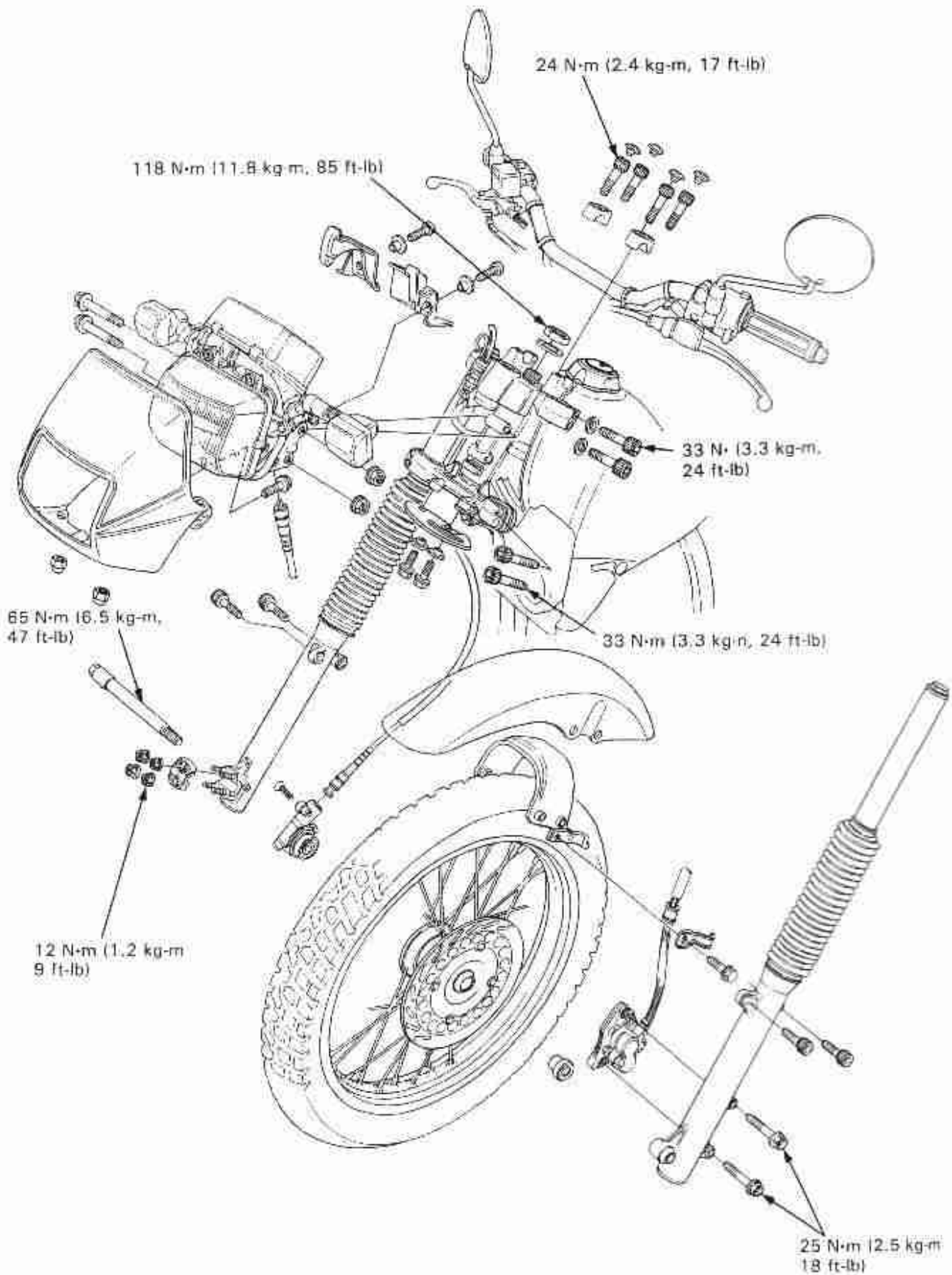


**FRONT WHEEL/SUSPENSION/
STEERING**

**ROUE AVANT/SUSPENSION/
DIRECTION**

**VORDERRAD/AUFHÄNGUNG/
LENKUNG**

FRONT WHEEL/SUSPENSION/STEERING



FRONT WHEEL/SUSPENSION/STEERING

SERVICE INFORMATION	12-1	FRONT WHEEL	12-6
TROUBLESHOOTING	12-2	FORK	12-10
HANDLEBAR	12-3	STEERING STEM	12-18

SERVICE INFORMATION

GENERAL

▲ WARNING

- *A contaminated brake disc or pad reduces stopping power. Discard contaminated pads and clean a contaminated disc with a high quality brake degreasing agent.*
- *Inhaled asbestos fibers have been found to cause respiratory disease and cancer. Never use an air hose or dry brush to clean brake assemblies.*

- This section covers maintenance of the front wheel, fork and steering stem. Refer to section 14 for front (hydraulic) brake service.
- Support the motorcycle using a hoist or a jack under the engine.

SPECIFICATIONS

ITEM		STANDARD	SERVICE LIMIT
Axle runout		—	0.2 mm (0.008 in)
Front wheel rim runout	Radial	—	2.0 mm (0.08 in)
	Axial	—	2.0 mm (0.08 in)
Fork fluid level		107 mm (4.2 in)	—
Fork tube runout		—	0.2 mm (0.008 in)
Fork fluid capacity		412 cc (13.9 US oz, 14.5 imp oz)	—
Fork spring free length	A	74.9 mm (2.95 in)	74.2 mm (2.92 in)
	B	484.1 mm (19.06 in)	479.3 mm (18.87 in)

TORQUE VALUES

Handlebar holder bolt	24 N·m (2.4 kg-m, 17 ft-lb)
Brake disc bolt	15 N·m (1.5 kg-m, 11 ft-lb)
Front axle	65 N·m (6.5 kg-m, 47 ft-lb)
Front axle holder nut	12 N·m (1.2 kg-m, 9 ft-lb)
Fork top pinch bolt	33 N·m (3.3 kg-m, 24 ft-lb)
Fork bottom pinch bolt	33 N·m (3.3 kg-m, 24 ft-lb)
Fork cap	23 N·m (2.3 kg-m, 17 ft-lb)
Fork socket bolt	20 N·m (2.0 kg-m, 14 ft-lb)
Brake caliper mounting bolt	25 N·m (2.5 kg-m, 18 ft-lb)
Steering stem nut	118 N·m (11.8 kg-m, 85 ft-lb)
Steering bearing adjustment nut	5 N·m (0.5 kg-m, 4 ft-lb)

TOOLS

Special

Steering stem driver	07946-4300101
Steering stem socket	07916-KA50100
Ball race remover	07953-MJ10000
- driver attachment	07953-MJ10100
- driver handle	07953-MJ10200

Common

Driver	07749-0010000
Bearing remover head, 15 mm	07746-0050400
Bearing remover shaft	07746-0050100
Attachment, 32 x 35 mm	07746-0010100
Pilot, 15 mm	07746-0040300
Attachment, 42 x 47 mm	07746-0010300
Fork seal driver body	07747-0010100
Fork seal driver attachment	07747-0010600

TROUBLESHOOTING

Hard Steering

- Steering bearing adjustment nut too tight
- Faulty steering stem bearings
- Insufficient air in front tire

Steers to One Side or Does Not Track Straight

- Bent fork legs
- Bent front axle, wheel installed incorrectly
- Unequal oil quantity in each fork tube

Front Wheel Wobbling

- Distorted rim
- Worn front wheel bearings
- Loose or broken spokes
- Faulty tire
- Axle or axle holder not tightened properly

Soft Suspension

- Weak fork springs
- Insufficient fluid in fork legs

Hard Suspension

- Fork oil level too high
- Fork tube(s) bent or fork slider(s) damaged

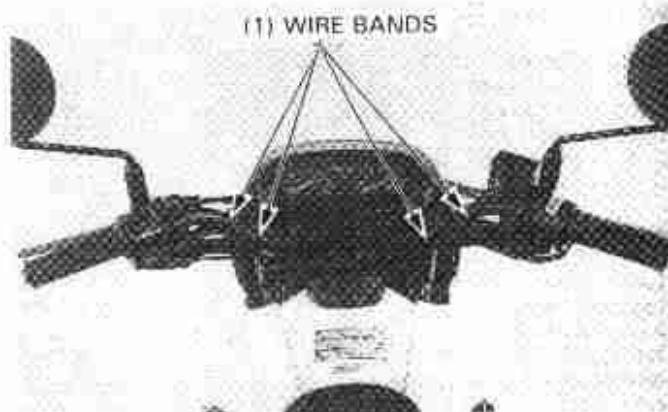
Front Suspension Noise

- Slider binding
- Insufficient fluid in fork legs
- Loose fork leg fasteners

HANDLEBAR

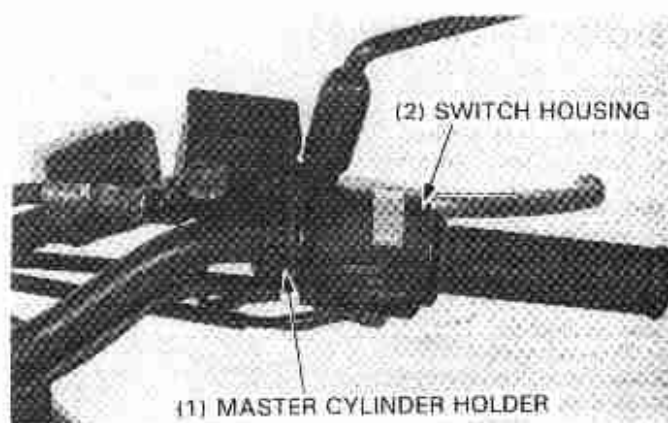
REMOVAL

Remove the wire bands.



Disconnect the front brake switch wires.
Remove the master cylinder holder.

Remove the right handlebar switch housing and disconnect the throttle cables, then remove the throttle grip end and grip.

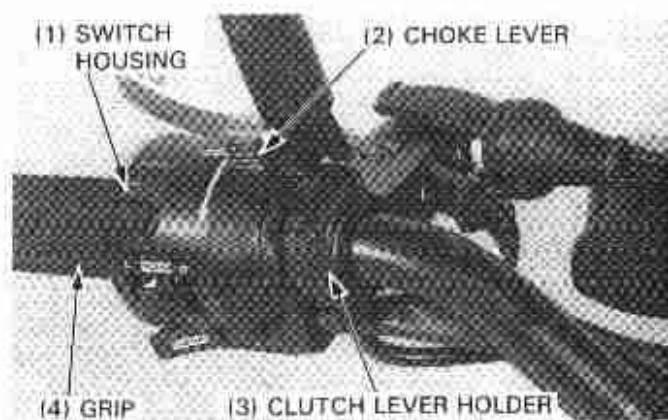


CAUTION

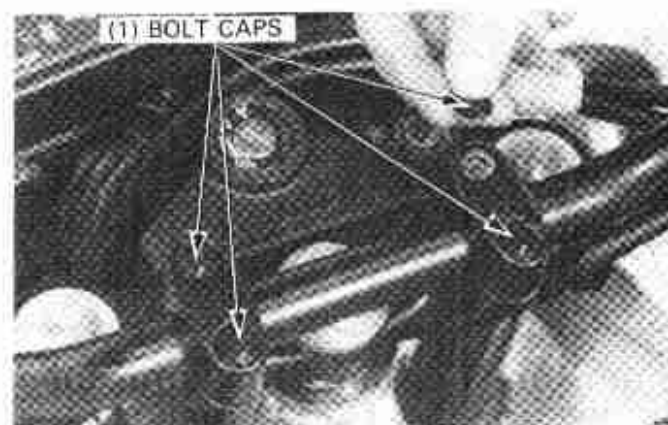
- *Suspend the master cylinder, with a suitable wire, at least as high as originally installed so as to prevent air from getting into the brake fluid.*

Remove the left handlebar grip end and grip from the handlebar if necessary.

Remove the clutch lever holder.
Remove the left handlebar switch and disconnect the choke cable from the choke lever.



Remove the bolt caps and bolts, then remove the handlebar upper holders and the handlebar.



FRONT WHEEL/SUSPENSION/STEERING

INSTALLATION

Install the handlebar and align its punch mark with the top of the lower holders.

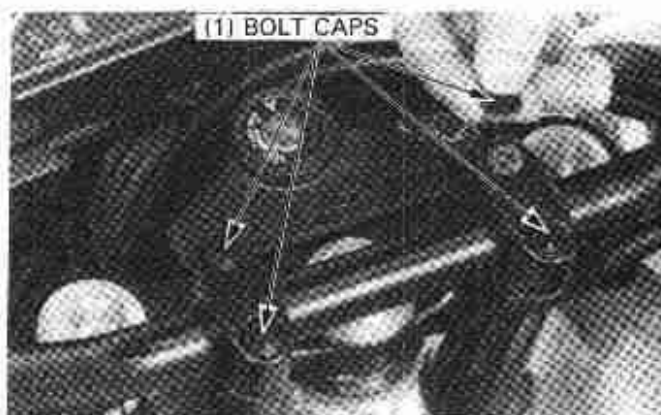
Place the upper holders on the handlebar with the punch marks forward.



Tighten the forward bolts first, then tighten the rear bolts.

TORQUE: 24 N·m (2.4 kg·m, 17 ft·lb)

Install the bolt caps.



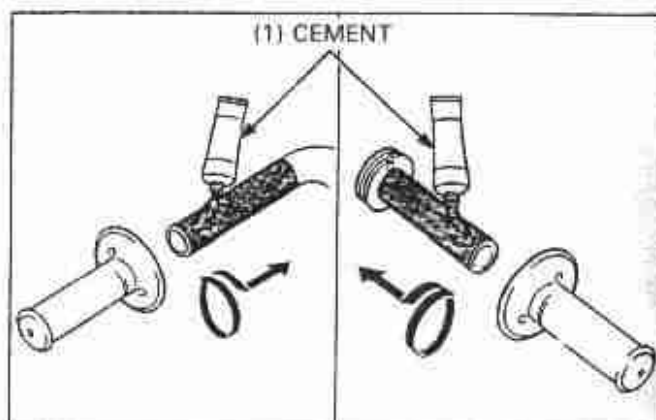
If the handlebar grips were removed, apply Honda Bond A to the inside of the grip and to the clean surfaces of the right and left handlebar.

Wait 3–5 minutes and install the grip.

Rotate the grip for even application of the adhesive.

NOTE

- Allow the adhesive to dry for an hour before using.

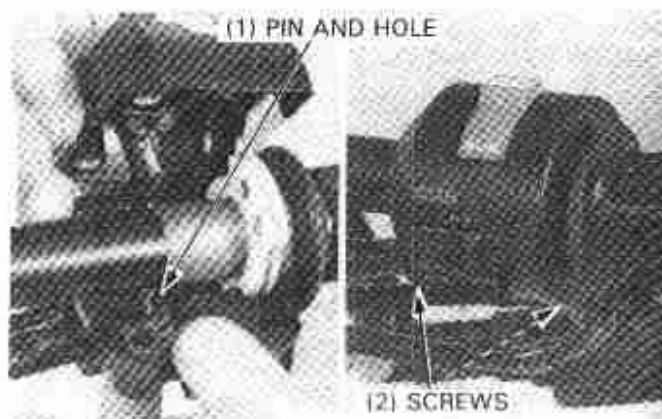


Apply a grease to the throttle cable ends.

Connect the throttle cables to the throttle pipe.

Align the location pin on the right handlebar switch with the hole in the handlebar.

Install and tighten the switch screws, front screw first, then rear screw.

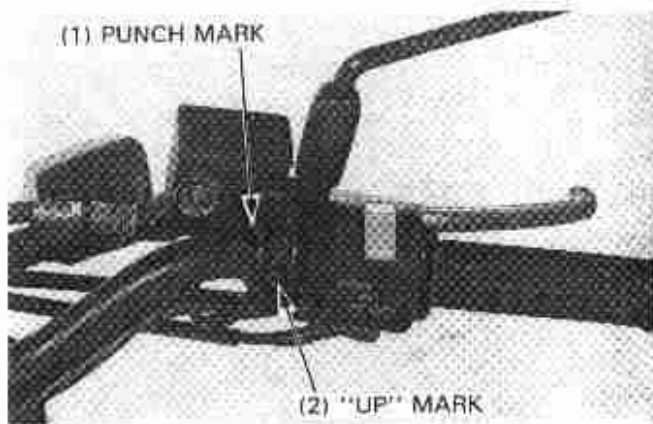


FRONT WHEEL/SUSPENSION/STEERING

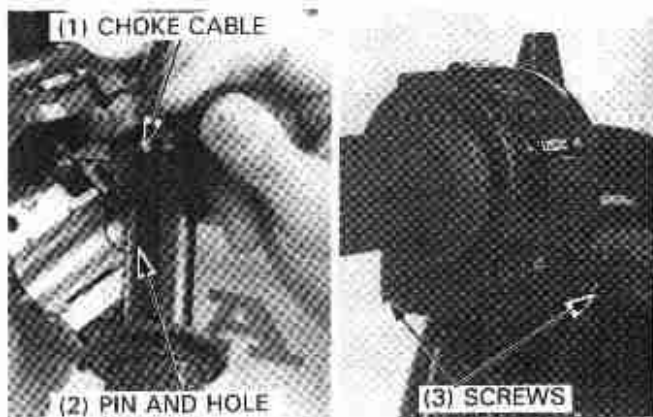
Place the front brake master cylinder on the handlebar and install the master cylinder holder with the "UP" mark facing up.

Align the end of the holder with the punch mark on the handlebar. Tighten the upper holder bolt first, then tighten the lower bolt.

Connect the front brake switch wires.

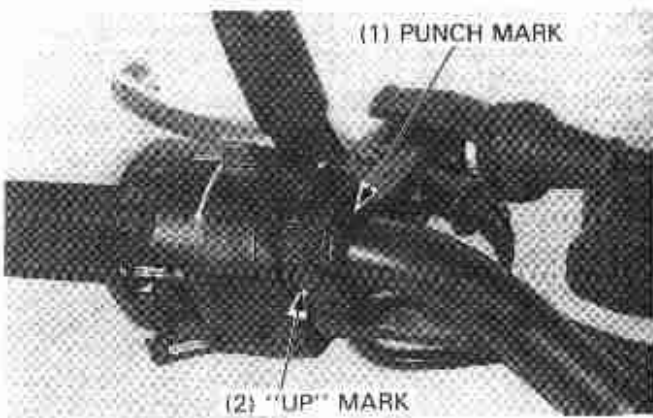


Connect the choke cable to the choke lever.
Install the left handlebar switch by aligning the locating pin with the hole in the handlebar.
Tighten the front screw first, then tighten the rear screw.

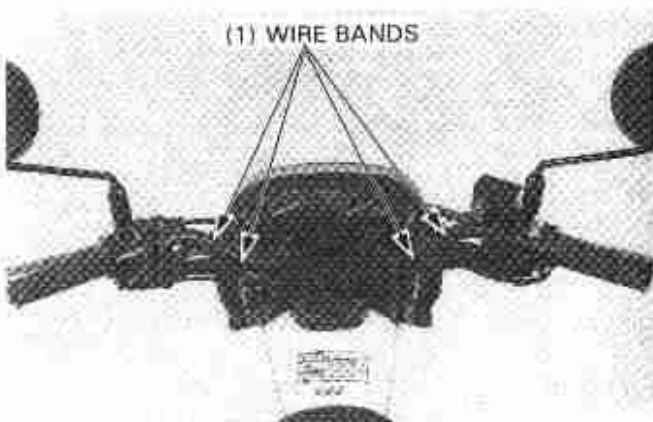


Install the clutch lever holder with the "UP" mark facing up.

Align the end of the holder with the punch mark on the handlebar. Tighten the upper holder bolt first, then tighten the lower bolt.



Install the wire bands.



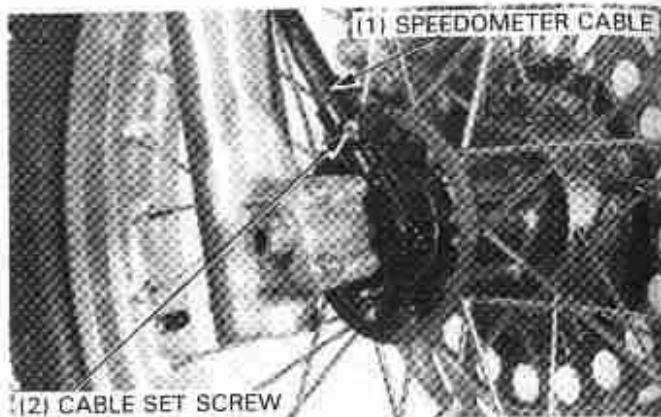
FRONT WHEEL/SUSPENSION/STEERING

FRONT WHEEL

REMOVAL

Raise the front wheel off the ground.

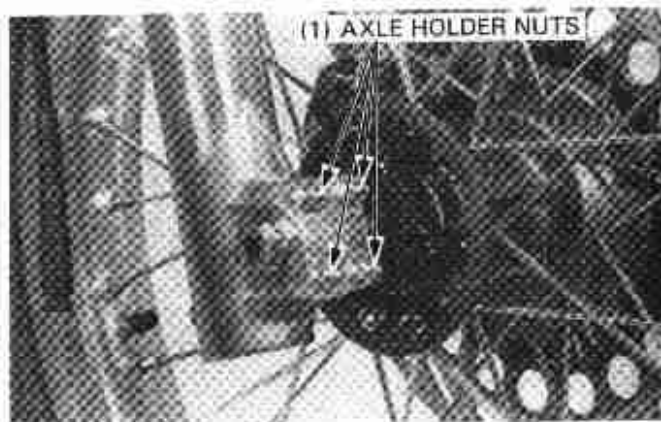
Disconnect the speedometer cable from the speedometer gear box by removing the cable set screw.



Loosen the front axle holder nuts.
Remove the axle and the front wheel.

NOTE

- If you squeeze the front brake lever after the caliper is removed, the caliper piston will move out and make assembly difficult.

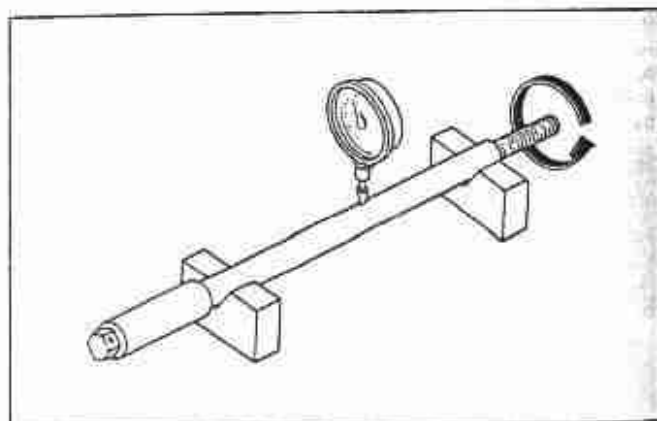


INSPECTION

• AXLE

Set the axle in V blocks and measure the runout.

SERVICE LIMIT: 0.2 mm (0.01 in)



Check the rim runout by placing the wheel in a truing stand. Spin the wheel slowly and read the runout using a dial indicator.

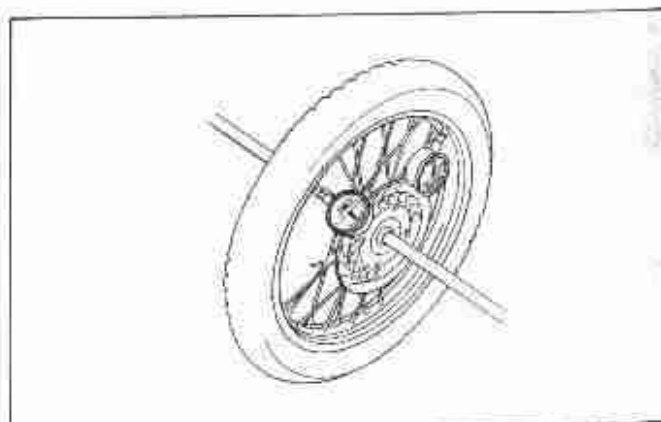
SERVICE LIMITS:

Radial runout: 2.0 mm (0.08 in)

Axial runout: 2.0 mm (0.08 in)

NOTE

- The wheel cannot be repaired and must be replaced with a new one if the service limits are exceeded.



FRONT WHEEL/SUSPENSION/STEERING

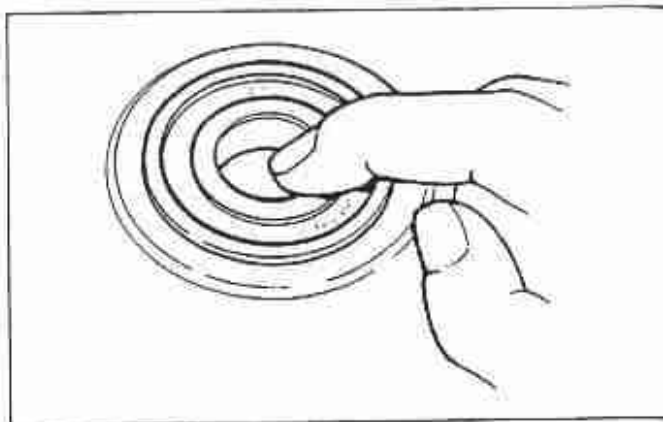
● WHEEL BEARING

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

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

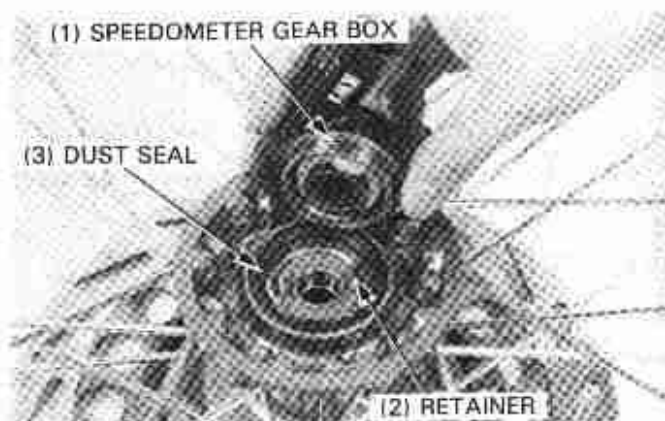
NOTE

- Replace hub bearings in pairs.



DISASSEMBLY

Remove the speedometer gear box dust seal and speedometer gear retainer.

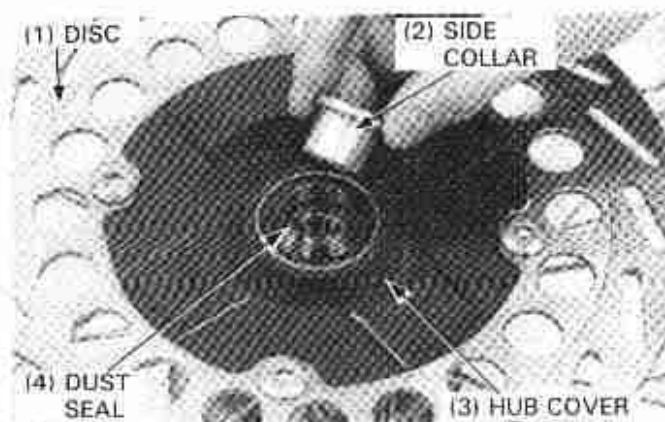


Remove the side collar from the left side.

Remove the hub cover and disc.

NOTE

- Check for disc warpage; see page 14-5.



WHEEL BEARING REPLACEMENT

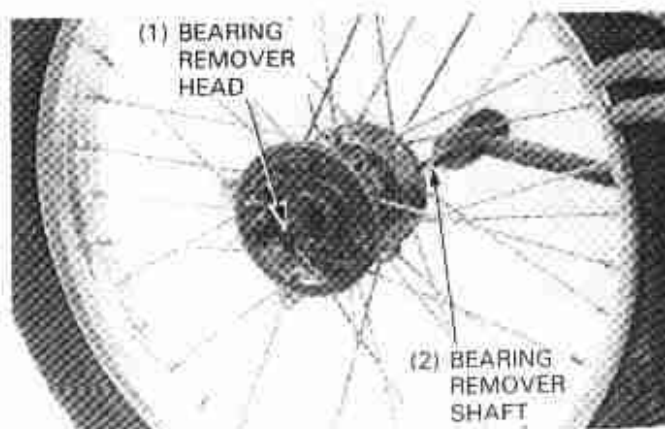
Install the bearing remover head and shaft; then remove the bearings and the distance collar.

NOTE

- Never reinstall old bearings once the bearings are removed, they must be replaced with new ones.

TOOLS:

Bearing remover head, 15 mm 07746-0050400
Bearing remover shaft 07746-0050100



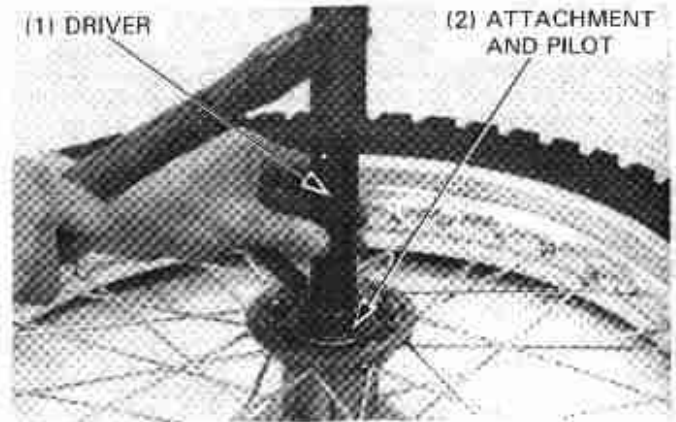
FRONT WHEEL/SUSPENSION/STEERING

Drive in a new right side bearing first, then install the distance collar.

Drive in a new left side bearing.

TOOLS:

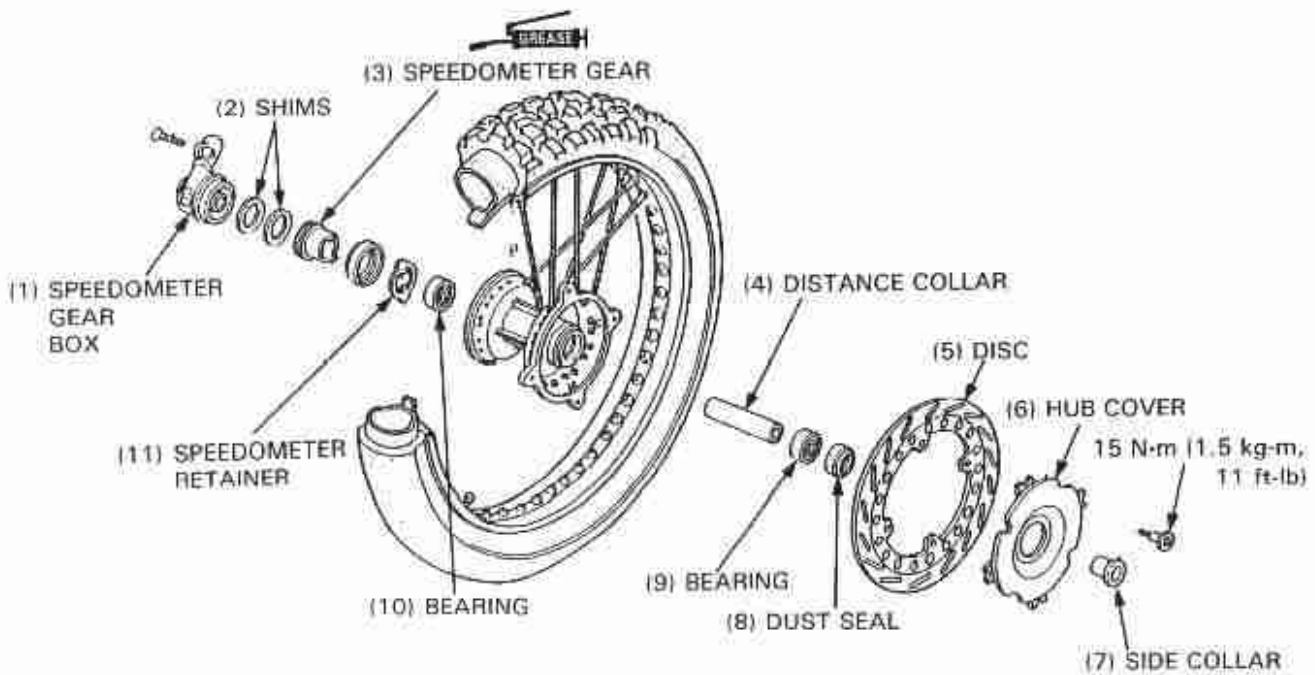
Driver	07749-0010000
Attachment, 32 x 35 mm	07746-0010100
Pilot, 15 mm	07746-0040300



ASSEMBLY

▲ WARNING

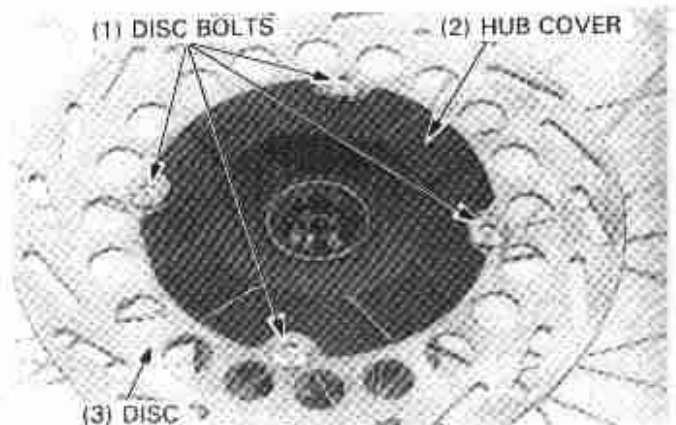
- Do not get grease on the brake disc or stopping power will be reduced.



Install the dust seal, disc and hub cover.

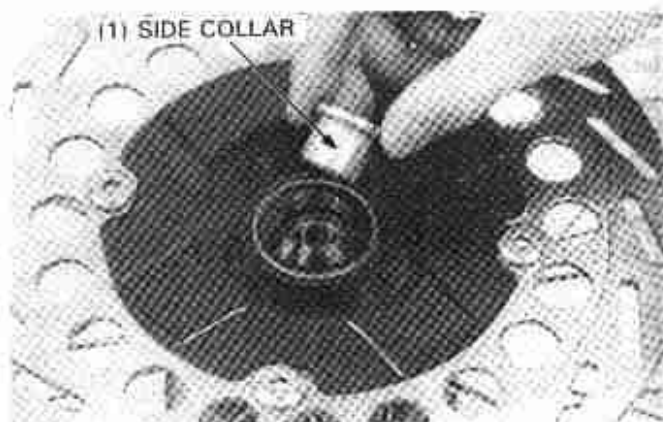
Tighten the disc mounting bolts.

TORQUE: 15 N·m (1.5 kg·m, 11 ft·lb)

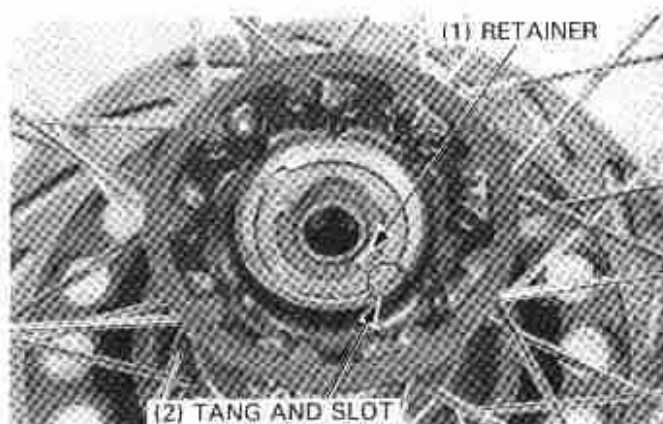


FRONT WHEEL/SUSPENSION/STEERING

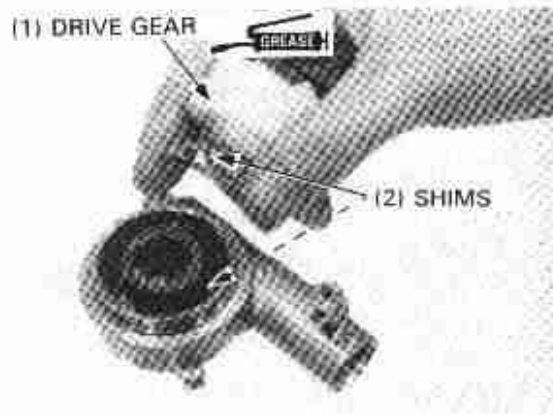
Install the left side collar.



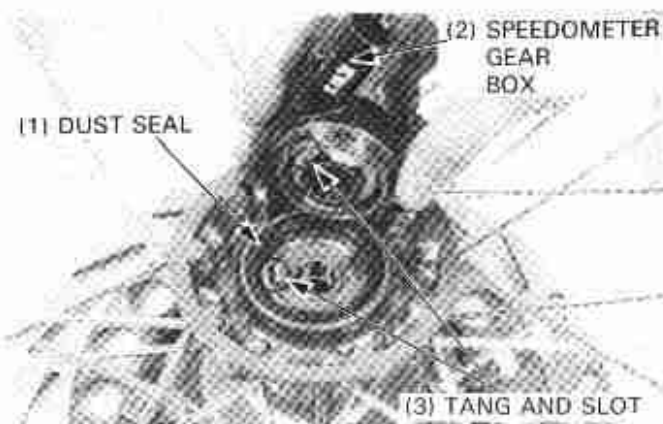
Install the speedometer gear retainer in the left side of the wheel hub, aligning its tangs with the slots in the hub.



Install the shims, fill the speedometer gear box with grease, and install the drive gear.



Install the dust seal and the speedometer gear box in the wheel hub, aligning the tangs with the slots.



FRONT WHEEL/SUSPENSION/STEERING

FRONT WHEEL INSTALLATION

Fit the caliper over the disc, taking care not to damage the brake pads.

Clean the axle and holder.

Install the holder with the "UP" mark facing upwards.

Install the axle holder nuts but do not tighten at this time.

CAUTION

- *Set the tang on the gearbox under the stopper on the left fork leg.*

Tighten the axle to the specified torque.

TORQUE: 65 N·m (6.5 kg-m, 47 ft-lb)

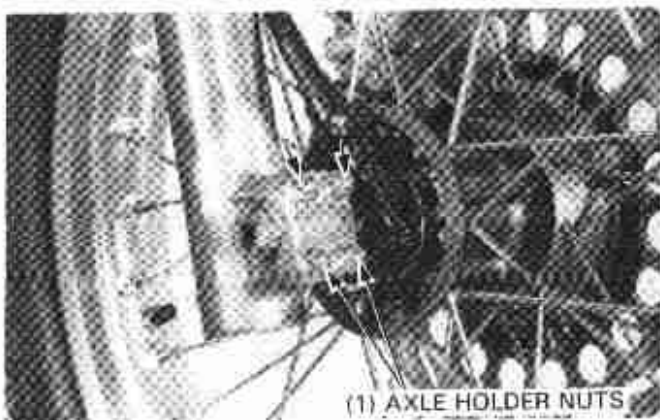
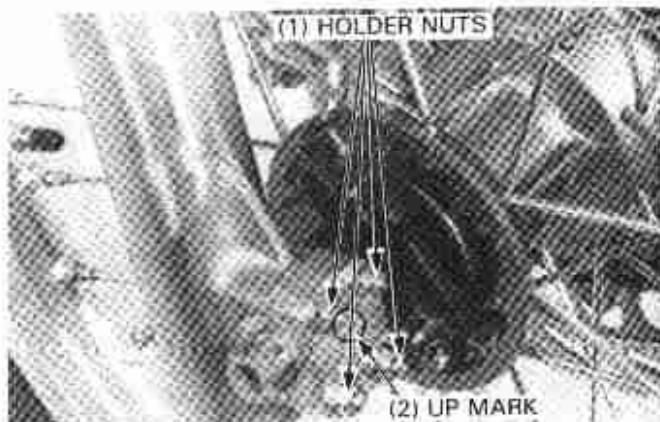
With the front brake applied, pump the fork up and down several times to seat the axle and check front brake operation.

Tighten the axle holder nut; the upper nuts first, then the lower nuts.

TORQUE: 12 N·m (1.2 kg-m, 9 ft-lb)

Connect the speedometer cable.

Tighten the speedometer cable set screw.

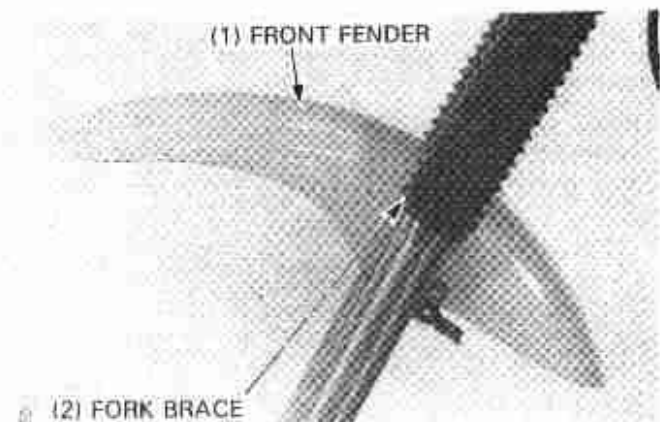


FORK

REMOVAL

Remove the front wheel (page 12-6).

Remove the front fender and the fork brace.



FRONT WHEEL/SUSPENSION/STEERING

Remove the brake caliper mounting bolts and the caliper.

(1) BOLTS

(2) CALIPER

If the fork is to be disassembled, loosen the fork cap bolt, but do not remove it yet.

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

(1) TOP PINCH BOLTS

(2) BOTTOM PINCH BOLTS

Remove the fork boot clamp and remove the boot.

(1) CLAMP

(2) BOOT

DISASSEMBLY

Remove the fork cap carefully.

▲WARNING

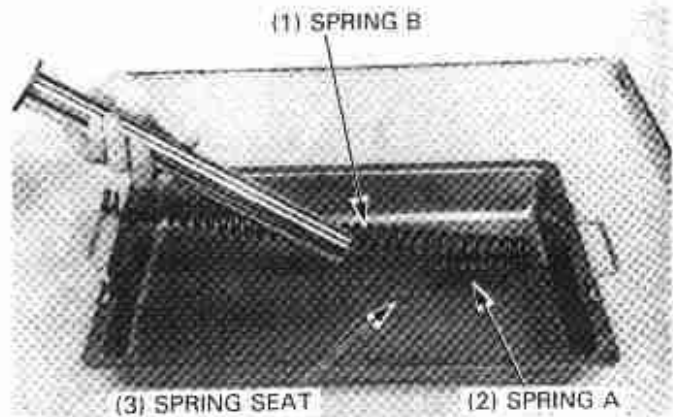
- *The cap is under spring pressure. Use care when removing it and wear eye and face protection.*

(1) FORK CAP

FRONT WHEEL/SUSPENSION/STEERING

Remove fork spring A, the spring seat and fork spring B.

Pour out the fork fluid by pumping the fork tube up and down several times.

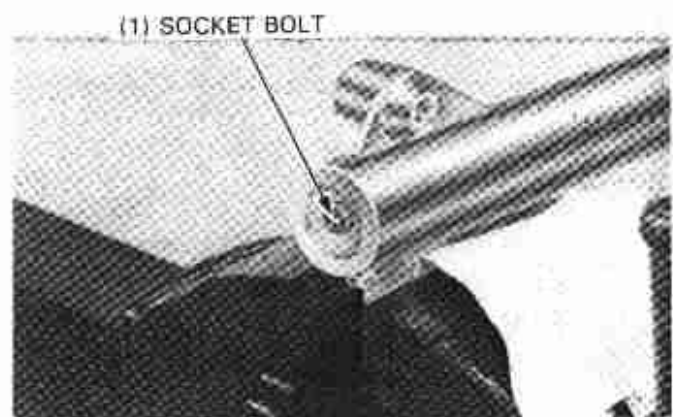


Hold the fork slider in a vise with soft jaws or use a shop towel.

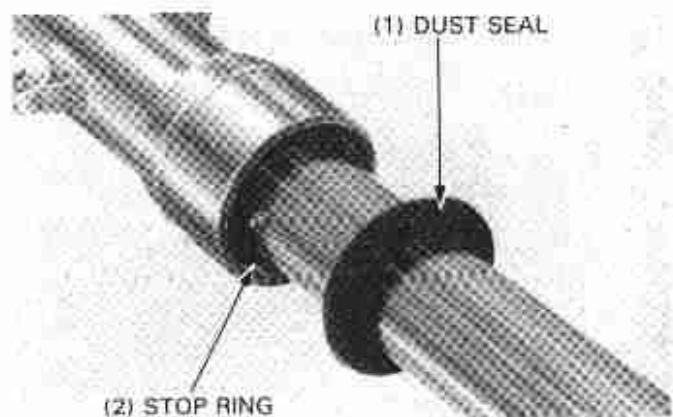
Remove the socket bolt with a hex wrench.

NOTE

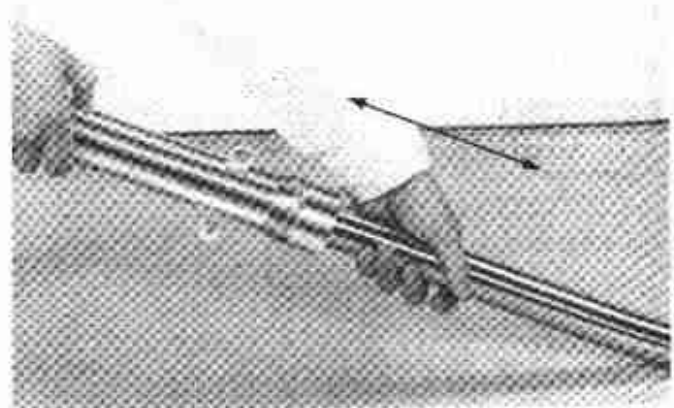
- Temporarily install the spring and fork bolt if difficulty is encountered in removing the bolt.



Remove the dust seal and stop ring.



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



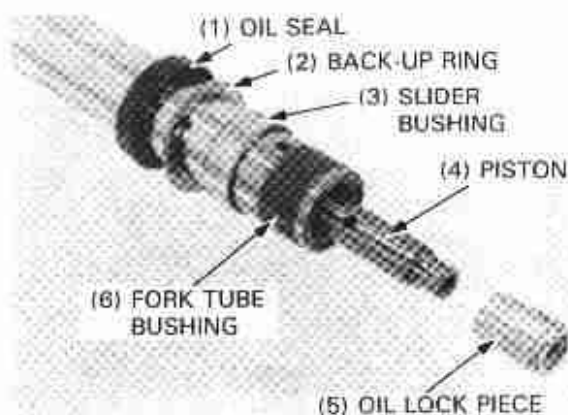
FRONT WHEEL/SUSPENSION/STEERING

Remove the oil lock piece from the piston.
Remove the piston and rebound spring from the fork tube.

Remove the oil seal, back-up ring and slider bushing from the fork tube.

NOTE

- Do not remove the fork tube bushing unless it is necessary to replace it with a new one.



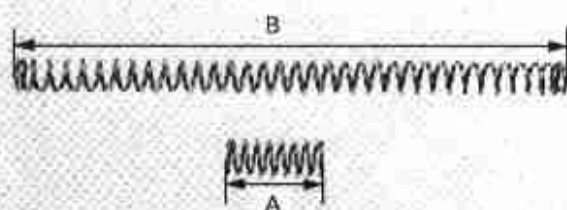
INSPECTION

Fork spring

Measure the fork springs free length.

SERVICE LIMITS: A: 74.2 mm (2.92 in)
B: 479.3 mm (18.87 in)

Replace either spring if it is shorter than the service limit.

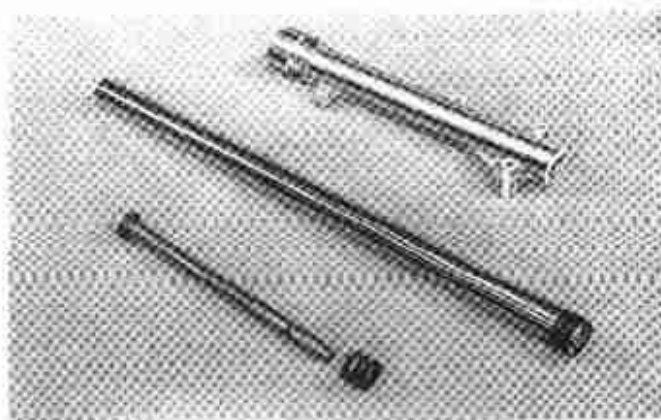


Fork tube/slider/piston

Check the fork tube, slider and piston for score marks, and excessive or abnormal wear.

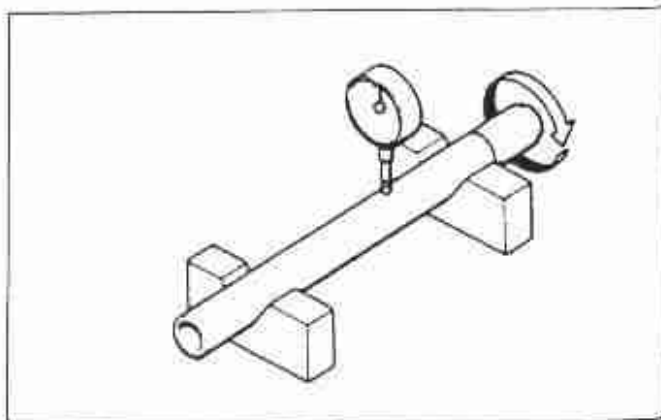
Replace any components which are worn or damaged.

Check the fork piston ring for wear or damage.
Check the rebound spring for fatigue or damage.



Set the fork tube in V blocks and read the runout.
Use 1/2 the total indicator reading to determine the actual runout.

SERVICE LIMIT: 0.20 mm (0.008 in)

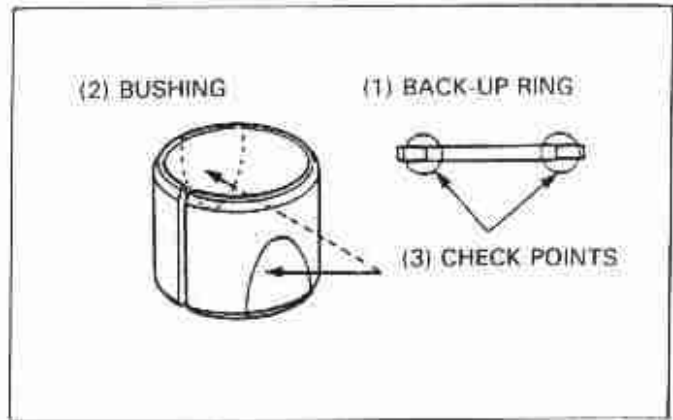


FRONT WHEEL/SUSPENSION/STEERING

Fork tube bushing

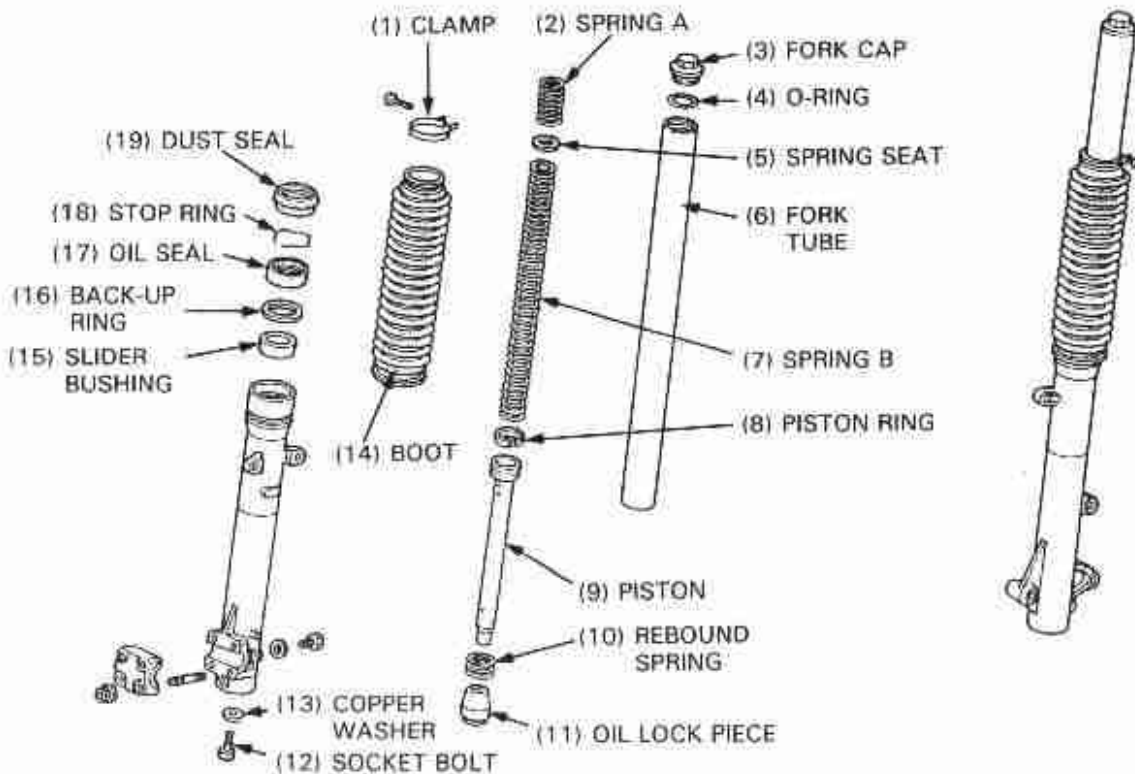
Visually inspect the slider and fork tube bushing. Replace the bushing if there is excessive scoring or scratching, or if the teflon is worn so that the copper surface appears on more than 3/4 of the entire surface.

Replace the back-up ring distorted.



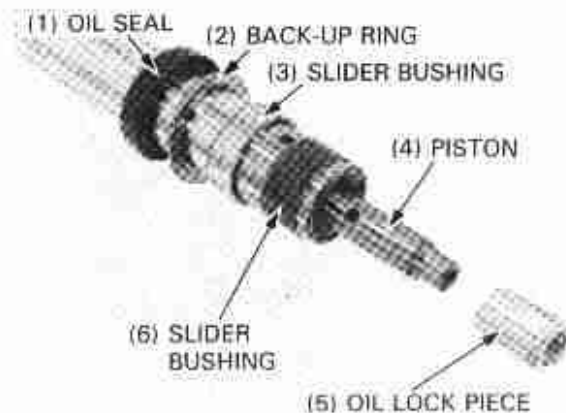
ASSEMBLY

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



Install the rebound spring into the fork tube.

Place the oil lock piece on the end of the piston and insert the fork tube into the slider.



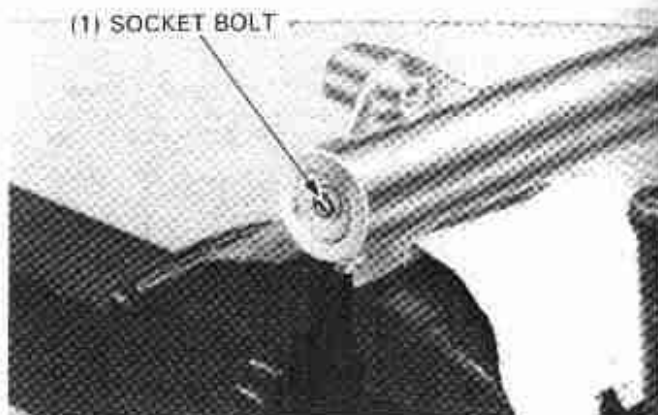
FRONT WHEEL/SUSPENSION/STEERING

Place the fork slider in a vise with soft jaws or use a shop towel. Apply a locking agent to the socket bolt and thread it into the piston. Tighten with an 8 mm hex wrench.

NOTE

- Temporarily install the fork spring and fork cap bolt to tighten the socket bolt.

TORQUE: 20 N·m (2.0 kg·m, 14 ft·lb)



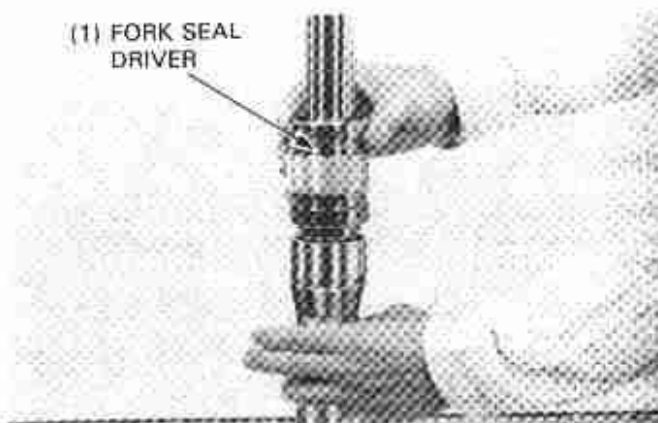
Place the slider bushing over the fork tube until it rests on the slider.

Using the fork seal driver, drive the bushing into place. Install the back-up ring with the chamfered side facing the slider bushing. Coat the oil seal lip with the recommended fork oil. Drive the oil seal into place using the fork seal driver.

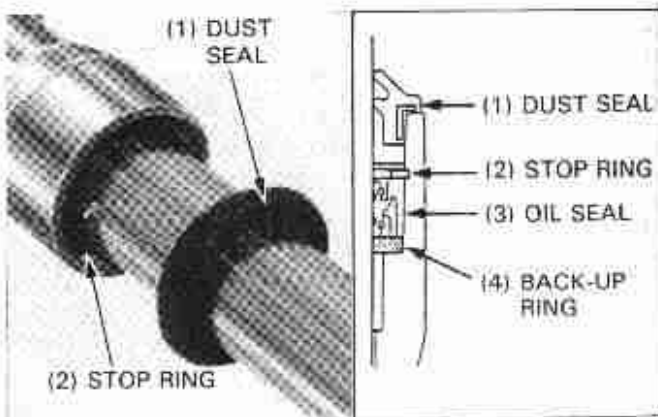
TOOLS:

Fork seal driver body 07747-0010100

Fork seal driver attachment 07747-0010600



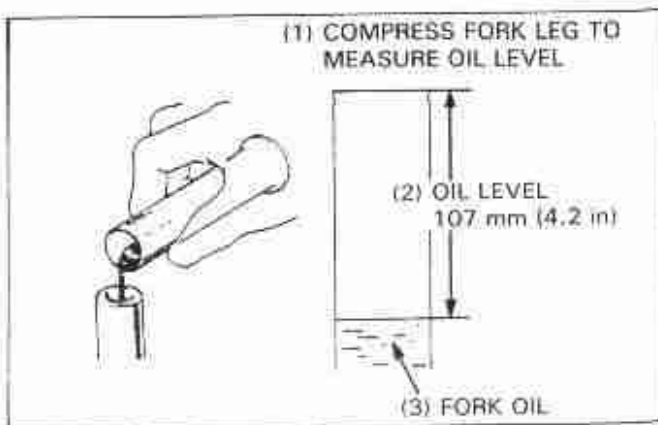
Install the oil seal stop ring and the dust seal.



Compress the fork leg and pour ATF into the fork tube.

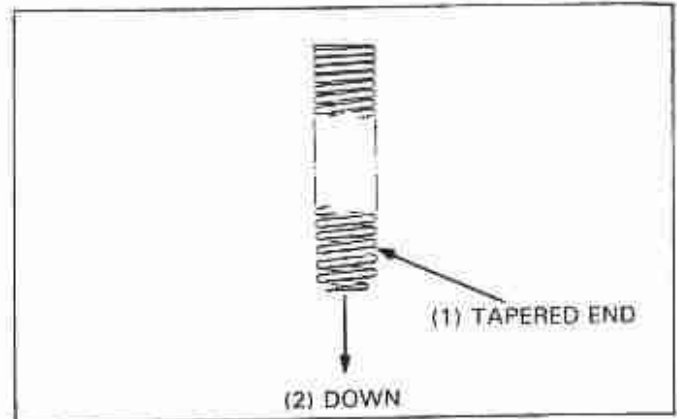
SPECIFIED LEVEL: 107 mm (4.2 in)

CAPACITY: 412 cc (13.9 US oz, 14.5 Imp oz)

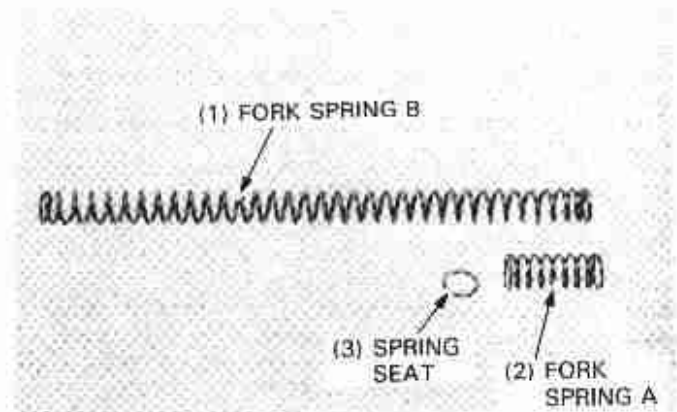


FRONT WHEEL/SUSPENSION/STEERING

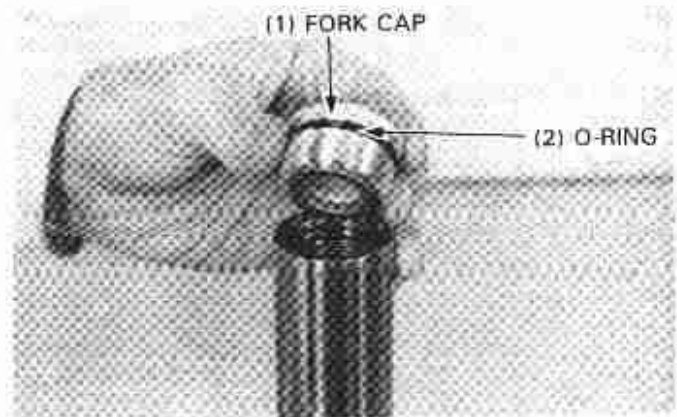
Note fork spring B; the tapered end must face toward the bottom of the fork tube.



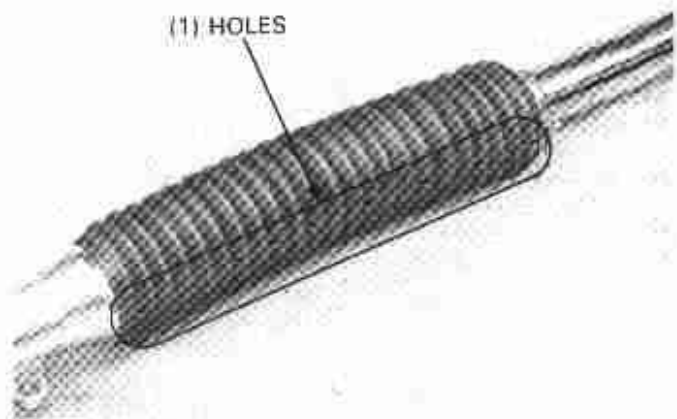
Install fork spring B, the spring seat and fork spring A into the fork tube.



Loosely install the fork cap with a new O-ring.



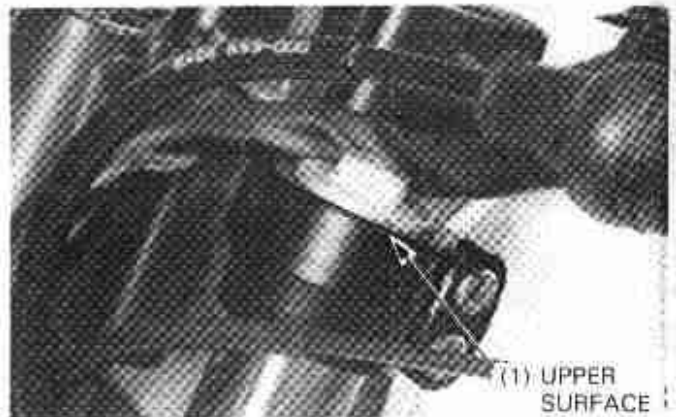
Install the fork boot with its breather holes toward the rear.



FRONT WHEEL/SUSPENSION/STEERING

INSTALLATION

Install the fork tube, aligning its top with the upper surface of the top bridge as shown.



Apply oil to the bottom pinch bolt and tighten it.

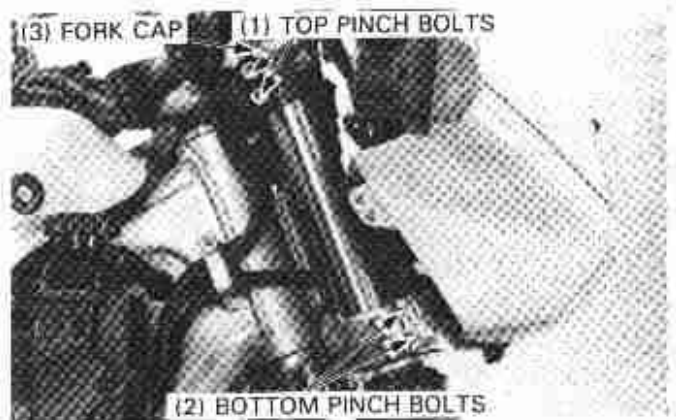
TORQUE: 33 N-m (3.3 kg-m, 24 ft-lb)

Tighten the top pinch bolt.

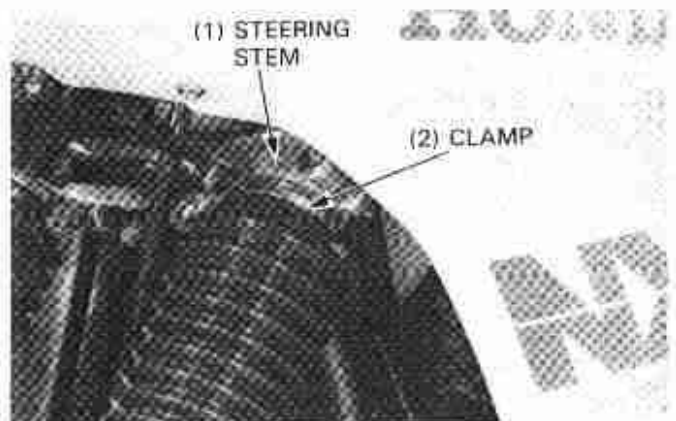
TORQUE: 33 N-m (3.3 kg-m, 24 ft-lb)

Tighten the fork cap.

TORQUE: 23 N-m (2.3 kg-m, 17 ft-lb)



Push the fork boots up until they just touch the bottom of the steering stem, then install and tighten the clamps.

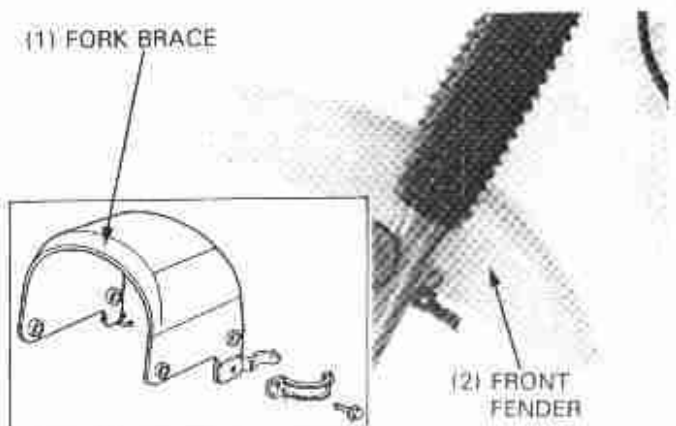


Install the front fender and the fork brace.

Tighten the front fender/brace mounting bolts.

NOTE

- Do not tighten the axle holder nuts, before tightening the front fender/brace mounting nuts.



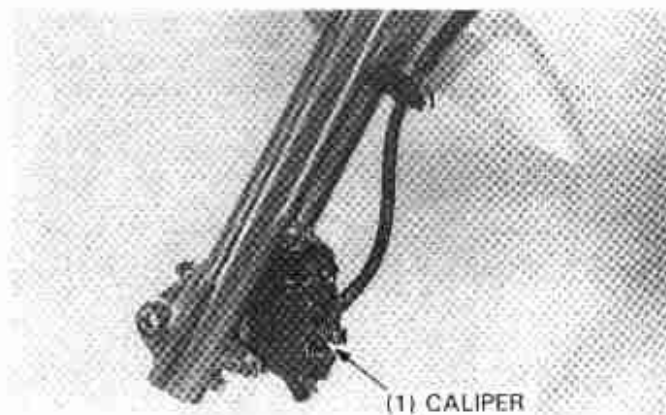
FRONT WHEEL/SUSPENSION/STEERING

Install the following:

- brake caliper.
- front wheel (page 12-10).

NOTE

- After tightening the front fender/brace mounting bolts, tighten the axle holder nuts.

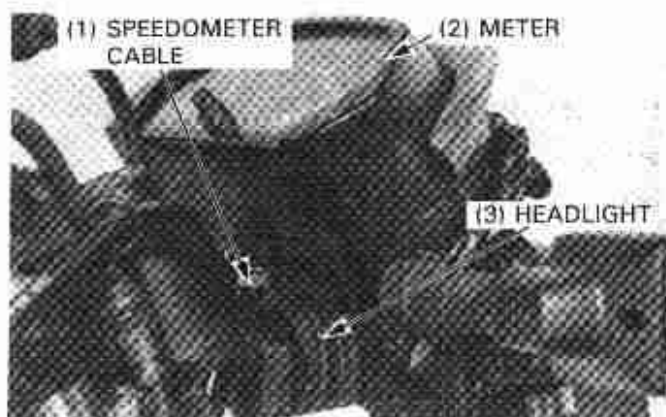


STEERING STEM

REMOVAL

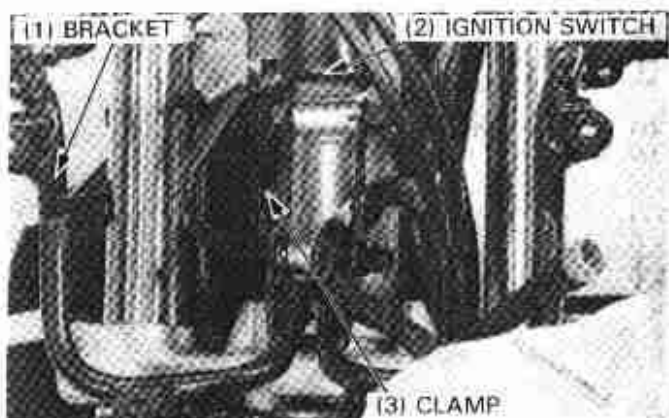
Remove the following:

- handlebar (page 12-3).
- front wheel (page 12-6).
- side fairing (page 15-2).
- headlight case (page 19-3).
- speedometer cable and meter (page 19-4).



Remove the fairing bracket.

Unclamp the ignition switch wire by removing the screw.



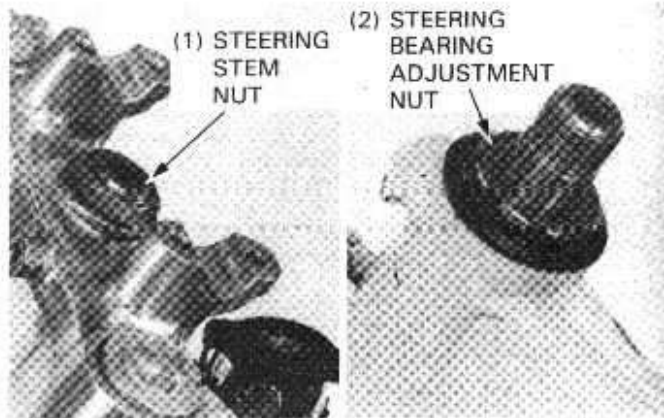
Remove the brake pipe and air guide plate by removing two bolts from the steering stem.



FRONT WHEEL/SUSPENSION/STEERING

Remove the steering stem nut and washer.

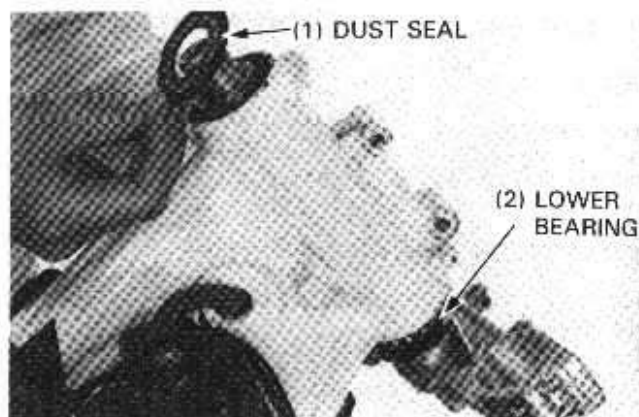
Remove the bridge and fork legs.



Remove the steering bearing adjustment nut.

Remove the dust seal, upper inner race, and upper bearing.

Pull the steering stem out of the steering head and remove the lower bearing.



BEARING REPLACEMENT

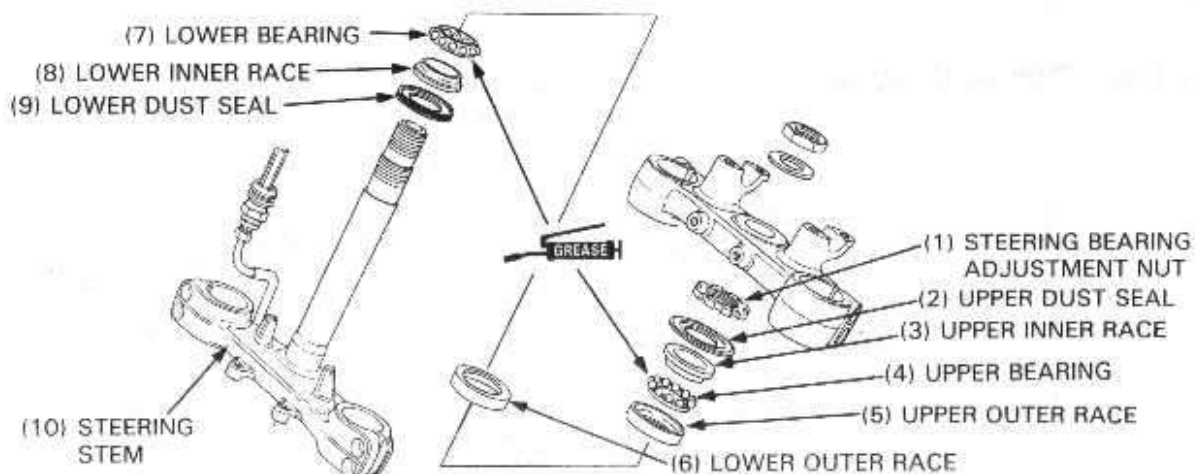
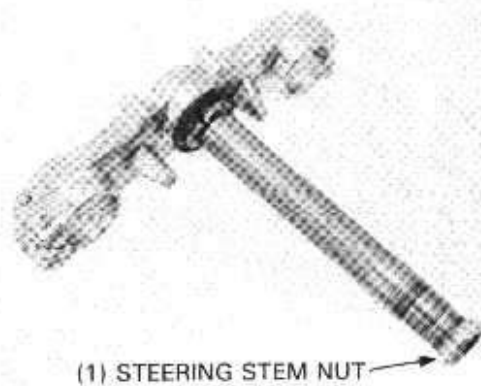
NOTE

- Always replace the bearing and races as a set.

Install the stem nut onto the stem to prevent the threads from being damaged when removing the lower bearing inner race from the stem.

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

Remove the dust seal.

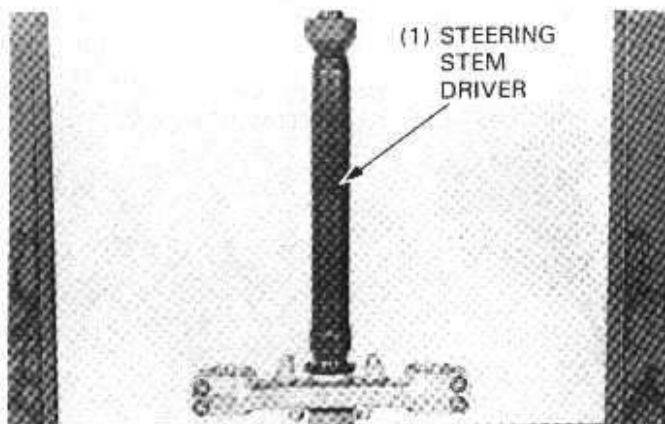


FRONT WHEEL/SUSPENSION/STEERING

Install a new dust seal over the steering stem.
Press a new lower bearing inner race onto the stem.

TOOLS:

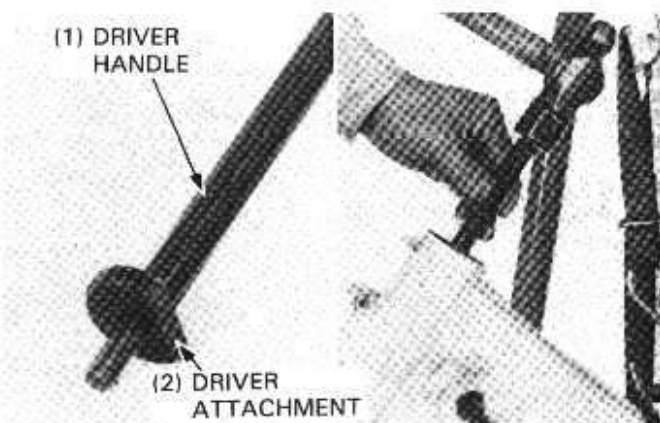
Steering stem driver 07946-4300101



Remove the upper and lower bearing outer races with the ball race remover and attachment.

TOOLS:

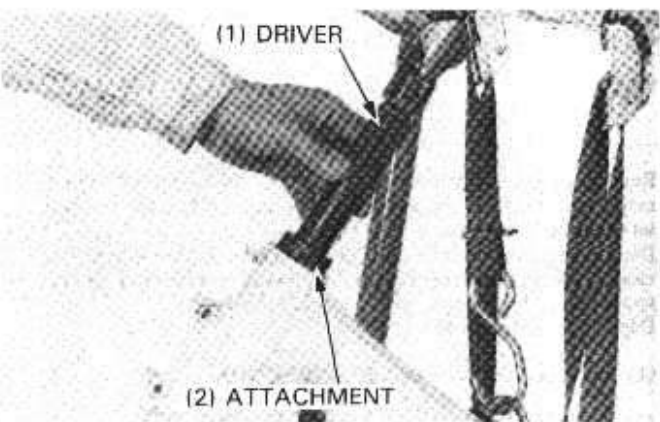
Ball race remover 07953-MJ10000
— driver attachment 07953-MJ10100
— driver handle 07953-MJ10200



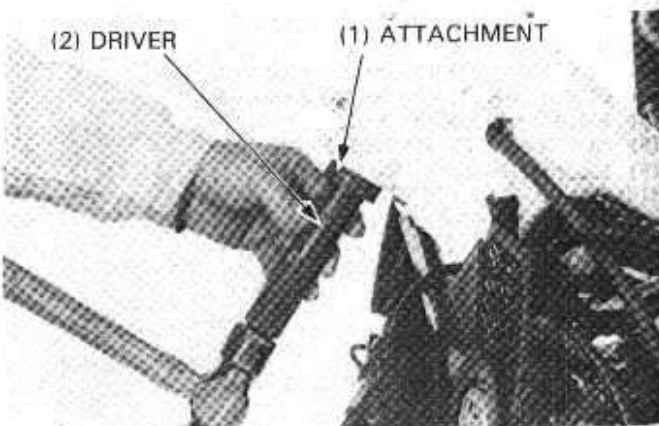
Drive new upper and lower bearing outer races into the steering head pipe.

TOOLS:

Upper bearing outer race:
Driver 07749-0010000
Attachment, 42 x 47 mm 07746-0010300



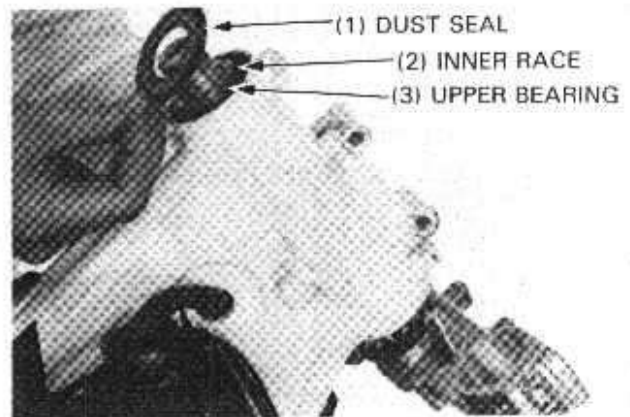
Lower bearing outer race:
Driver 07749-0010000
Attachment, 42 x 47 mm 07746-0010300



FRONT WHEEL/SUSPENSION/STEERING

STEERING STEM INSTALLATION

Pack the bearing cavities with grease.
Install the lower bearing onto the stem.
Insert the stem into the steering head pipe and install the upper bearing, inner race, dust seal and steering bearing adjustment nut.

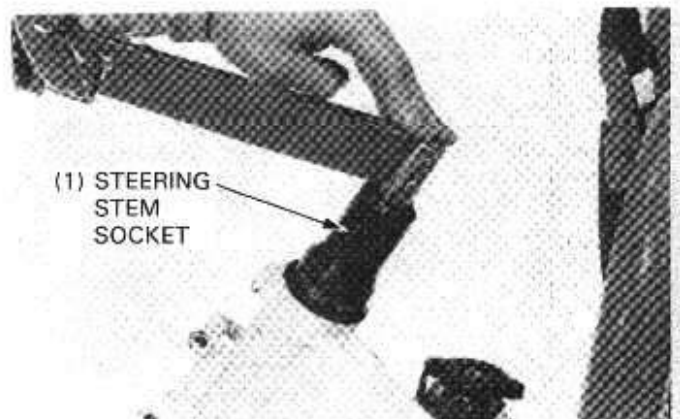


Temporarily tighten the steering bearing adjustment nut to the specified torque.

TORQUE: 25 N·m (2.5 kg-m, 18 ft-lb)

TOOL:

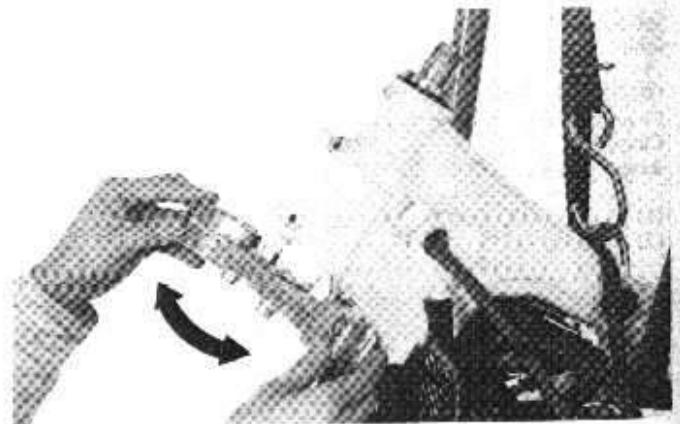
Steering stem socket 07916-KA50100



Turn the steering stem lock-to-lock four or five times to seat the bearings.

Retighten the adjustment nut to the specified torque.

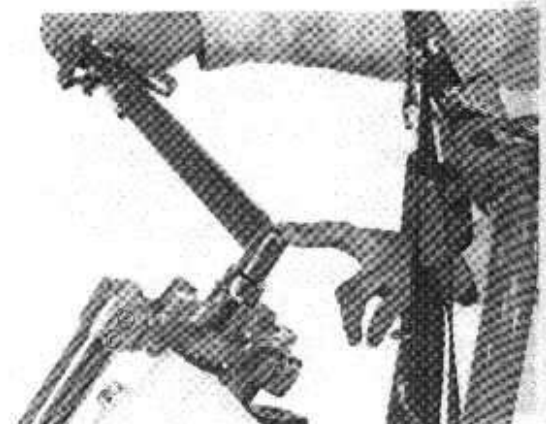
TORQUE: 5 N·m (0.5 kg-m, 4 ft-lb)



Install the fork bridge, washer and stem nut.
Temporarily install the fork legs and tighten the stem nut.

TORQUE: 118 N·m (11.8 kg-m, 85 ft-lb)

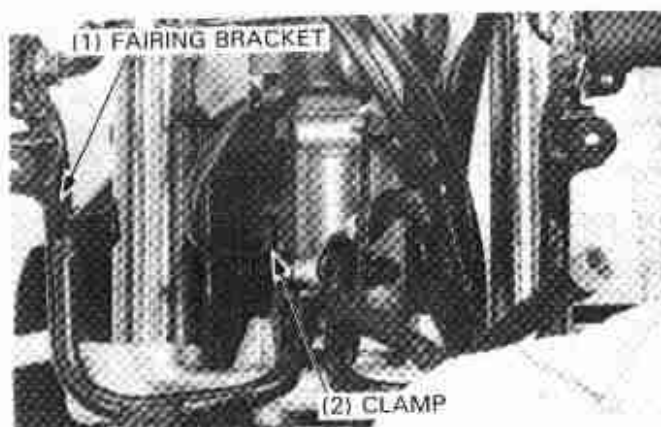
Install the fork tubes correctly (page 12-17).



FRONT WHEEL/SUSPENSION/STEERING

Install the fairing bracket.

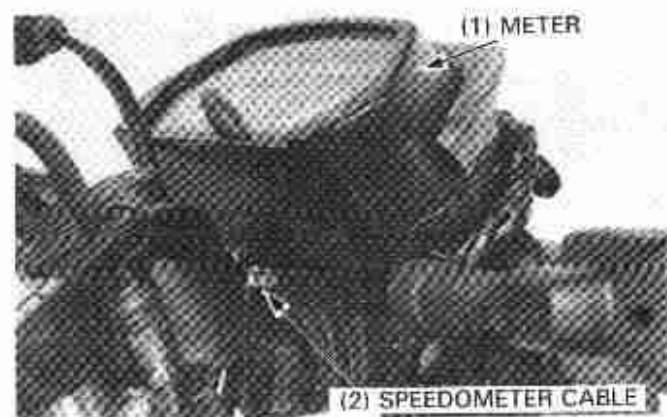
Clamp the ignition switch wire.



Install the brake pipe and air guide plate.
Tighten the bolts securely.



Install the speedometer and headlight case, then connect the speedometer cable and electrical wire connectors and wire.



Install the front fairing (page 15-2), front wheel (page 12-10) and handlebar.

Measure the steering head bearing preload.



FRONT WHEEL/SUSPENSION/STEERING

STEERING HEAD BEARING PRELOAD

Place a stand under the engine and raise the front wheel off the ground.

Position the steering stem to the straight ahead position.

Hook a spring blancer to the fork tube and measure the steering head bearing preload.

NOTE

- Make sure that there is no cable or wire harness interference.

The preload should be within 1.1–1.7 kg (2.4–3.7 lbi) for right and left turns.

If the readings do not fall within the limits, lower the front wheel on the ground and adjust the steering bearing adjustment nut.

