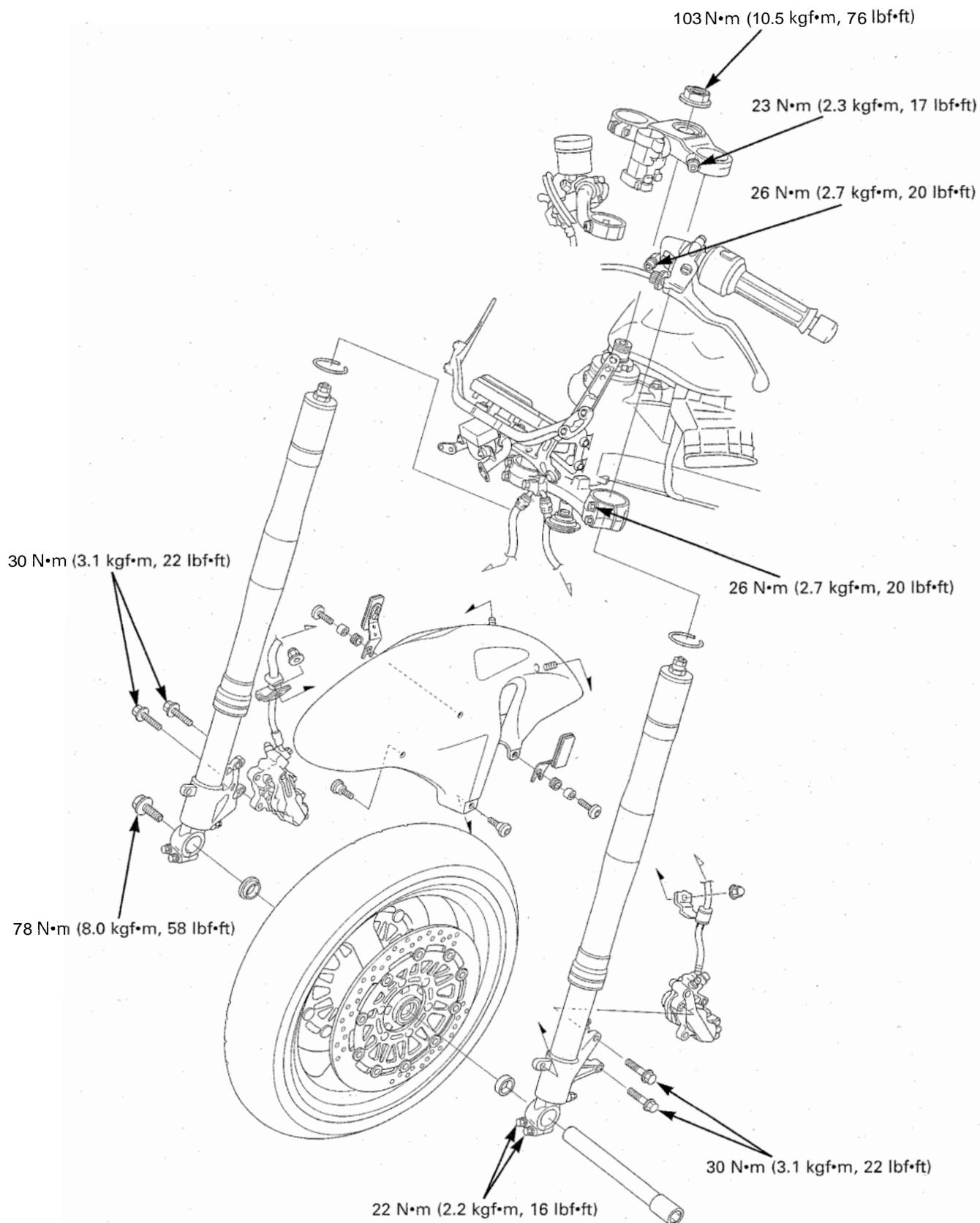


# FRONT WHEEL/SUSPENSION/STEERING



# 13. FRONT WHEEL/SUSPENSION/STEERING

SERVICE INFORMATION	13-1	FRONT WHEEL	13-9
TROUBLESHOOTING	13-3	FORK	13-15
HANDLEBARS	13-4	STEERING STEM	13-26

## SERVICE INFORMATION

### GENERAL

- When servicing the front wheel, fork or steering stem, support the motorcycle using a safety stand or hoist.
- A contaminated brake disc or pad reduces stopping power. Discard contaminated pads and clean a contaminated disc with a high quality brake degreasing agent.
- After front wheel installation, check the brake operation by applying the brake lever.
- Refer to section 15 for brake system information.
- Use only tires marked "TUBELESS" and tubeless valves on rims marked "TUBELESS TIRE APPLICABLE".

### SPECIFICATIONS

Unit: mm (in)

ITEM		STANDARD	SERVICE LIMIT
Minimum tire tread depth		—	1.5 (0.06)
Cold tire pressure	Up to 90 kg (200 lb) load	250 kPa (2.50 kgf/cm <sup>2</sup> , 36 psi)	—
	Up to maximum weight capacity	250 kPa (2.50 kgf/cm <sup>2</sup> , 36 psi)	—
Axle runout		—	0.20 (0.008)
Wheel rim runout	Radial	—	2.0 (0.08)
	Axial	—	2.0 (0.08)
Wheel balance weight		—	60 g (2.1 oz) max.
Fork	Spring free length	255.8 (10.07)	250.8 (9.87)
	Spring direction	With the tapered end facing up	—
	Fork pipe runout	—	0.20 (0.008)
	Recommended fork fluid	Pro Honda Suspension Fluid SS-8	—
	Fluid level	73 (2.9)	—
	Fluid capacity	513 ± 2.5 cm <sup>3</sup> (17.3 ± 0.08 US oz, 18.1 ± 0.09 Imp oz)	—
	Pre-load adjuster initial setting	7 turns from full soft	—
	Tension adjuster initial setting	2 turns from full hard	—
	Compression adjuster initial setting	2 turns from full hard	—
Steering head bearing pre-load		11 – 16 N (1.1 – 1.6 kgf)	—

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# FRONT WHEEL/SUSPENSION/STEERING

## TORQUE VALUES

Handlebar pinch bolt	26 N•m (2.7 kgf•m, 20 lbf•ft)	
Handlebar weight mounting screw	10 N•m (1.0 kgf•m, 7 lbf•ft)	ALOC bolt
Front master cylinder holder bolt	12 N•m (1.2 kgf•m, 9 lbf•ft)	
Clutch lever bracket pinch bolt	12 N•m (1.2 kgf•m, 9 lbf•ft)	
Steering stem nut	103 N•m (10.5 kgf•m, 76 lbf•ft)	See page 13-33
Steering stem adjusting nut	—	
Steering stem lock nut	—	
Fork top bridge pinch bolt	23 N•m (2.3 kgf•m, 17 lbf•ft)	
Fork bottom bridge pinch bolt	26 N•m (2.7 kgf•m, 20 lbf•ft)	
Front axle bolt	78 N•m (8.0 kgf•m, 58 lbf•ft)	
Front axle holder pinch bolt	22 N•m (2.2 kgf•m, 16 lbf•ft)	
Front brake disc mounting bolt	20 N•m (2.0 kgf•m, 14 lbf•ft)	ALOC bolt
Fork bolt	22 N•m (2.2 kgf•m, 16 lbf•ft)	
Fork socket bolt	34 N•m (3.5 kgf•m, 25 lbf•ft)	Apply a locking agent to the threads.
Damper rod adjust case lock nut	25 N•m (2.6 kgf•m, 19 lbf•ft)	
Front brake caliper mounting bolt	30 N•m (3.1 kgf•m, 22 lbf•ft)	ALOC bolt

## TOOLS

Steering stem socket	07916-3710101	or 07916-3710100 (U.S.A. only)
Driver attachment, A	07946-KM90100	Not available in U.S.A.
Driver attachment, B	07NMF-MT70120	
Driver shaft assembly	07946-KM90300	
Bearing remover, A	07946-KM90401	
Bearing remover, B	07NMF-MT70110	
Assembly base	07946-KM90600	
Steering stem driver	07946-MB00000	
Fork damper holder	07YMB-MCFO101	
Fork damper holder handle	07TMB-001010A	
Oil seal driver	07YMD-MCF0100	or 07NMD-KZ3010A (U.S.A. only)
Driver	07749-0010000	
Attachment, 42 x 47 mm	07746-0010300	
Pilot, 25 mm	07746-0040600	
Bearing remover shaft	07746-0050100	
Bearing remover head, 25 mm	07746-0050800	
Main bearing driver attachment	07946-ME90200	
Fork seal driver body	07947-KA50100	
Oil seal driver	07965-MA60000	
Installer shaft	07VMF-KZ30200	
Installer attachment A	07VMF-MAT0100 (U.S.A. only)	
Installer attachment B	07VMF-MAT0200 (U.S.A. only)	
Remover attachment A	07VMF-MAT0300 (U.S.A. only)	
Remover attachment B	07VMF-MAT0400 (U.S.A. only)	

## **TROUBLESHOOTING**

### **Hard steering**

- Faulty or damaged steering head bearings
- Insufficient tire pressure
- Steering head bearing adjustment nut too tight

### **Steers to one side or does not track straight**

- Unevenly adjusted right and left fork legs
- Bent fork
- Bent axle
- Wheel installed incorrectly
- Faulty steering head bearings
- Bent frame
- Worn wheel bearing
- Worn swingarm pivot components

### **Front wheel wobbling**

- Bent rim
- Worn front wheel bearings
- Faulty tire
- Unbalanced tire and wheel

### **Wheel turns hard**

- Faulty wheel bearing
- Bent front axle
- Brake drag

### **Soft suspension**

- Insufficient fluid in fork
- Weak fork springs
- Tire pressure too low

### **Hard suspension**

- Incorrect fluid weight
- Bent fork pipes
- Clogged fork fluid passage

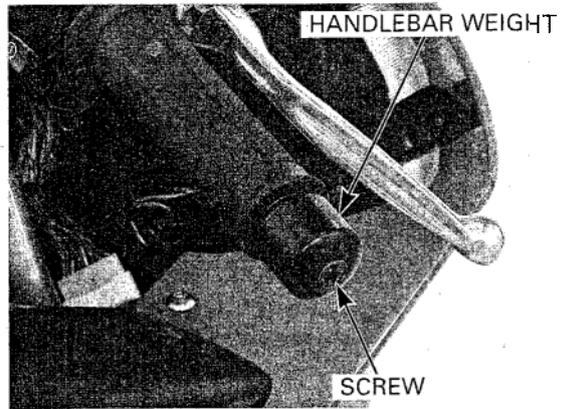
### **Front suspension noisy**

- Insufficient fluid in fork
- Loose fork fasteners

## HANDLEBARS

### REMOVAL

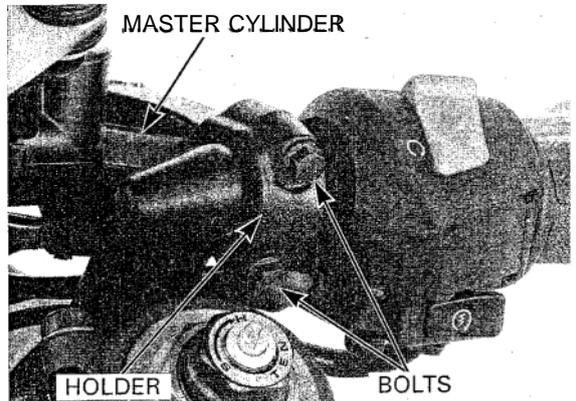
Remove the screw and right handlebar weight.



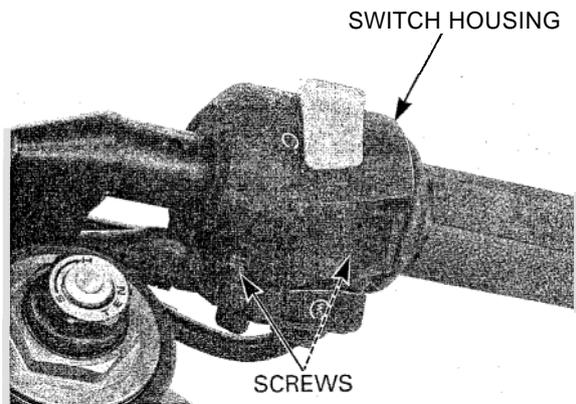
Disconnect the front brake switch wires connectors from the switch.

*Keep the brake master cylinder upright*

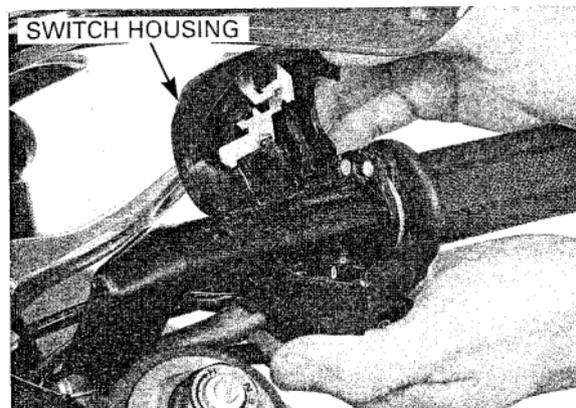
Remove the master cylinder holder bolts, holder and master cylinder assembly.



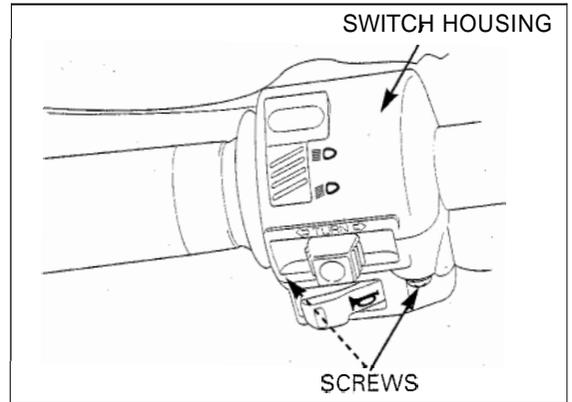
Remove the right handlebar switch housing screws.



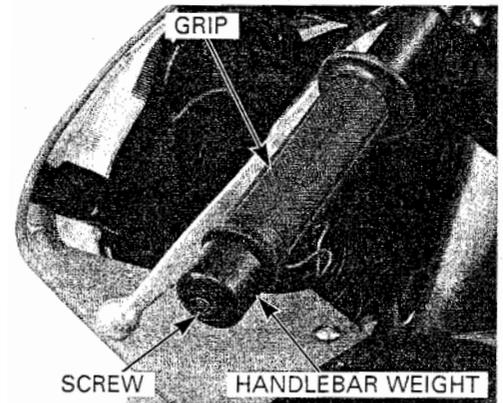
Remove the right handlebar switch housing from the right handlebar.



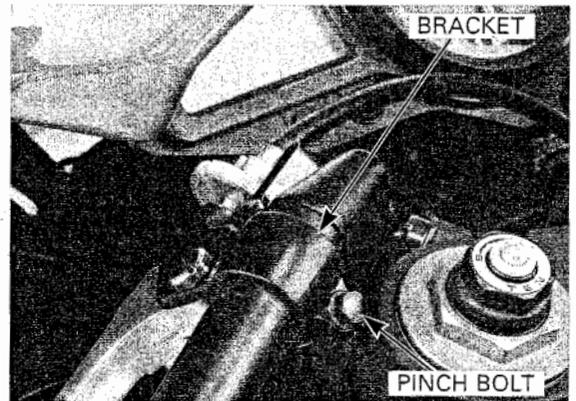
Remove the screws and left handlebar switch housing



Remove the screw and handlebar weight.  
Remove the handle grip from the handlebar.



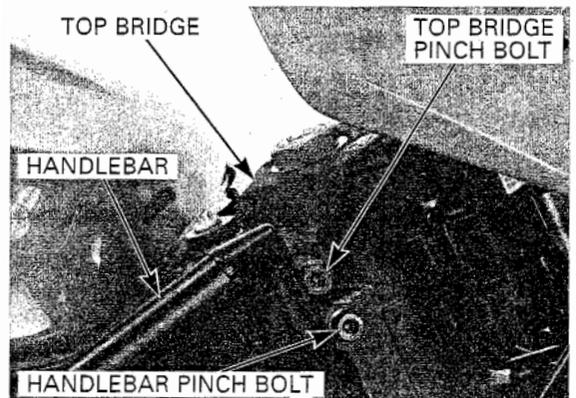
Loosen the clutch lever bracket pinch bolt



Loosen the top bridge pinch bolts and handlebar pinch bolt.

Remove the steering stem nut and top bridge.  
Remove the handlebars from the fork sliders.

Remove the throttle pipe from the right handlebar,  
and also the clutch lever bracket from the left handlebar.

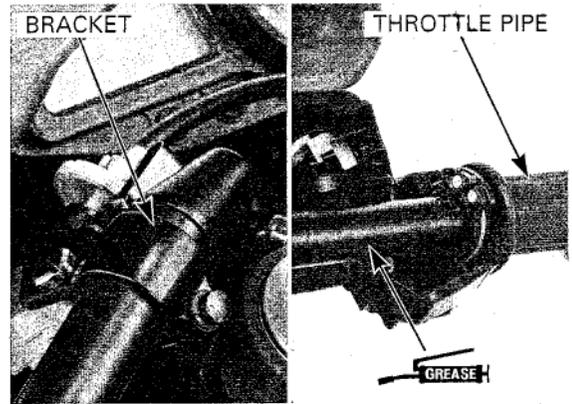


## INSTALLATION

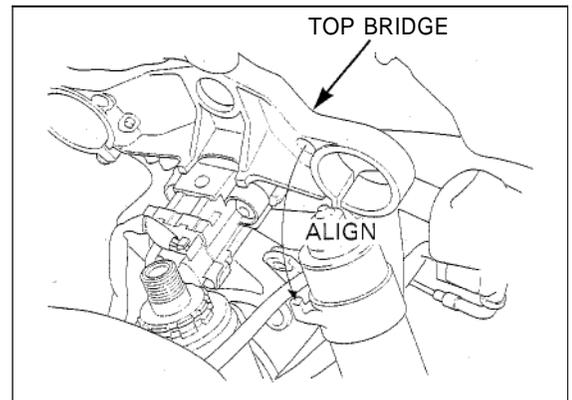
Apply grease to the sliding surface of the throttle pipe.

Install the clutch lever bracket to the left handlebar, and also the throttle pipe to the right handlebar.

Install the handlebars onto the fork sliders.

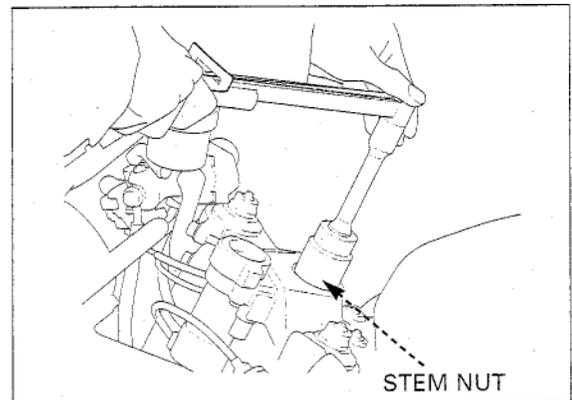


Install the top bridge while aligning its holes with the handlebar stopper pins.



Install and tighten the steering stem nut to the specified torque.

**TORQUE: 103 N·m (10.5 kgf·m, 76 lbf·ft)**

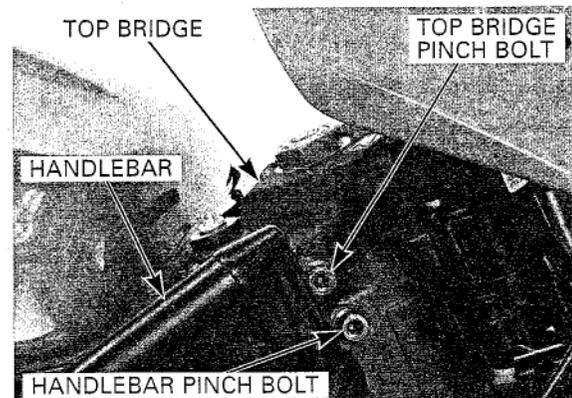


Tighten the top bridge pinch bolts to the specified torque.

**TORQUE: 23 N·m (2.3 kgf·m, 17 lbf·ft)**

Seat the handlebar pivot upper surface with the top bridge lower surface, then tighten the handlebar pinch bolt to the specified torque.

**TORQUE: 26 N·m (2.7 kgf·m, 20 lbf·ft)**

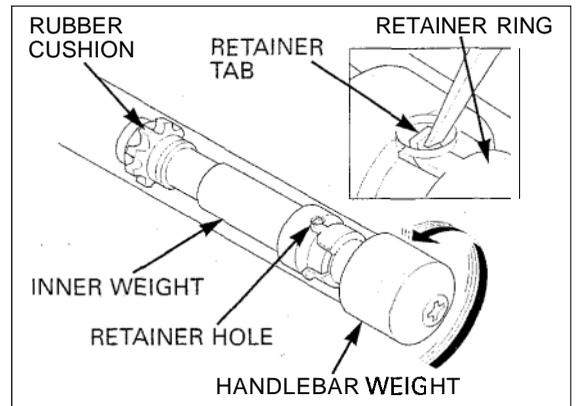


## HANDLEBAR WEIGHT REPLACEMENT

Remove the grip rubber from the handlebar.  
Straighten the weight retainer tab by the screwdriver or punch.

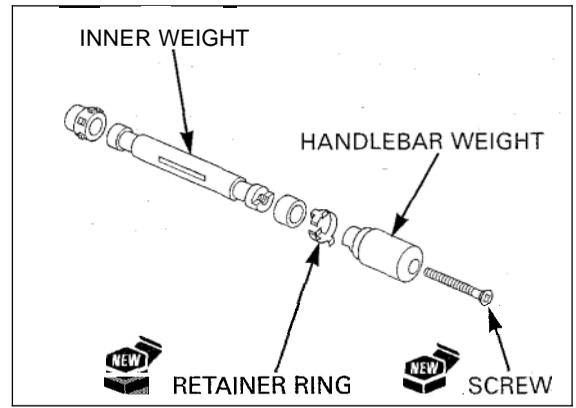
*Apply lubricant spray through the tab locking hole to the rubber for easy removal*

Temporarily install the handlebar weight and screw, then remove the inner weight by turning the handlebar weight.

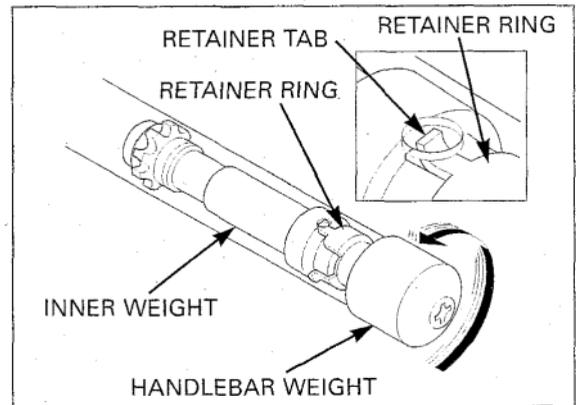


Remove the handlebar weight from the inner weight.  
Discard the retainer.

Install the new retainer onto the inner weight.  
Install the handlebar weight onto the inner weight, aligning the bosses and grooves each other.  
Install a new mounting screw.



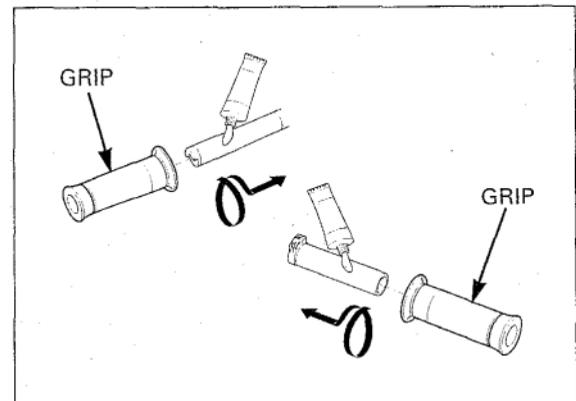
Insert the handlebar weight assembly into the handlebar.  
Turn the handlebar weight and hook the retainer tab with the hole in the handlebar.



Apply Honda Bond A to the inside of the grip and to the clean surfaces of the left handlebar and throttle grip.

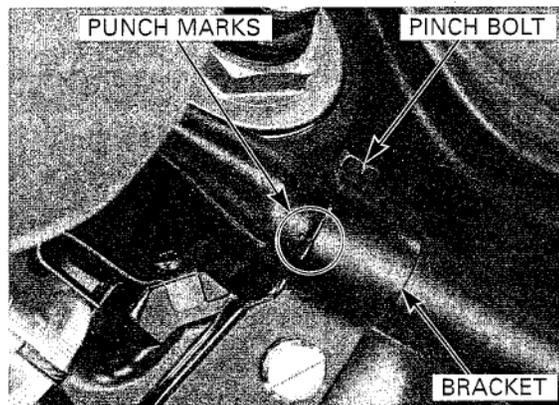
Wait 3 - 5 minutes and install the grip.  
Rotate the grip for even application of the adhesive.

*Allow the adhesive to dry for approximately 1 hour before using*

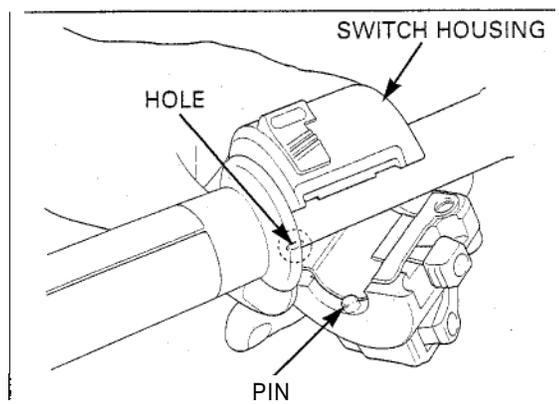


Tighten the clutch lever bracket pinch bolt by aligning the punch marks on the left handlebar and clutch lever bracket.

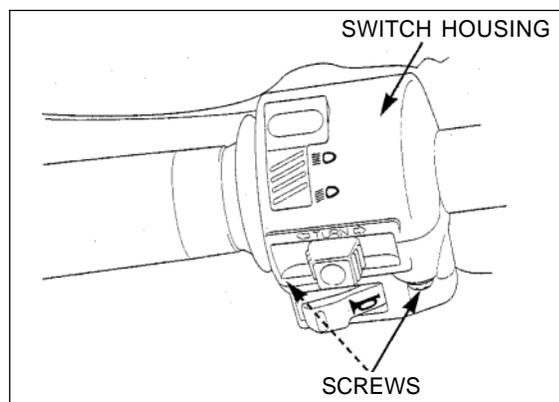
**TORQUE:** 12 N•m (1.2 kgf•m, 9 lbf•ft)



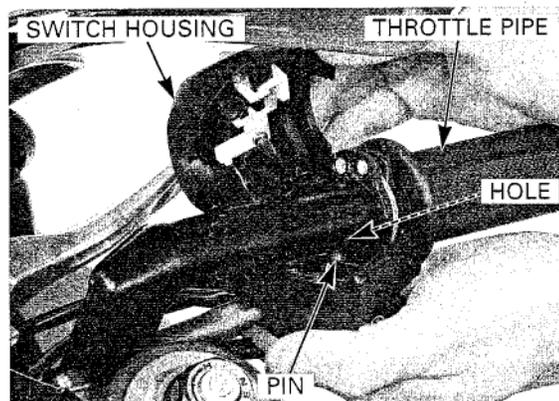
Install the left handlebar switch housing aligning its locating pin with the hole in the handlebar.



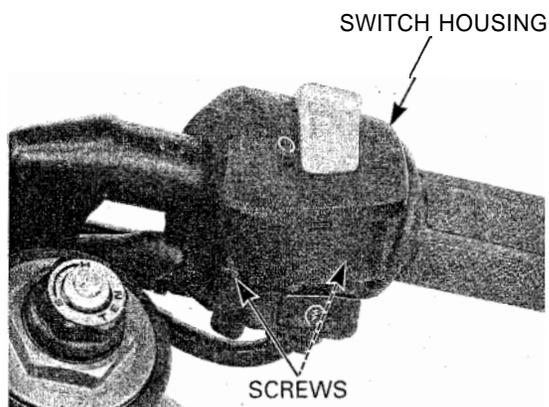
Tighten the forward screw first, then the rear screw.



Install the right handlebar switch housing by aligning its locating pin with the hole in the handlebar.



Tighten the forward screw first, then the rear screw.



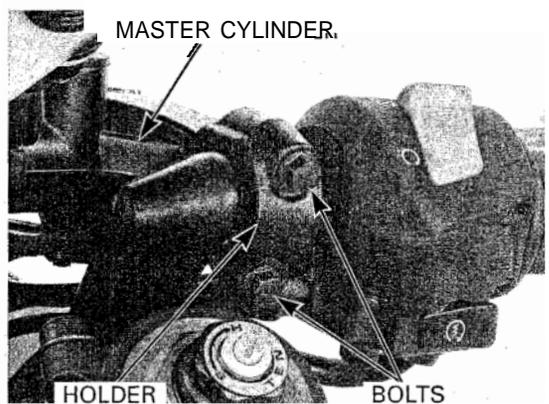
Install the master cylinder by aligning the end of the master cylinder with the punch mark on the handlebar.

Install the master cylinder holder with the "UP" mark facing up.

Tighten the upper bolt first, the lower bolt.

**TORQUE: 12 N·m (1.2kgf·m, 9 lbf·ft)**

Connect the brake switch wires.



Install the handlebar weight and tighten the new mounting screw to the specified torque.

**TORQUE: 10 N·m (1.0kgf·m, 7 lbf·ft)**

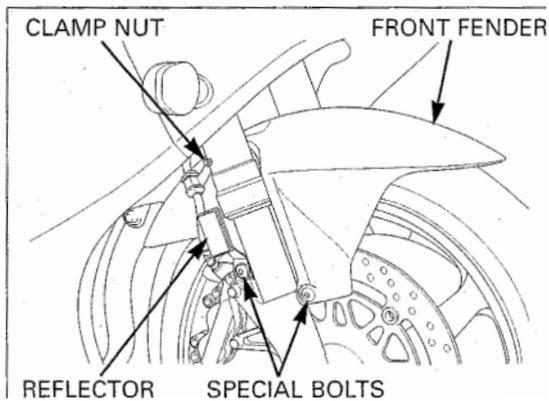


## FRQNT WHEEL

### REMOVAL

Support the motorcycle securely and raise the front wheel off the ground using a safety stand or a hoist.

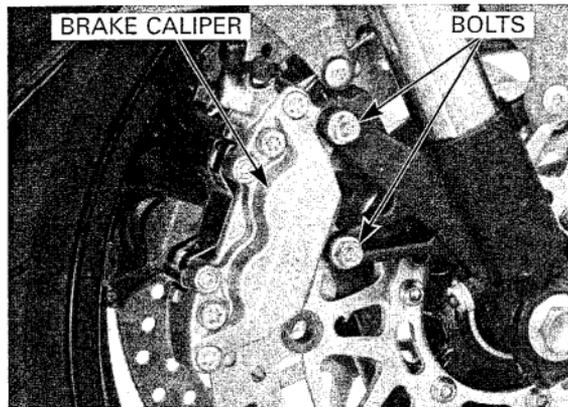
Remove the brake hose clamp nuts, special bolts and front fender (page 2-8).



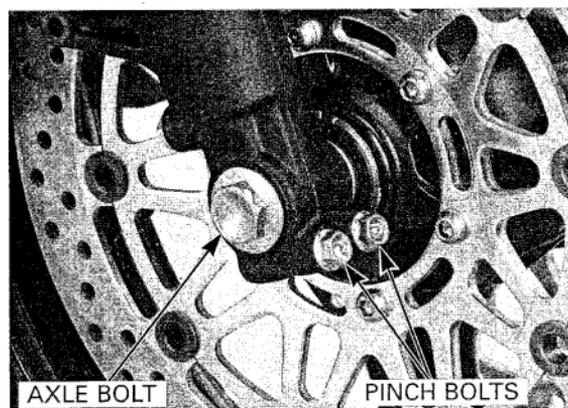
## FRONT WHEEL/SUSPENSION/STEERING

*Do not operate the brake lever after the brake caliper is removed*

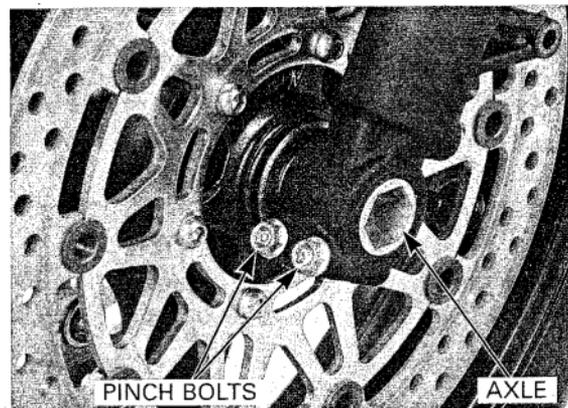
Remove the mounting bolts and both brake calipers.  
Support the brake caliper with a piece of wire so it does not hang from the brake hose. Do not twist the brake hose



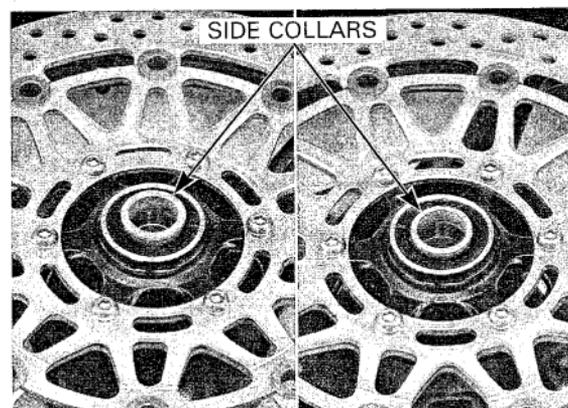
Loosen the right axle pinch bolts.  
Remove the axle bolt.



Loosen the left axle pinch bolts.  
Remove the axle and the front wheel.



Remove the side collars.

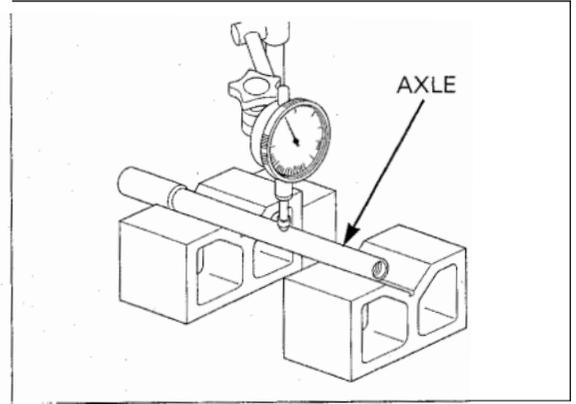


**INSPECTION**

**Axle**

Set the axle in V-block and measure the runout. Actual runout is 1/2 the total indicator reading.

**SERVICE LIMIT: 0.20 mm (0.008 in)**



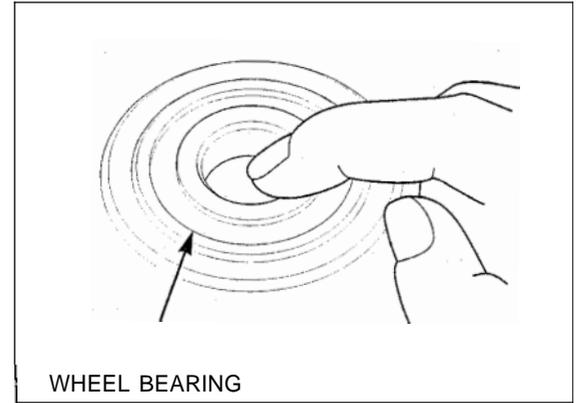
**Wheel bearing**

Turn the inner race of each bearing with your finger. The bearings should turn smoothly and quietly. Also check that the bearing outer race fits tightly in the hub.

*Replace the bearings in pairs.*

Remove and discard the bearings if they do not turn smoothly, quietly, or if they fit loosely in the hub.

Install the new bearings into the hub using the special tools (page 13-12).



**Wheel rim runout**

Check the rim runout by placing the wheel in a truing stand.

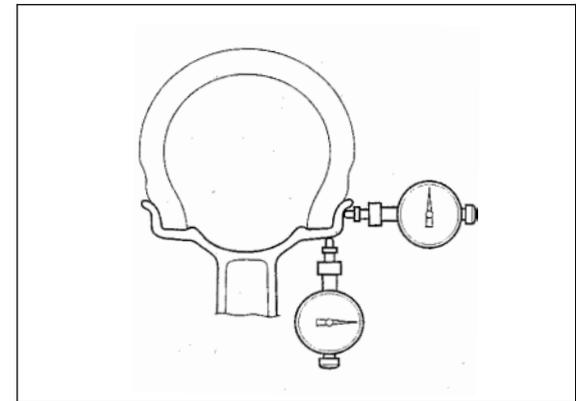
Spin the wheel by hand, and read the runout using a dial indicator.

Actual runout is 1/2 the total indicator reading.

**SERVICE LIMITS:**

**Radial: 2.0 mm (0.08 in)**

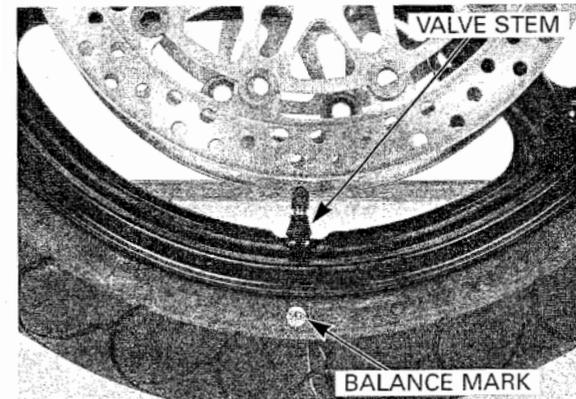
**Axial: 2.0 mm (0.08 in)**



*For optimum balance, the tire balance mark (a paint dot on the side wall) must be located next to the valve stem. Remount the tire if necessary.*

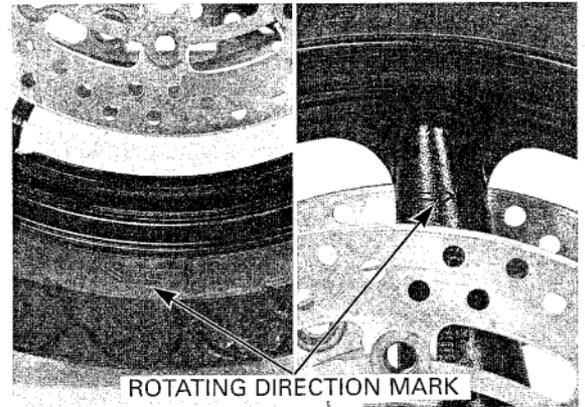
**Wheel balance**

Wheel balance directly affects the stability, handling and overall safety of the motorcycle. Always check balance when the tire has been removed from the rim.



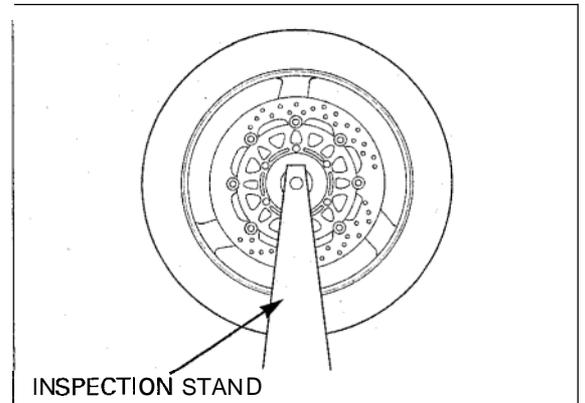
## FRONT WHEEL/SUSPENSION/STEERING

Note the direction of rotation marks on the wheel and tire.



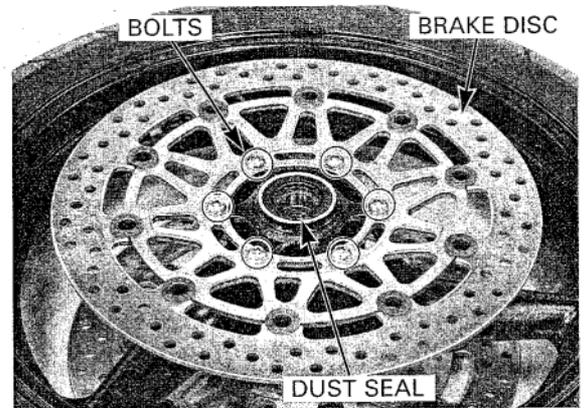
Remove the dust seals from the wheel.  
Mount the wheel, tire and brake discs assembly in an inspection stand.  
Spin the wheel, allow it to stop, and mark the lowest (heaviest) point of the wheel with chalk.  
Do this two or three times to verify the heaviest area.  
If the wheel is balanced, it will not stop consistently in the same position.

To balance the wheel, install wheel weights on the highest side of the rim, the side opposite the chalk marks. Add just enough weight so the wheel will no longer stop in the same position when it is spun. Do not add more than 60 grams to the wheel.



### DISASSEMBLY

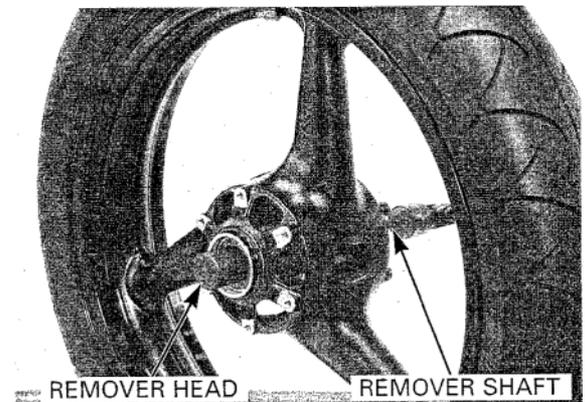
Remove the bolts and brake discs.  
Remove the dust seals.



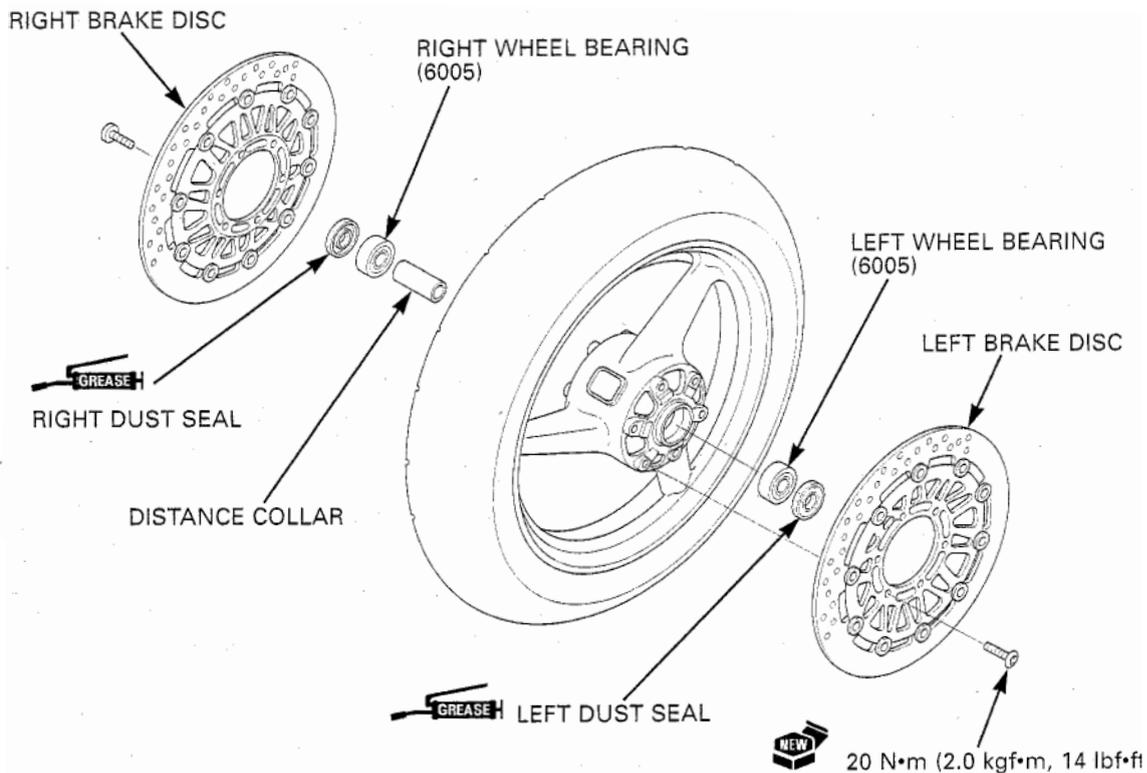
Install the bearing remover head into the bearing.  
From the opposite side, install the bearing remover shaft and drive the bearing out of the wheel hub.  
Remove the distance collar and drive out the other bearing.

#### TOOLS:

Bearing remover head, 25 m m 07746-005080  
Bearing remover shaft 07746-0050100



**ASSEMBLY**



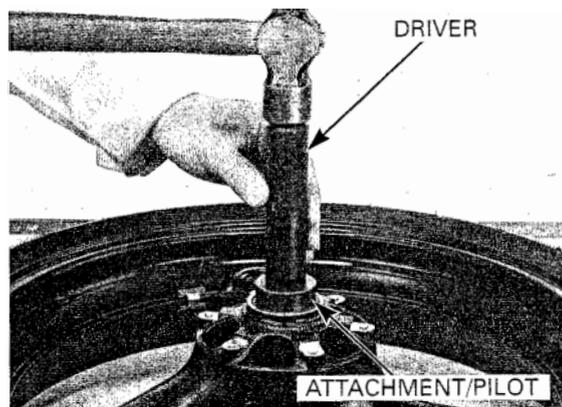
*Never install the old bearings. Once the bearings have been removed, the bearings must be replaced with new ones.*

Drive in a new right bearing squarely. Install the distance collar, then drive in the left bearing using the special tool.

**TOOLS:**  
Driver

Attachment, 42 x 47 mm  
Pilot, 25 mm

07749-0010000  
07746-0010300  
07746-0040600



*Do not get grease on the brake discs or stopping power will be reduced.*

Install the brake discs on the wheel hub. Install and tighten the new mounting bolts to the specified torque.

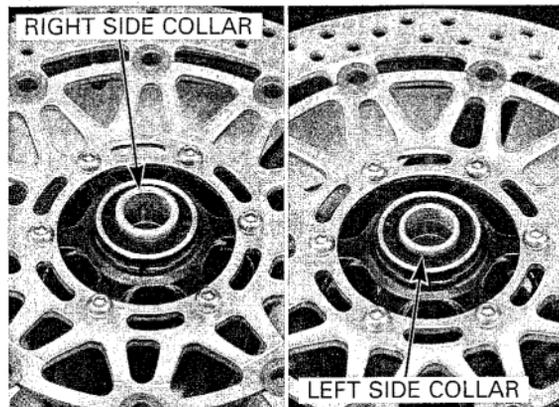
**TORQUE: 20 N·m (2.0kgf·m, 14 lbf·ft)**

Apply grease to the dust seal lips, then install them into the wheel hub.



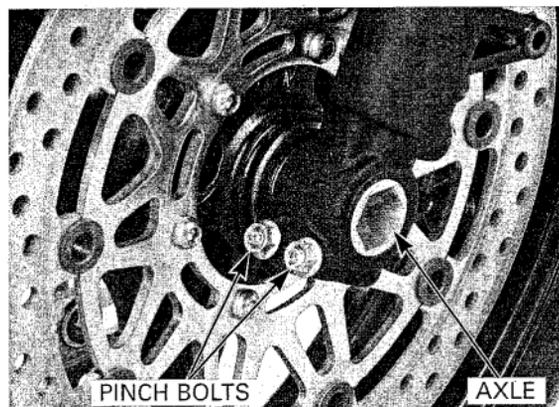
## INSTALLATION

Install the right and left side collars.



Install the front wheel between the fork legs.

Apply a thin layer of grease to the front axle surface.  
Install the front axle from the left side.

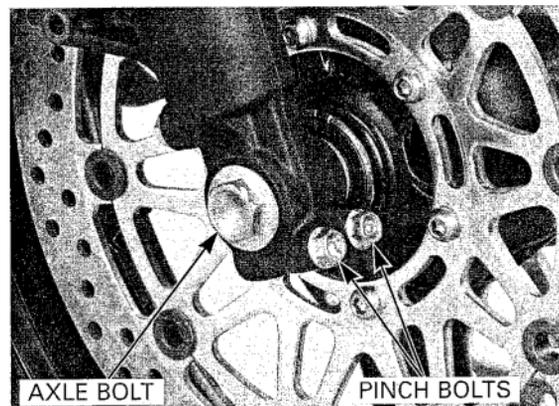


Hold the axle and tighten the axle bolt to the specified torque.

**TORQUE: 78 N·m (8.0 kgf·m, 58 lbf·ft)**

Tighten the right axle pinch bolts to the specified torque.

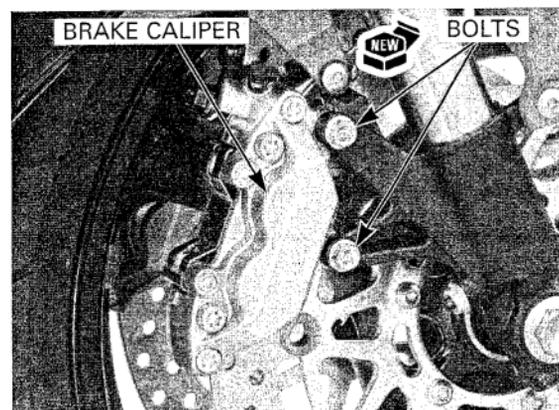
**TORQUE: 22 N·m (2.2 kgf·m, 16 lbf·ft)**



Install the both brake caliper and tighten the new mounting bolts to the specified torque.

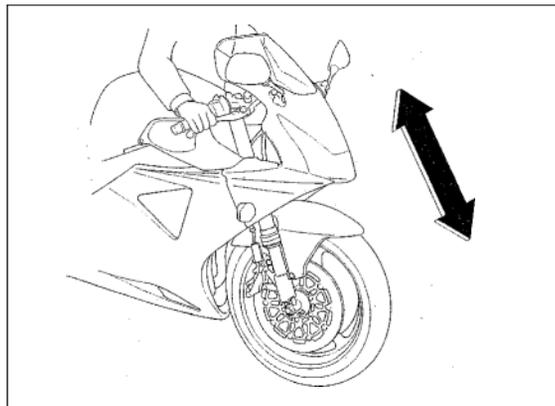
**TORQUE: 30 N·m (3.1 kgf·m 22 lbf·ft)**

Install the front fender (page 2-8).



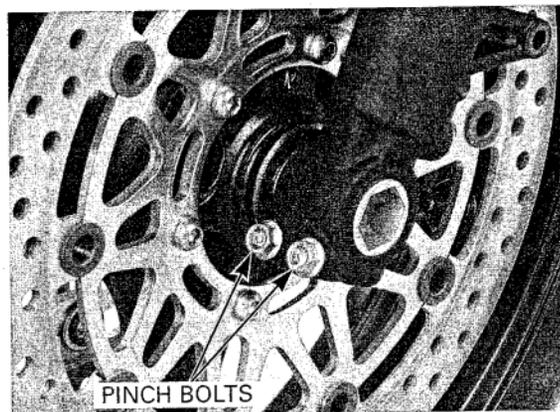
With the front brake applied, pump the fork up and down several times to seat the axle and check brake operation.

Check the brake operation by applying the brake lever.

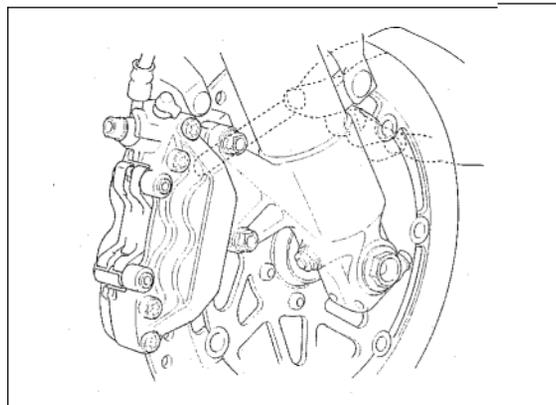


Tighten the left axle pinch bolts to the specified torque.

**TORQUE: 22 N·m (2.2kgf·m, 16 lbf·ft)**



Check the clearance between the brake disc and caliper bracket on each side after installation. The clearance should be at least 0.7 mm (0.03 in).



## FORK

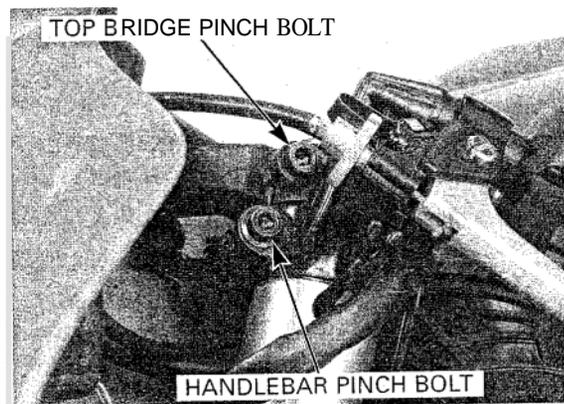
*Keep the brake master cylinder upright*

### REMOVAL

Remove the front wheel (page 13-9).

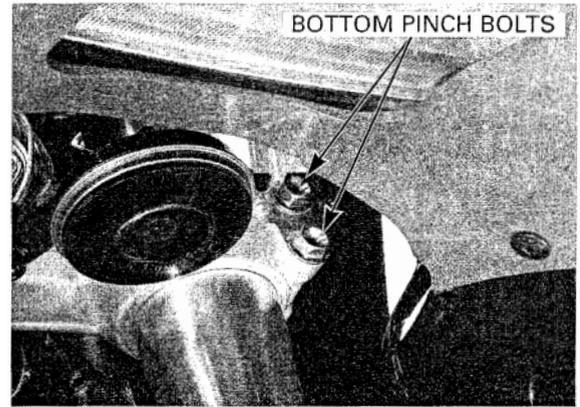
Loosen the handlebar pinch bolt and top bridge pinch bolt.

When the fork leg will be disassembled, loosen the fork bolt, but do not remove it yet.



## FRONT WHEEL/SUSPENSION/STEERING

Loosen the fork bottom pinch bolts and remove the fork slider from the fork top bridge and steering stem.

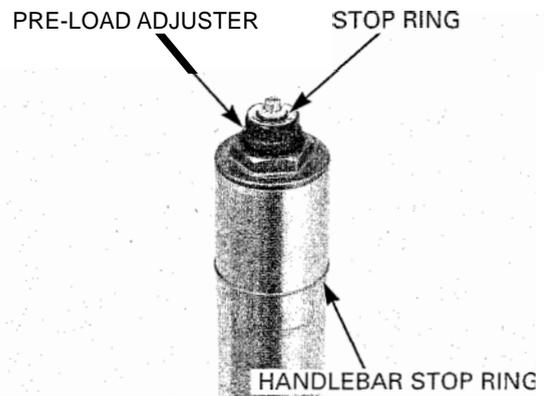


*Be careful not to scratch the fork pipe or damage the dust seal*

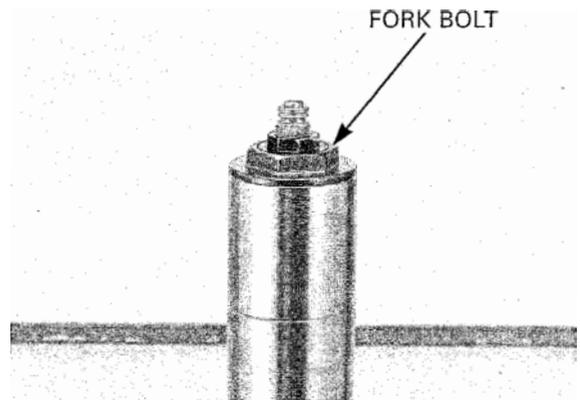
### DISASSEMBLY

Remove the handlebar stop ring.

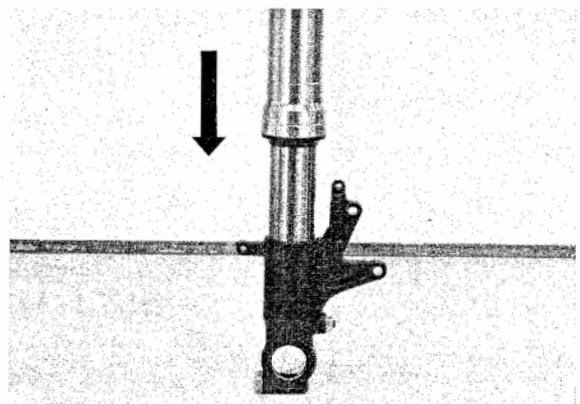
Remove the stopper ring and pre-load adjuster.



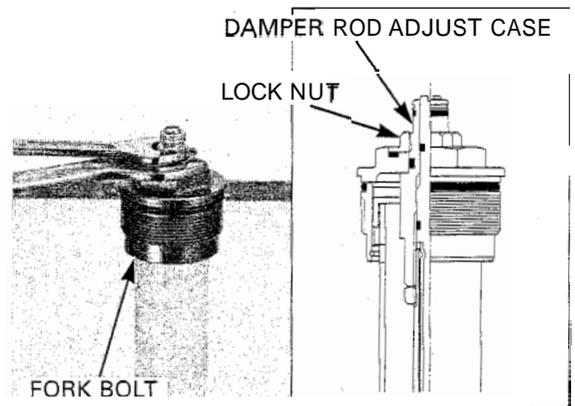
Remove the fork bolt from the fork slider.



Push the fork slider slowly down, and gently seat the dust seal onto the axle holder.

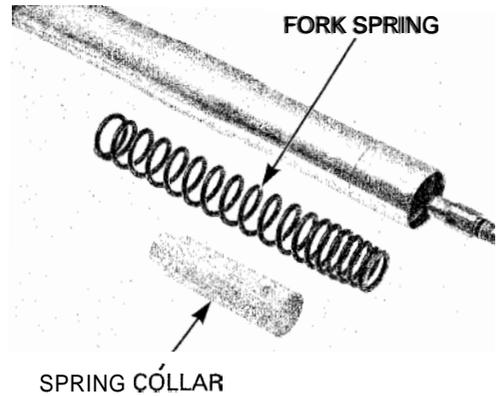


Hold the damper rod adjuster case, then loosen the lock nut.  
Remove the lock nut and fork bolt from the damper rod.

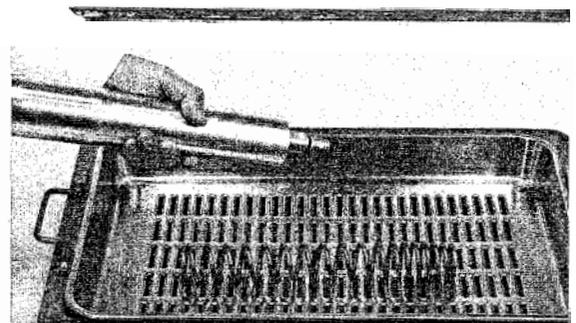


Remove the following:

- Spring collar
- Fork spring



Pour out the fork fluid by pumping the fork pipe several times.  
Pour out the fork fluid from the fork damper by pumping the damper rod several times.



Hold the axle holder in a vice with soft jaws or a shop towel.  
Hold the fork damper with the fork damper holder, then remove the fork socket bolt and sealing washer.

#### TOOLS:

Fork damper holder

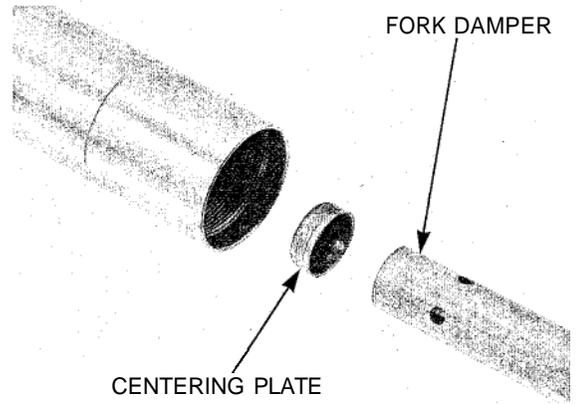
07YMB-MCF0101

Fork damper holder handle

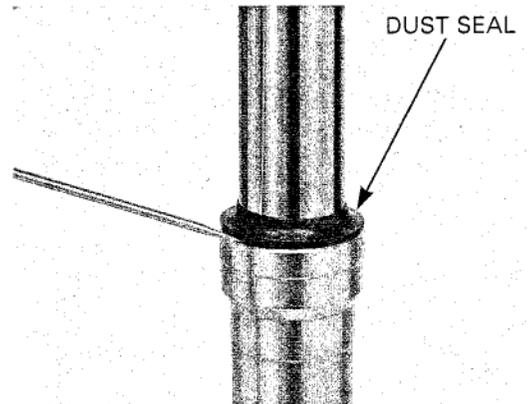
07TMB-001010A



Remove the fork damper assembly and centering plate from the fork pipe.

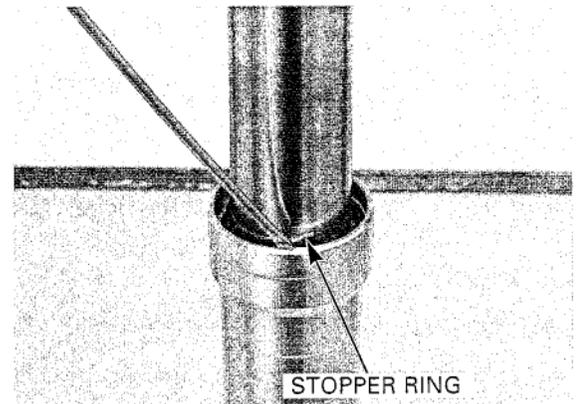


Remove the dust seal.

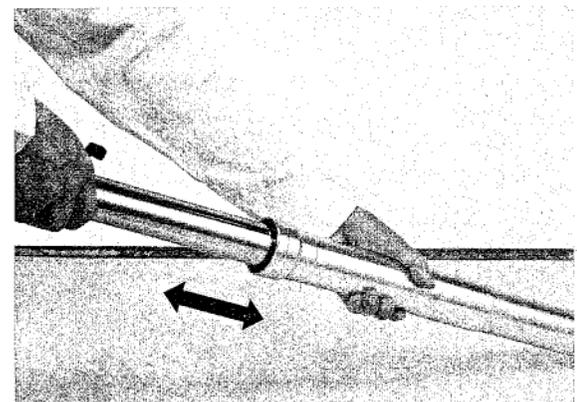


*Do not scratch  
the fork pipe slid-  
ing surface*

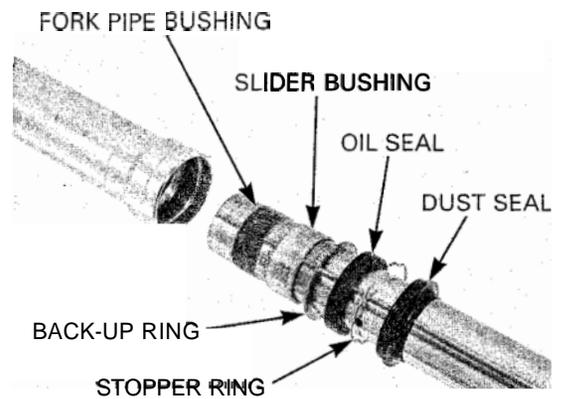
Remove the oil seal stopper ring.



Pull the fork slider out until you feel resistance from the slider bushing. Then move it in and out, tapping the bushing lightly until the fork pipe separates from the fork slider. The slider bushing will be forced out by the fork pipe bushing.



Remove the fork pipe bushing, slider bushing, back-up ring, oil seal, stopper ring and dust seal from the fork pipe.

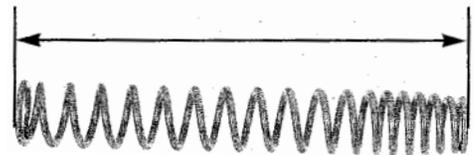


## INSPECTION

### Fork spring

Measure the fork spring free length.

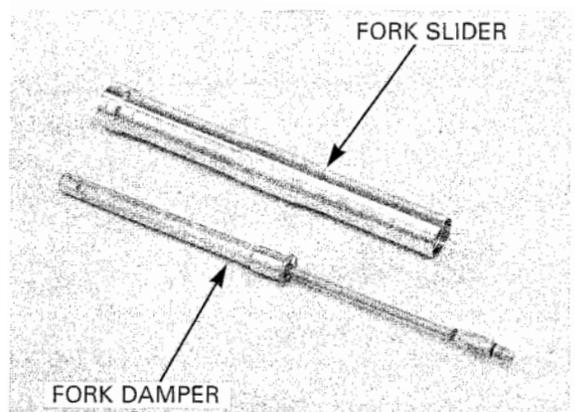
**SERVICE LIMIT: 250.8 mm (9.871in)**



### Fork pipe/slider/damper

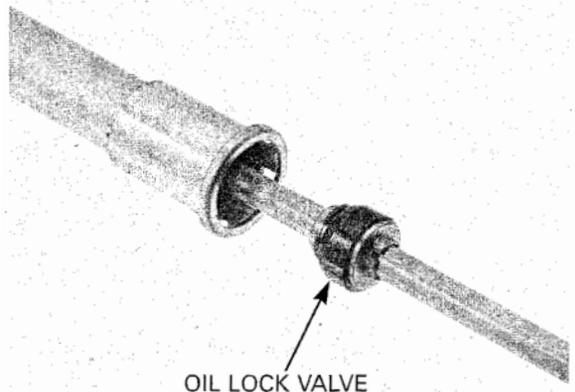
Check the fork pipe and fork slider for score marks, scratches, or excessive or abnormal wear. Replace any components which are worn or damaged.

Check the fork damper for damage.



Check the oil lock valve for wear or damage.

Replace the fork damper assembly, if any components are damaged.

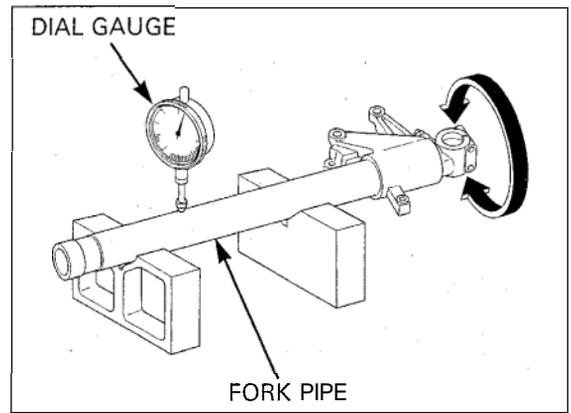


# FRONT WHEEL/SUSPENSION/STEERING

Place the fork pipe in V-blocks and measure the runout.

Actual runout is 1/2 the total indicator reading.

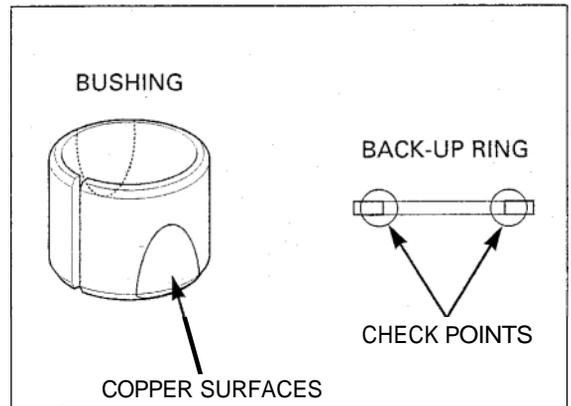
**SERVICE LIMIT: 0.20 mm (0.008 in)**



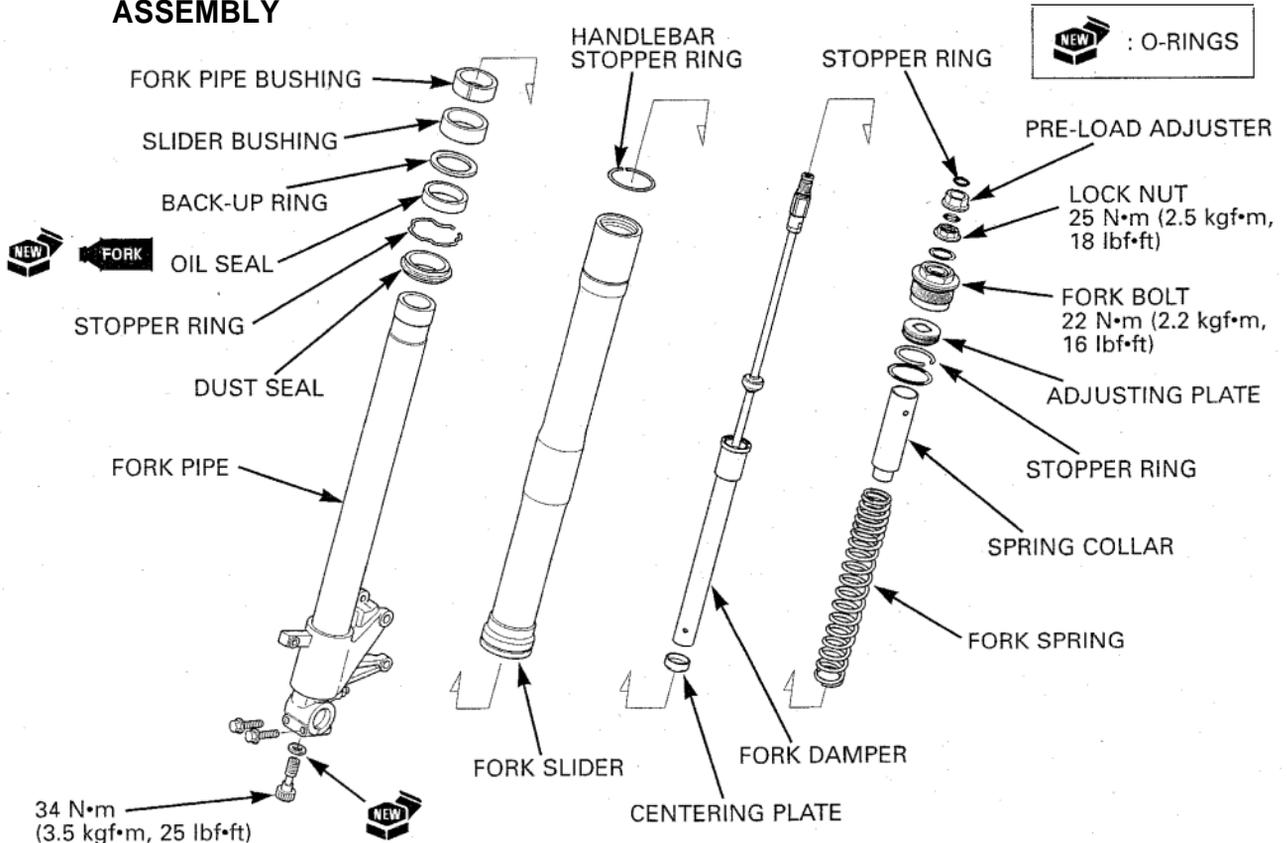
## Fork pipe bushing

Visually inspect the slider and fork pipe bushings. Replace the bushings if there is excessive scoring or scratching, or if the teflon is worn so that the copper surface appears on more than 3/4 of the entire surface.

Check the back-up ring; replace it if there is any distortion at the points shown.



## ASSEMBLY

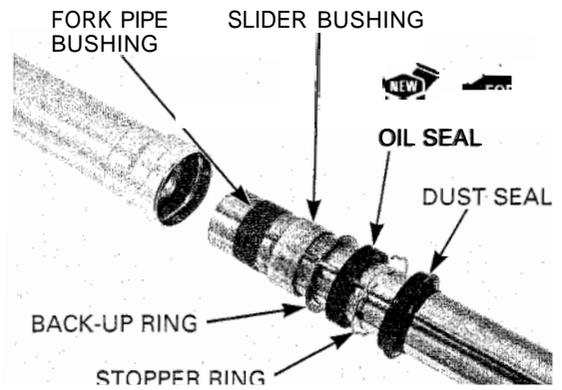


Before assembly, wash all parts with a high flash-point or non-flammable solvent and wipe them dry.

*Install the oil seal with its marked side facing up.*

Install the dust seal, stopper ring, new oil seal, back-up ring, and slider bushing. Install a new fork pipe bushing.

Apply fork fluid to the oil seal lips. Install the fork pipe into the fork slider.

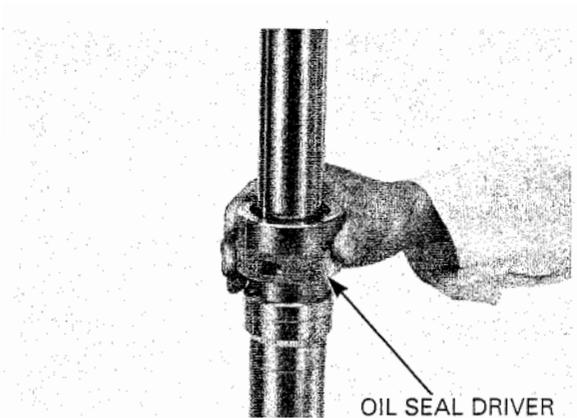


Drive the oil seal in using the special tools.

**TOOL:**

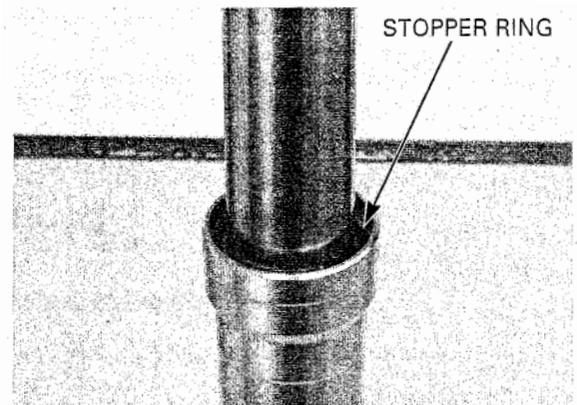
Oil seal driver

07YMD-MCF0100 or  
07NMD-KZ3010A  
(U.S.A. only)

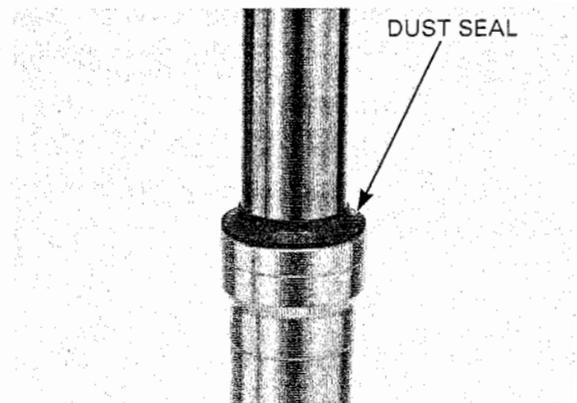


*Do not scratch the fork pipe sliding surface.*

Install the stopper ring into the fork slider groove securely.



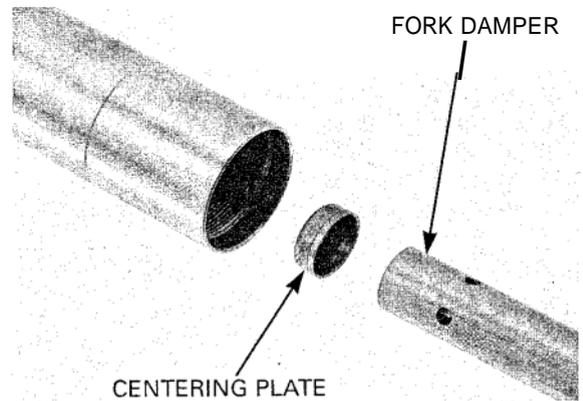
Install the dust seal.



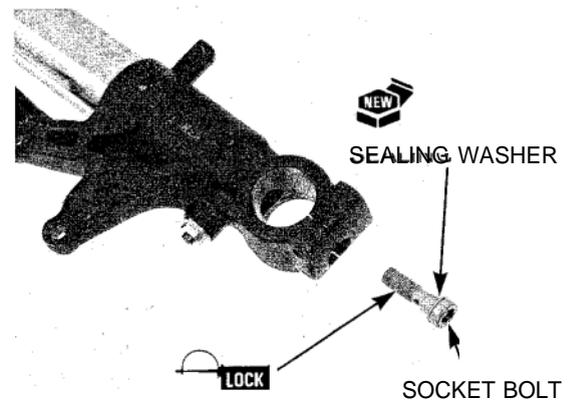
## FRONT WHEEL/SUSPENSION/STEERING

Install the centering plate onto the end of the fork damper.

Install the fork damper assembly into the fork pipe.



Apply a locking agent to the fork socket bolt threads. Install the socket bolt with a new sealing washer.



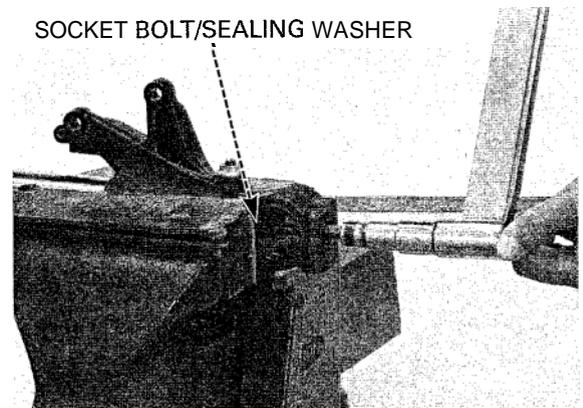
Hold the axle holder in a vise with soft jaws or a shop towel.

Hold the fork damper with the fork damper holder, then tighten the fork socket bolt to the specified torque.

### TOOLS:

Fork damper holder                    07YMB-MCF0101  
Fork damper holder handle        07TMB-001010A

**TORQUE: 34 N·m (3.5 kgf·m, 25 lbf·ft)**



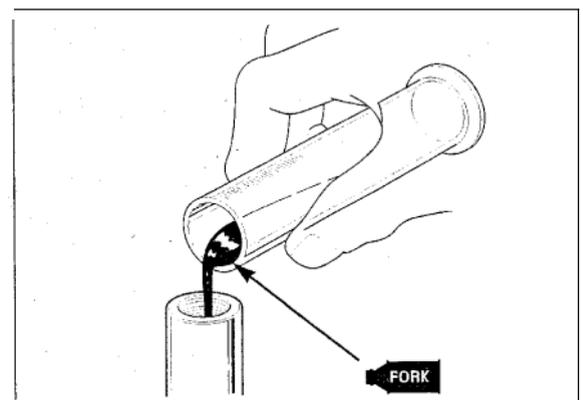
Pour the specified amount of the recommended fork fluid into the fork pipe.

### RECOMMENDED FORK FLUID:

Pro Honda Suspension Fluid SS-8

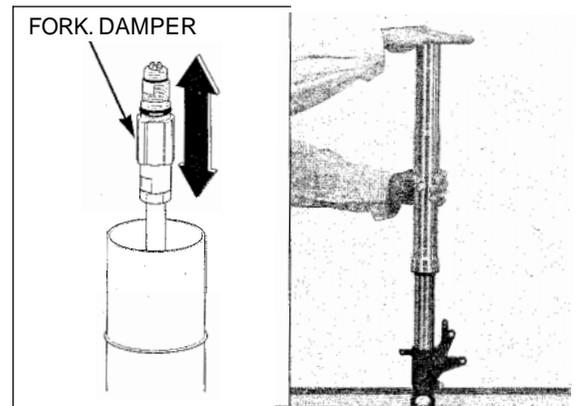
### FORK FLUID CAPACITY:

$513 \pm 2.5 \text{ cm}^3$  ( $17.3 \pm 0.08 \text{ US oz}$ ,  $18.1 \pm 0.09 \text{ Imp oz}$ )



Bleed the air as follows:

1. Extend the fork.
2. Cover the top of the fork slider with your hand and compress the fork slowly.
3. Pump the fork pipe and fork damper slowly 8 - 10 times.

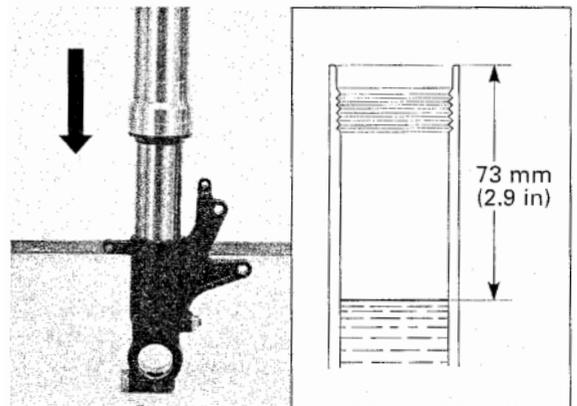


Slowly push down the fork slider, and gently seat the dust seal onto the axle holder and leave it for 5 minutes.

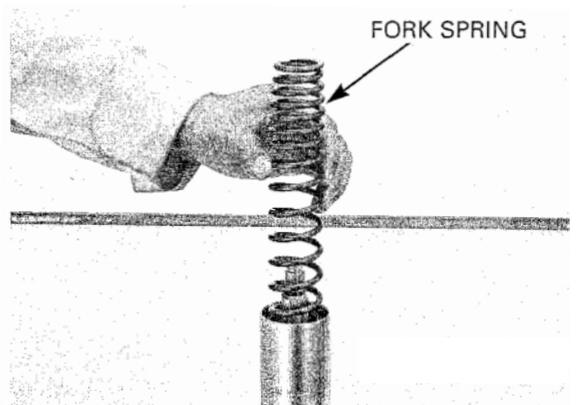
*Be sure the oil level is the same in both forks*

After the oil level stabilizes, measure the oil level from the top of the fork slider.

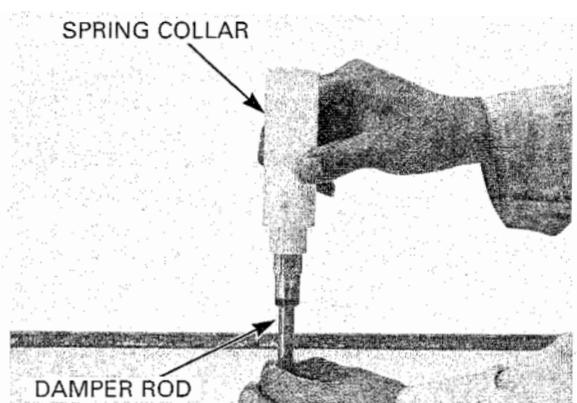
**FORK OIL LEVEL: 73 mm (2.9 in)**



Install the fork spring into the fork slider with the tapered end facing up.

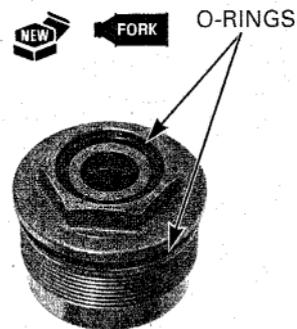


Pull the damper rod up and install the spring collar.

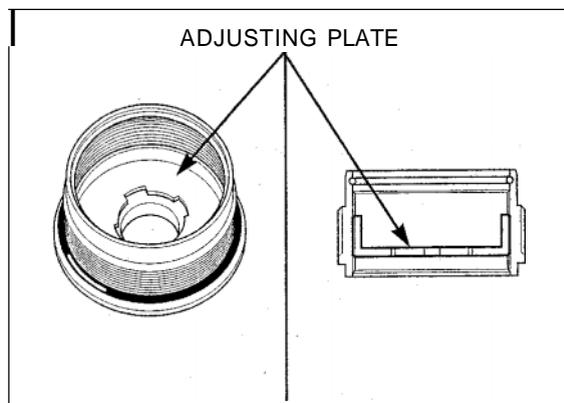


## FRONT WHEEL/SUSPENSION/STEERING

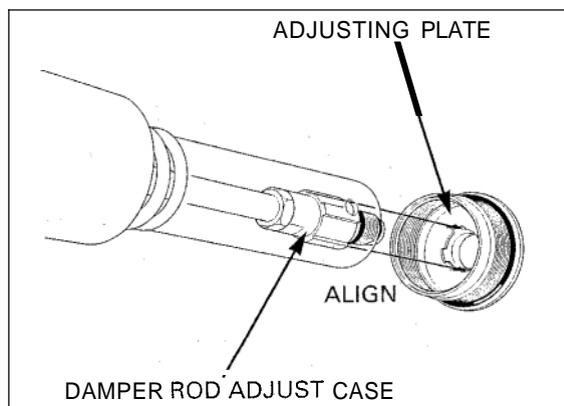
Apply fork fluid to the new O-rings and install them onto the fork bolt.



Turn the adjusting plate clockwise until it seats lightly.



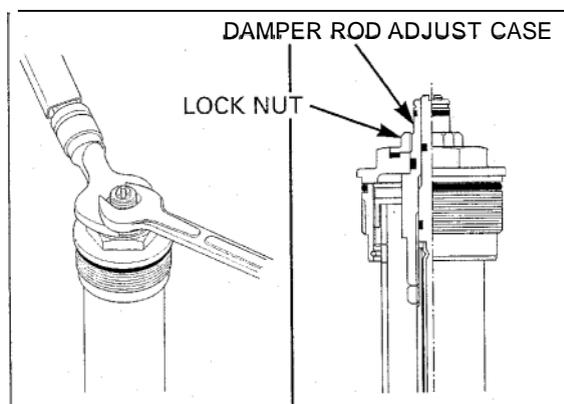
Push down the spring collar, then install the fork bolt to the damper rod adjust case while aligning the groove of the adjusting plate with the damper rod adjust case.



Install the lock nut to the damper rod adjust case.

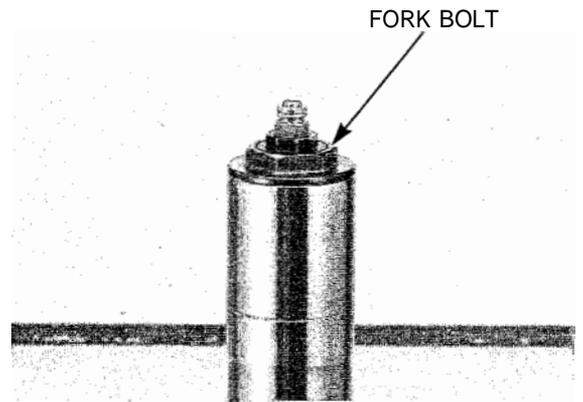
Hold the damper rod adjuster case, and then tighten the lock nut to the specified torque.

**TORQUE: 25 N·m (2.5kgf·m, 19 lbf·ft)**

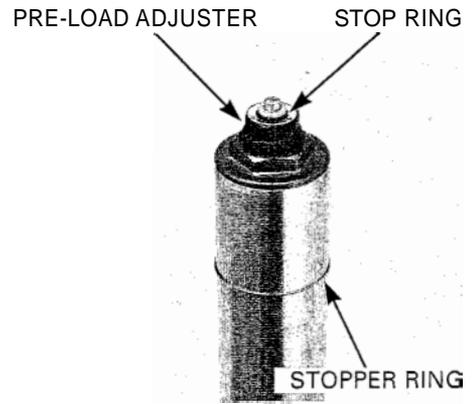


*Tighten the fork bolt after installing the fork slider into the fork bridges*

Install the fork bolt to the fork slider.

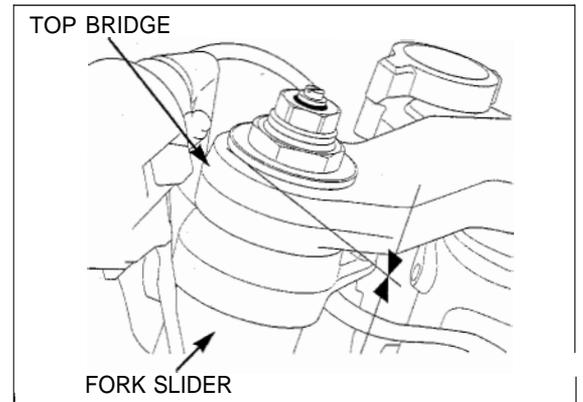


Install the handlebar stopper ring.  
Install the pre-load adjuster and stop ring.



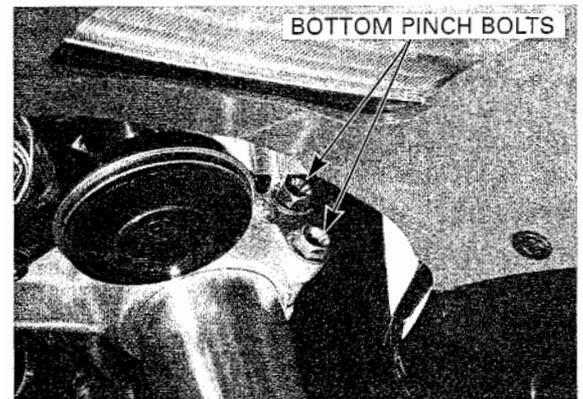
## INSTALLATION

Install the fork leg through the bottom bridge, handlebar and top bridge (page 13-6).  
Position the top end of the fork pipe flush with the upper surface of the top bridge as shown.



Tighten the bottom bridge pinch bolts to the specified torque.

**TORQUE: 26 N·m (2.7kgf·m, 20 lbf·ft)**



If the fork bolt was loosened, tighten it to the specified torque.

**TORQUE: 22 N·m (2.3kgf·m, 16 lbf·ft)**

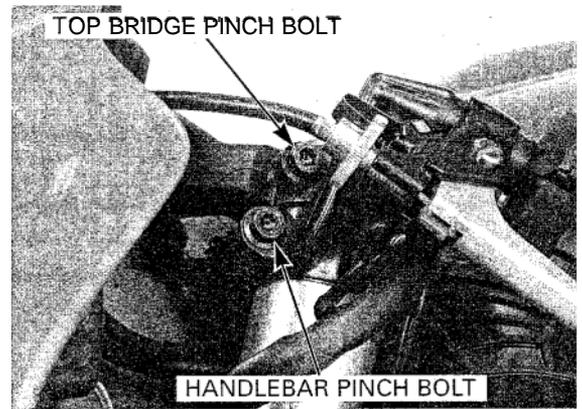
Tighten the handlebar pinch bolt to the specified torque.

**TORQUE: 26 N·m (2.7kgf·m, 20 lbf·ft)**

Tighten the top bridge pinch bolt to the specified torque.

**TORQUE: 23 N·m (2.3kgf·m, 17 lbf·ft)**

Install the front wheel (page 13-14).  
Adjust the pre-load and rebound/damping adjuster (page 3-28, 29).



## STEERING STEM

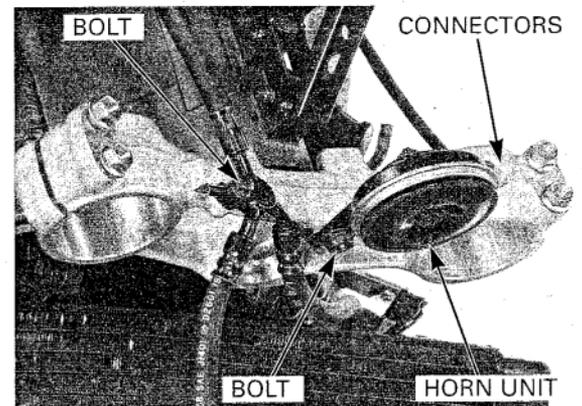
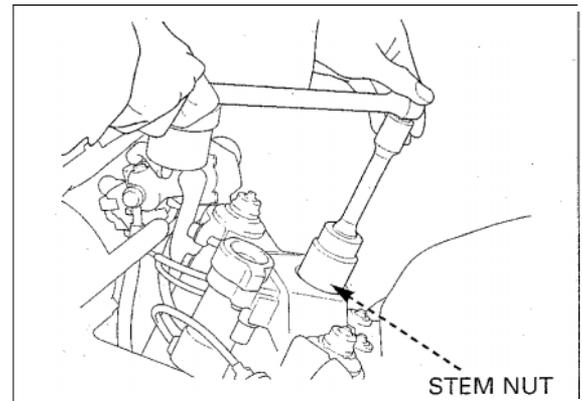
### REMOVAL

- Remove the following:
- Front wheel (page 13-9)
  - Upper cowl (page 2-5)

Remove the steering stem nut.

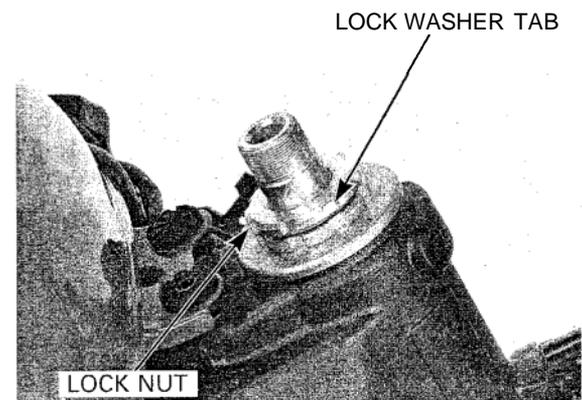
- Remove the following:
- Handlebars (page 13-4)
  - Fork legs (page 13-15)

Disconnect the horn connectors.  
Remove the bolt and horn unit.  
Remove the bolt and brake hose joint.



Straighten the tabs of the lock washer.

Remove the lock nut and lock washer.

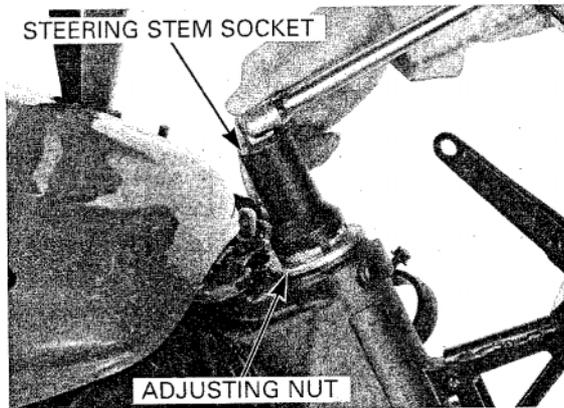


Remove the steering stem adjusting nut using the special tool.

**TOOL:**

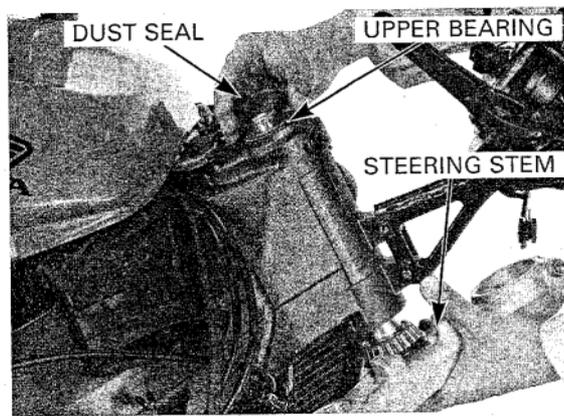
**Steering stem socket**

**07916-3710101 or  
07916-3710100  
(U.S.A. only)**



Remove the following:

- Dust seal
- Upper bearing
- Steering stem



*Always replace  
the bearings and  
races as a set*

## OUTER RACE REPLACEMENT

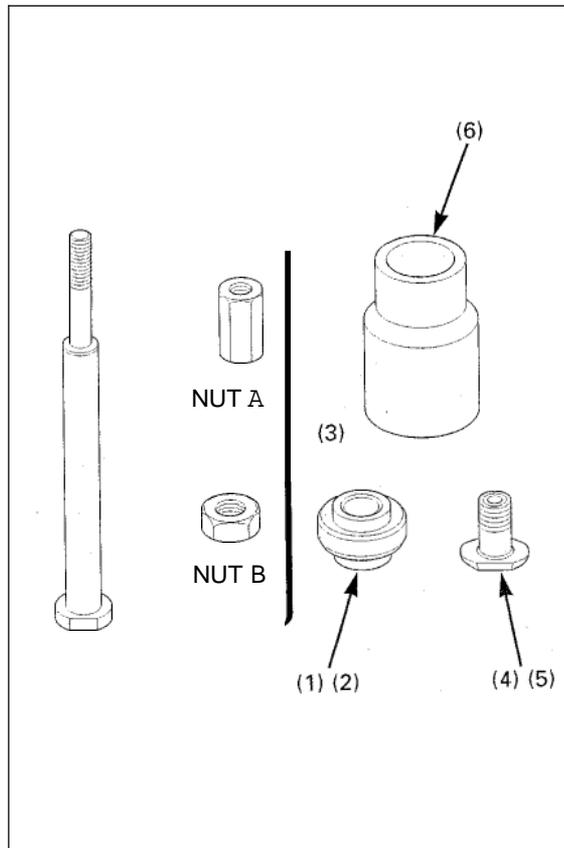
Replace the races using the special tools as described in the following procedure.

*For U.S.A only  
outer race  
replacement, refer  
to page 13-30*

**TOOLS:**

- Driver attachment, A (1)**
- Driver attachment, B (2)**
- Driver shaft assembly (3)**
- Bearing remover, A (4)**
- Bearing remover, B (5)**
- Assembly base (6)**

**07946-KM90100  
07NMF-MT70120  
07946-KM90300  
07946-KM90401  
07NMF-MT70110  
07946-KM90600**



# FRONT WHEEL/SUSPENSION/STEERING

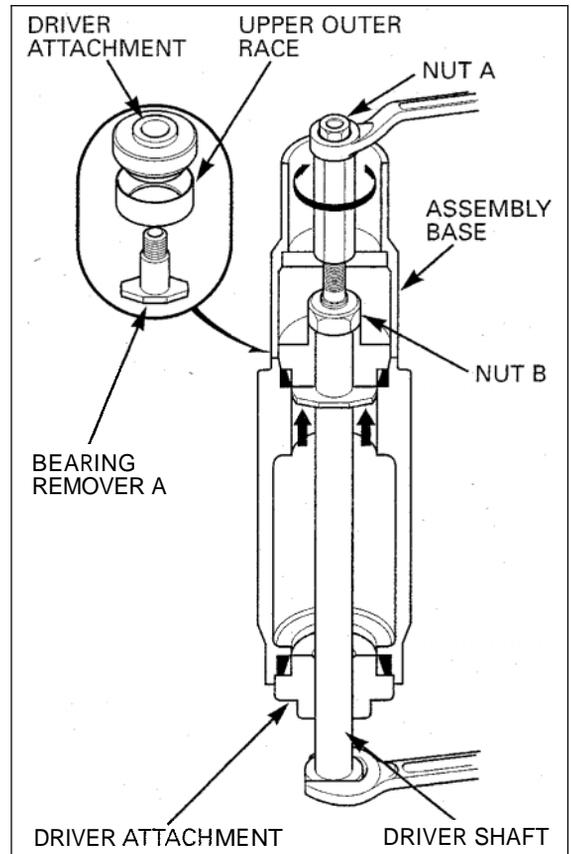
Install the ball race remover into the head pipe as shown.

Align bearing remover A with the groove in the steering head.

Lightly tighten nut B with a wrench.

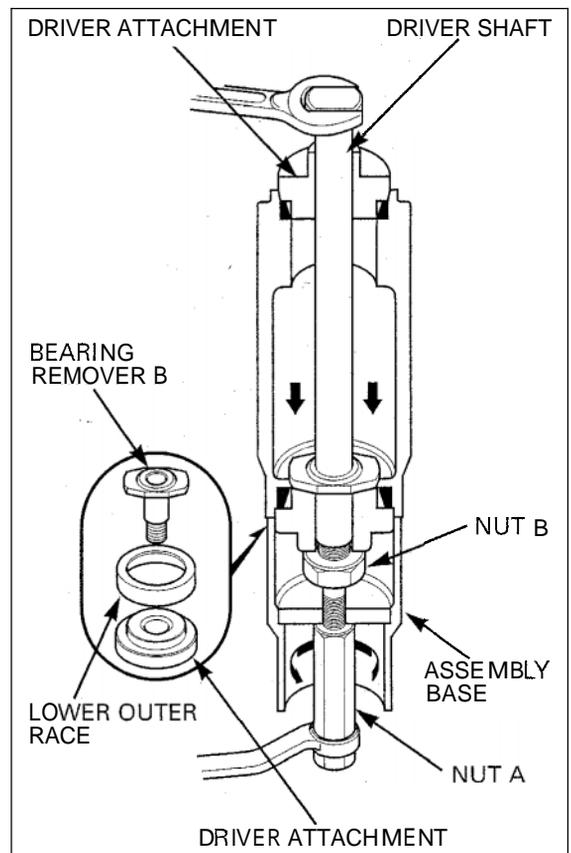
Holding the driver shaft with a wrench, turn nut A gradually to remove the upper outer race.

*Note the installation direction of the assembly base.*



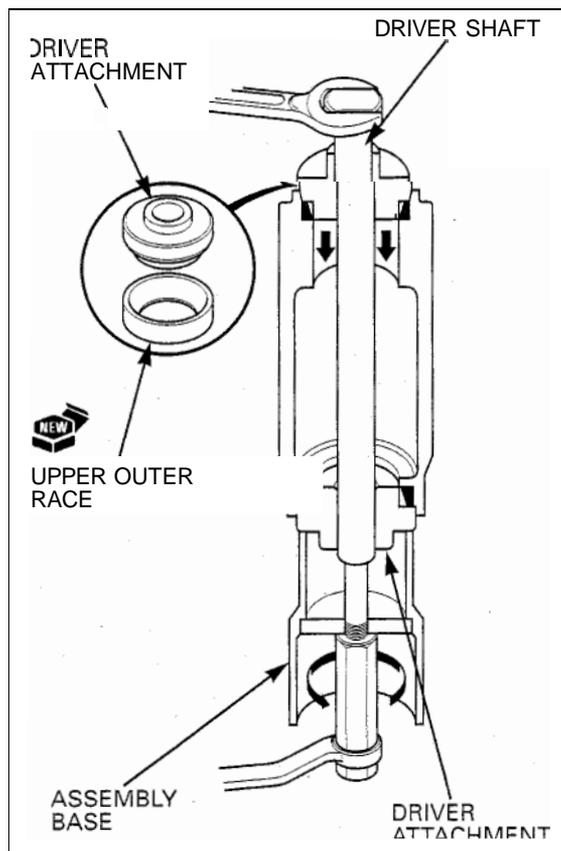
Install ball race remover B as shown and remove the lower outer race using the same procedure as for the upper outer race.

Align the bearing remover with the groove in the steering head.



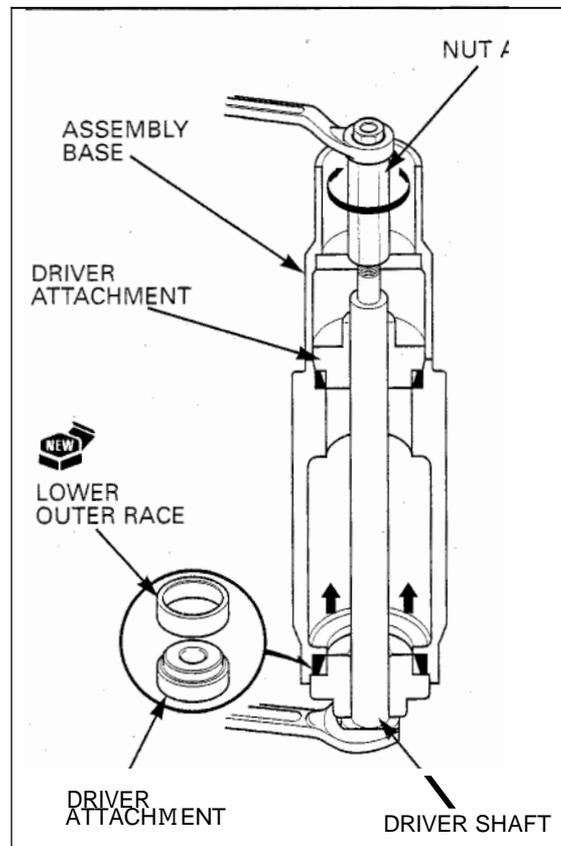
Install a new upper outer race and the ball race remover as shown.

Hold the driver shaft with a wrench and turn nut A gradually until the groove in driver attachment A aligns with the upper end of the steering head. This will allow you to install the upper outer race.



Install a new lower outer race and ball race remover as shown.

Holding the driver shaft with a wrench, turn nut A gradually until the groove in driver attachment B aligns with the upper end of the steering head. This will allow you to install the lower outer race.



# FRONT WHEEL/SUSPENSION/STEERING

## U.S.A. only:

Replace the steering head bearing outer races using the special tools listed below.

## TOOLS:

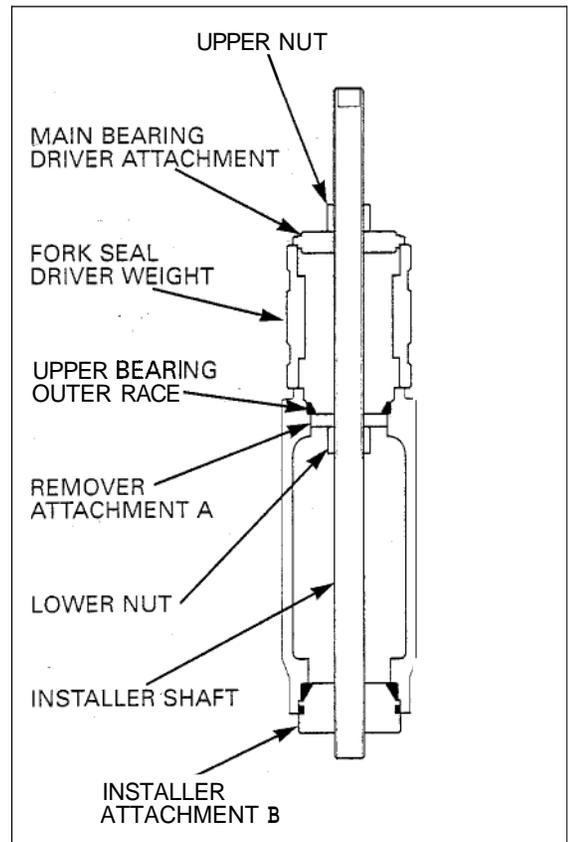
### Main bearing driver attachment

	<b>07946-ME90200</b>
<b>Fork seal driver body</b>	<b>07947-KA50100</b>
<b>Oil seal driver</b>	<b>07965-MA60000</b>
<b>Installer shaft</b>	<b>07VMF-KZ30200</b>
<b>Installer attachment A</b>	<b>07VMF-MAT0100</b>
<b>Installer attachment B</b>	<b>07VMF-MAT0200</b>
<b>Remover attachment A</b>	<b>07VMF-MAT0300</b>
<b>Remover attachment B</b>	<b>07VMF-MAT0400</b>

Install the special tools into the steering head pipe as shown.

Align remover attachment A with the groove in the steering head.

While holding the installer shaft with the wrench, turn the upper nut gradually to remove the upper bearing outer race.

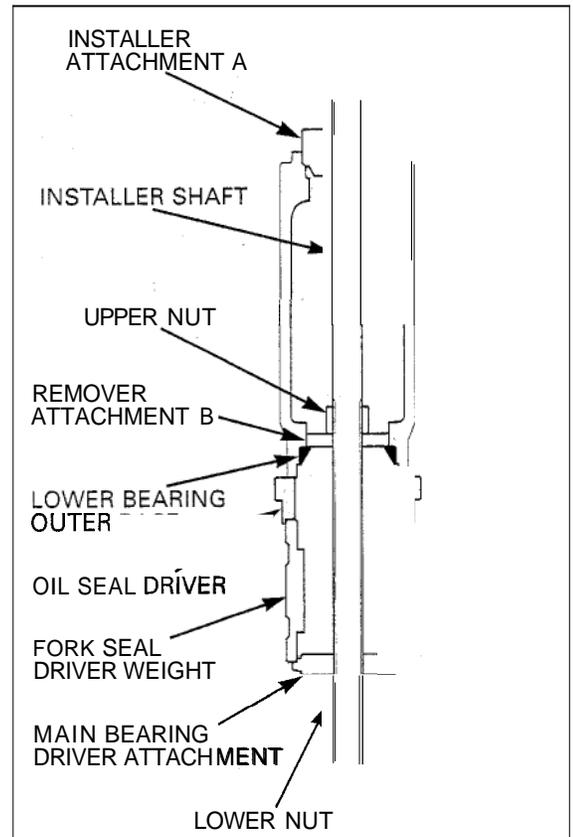


*Be careful not to drop the attachments into the frame*

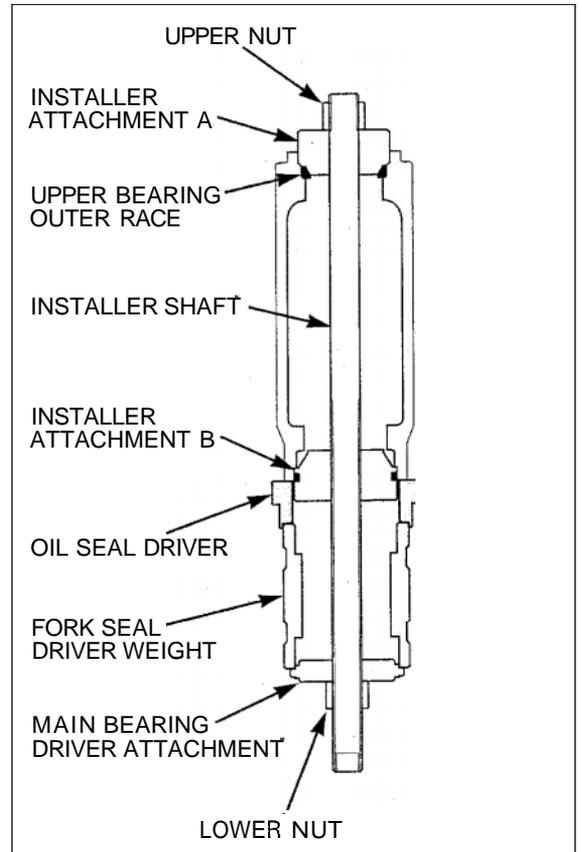
Install the special tools into the steering head pipe as shown.

Align remover attachment B with the groove in the steering head.

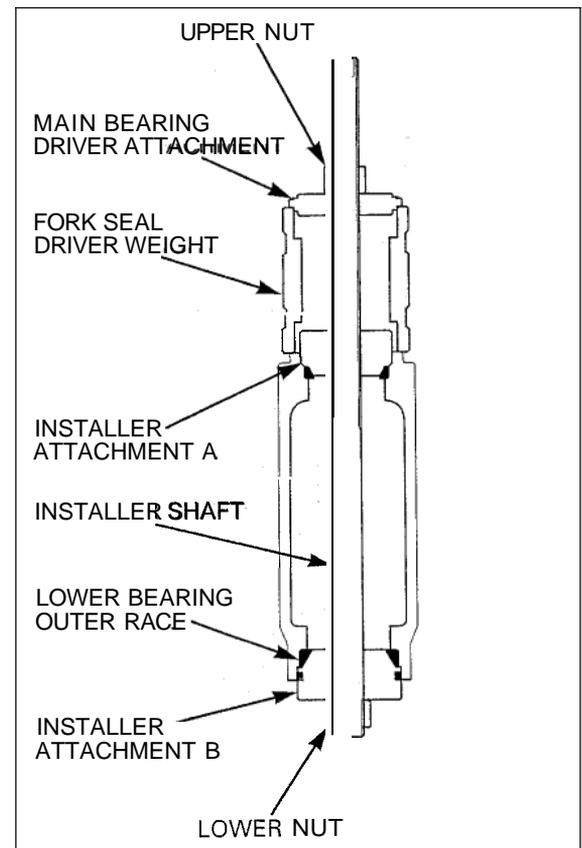
While holding the installer shaft with the wrench, turn the lower nut gradually to remove the lower bearing outer race.



Install a new upper bearing outer race and the special tools as shown. While holding the installer shaft with the wrench, turn the lower nut gradually until the groove in installer attachment A aligns with the upper end of the steering head. This will allow you to install the upper bearing outer race.



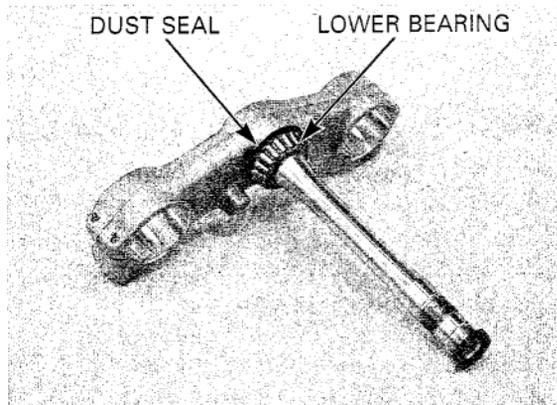
Install a new lower bearing outer race and the special tools as shown. While holding the installer shaft with the wrench, turn the upper nut gradually until the groove in installer attachment B aligns with the lower end of the steering head. This will allow you to install the lower bearing outer race.



## LOWER BEARING REPLACEMENT

Temporarily install the steering stem nut onto the stem to prevent the threads from being damaged when removing the lower bearing from the stem.

Remove the lower bearing with a chisel or equivalent tool, being careful not to damage the stem. Remove the dust seal.

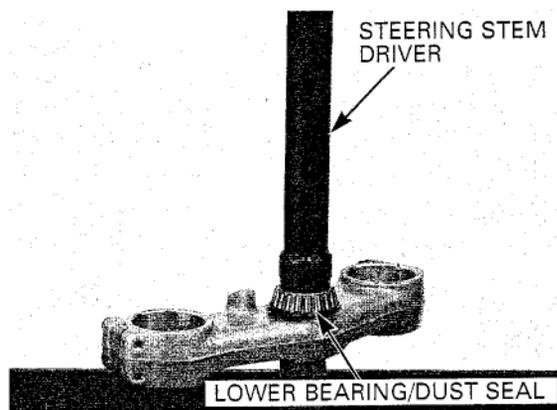


Apply grease to new dust seal lips and install it over the steering stem. Install a new lower bearing using a special tool and a hydraulic press.

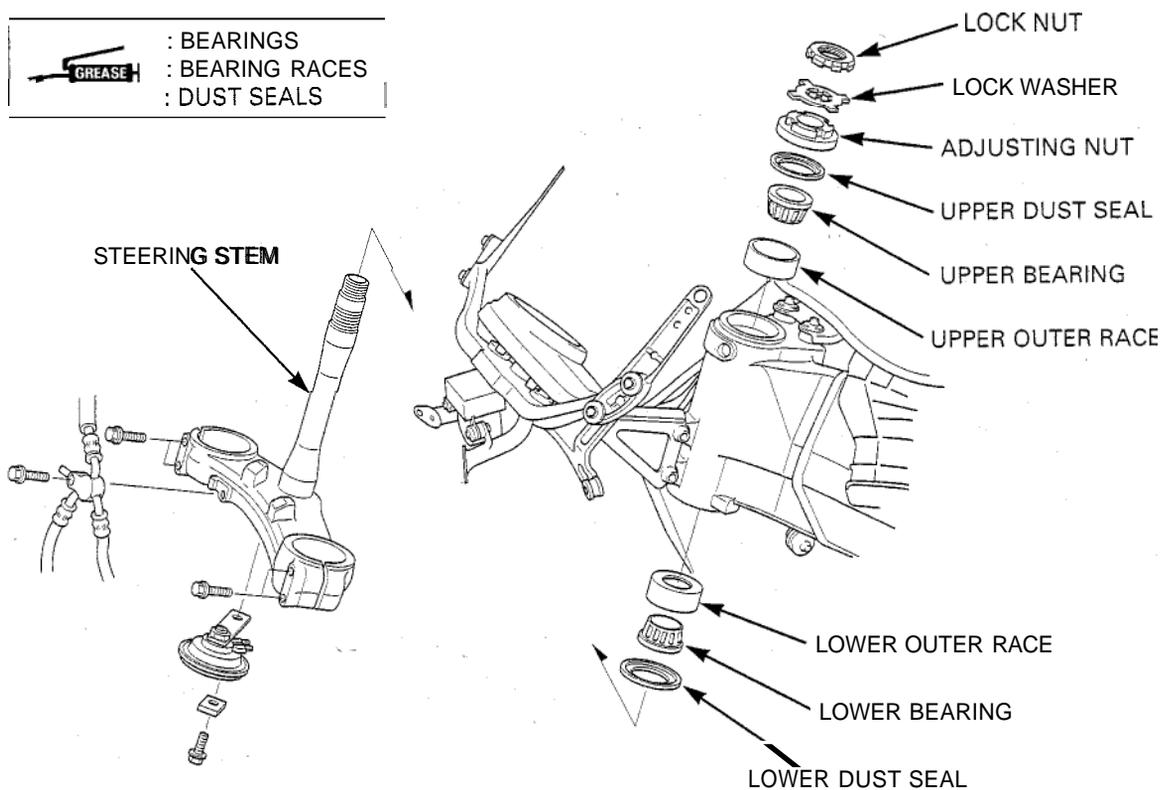
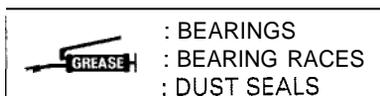
### TOOL:

Steering stem driver

07946-MB00000



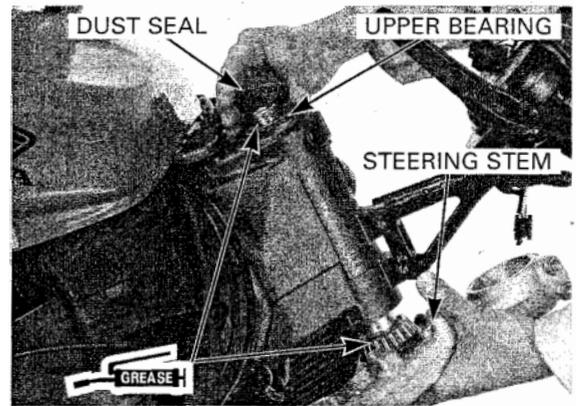
## INSTALLATION



Apply grease to the upper and lower bearings and bearing races.

Insert the steering stem into the steering head pipe.

Install upper bearing and dust seal.

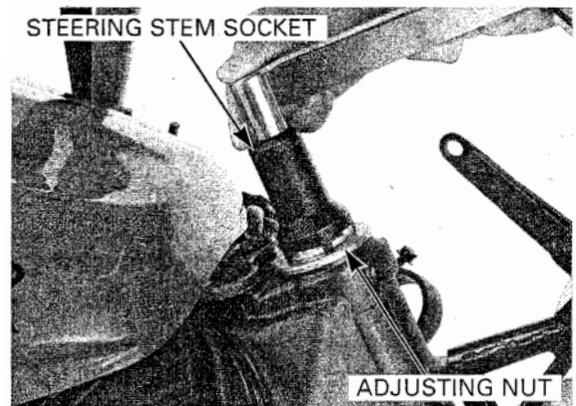


Apply oil to the bearing adjustment nut threads. Install and tighten the stem adjusting nut to the initial torque.

**TOOL:**

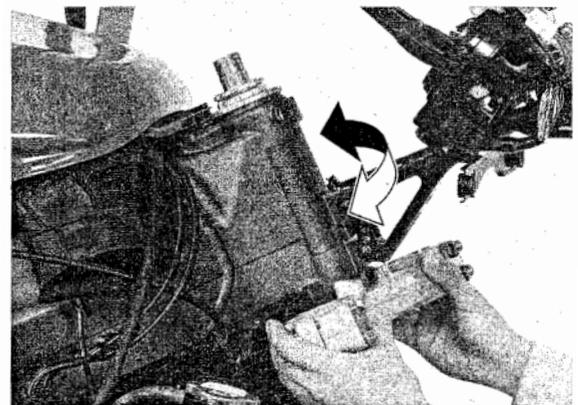
**Steering stem socket**                    **07916-3710101 or**  
   **07916-3710100**  
   **(U.S.A. only)**

**TORQUE: 40 N·m (4.1 kgf·m, 30 lbf·ft)**



Move the steering stem right and left, lock-to-lock, five times to seat the bearings.

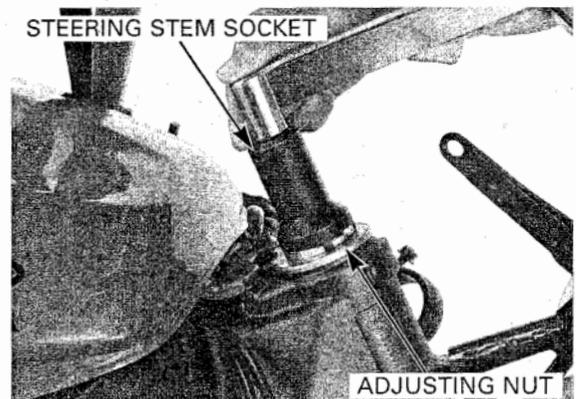
Make sure the steering stem moves smoothly, without play or binding; then loosen the steering stem adjusting nut.



Retighten the steering stem adjusting nut to the specified torque.

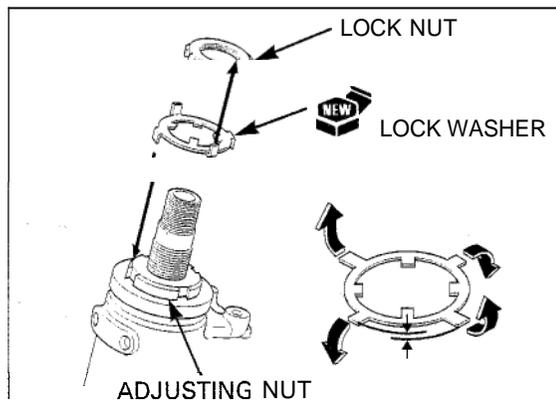
**TORQUE: 18 N·m (1.8 kgf·m, 13 lbf·ft)**

Recheck that the steering stem moves smoothly without play or binding.



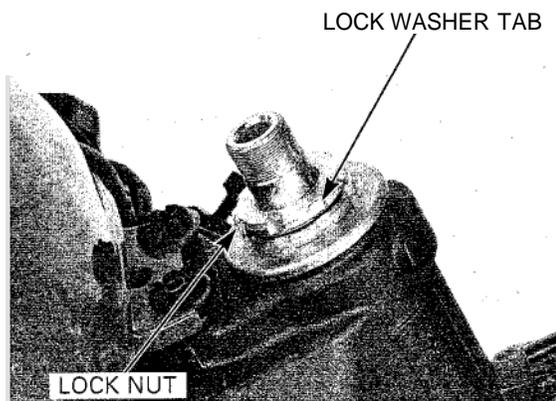
Install the new lock washer onto the steering stem.  
Install and tighten the steering stem lock nut.

Align the tabs of the lock washer with the grooves in the lock nut and bend two opposite tabs (shorter) down into the adjusting nut groove.



Install and finger tighten the lock nut.  
Hold the lock nut and further tighten the lock nut with in 1/4 turn (90°) enough to align its grooves with the lock washer tabs.

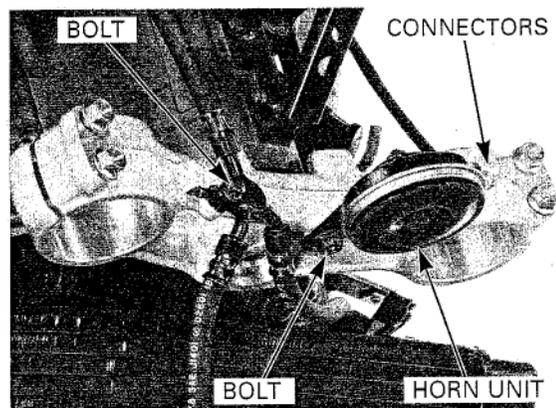
Bend the lock washer tabs up into the lock nut groove.



Install the horn unit assembly and tighten the mounting bolt.  
Connect the horn unit connectors.  
Install the brake hose joint and tighten the mounting bolt.

Install the following:

- Fork legs (page 13-25)
- Handlebar (page 13-6)

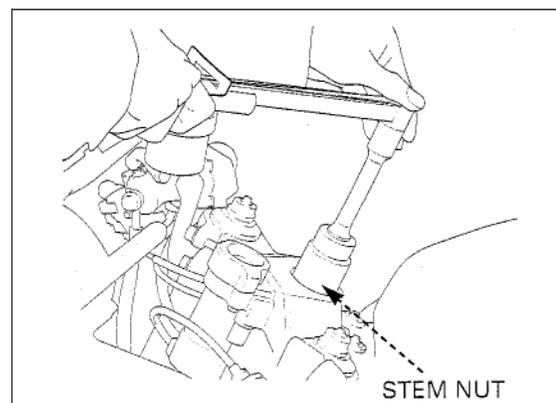


Install the top bridge and steering stem nut.  
Tighten the steering stem nut to the specified torque.

**TORQUE: 103 N·m (10.5 kgf·m, 76 lbf·ft)**

Install the following:

- Front wheel (page 13-14)
- Upper cowl (page 2-6)



## STEERING HEAD BEARING PRE-LOAD

Jack-up the motorcycle to raise the front wheel off the ground.

Position the steering stem straight ahead.

Hook a spring scale to the fork pipe and measure the steering head bearing pre-load.

The pre-load should be within 11 – 16 N (1.1 – 1.6 kgf).  
If the readings do not fall within the limits, lower the front wheel to the ground and adjust the steering bearing adjusting nut.

*Make sure there is no cable or wire harness interference*

