

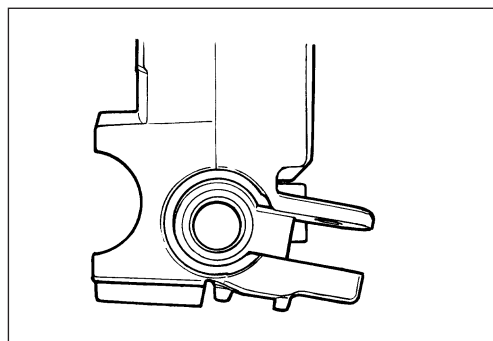
- Remove the piston assembly.



MASTER CYLINDER INSPECTION

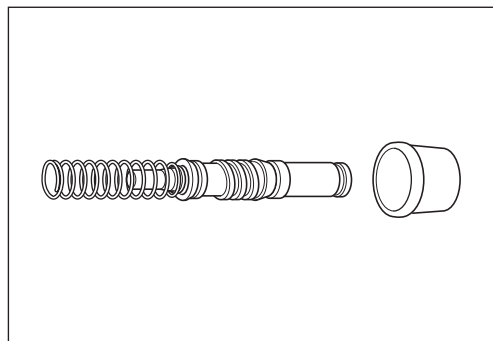
MASTER CYLINDER

Inspect the master cylinder bore for any scratches or damage. If any damages are found, replace the master cylinder with a new one.



PISTON AND RUBBER PARTS

Inspect the piston surface, primary/secondary cup, and dust boot for any scratches, wear or damage. If any damages are found, replace the piston set with a new one.

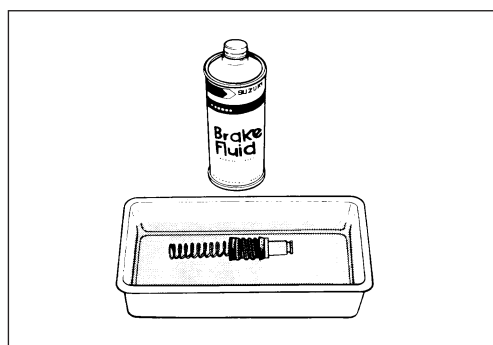


MASTER CYLINDER REASSEMBLY AND REMOUNTING

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

⚠ CAUTION

- * Wash the master cylinder components with new 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 solvents such as gasoline, kerosine, etc.
- * Apply brake fluid to the master cylinder bore and all of the master cylinder components before reassembly.



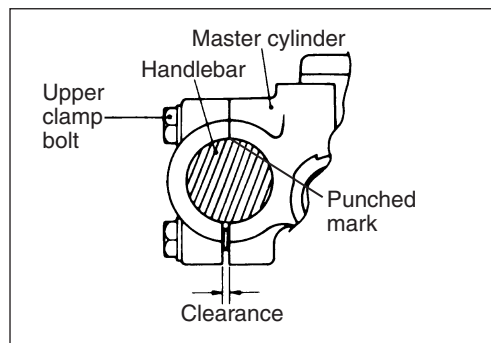
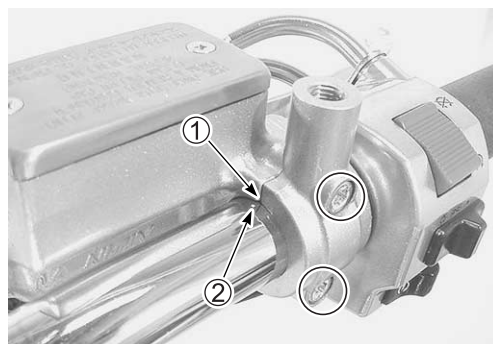
Specification and classification: DOT 4

- When installing the brake light switch, align the projection on the switch with the hole in the master cylinder.



- When remounting the master cylinder onto the handlebars, align the master cylinder holder's mating surface ① with the punch mark ② on the handlebars and tighten the upper clamp bolt first.

 **Master cylinder mount bolt: 10 N·m (1.0 kgf·m, 7.0 lb-ft)**



- Tighten the brake hose union bolt to the specified torque.
- For assembly procedure of brake hose. (👉 9-18)

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

⚠ CAUTION

Bleed air from the brake system after installing the master cylinder. (👉 2-17)



FRONT FORK
CONSTRUCTION

① O-ring

② Front fork spring

③ Damper rod ring

④ Rebound spring

⑤ Damper rod

⑥ Inner tube cover

⑦ Rubber

⑧ Washer

⑨ Inner tube

⑩ Slide metal

⑪ Dust seal

⑫ Oil seal stopper ring

⑬ Oil seal

⑭ Oil seal retainer

⑮ Oil lock piece

⑯ Inner tube cover guide

⑰ Outer tube

A Front fork cap bolt

B Front fork spring stopper nut

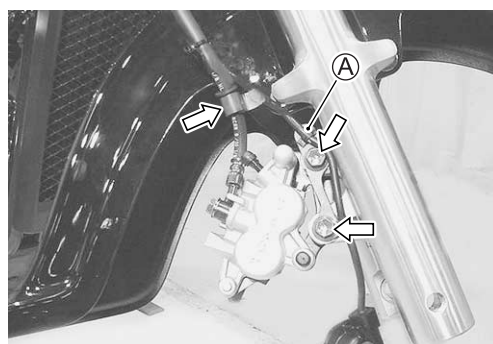
C Front axle pinch bolt

D Damper rod bolt

ITEM	N·m	kgf·m	lb·ft
A	45	4.5	32.5
B	35	3.5	25.5
C	33	3.3	24
D	20	2.0	14.5

REMOVAL AND DISASSEMBLY

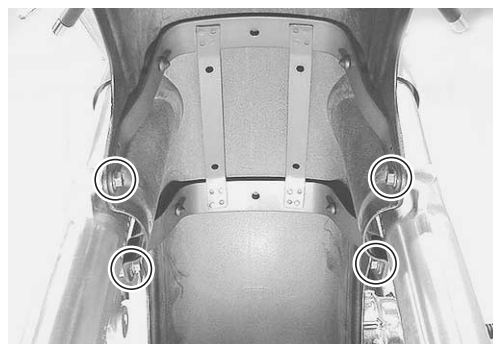
- Remove the front wheel. (☞ 7-5)
- Remove the brake hose from the hose guide.
- Remove the guide hook **A**.
- Remove the front brake caliper by removing the bolts.



- Remove the front fender by removing its mounting bolts.

⚠ CAUTION

Be careful not to scratch the front fender.

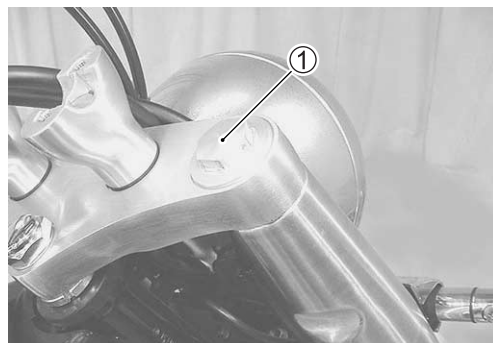


- Remove the handlebars. (☞ 7-27)
- Remove the front fork cap bolts ①.

NOTE:

Slightly loosen the front fork spring stopper nut to facilitate later disassembly.

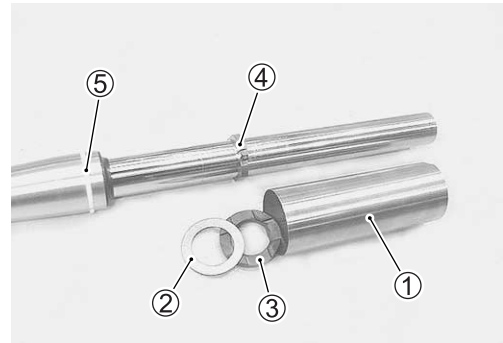
TOOL 09900-18720: Hexagon socket (14 mm)



- Remove the front forks after loosening the front fork lower clamp bolts.

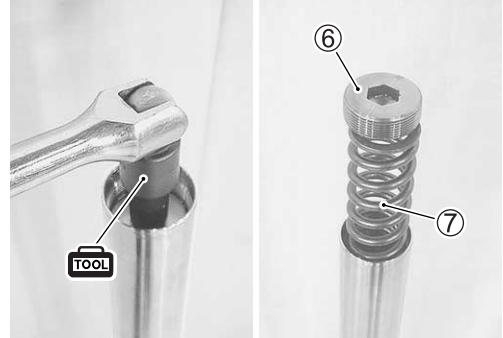


- Remove the front fork inner tube cover ①, washer ② and rubber ③.
- Remove the inner tube cover stopper ④ by loosening the bolt.
- Remove the inner tube cover guide ⑤.

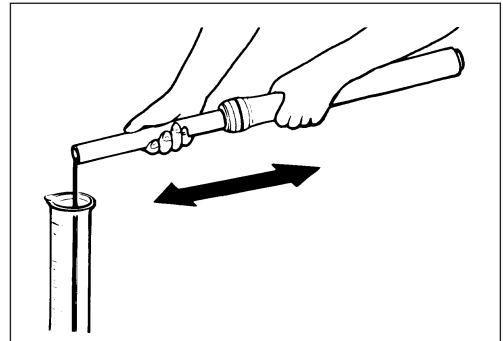


- Remove the front fork spring stopper nut ⑥ and fork spring ⑦.

TOOL 09900-18720: Hexagon socket (14 mm)



- Invert the front fork and stroke it several times to drain out fork oil.
- Hold the front fork in the inverted position for a few minutes to allow fork oil to fully drain.

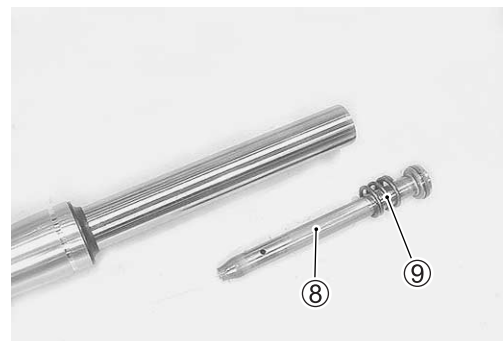


- Remove the damper rod bolt using a 6-mm hexagon wrench and the special tools.

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



- Remove the damper rod ⑧ and Rebound spring ⑨.



- Remove the dust seal ① and the oil seal stopper ring ②.



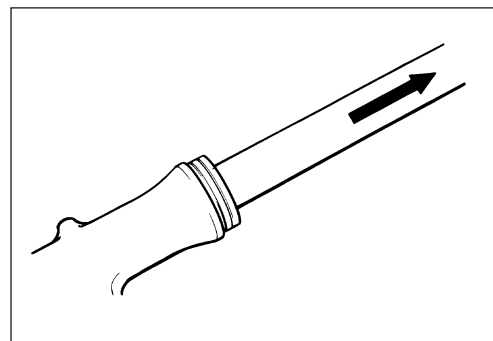
- Remove the oil seal by slowly pulling out the inner tube.

NOTE:

Be careful not to damage the inner tube.

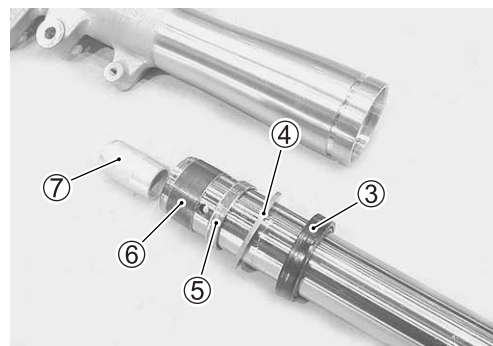
⚠ CAUTION

The outer and inner tube's slide metals must be replaced along with the oil seal and dust seal when assembling the front fork.



- Remove the following parts.

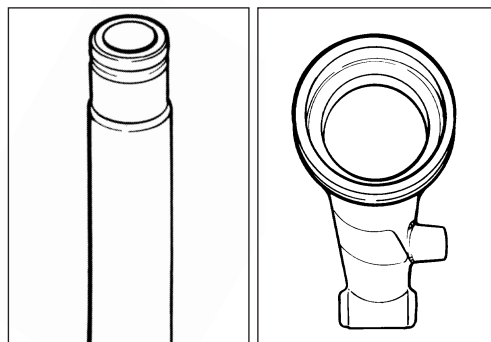
- ③ Oil seal
- ④ Oil seal retainer
- ⑤ Outer tube slide metal
- ⑥ Inner tube slide metal
- ⑦ Oil lock piece



INSPECTION

INNER AND OUTER TUBES

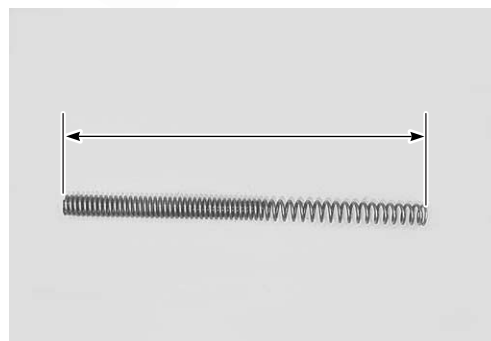
Inspect the inner tube sliding surface and outer tube sliding surface for scuffing.



FORK SPRING

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

DATA Front fork spring free length
Service Limit: 540 mm (21.26 in)



DAMPER ROD RING

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



REASSEMBLY AND REMOUNTING

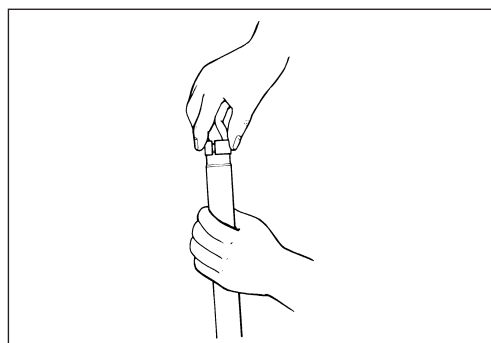
Reassemble and remount the front fork in the reverse order of removal and disassembly. Pay attention to the following points:

SLIDE METALS AND OIL AND DUST SEALS

- Hold the inner tube vertically, clean the metal groove and install the slide metal by hand.

⚠ CAUTION

Do not damage the Teflon coated surface of the inner tube's slide metal when mounting it.



- Install the oil lock piece ①, slide metals ②, oil seal retainer ③ and oil seal ④ onto the inner tube.

NOTE:

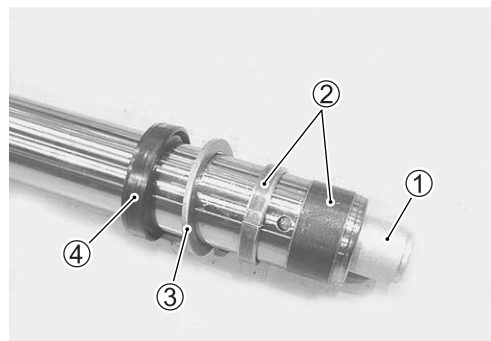
Apply grease to the oil seal ④ lip lightly before installing it.

For USA

 99000-25030: SUZUKI SUPER GREASE "A"

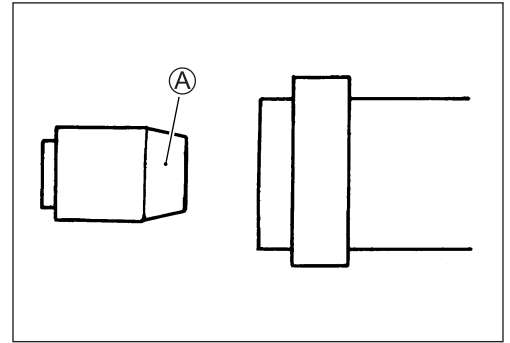
For the other countries

 99000-25010: SUZUKI SUPER GREASE "A"



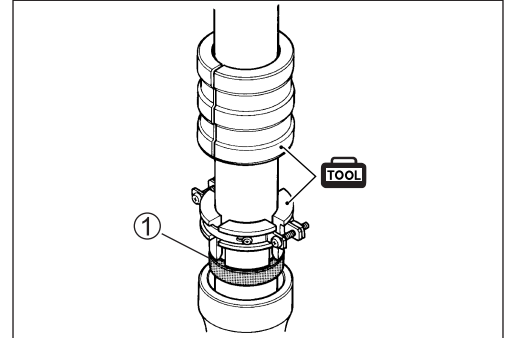
NOTE:

When installing the oil lock piece, insert the tapered end (A) of oil lock piece into the inner tube.



- Insert the inner tube into the outer tube and install the oil seal (1) using the special tool.

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

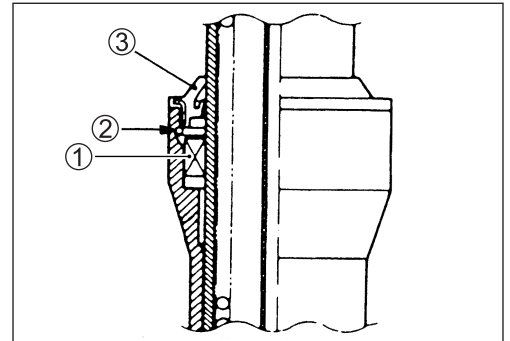


- Install the oil seal stopper ring (2).


CAUTION

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

- Install the dust seal (3).

**DAMPER ROD**

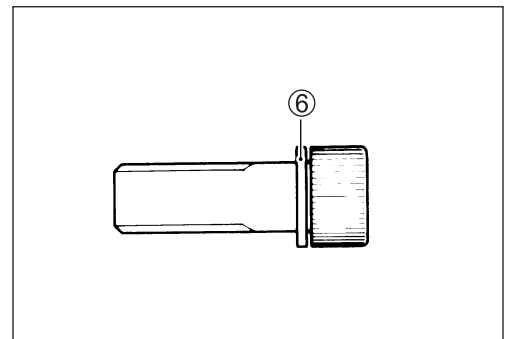
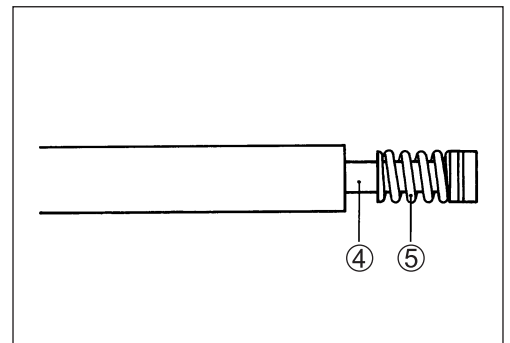
- Install the damper rod (4) and rebound spring (5) as shown. Tighten the damper rod bolt to the specified torque using a 6-mm hexagon wrench and the special tools.

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

 **Damper rod bolt: 20 N·m (2.0 kgf·m, 14.5 lb·ft)**

CAUTION

Use a new damper rod bolt gasket (6) to prevent oil leakage.



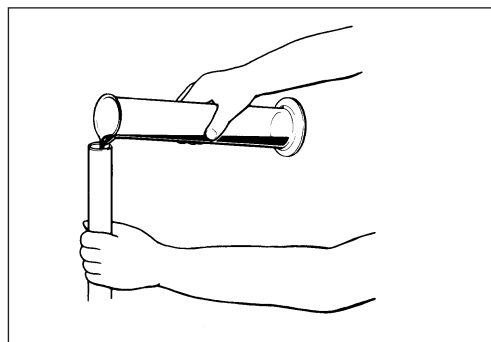
FORK OIL

- Pour the specified fork oil into the inner tube.

Fork oil type: SUZUKI FORK OIL SS-08 (#10) or equivalent fork oil

FORK 09900-99001-SS8: SUZUKI FORK OIL SS-08

**DATA Front fork oil capacity (each leg): 412 ml
(13.9/14.5 US/Imp oz)**



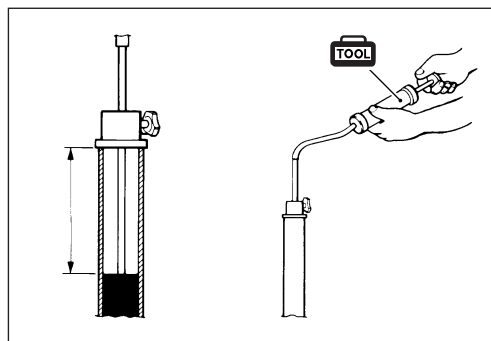
- Hold the front fork in a vertical position and adjust the fork oil level using the special tool.

TOOL 09943-74111: Front fork oil level gauge

**DATA Front fork oil level
Service Limit: 177 mm (6.96 in)**

NOTE:

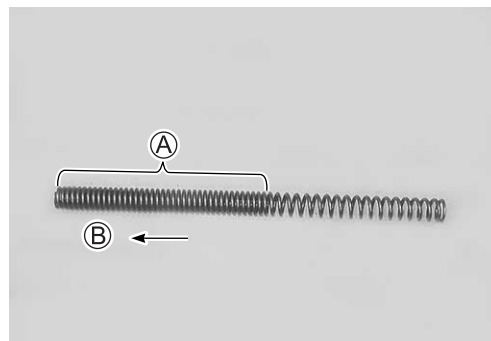
When adjusting the oil level, remove the fork spring and compress the inner tube fully.

**FORK SPRING**

- Install the fork spring as shown.

NOTE:

The end of the fork spring with the widely close pitch (A) side should be at the bottom (B) of the front fork.



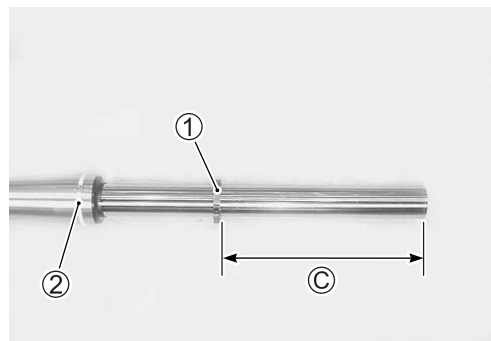
- Install the front fork spring stopper nut temporarily.

TOOL 09900-18720: Hexagon socket (14 mm)

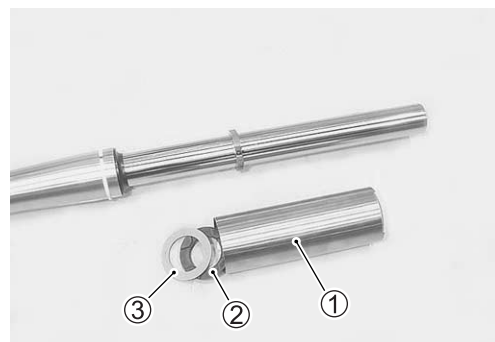
**REMountING**

Remount the front forks in the reverse order of removal. Pay attention to the following points.

- Install the inner tube cover stopper ① at 246.6 mm (9.70 in) ③ from the upper surface of the inner tube.
- Install the inner tube cover guide ②.



- Install the inner tube cover ①, rubber ② and washer ③.




- Remount the front fork and tighten the front fork lower clamp bolts temporarily.

NOTE:

Install the inner tube ① until it seats to the flange part ② of the steering stem upper bracket.

- Tighten the front fork spring stopper nut to the specified torque.

 **Front fork spring stopper nut: 35 N·m**
(3.5 kgf·m, 25.5 lb-ft)

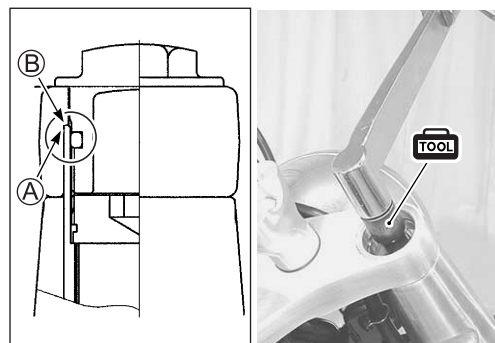
 **09900-18720: Hexagon socket (14 mm)**

- After loosening the front fork lower clamp bolts slightly, tighten the front fork cap bolt to the specified torque.

 **Front fork cap bolt: 45 N·m (4.5 kgf·m, 32.5 lb-ft)**

CAUTION

Replace the front fork cap bolt's O-ring to prevent oil leakage.



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

 **Front fork lower clamp bolt: 33 N·m (3.3 kgf·m, 24 lb-ft)**

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

 **Front brake caliper mounting bolt: 39 N·m**
(3.9 kgf·m, 28 lb-ft)

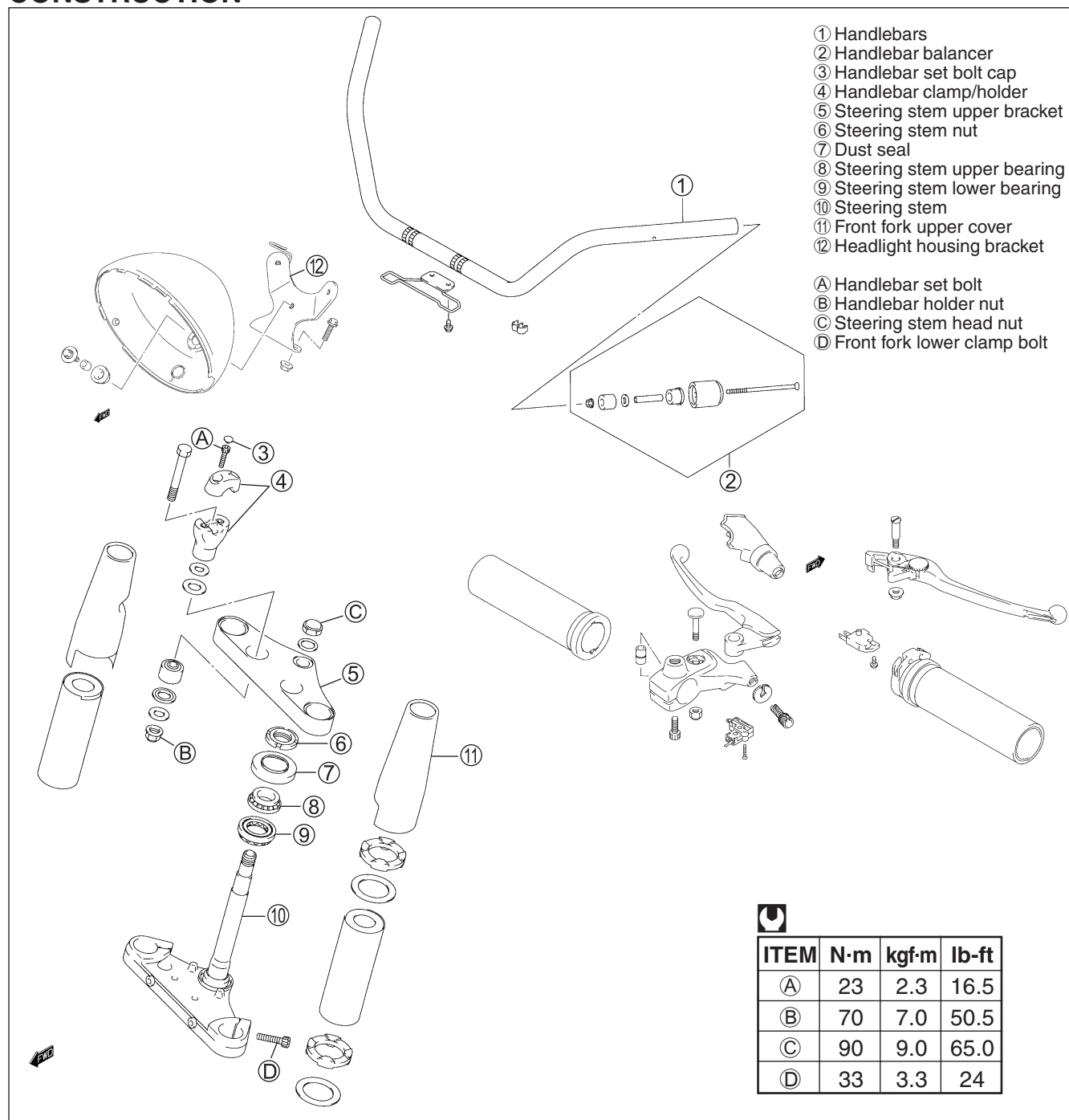
- Install the front wheel. (➡ 7-7)

NOTE:

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

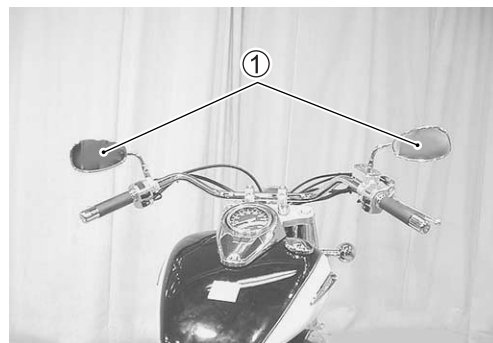


STEERING CONSTRUCTION

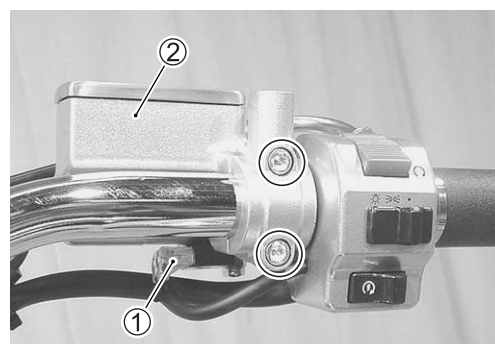


REMOVAL AND DISASSEMBLY

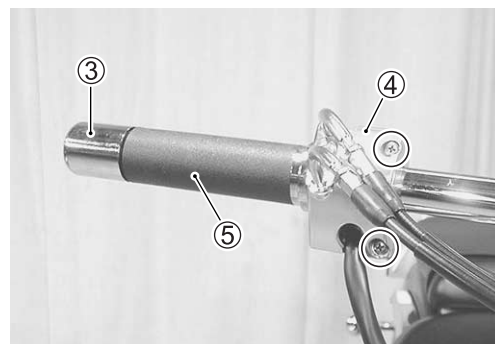
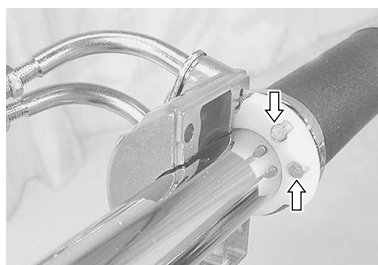
- Remove the front wheel. (☞ 7-5)
- Remove the front fork. (☞ 7-19)
- Remove the rear view mirrors ①.



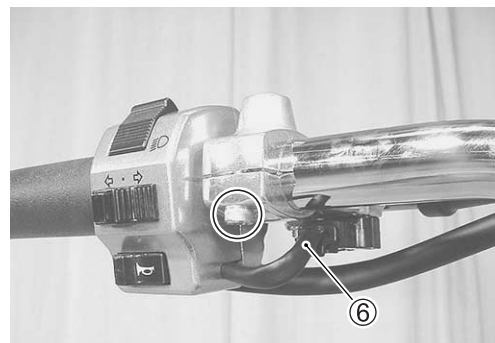
- Disconnect the front brake light switch lead wires ①.
- Remove the front brake master cylinder ②.



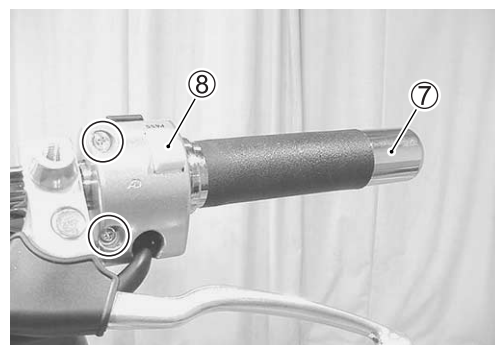
- Remove the right handlebar balancer ③, the right handlebar switch ④ and the throttle grip ⑤.



- Disconnect the clutch lever position switch lead wires ⑥.
- Loosen the clutch lever holder bolt.



- Remove the left handlebar balancer ⑦ and the left handlebar switch ⑧.



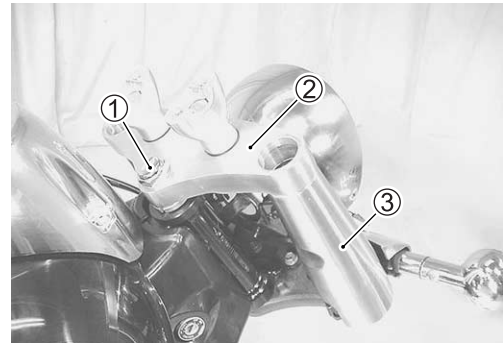
- Remove the handlebars by removing the handlebar clamp bolt caps, handlebar clamp bolts and handlebar clamps.



- Remove the steering stem head nut ① and washer.
- Remove the steering stem upper bracket ② and the front fork upper cover ③.

NOTE:

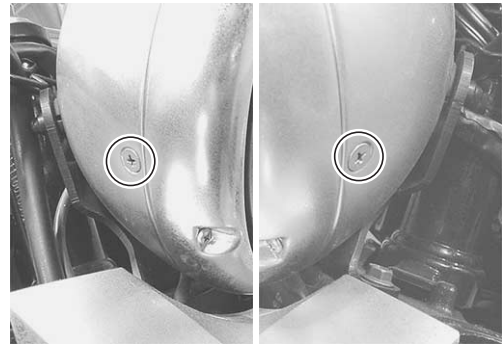
Hold the front fork upper cover to prevent it from falling.



- Remove the cable guide ④.



- Remove the headlight.



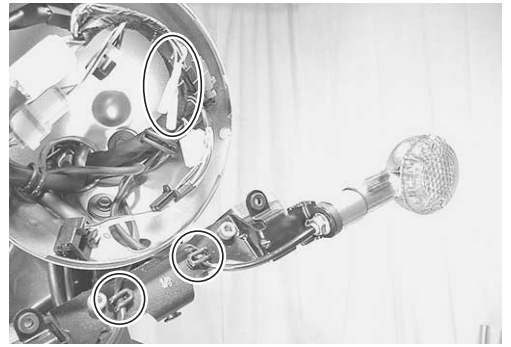
- Remove the cooling air guide.



- Remove the steering stem cover.



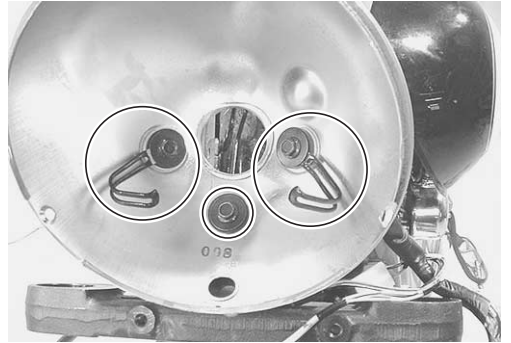
- Remove the front turn signal light bracket.
- Disconnect the front turn signal light lead-wire connector.



- Remove the brake hose guide.
- Remove the brake hose and speedo sensor lead-wire. (➡ 9-21)



- Remove the head light housing.



- Remove the head light housing bracket.



- Remove the steering stem nut using the special tool.

TOOL 09940-14911: Steering stem nut wrench

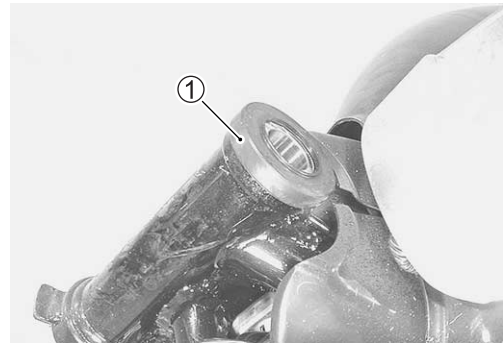
- Remove the steering stem lower bracket.

NOTE:

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



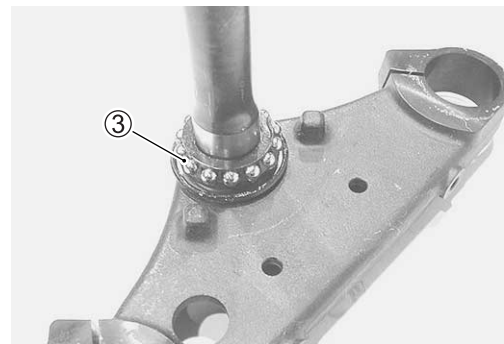
- Remove the dust seal ①.



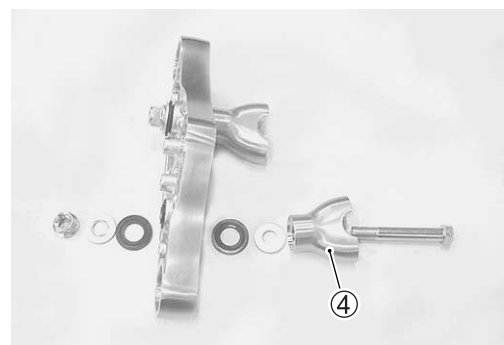
- Remove the steering stem upper bearing ②.



- Remove the steering stem lower bearing ③.



- Remove the handlebar holders ④ from the steering stem upper bracket.



- Remove the handlebar bushes by using the proper tool and special tools.

 09941-34513: Steering outer race installer



INSPECTION AND DISASSEMBLY

Inspect the removed parts for the following abnormalities.

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

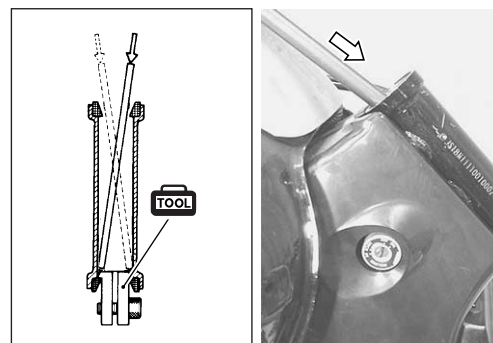
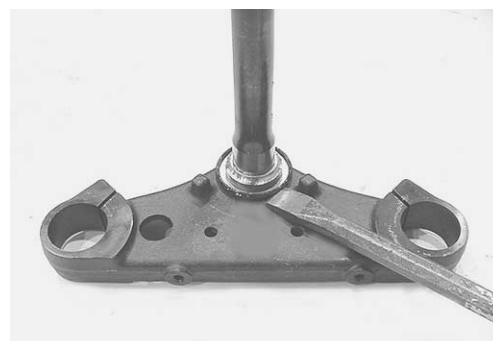
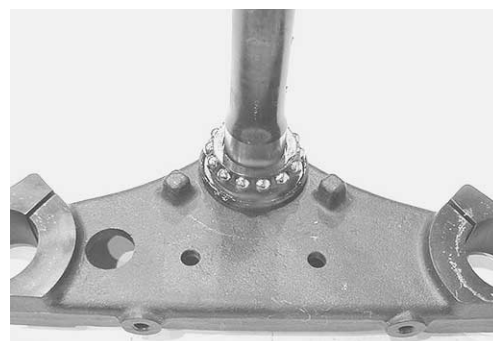
- Remove the steering stem lower bearing inner race by using a chisel.

⚠ CAUTION

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

- Drive out the steering stem upper and lower bearing races by using the special tools and suitable bar.

 **09941-54911: Bearing outer race remover**



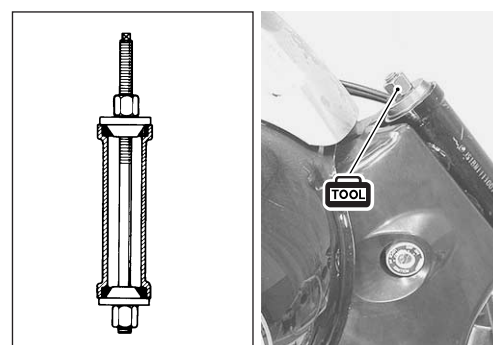
REASSEMBLY AND REMOUNTING

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 using the special tool.

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



BEARINGS

- Press in the lower bearing using the special tool.

 **09941-74911: Steering bearing installer**



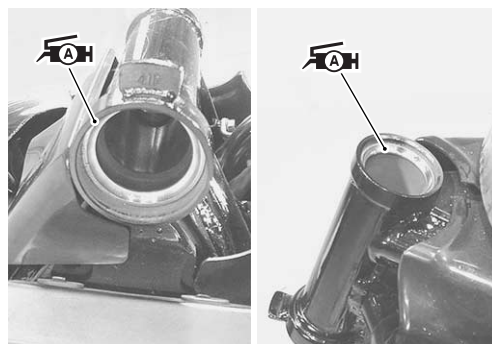
- Apply grease to the upper and lower bearings before remounting the steering stem.

For USA

 99000-25030: SUZUKI SUPER GREASE "A"

For the other countries

 99000-25010: SUZUKI SUPER GREASE "A"



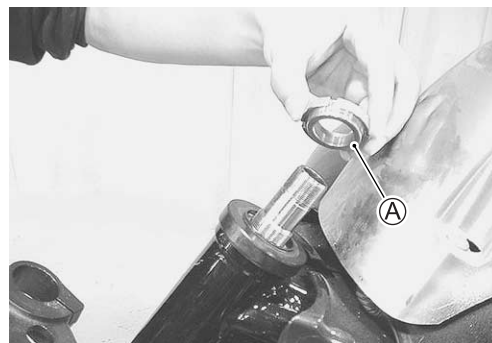
- Install the bearings inner race and the dust seal.

**STEERING STEM NUT**

- Install the steering stem.
- Install the steering stem nut as shown.

NOTE:

The flange side (A) of the steering stem must face down.



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

 09940-14911: Steering stem nut wrench

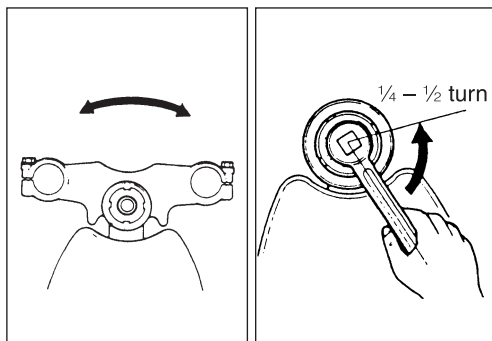
 Stem nut: 45 N·m (4.5 kgf·m, 32.5 lb-ft)



- Turn the steering stem lower bracket about five or six times to the left and right so that the bearings seat properly.
- Loosen the steering stem nut by $\frac{1}{4}$ – $\frac{1}{2}$ of a turn.

NOTE:

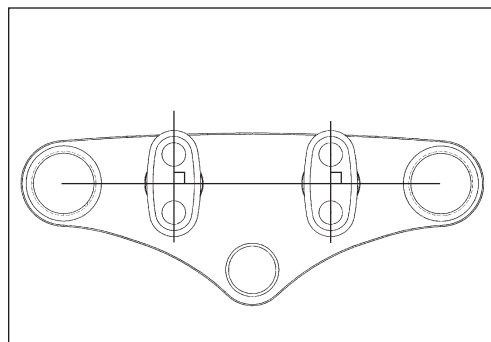
This adjustment will vary from motorcycle to motorcycle.



HANDLEBAR HOLDER

- Install the handlebar holders and related parts to the steering stem head.
- Tighten the handlebar holder nuts to the specified torque.

 **Handlebar holder nut: 70 N·m (7.0 kgf·m, 50.5 lb-ft)**

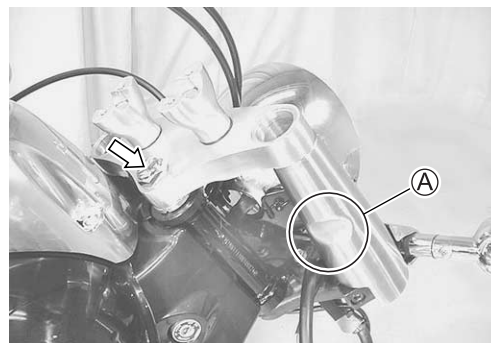


STEERING STEM UPPER BRACKET

- Install the front fork upper cover, steering stem upper bracket, washer and steering stem head nut.


NOTE:

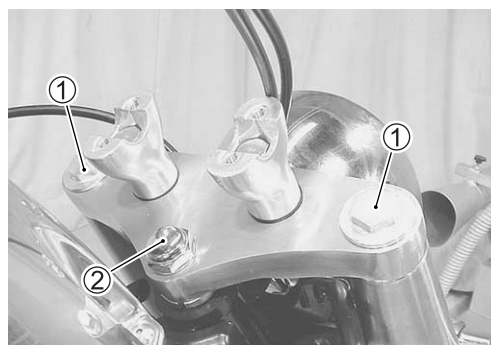
When installing the right side of the cover, face the dent part ① to back ward.



FRONT FORK AND STEERING STEM HEAD NUT

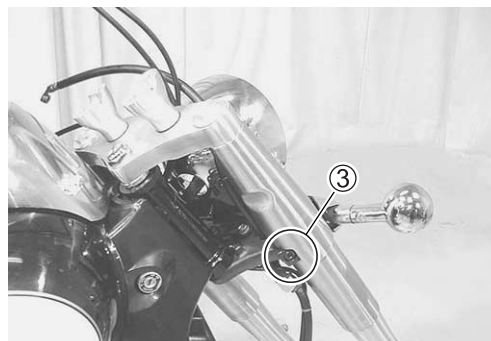
- Tighten the front fork cap bolts ①, steering stem head nut ② and front fork lower clamp bolts ③ to the specified torque.

 **Front fork cap bolt ①: 45 N·m (4.5 kgf·m, 32.5 lb-ft)**
Steering stem head nut ②: 90 N·m (9.0 kgf·m, 65.0 lb-ft)
Front fork lower clamp bolt ③: 33 N·m (3.3 kgf·m, 24 lb-ft)



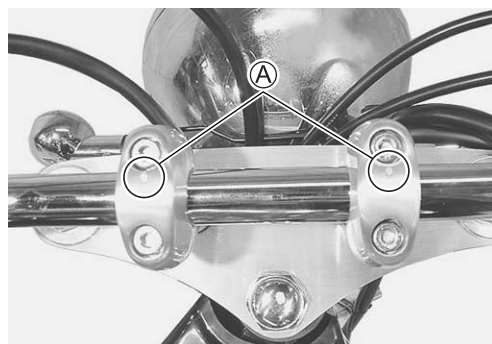
NOTE:

- * Tighten the front fork cap bolts and steering stem head nut first, and the lower clamp bolts finally.
- * Rout the brake hose, throttle cables and handlebar switch lead wires, before installing the front forks. (➡ 7-25)
- Speed sensor lead-wire routing. (➡ 9-20)

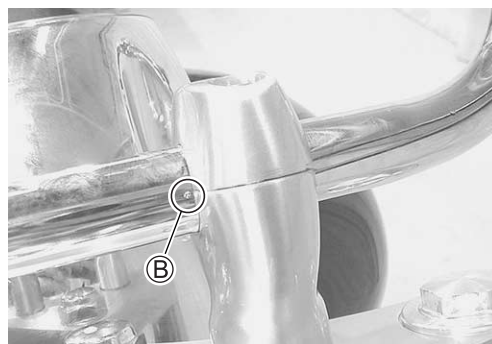


HANDLEBARS

- When setting the handlebar clamp to the handlebar holder of the steering upper bracket, face the punched mark ① on its clamp forward.



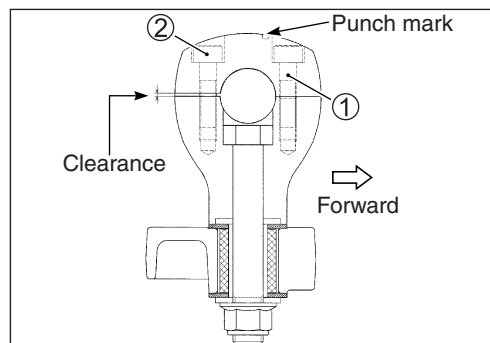
- Install the handlebars with the punch mark ② aligned with the handlebar clamp as shown.



- First, tighten the handlebar clamp bolts ① to the half of specified torque, and then tighten the handlebar clamp bolts ① and ② to the specified torque.

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

- Install the handlebar set bolt cap.



- Apply grease to the throttle cable end.

For USA

 99000-25030: SUZUKI SUPER GREASE "A"

For the other countries

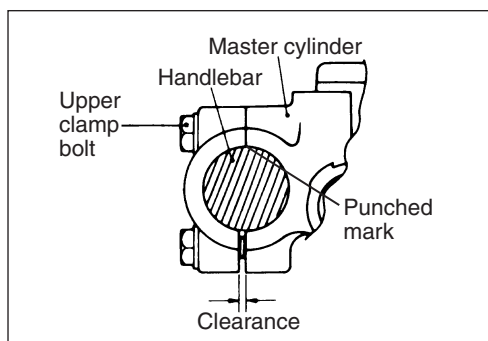
 99000-25010: SUZUKI SUPER GREASE "A"



- Install the front brake master cylinder. (7-17)

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





- Install the clutch lever holder with the punch mark ① aligned with the clutch lever holder clamp as shown.

 **Clutch lever holder clamp bolt: 10 N·m**
(1.0 kgf·m, 7.3 lb-ft)

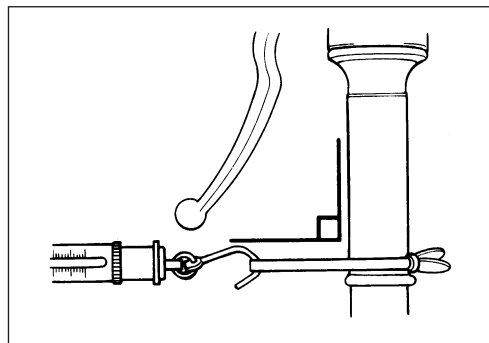
- Install the front wheel. (➡ 7-5)
- Adjust the throttle cable play. (➡ 2-10)



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.
- 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 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 and lower clamp bolts, steering stem head nut and steering stem lock nut, and then adjust the steering stem nut by loosening or tightening it.
 - 2) Tighten the steering stem lock nut, stem head nut and front fork upper and lower clamp bolts to the specified torque and re-check the initial force with the spring scale according to the previously described procedure.
 - 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.

