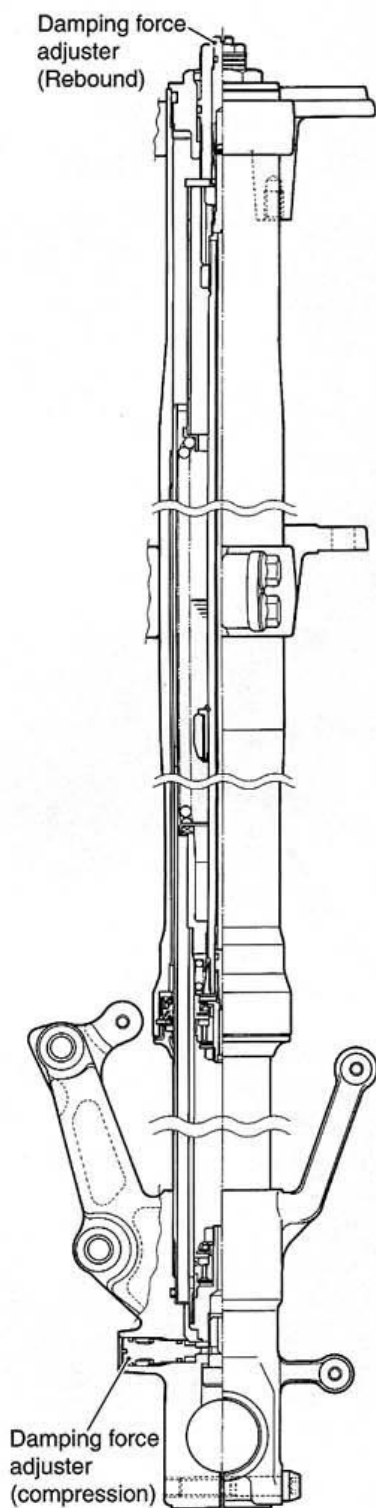


# FRONT FORK CONSTRUCTION



- ① Outer tube
- ② Spacer
- ③ Spring retainer
- ④ Spring
- ⑤ Adjuster rod
- ⑥ Inner rod/damper rod (cartridge)
- ⑦ Oil seal retainer
- ⑧ Oil seal
- ⑨ Oil seal stopper ring
- ⑩ Dust seal
- ⑪ Inner tube

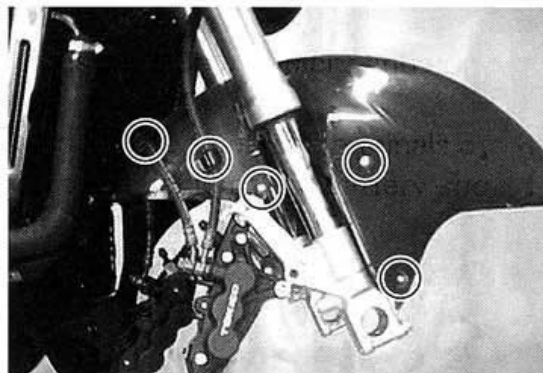
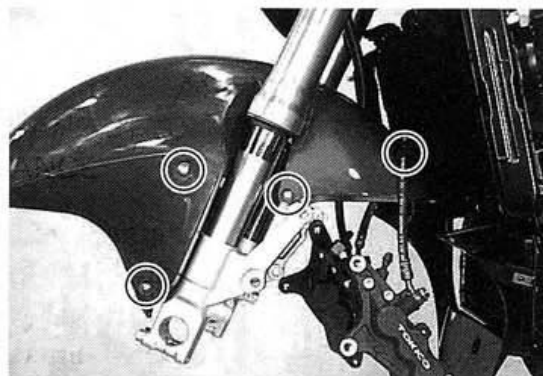
- A Front fork cap bolt
- B Front fork inner rod lock nut
- C Front axle pinch bolt
- D Damper rod bolt



ITEM	N·m	kgf·m	lb·ft
A	23	2.3	16.5
B	29	2.9	20.8
C	23	2.3	16.5
D	40	4.0	29.0

## REMOVAL AND DISASSEMBLY

- Remove the body cowling. (☞ 6-9)
- Remove the front wheel. (☞ 6-13)
- Disconnect the brake hose from the brake hose guides at the front fender.
- Remove the front fender.



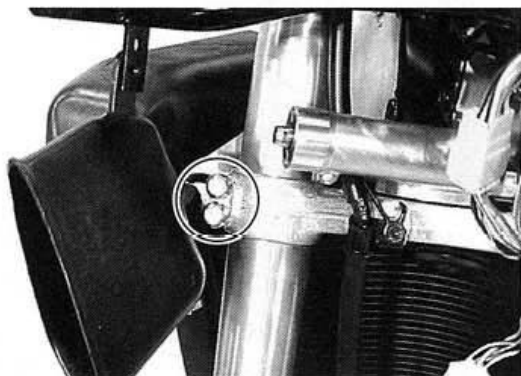
- Loosen the front fork upper clamp bolts, left and right.

### NOTE:

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



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



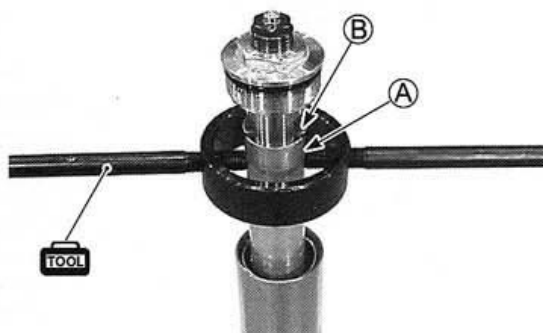
- Loosen the front fork cap bolt.

### NOTE:

*Align the holes (A) of the spacer with the cutaway (B) of the fork cap bolt before installing the special tool.*

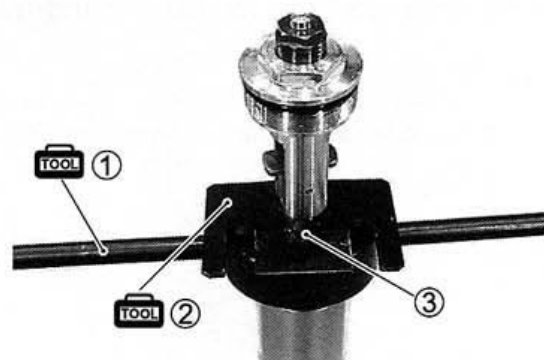
- Install the special tool to the holes (A).

**TOOL 09940-94930: Front fork spacer holder**



- Compress the fork spring with the special tool ① and insert the special tool ② under the lock nut ③.

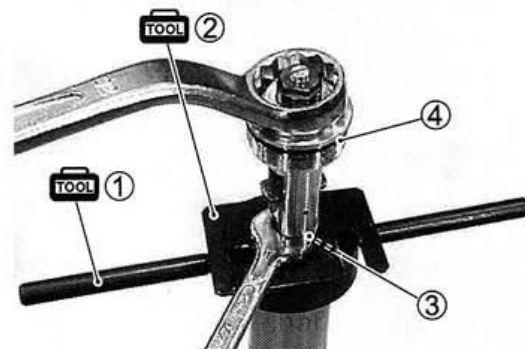
**TOOL 09940-94922: Stopper plate ②**



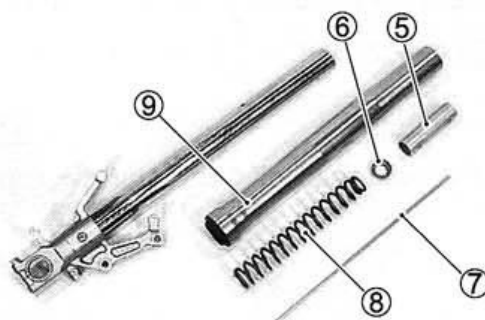
- Remove the front fork cap bolt ④ from the inner rod by loosening the lock nut ③.
- Compress the fork spring with the special tool ① and remove the special tool ②.

**▲ CAUTION**

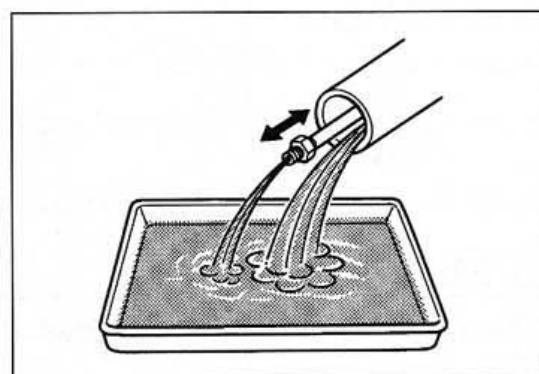
**Do not disassemble the front fork cap ④.**



- Remove spacer ⑤, spring retainer ⑥, adjuster rod ⑦ and spring ⑧.
- Remove the outer tube ⑨ from the inner tube.

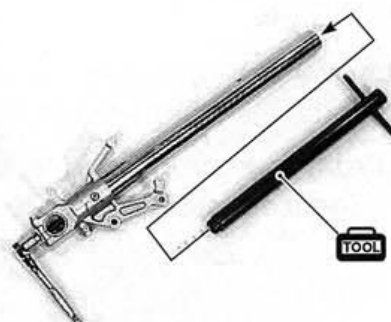


- Invert the front fork and stroke the inner rod several times to let out fork oil.
- Under the inverted condition of front fork, drain oil to hold it for a few time.



- Remove the damper rod bolt with the special tool and a 10 mm hexagon wrench.

**TOOL 09940-30221: Front fork assembling tool**



- Remove the inner rod/damper rod (cartridge) ①.

**⚠ CAUTION**

Do not disassemble the inner rod/damper rod (cartridge).



- Remove the dust seal ② and the oil seal stopper ring ③.



- Remove the oil seal ④ by using the special tool.

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

**⚠ CAUTION**

The removed oil seal must be replaced with a new one.



## INSPECTION

### INNER AND OUTER TUBES

Inspect the inner tube outer surface and outer tube metal ① face for scratches.

If any defects are found, replace them with a new one.

**⚠ CAUTION**

Don't remove the outer tube metal ①

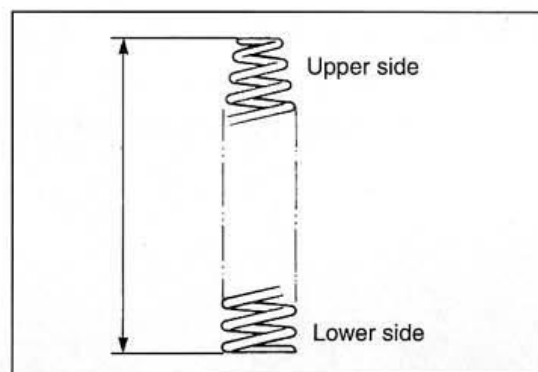


### FORK SPRING

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: 240 mm (9.4 in)



## INNER ROD/DAMPER ROD

Move the inner rod by hand to examine it for smoothness.

If any abnormal points are found, replace the inner rod/damper rod 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:

### DAMPER ROD BOLT

- Insert the inner rod/damper rod (cartridge) into the inner tube.
- Install the gasket ① to the damper rod bolt, and apply THREAD LOCK "1342" to the damper rod bolt and tighten it to the specified torque with the special tool and a 10 mm hexagon wrench.

 **99000-32050: THREAD LOCK "1342"**

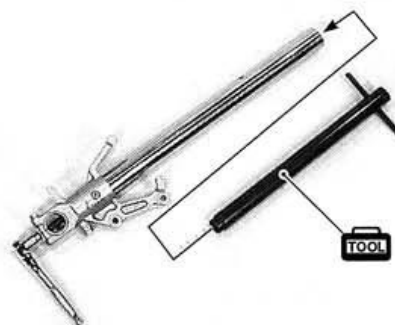
 **09940-30221: Front fork assembling tool**

 **Damper rod bolt: 40 N·m (4.0 kgf·m, 29.0 lb-ft)**



### ⚠ CAUTION

Use a new gasket to prevent oil leakage.



## OIL SEAL AND DUST SEAL

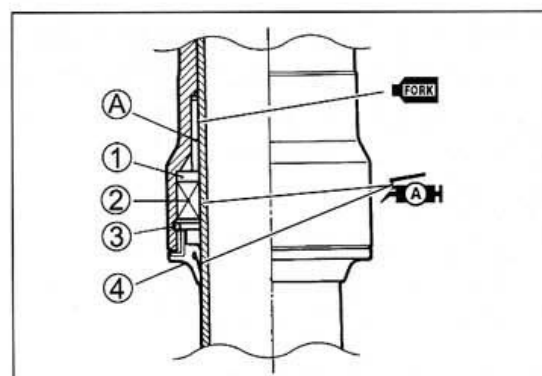
- Apply grease to the new oil seal and dust seal lips lightly before installing it.

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

- Install the oil seal retainer ①, oil seal ②, oil seal stopper ring ③ and dust seal ④ to the outer tube.

### ⚠ CAUTION

- \* When installing the oil seal to outer tube, be careful not to damage the oil seal lip.
- \* Do not use solvents for washing to prevent oil seal damage.
- \* Apply fork oil to the Anti-friction metals ①.
- \* Make sure that the oil seal stopper ring ③ has been fitted securely.



**OUTER TUBE**

- Install the outer tube to the inner tube.

**⚠ CAUTION**

Be careful not to damage the dust seal lip and the oil seal lip, when installing the outer tube.

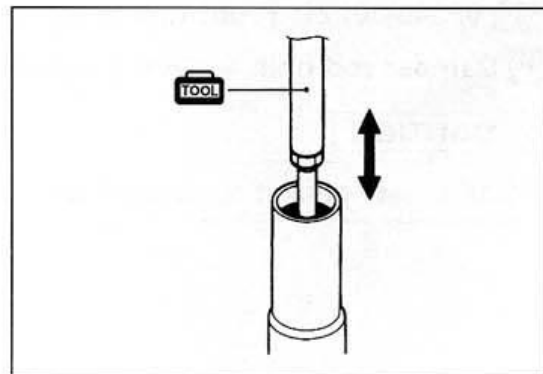
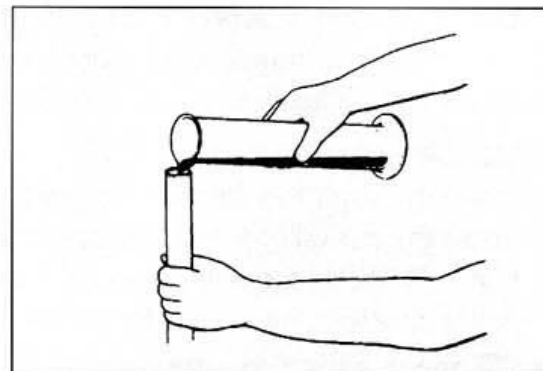
**FORK OIL**

- Place the front fork vertically without spring.
- Compress it fully.
- Pour specified front fork oil up to the top level of the outer tube.
- Move the inner rod slowly with the special tool more than ten times until bubbles do not come out from the oil.

**TOOL** 09940-50120: Inner rod holder

**NOTE:**

Refill front fork oil up to the top of the outer tube to find bubbles while bleeding air.

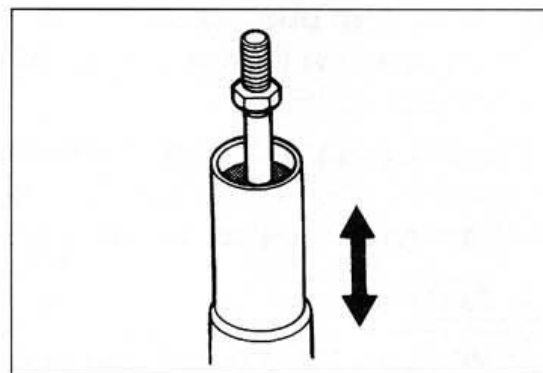


- Refill specified front fork oil up to the top level of the outer tube again. Move the outer tube up and down several strokes until bubbles do not come out from the oil.
- Keep the front fork vertically and wait 5 – 6 minutes.

**NOTE:**

- \* Always keep oil level over the cartridge top end, or air may enter the cartridge during this procedure.
- \* Take extreme attention to pump out air completely.

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

**NOTE:**

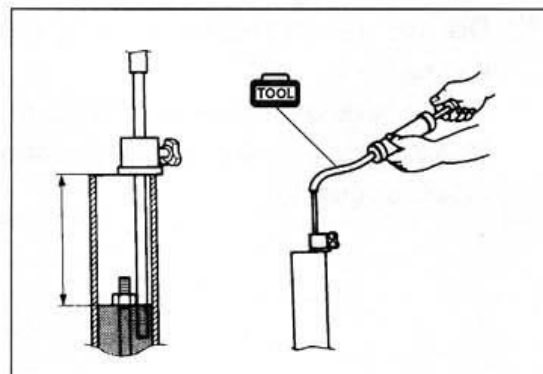
When adjusting the fork oil level, remove the fork spring and compress the outer tube fully.

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

**DATA** Fork oil level: 98 mm (3.9 in)

**FORK** 99000-99044-L01: SUZUKI FORK OIL L01

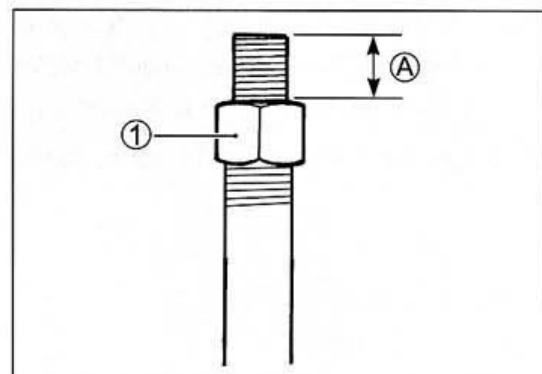
**DATA** Capacity (each leg): 480 ml (16.2/16.9 US/Imp oz)



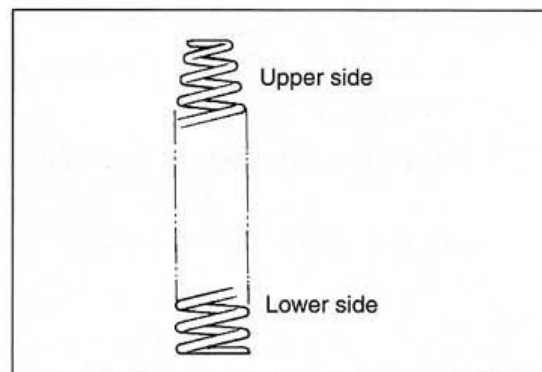


**FRONT FORK INNER ROD LOCK NUT**

- Adjust the height (A) of the inner rod threads by turning the lock nut ① at 11 mm (0.43 in) as shown in illustration.

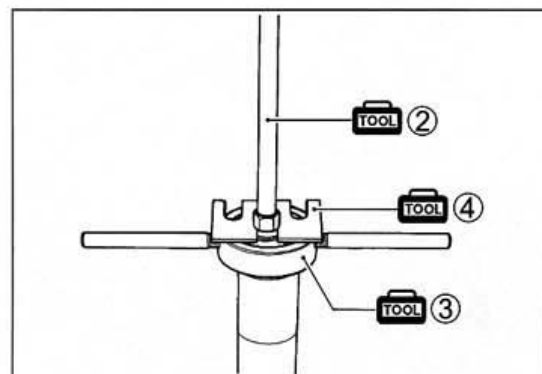
**FORK SPRING**

- Install the fork spring as shown in the illustration.
- Install the adjuster rod, the spring retainer and the spacer.

**FRONT FORK CAP BOLT**

- Pull up the inner rod with the special tool ②.
- Compress the spring with the special tool ③ and then insert the special tool ④ under the lock nut.

- TOOL** 09940-50120: Inner rod holder ②  
 09940-94930: Front fork spacer holder ③  
 09940-94922: Stopper plate ④



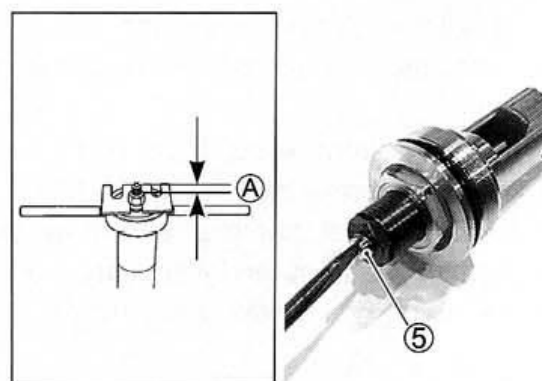
- Make sure that the height (A) of the inner rod threads after removing the special tool ②.

(A): 11 mm (0.43 in)

- Slowly turn the cap bolt complete by hand until the end of the cap bolt seats on the lock nut is as follows.

**CAUTION**

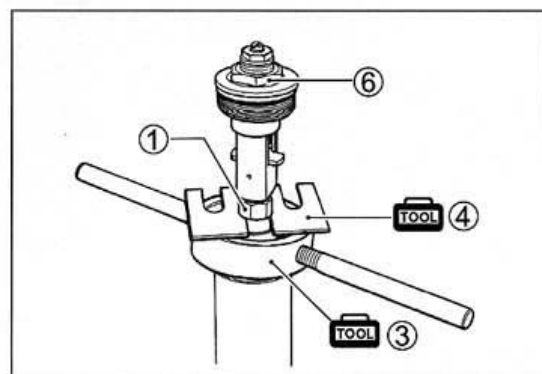
Be sure to adjust the rebound damping force adjuster ⑤ to the softest position before installing the cap bolt.



- Hold the cap bolt ⑥ and tighten the lock nut ① to the specified torque.

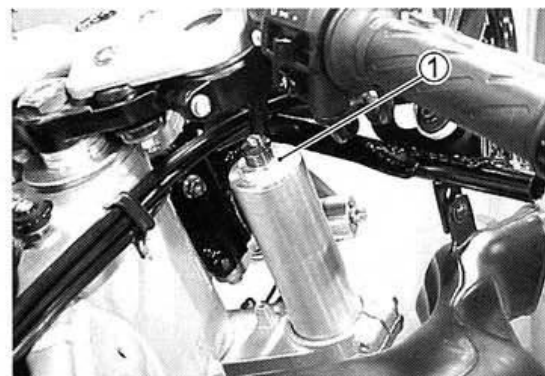
**Inner rod lock nut: 29 N·m (2.9 kgf·m, 20.8 lb-ft)**

- Remove the special tools.




- Install the front fork cap bolt to the outer tube temporarily.
- Set the front fork to the lower bracket temporarily, tighten the front fork cap bolt ① to the specified torque.

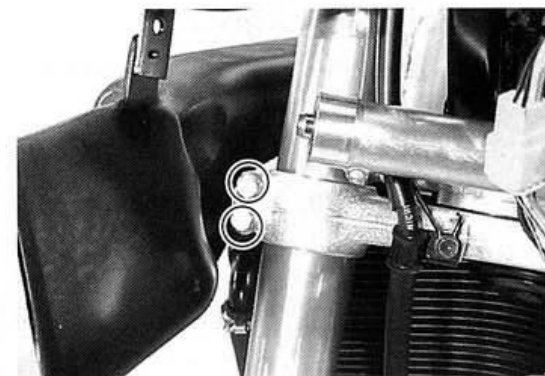
 **Front fork cap bolt ①: 23 N·m (2.3 kgf·m, 16.5 lb-ft)**



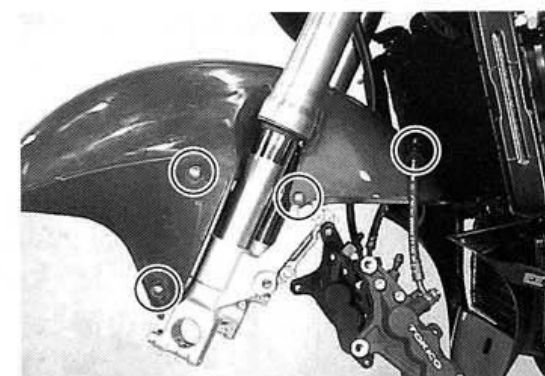
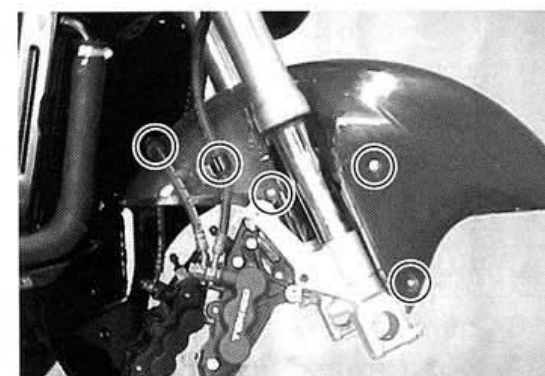
- With the front fork upper face contacted with the handlebar holder, tighten the front fork upper and lower clamp bolts to the specified torque.

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

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



- Install the left front fork in the same manner as the right one.
- Install the front fender and tighten its mounting bolts with finger.
- Install the front wheel. (👉 6-18)
- Install the brake calipers. (👉 6-66)
- Swing the motorcycle up and down several times.
- Tighten the front fender mounting bolts.
- Install the brake hose securely.



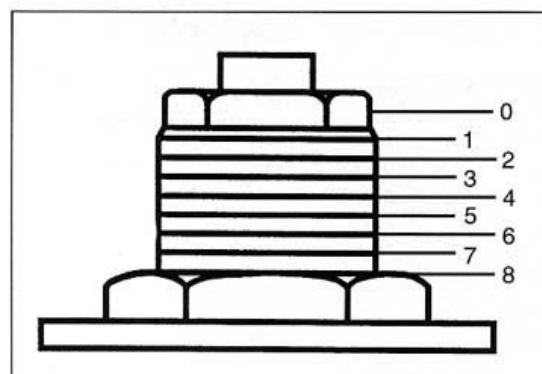


## SUSPENSION SETTING

After installing the front fork, adjust the spring pre-load and damping force as follows.

### SPRING PRE-LOAD ADJUSTMENT

There are eight grooved lines on the side of the spring adjuster. Position 0 provides the maximum spring pre-load and position 8 provides the minimum spring pre-load.  
(STD position: 5th groove line)



### DAMPING FORCE ADJUSTMENT

#### (Rebound side)

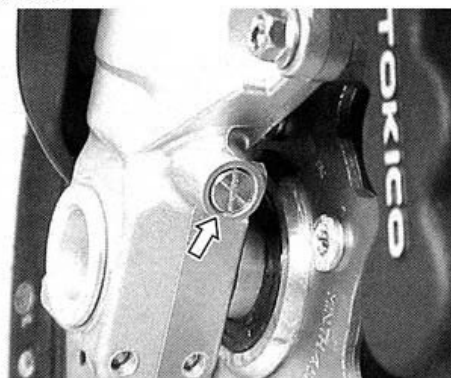
Fully turn the damping force adjuster clockwise. It is at stiffest position and turn it out to standard setting position.  
(STD position: 3 clicks out from stiffest position)



Rebound side

#### (Compression side)

Fully turn the damping force adjuster clockwise. It is at stiffest position and turn it out to standard setting position.  
(STD position: 9 clicks out from stiffest position)



Compression side

### STANDARD FRONT SUSPENSION SETTING

		Spring pre-load adjuster	Damping force adjuster	
			Rebound	Compression
Solo riding	Softer	5	4 clicks out	11 clicks out
	Standard	5	3 clicks out	9 clicks out
	Stiffer	6	3 clicks out	9 clicks out
Dual riding		5	3 clicks out	9 clicks out

### ⚠ WARNING

Be sure to adjust the spring pre-load and damping force on both front fork legs equally.

