 5 – 8 N·m
(0.5 – 0.8 kg·m, 3.5 – 6.0 lb-ft)



BRAKE PEDAL BASS BOLT

- Apply grease to sliding surface of the brake pedal boss.

(For U.S.A. model)

99000-25030 : SUZUKI SUPER GREASE "A"

(For the other models)

99000-25010 : SUZUKI SUPER GREASE "A"

- Apply THREAD LOCK SUPER "1333B"/"1322" to the brake pedal boss bolt and tighten it to the specified torque with the hexagon wrench.

(For U.S.A. model)

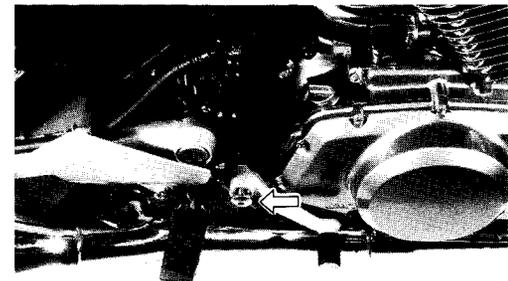
99000-32020 : THREAD LOCK SUPER "1333B"

(For the other models)

99000-32110 : THREAD LOCK SUPER "1322"

Tightening torque : 18 – 28 N·m

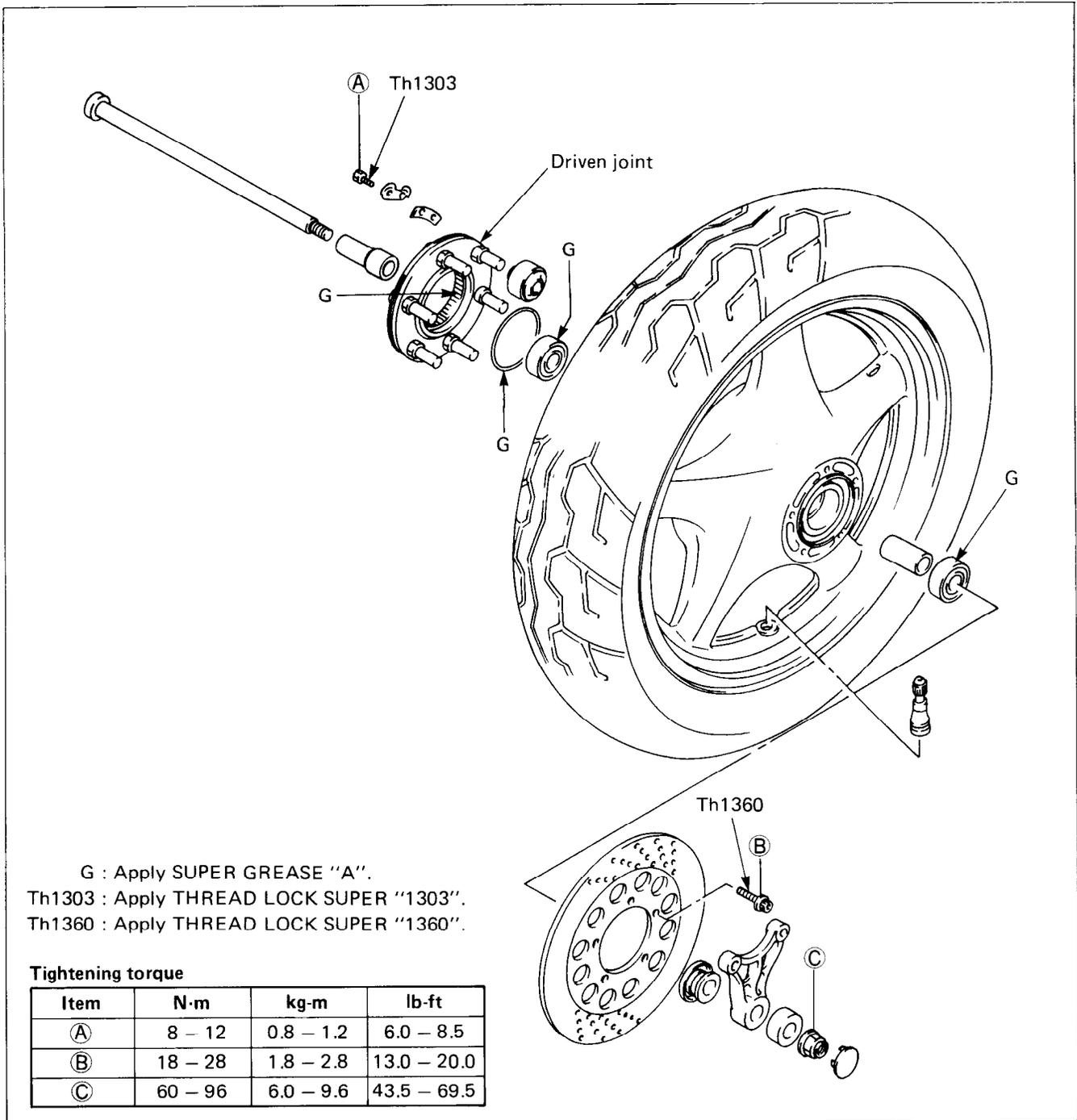
(1.8 – 2.8 kg·m, 13.0 – 20.0 lb-ft)



CAUTION:

- * Bleed air after reassembling master cylinder. (Refer to page 2-13.)
- * Adjust the rear brake light switch and brake pedal height after installation. (Refer to page 2-13.)

REAR WHEEL

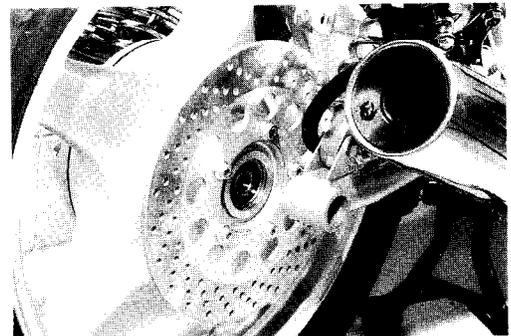


REMOVAL AND DISASSEMBLY

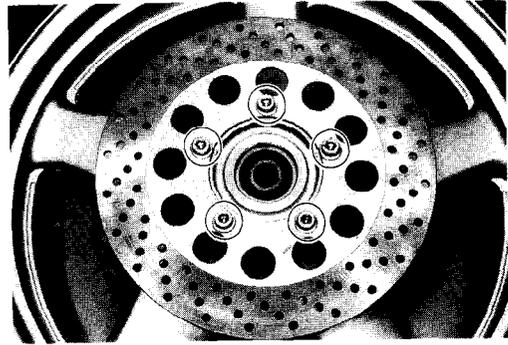
1. Support the motorcycle by the center stand.
2. Remove the rear torque link nut.
3. Remove the axle nut cap and remove the axle nut.
4. Draw out the rear axle shaft and remove the rear wheel.

CAUTION:

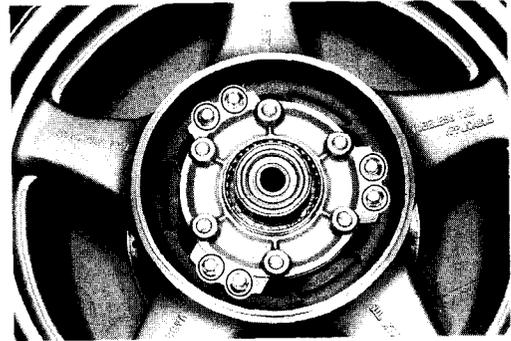
Do not operate the brake pedal while dismounting the brake caliper.



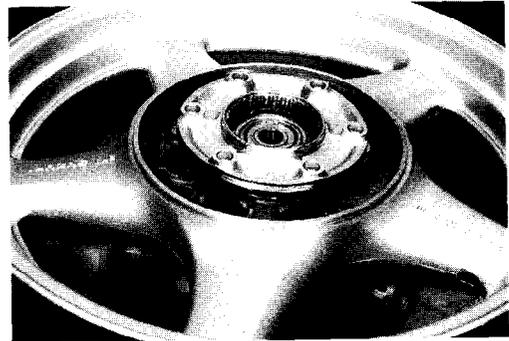
5. Remove the brake disc by removing the mounting bolts.
09900-00410 : Hexagon wrench set



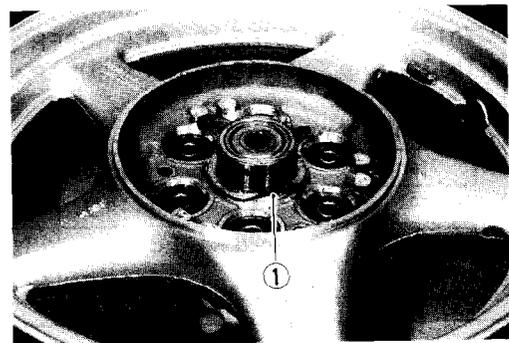
6. Flatten the lock washers and remove the fitting bolts.



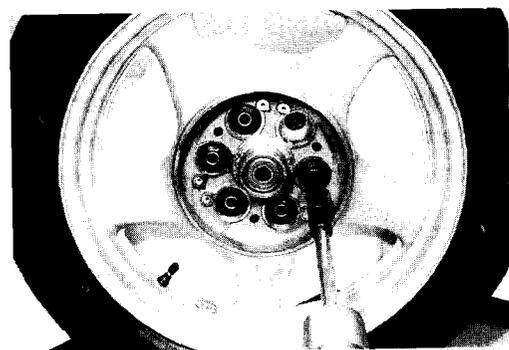
7. Pull off the driven joint.



8. Remove the O-ring ①.



9. Take off the dampers by using the special tools.
09921-20210 : Bearing remover
09930-30102 : Sliding shaft



INSPECTION AND DISASSEMBLY

TIRE Refer to page 8-31.

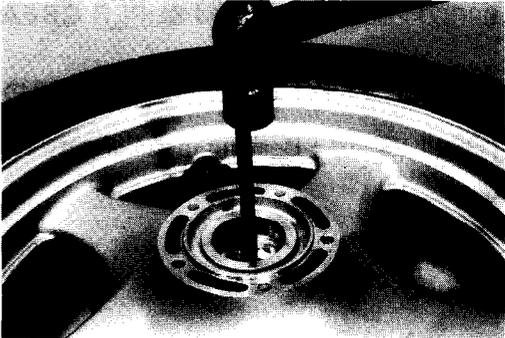
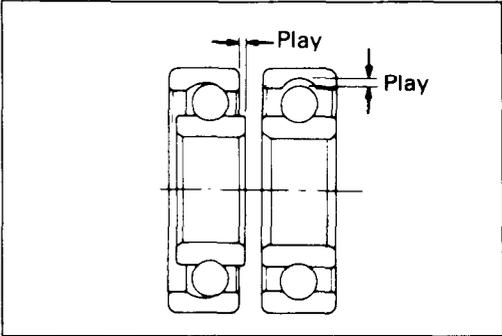
WHEEL BEARINGS

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

- Drive out the wheel bearings by using a proper tool. (Refer to page 8-2.)

CAUTION:

The removed bearings should be replaced with new ones.



AXLE SHAFT

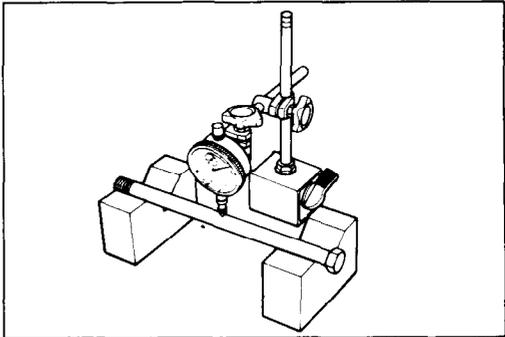
Using a dial gauge, check the axle shaft for runout and replace it if the runout exceeds the limit.

09900-20606 : Dial gauge (1/100)

09900-20701 : Magnetic stand

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

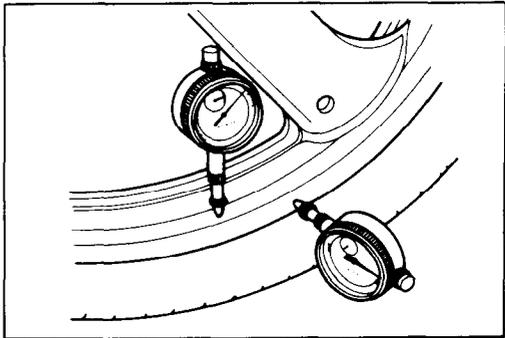
Service limit : 0.25 mm (0.010 in)



WHEEL

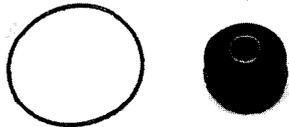
Make sure that the wheel runout checked as shown does not exceed the service limit. An excessive runout is usually due to worn or loose wheel bearings and can be reduced by replacing the bearings. If bearing replacement fails to reduce the runout, replace the wheel.

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



WHEEL DAMPER AND O-RING

Inspect the wheel dampers and driven joint O-ring for damage or wear.



REASSEMBLY AND REMOUNTING

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

WHEEL BEARING

- Apply grease to the bearings before installing.

(For U.S.A. model)

99000-25030 : SUZUKI SUPER GREASE "A"

(For the other models)

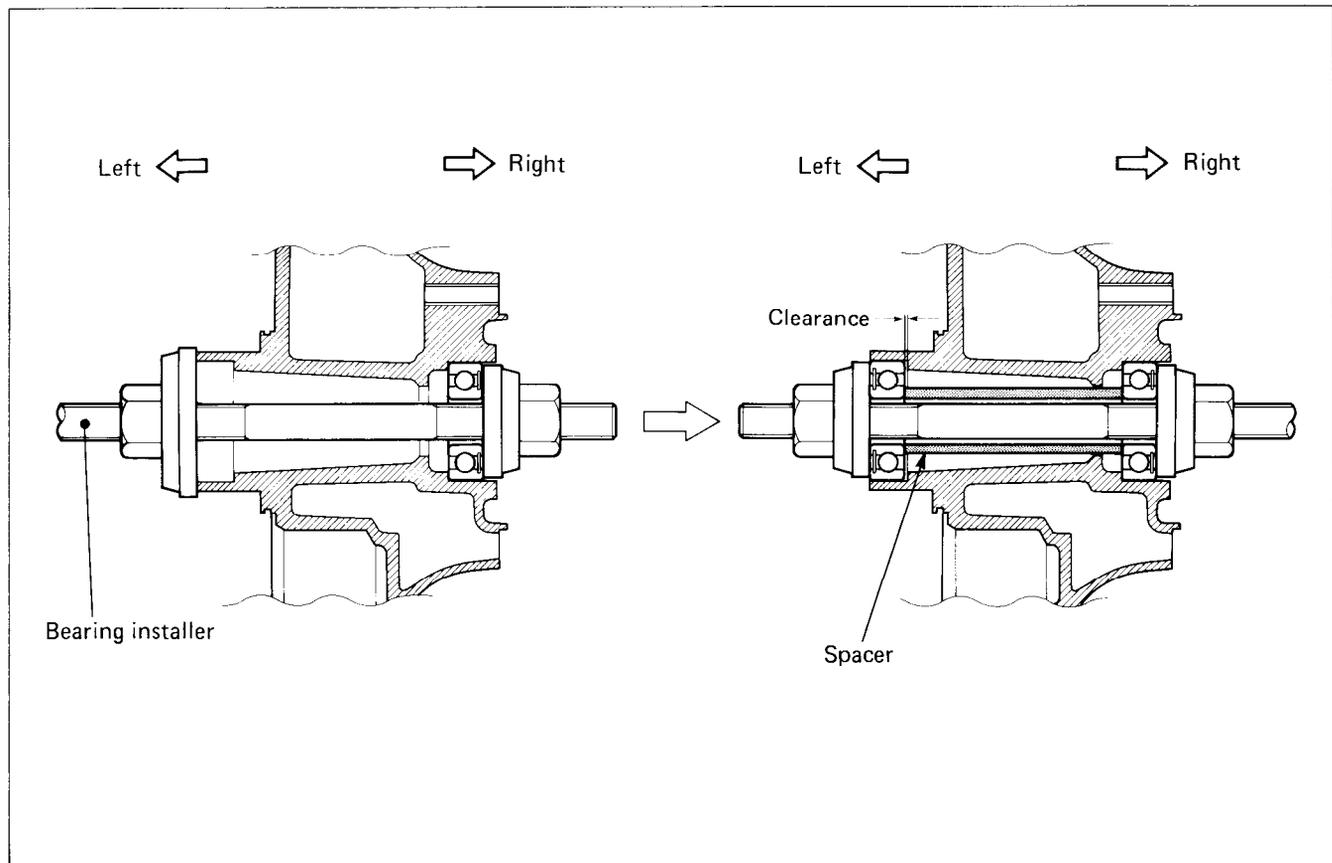
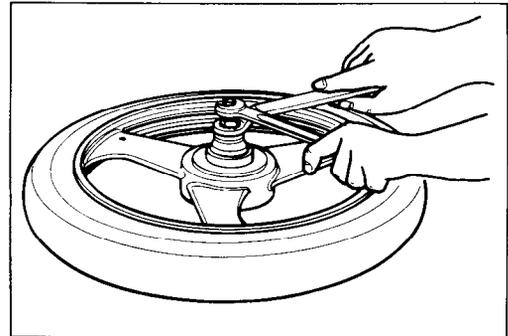
99000-25010 : SUZUKI SUPER GREASE "A"

- Install the wheel bearings by using the special tool.

09924-84510 : Bearing installer set

NOTE:

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



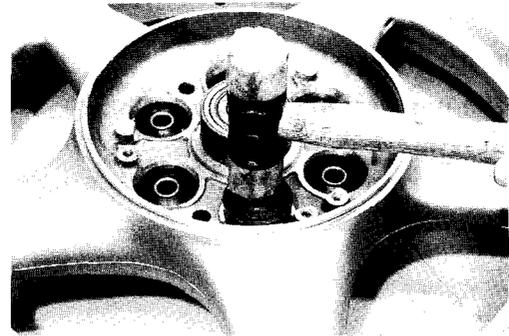
WHEEL DAMPER AND O-RING

- Install the dampers.

NOTE:

If soap water is applied around the damper, it makes the job easier.

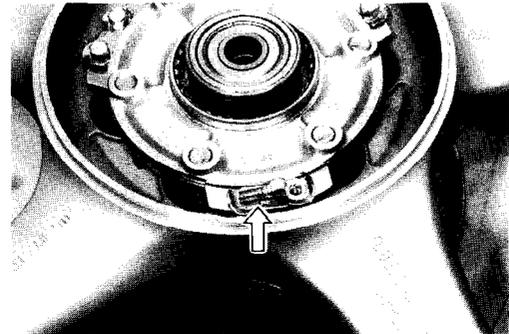
- Apply grease to the O-ring before installing the driven joint.

**DRIVEN JOINT**

- Apply THREAD LOCK SUPER "1303" to the driven joint stopper bolts and tighten them to the specified torque.

99000-32030 : THREAD LOCK SUPER "1303"

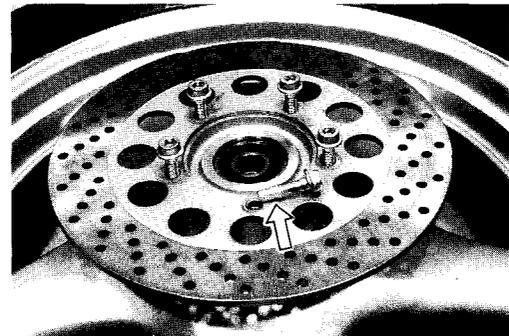
Tightening torque : 8 – 12 N·m
(0.8 – 1.2 kg-m, 6.0 – 8.5 lb-ft)

**BRAKE DISC**

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

99000-32130 : THREAD LOCK SUPER "1360"

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

**FINAL GEAR SPLINE**

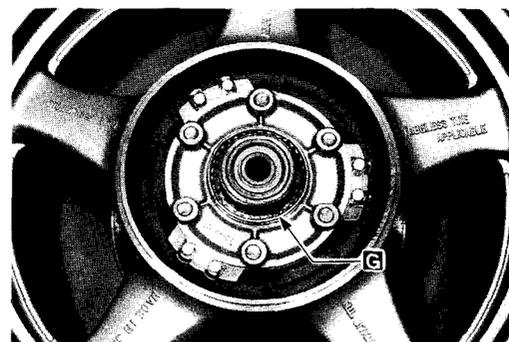
- Apply grease to the final gear spline before installing the rear wheel.  : Grease

(For U.S.A. model)

99000-25030 : SUZUKI SUPER GREASE "A"

(For the other models)

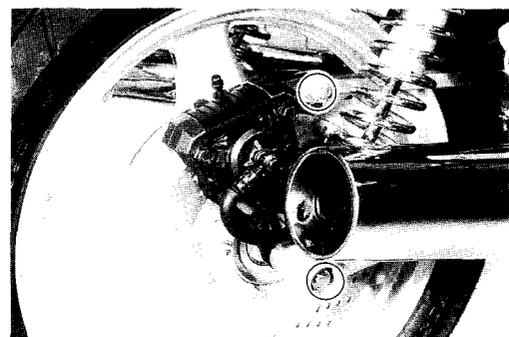
99000-25010 : SUZUKI SUPER GREASE "A"



Tightening torque

Axle nut : 60 – 96 N·m
(6.0 – 9.6 kg-m, 43.5 – 69.5 lb-ft)

Rear torque link nut : 22 – 35 N·m
(2.2 – 3.5 kg-m, 16.0 – 25.5 lb-ft)

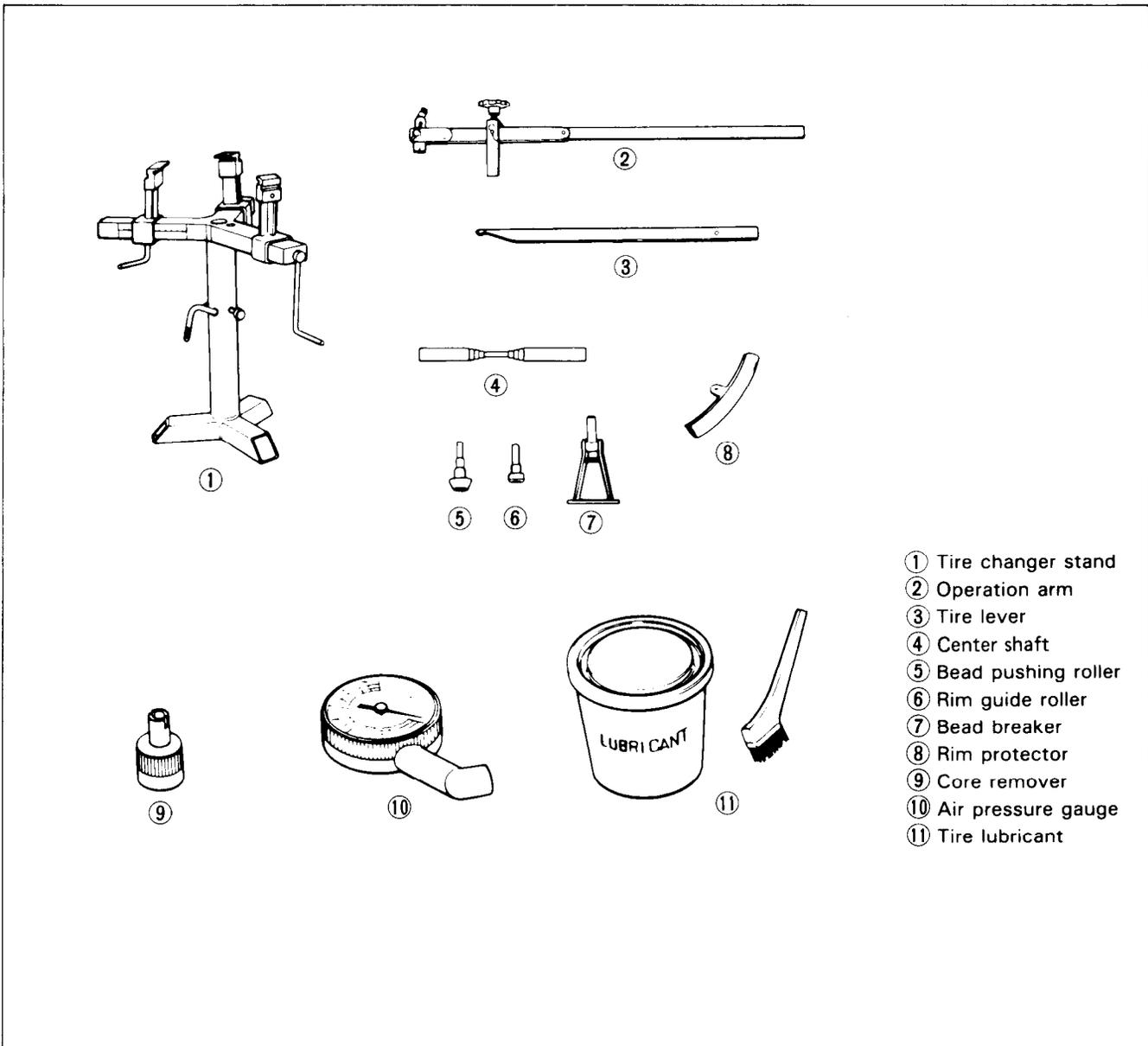


TIRE AND WHEEL

TIRE REMOVAL

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

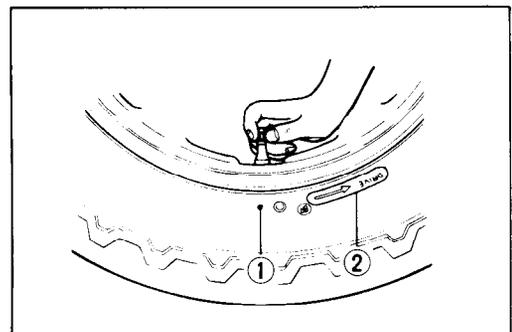
For tire removal the following tools are required.



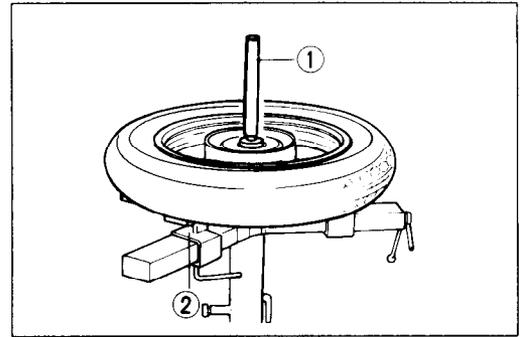
- Remove the valve core from the valve stem, and deflate the tire completely.

NOTE:

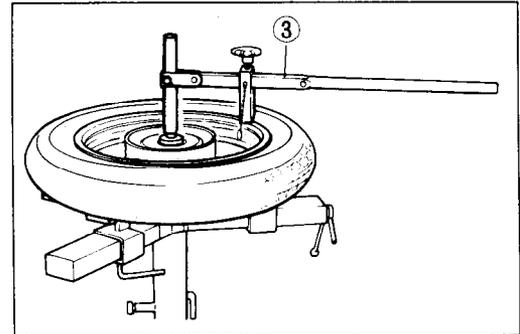
Mark the tire with chalk to note the position ① of the valve and rotational direction ② of the tire.



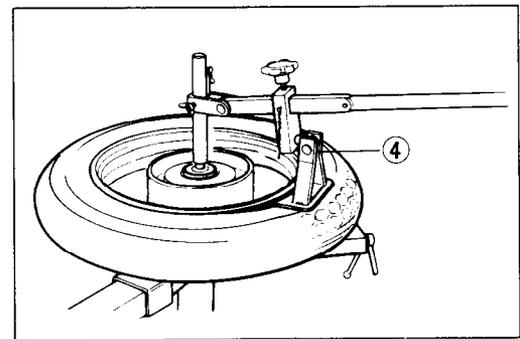
- Place the center shaft ① to the wheel, and fix the wheel with the rim holder ②.



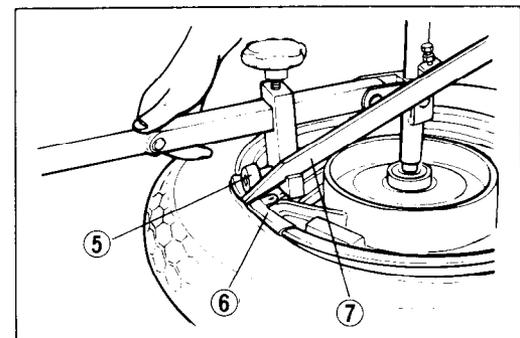
- Attach the operation arm ③ to the center shaft.



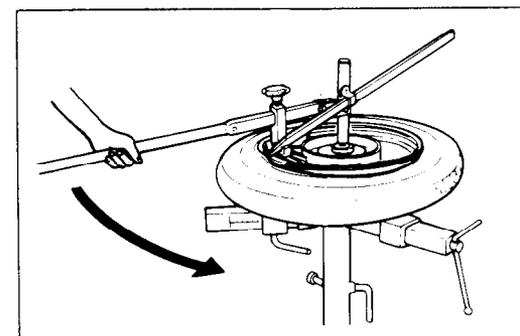
- Attach the bead breaker ④ to the operation arm, and dismount the bead from the rim. Turn the wheel over and dismount the other bead from the rim.



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



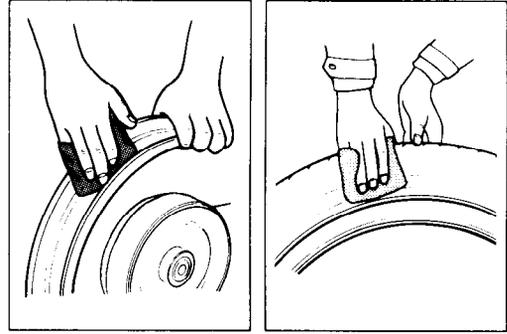
- Set the tire lever against the operation arm, and rotate the lever around the rim. Repeat this procedure to remove the other bead from the rim.



INSPECTION**WHEEL**

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

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

**TIRE**

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

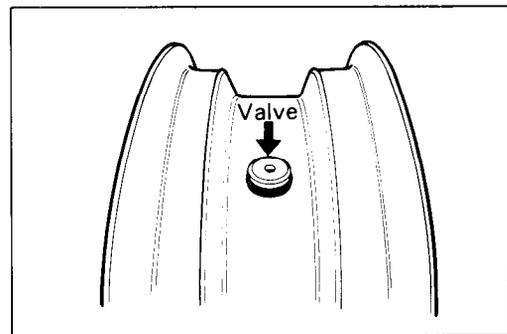
- * A puncture or a split whose total length or diameter exceeds 6.0 mm (0.24 in).
- * A scratch or split at the side wall.
- * Tread depth less than 1.6 mm (0.06 in) in the front tire and less than 2.0 mm (0.08 in) in the rear tire.
- * Ply separation.
- * Tread separation.
- * Tread wear is extraordinarily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

NOTE:

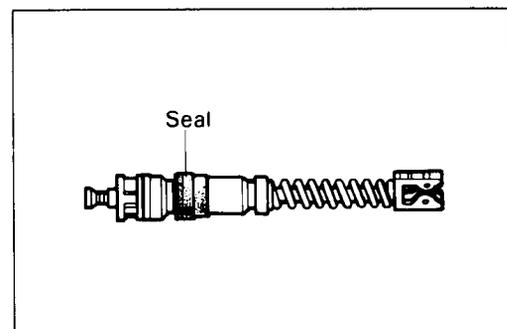
When repairing a flat tire, follow the repair instructions and use only recommended repairing materials.

VALVE INSPECTION

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

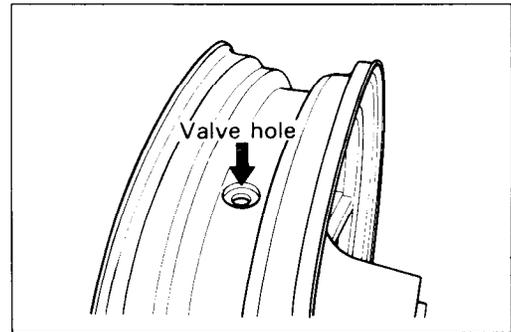


Inspect the removed valve core and replace with the new one if the seal rubber is abnormally deformed or worn.



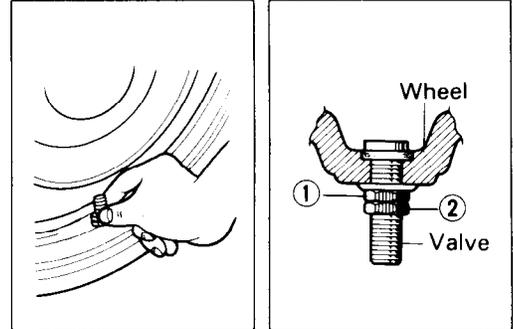
VALVE INSTALLATION

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



CAUTION:

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

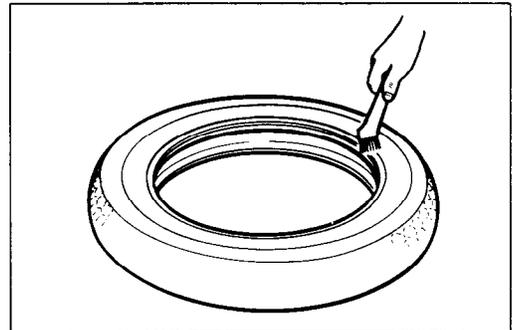


TIRE MOUNTING

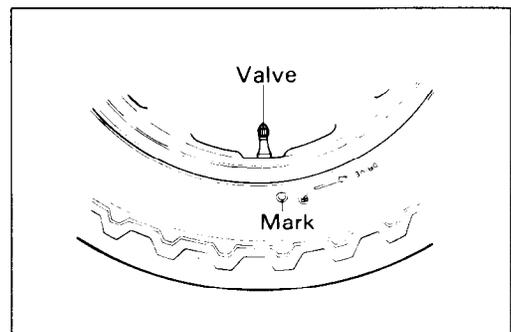
- Apply a special tire lubricant or neutral soapy liquid to the tire bead.

CAUTION:

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



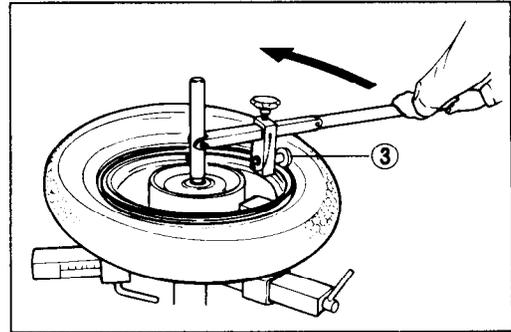
- When installing the tire, make certain that the directional arrow faces the direction of wheel rotation and align the balancing mark of the tire with the valve as shown.



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

NOTE:

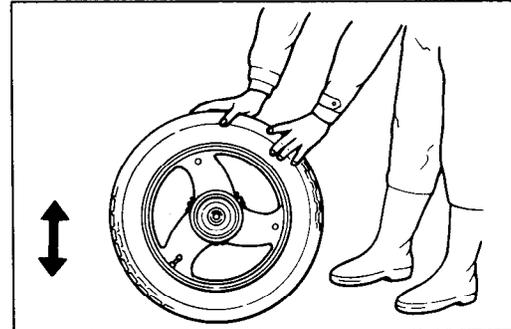
Before installing the valve core, inspect the core.



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

NOTE:

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



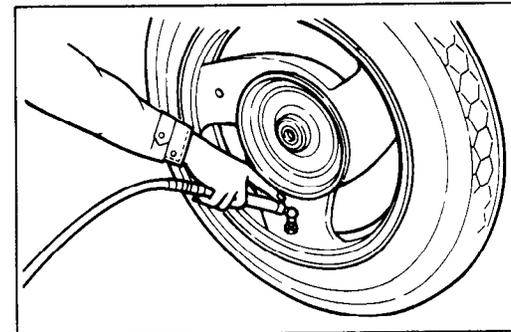
- Pump up the tire with air.

WARNING:

Do not inflate the tire to more than 400 kPa (4.0 kg/cm², 56 psi). The tire could burst with sufficient force to cause severe injury. Never stand directly over the tire while inflating it.

NOTE:

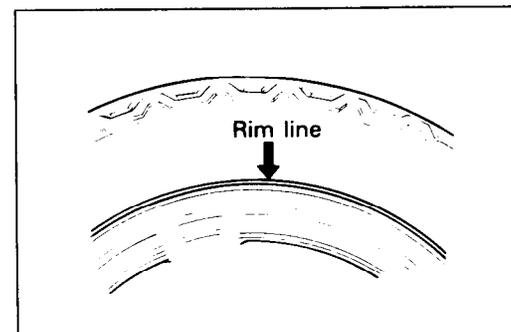
Check the "rim line" cast on the tire side walls. It must be equidistant from the wheel rim all the way around. If the distance between the rim line and wheel rim varies, this indicates that the bead is not properly seated. If this is so, deflate the tire completely, and unseat the bead for both sides.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



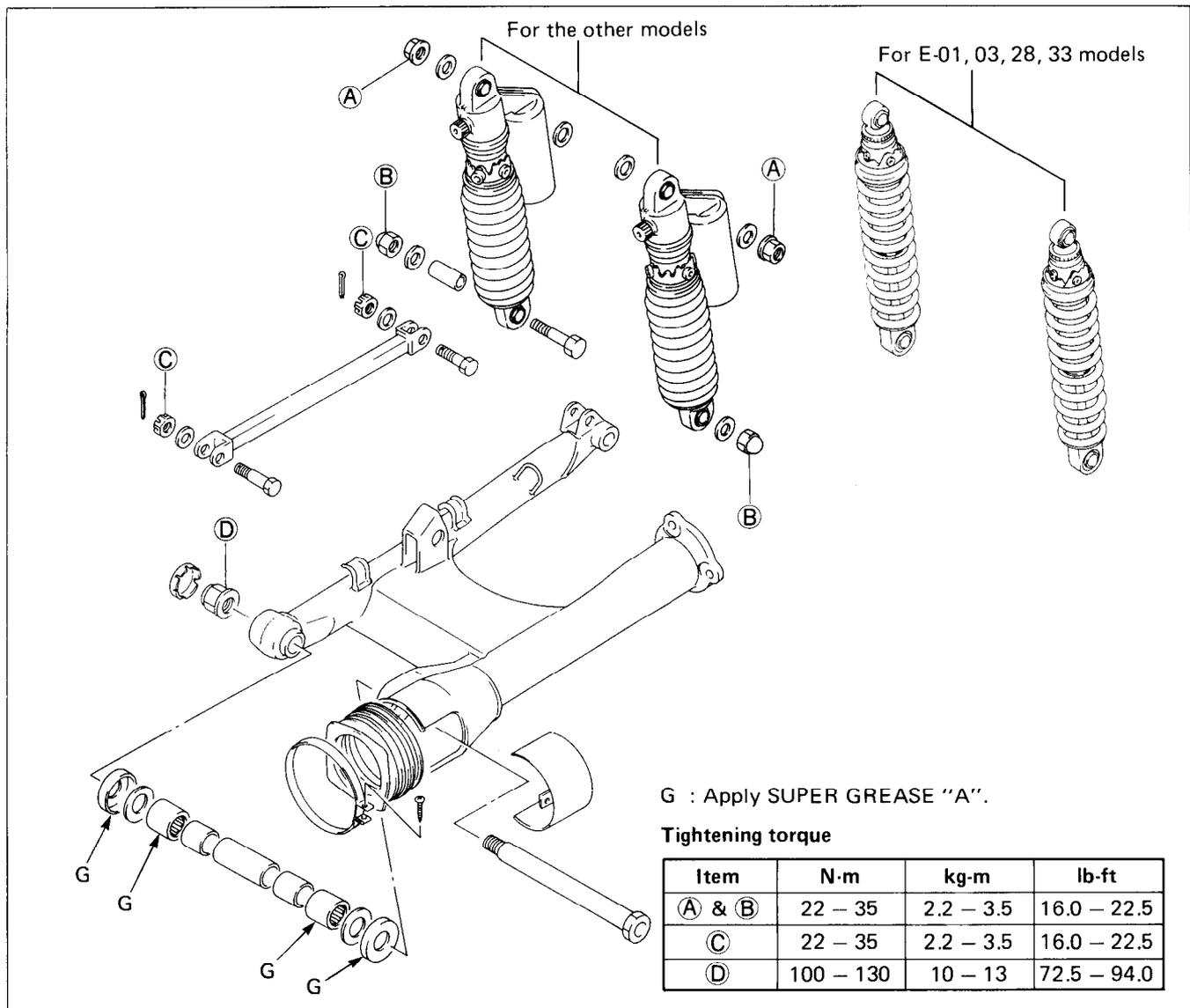
- After tire is properly seated to the wheel rim, adjust the air-pressure to the recommended pressure. Correct the wheel balance if necessary.

WARNING:

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



REAR SHOCK ABSORBERS AND SWINGARM



REMOVAL

1. Remove the seat and frame covers.
2. Remove the rear wheel. (Refer to page 8-26.)
3. Disconnect the brake hose from the caliper by removing the union bolt and catch the brake fluid in a suitable receptacle.

NOTE:

Hang the open end of the brake hose to the upper part of the frame by using a string, etc. to stop spilling of brake fluid.

CAUTION:

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

4. Remove the right and left rear shock absorbers.



5. Remove the final gear case along with the propeller shaft by removing the three nuts.

NOTE:

When reinstalling the final gear case apply SUZUKI BOND NO. 1207B/NO. 1215 to the mating surface between rear swingarm and final gear case.

(For U.S.A. model)

99104-31140 : SUZUKI BOND NO. 1207B

(For the other models)

99000-31110 : SUZUKI BOND NO. 1215

Tightening torque : 35 – 45 N·m
(3.5 – 4.5 kg·m, 25.5 – 32.5 lb·ft)

6. Remove the right and left footrest guards along with the footrests.

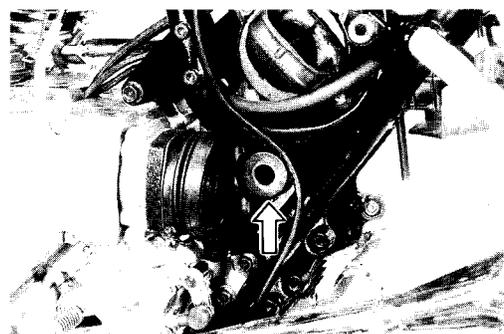
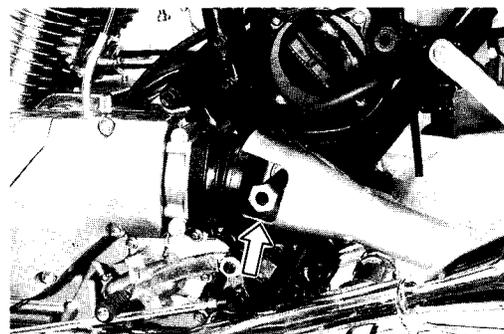
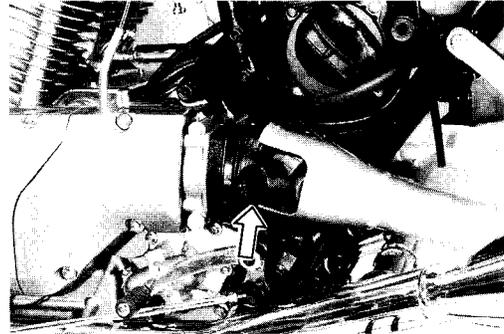
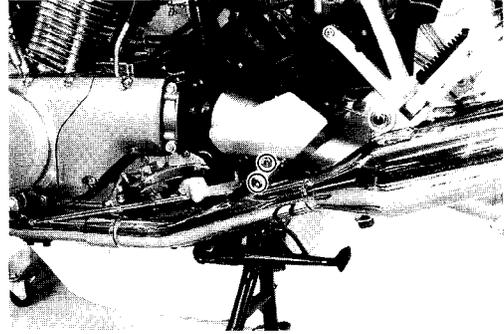
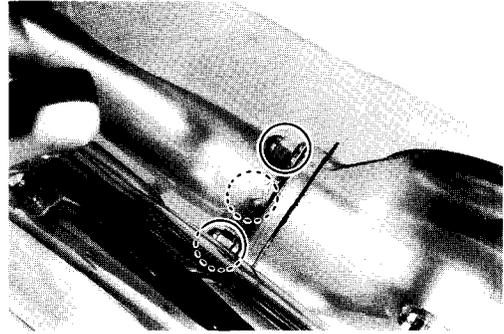
7. Loosen the shaft drive boot clamp screw and slide the boot forward. Remove the swingarm pivot cover and take out the universal joint from the swingarm.

8. Remove the right side swingarm pivot cover and remove the swingarm pivot shaft nut.

9. Draw out the swingarm pivot shaft.

10. Remove the rear swingarm from the chassis.

11. Remove the swingarm dust seals and washers, left and right.



INSPECTION

SWINGARM PIVOT BEARINGS

Inspect the swingarm pivot bearings for wear while they are in the frame. Rotate the spacer by hand to inspect for abnormal noise and smooth rotation. Replace the bearings if there is anything unusual. Also replace the spacer if necessary.

To remove the bearings:

- Remove the right and left spacers and center spacer.
- Using the special tools, remove the swingarm bearings from the pivoting hole.

09930-30102 : Sliding shaft

09923-74510 : Bearing remover

CAUTION:

The removed bearings should be replaced with new ones.

DUST SEAL

Inspect the dust seals, if they are found to be damaged, replace them with new ones.

REAR SHOCK ABSORBER

Inspect the rear shock absorber unit for oil leakage or damage. If there is any defect, replace the unit with a new one.

REASSEMBLY AND REMOUNTING

Reassemble and remount the swingarm and rear shock absorbers in the reverse order of disassembly and removal, and also carry out the following steps:

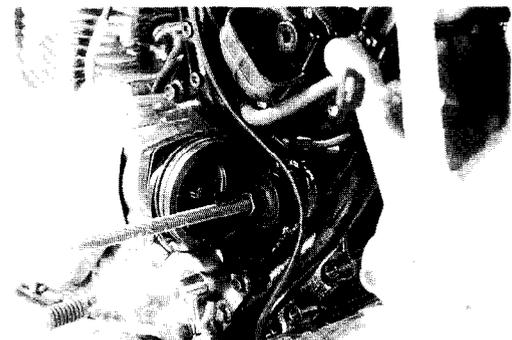
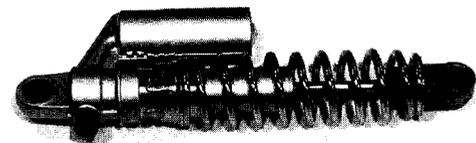
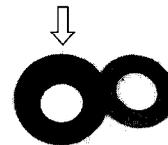
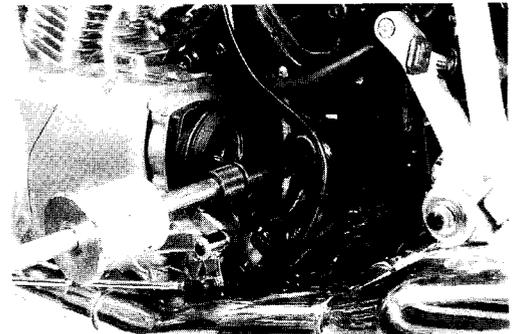
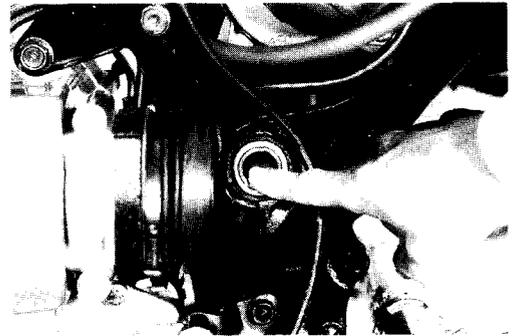
SWINGARM BEARING

- Press the bearings into the swingarm pivot by using the special tool.

09941-34513 : Steering race installer

NOTE:

When reinstalling the bearing, stamped mark of bearing is positioned outside.



- Apply grease to the spacers, bearings, washers and dust seals.

(For U.S.A. model)

99000-25030 : SUZUKI SUPER GREASE "A"

(For the other models)

99000-25010 : SUZUKI SUPER GREASE "A"

- Tighten the swingarm pivot nut to the specified torque.

Tightening torque : 100 – 130 N·m

(10 – 13 kg·m, 72.5 – 94.0 lb-ft)

FOOTREST GUARDS

- Apply THREAD LOCK SUPER "1333B"/"1322" to the footrest bracket mounting bolts and tighten them to the specified torque.

Tightening torque : 27 – 43 N·m

(2.7 – 4.3 kg·m, 19.5 – 31.0 lb-ft)

(For U.S.A. model)

99000-32020 : THREAD LOCK SUPER "1333B"

(For the other models)

99000-32110 : THREAD LOCK SUPER "1322"

FINAL BEVEL GEAR CASE

- Apply SUZUKI BOND NO. 1207B/NO. 1215 to the mating surface.

(For U.S.A. model)

99104-31140 : SUZUKI BOND NO. 1207B

(For the other models)

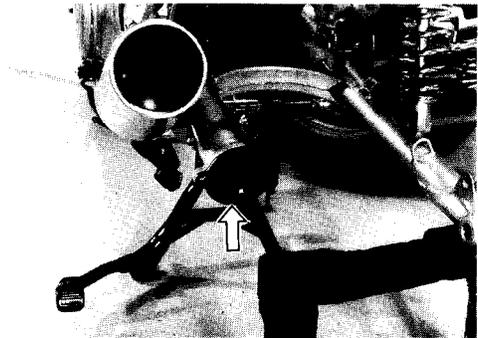
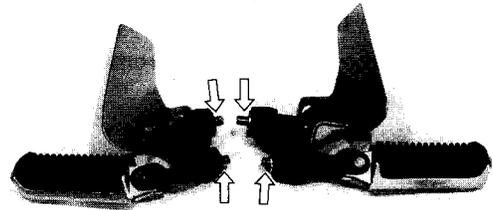
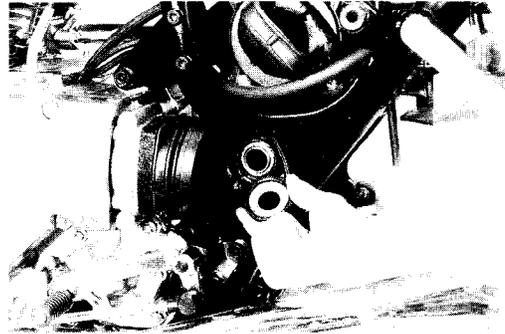
99000-31110 : SUZUKI BOND NO. 1215

- Apply Lithium Base Molybdenum grease to the joint part of universal joint and propeller shaft.
- Install the propeller shaft and final gear case.

Final gear case mounting nut

Tightening torque : 35 – 45 N·m

(3.5 – 4.5 kg·m, 25.5 – 32.5 lb-ft)



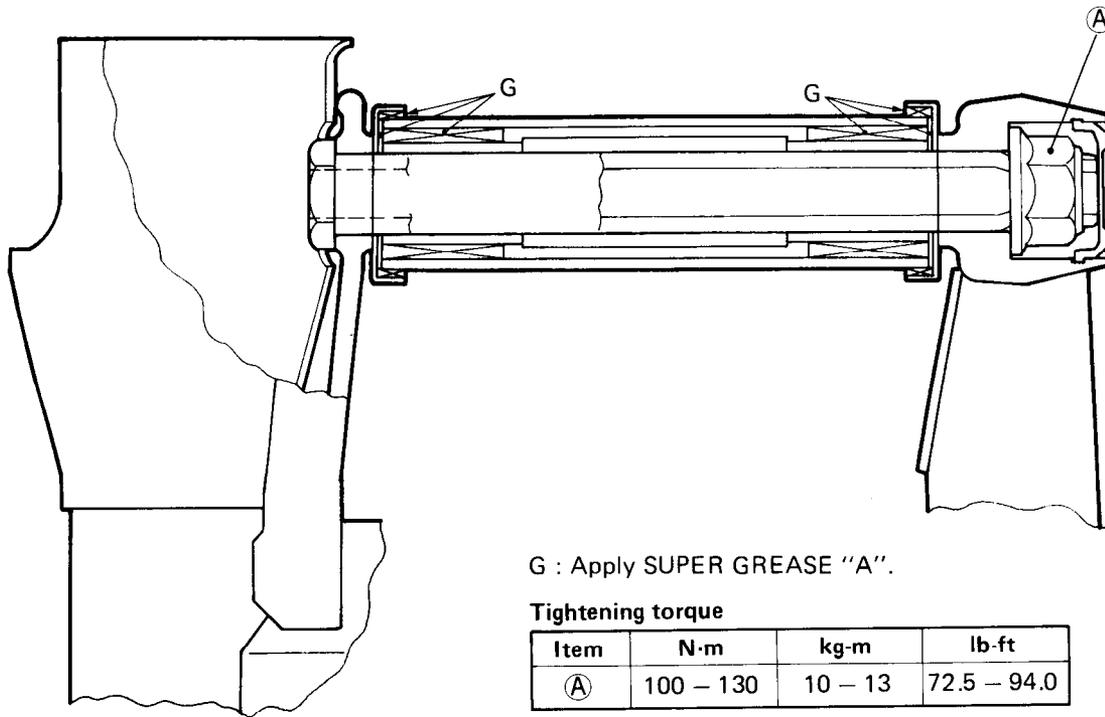
FINAL INSPECTION AND ADJUSTMENT

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

- * Rear brake
- * Tire pressure
- * Shock absorbers

REASSEMBLY INFORMATION

REAR SWINGARM PIVOT

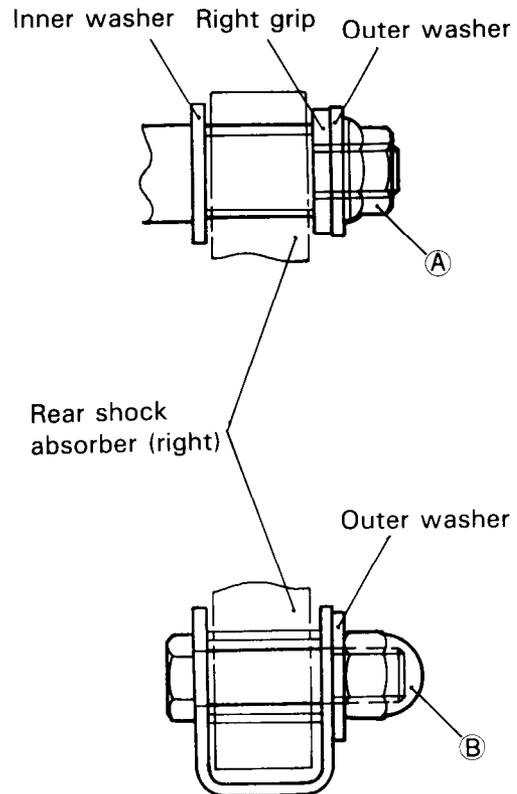
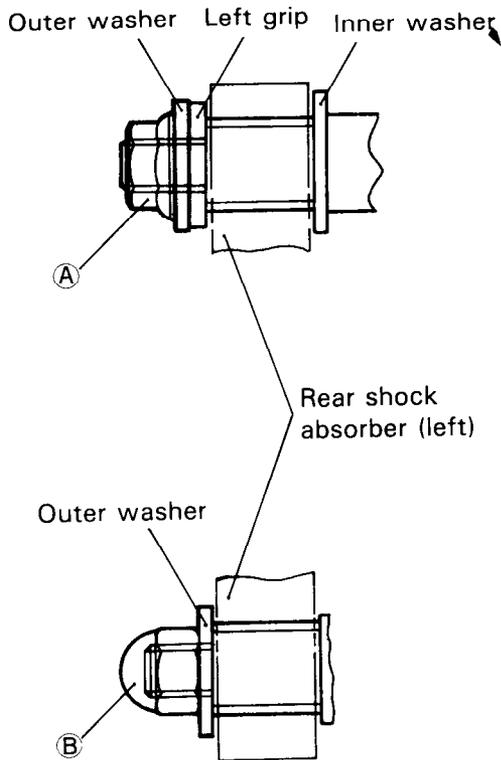


G : Apply SUPER GREASE "A".

Tightening torque

Item	N·m	kg·m	lb·ft
Ⓐ	100 - 130	10 - 13	72.5 - 94.0

REAR SHOCK ABSORBERS



Tightening torque

Item	N·m	kg·m	lb·ft
Ⓐ & Ⓑ	22 - 35	2.2 - 3.5	16.0 - 25.5

NOTE:

Inner washer OD : 30.0 mm (1.2 in)
Outer washer OD : 24.0 mm (0.95 in)

SUSPENSION SETTING

- When reinstalling the rear shock absorbers, make sure that both spring preload and damping force should be equalized.
- Rear shock absorbers are adjustable according to the rider's requirement. Use the following table to adjust the rear shock absorbers.

REAR SHOCK ABSORBER SETTING TABLE

For E-01, 03, 28, 33 models

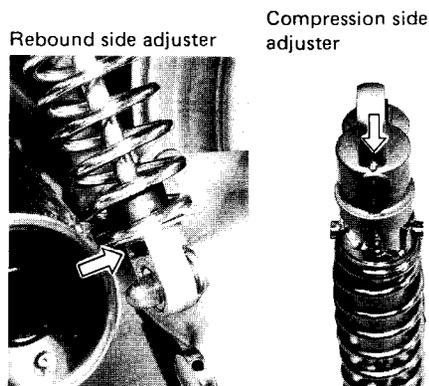
Item	Spring preload	Damping force (rebound)
Solo riding	2	1
Dual riding	4	3

For the other models

Item	Spring preload	Damping force	
		Rebound	Compression
Solo riding	2	1	1
Dual riding	3	2	2
Solo riding and carrying load (30 kg, 66 lbs)	5	4	3
Dual riding and carrying load (30 kg, 66 lbs)	5	4	3



For E-01, 03, 28, 33 models



For the other models