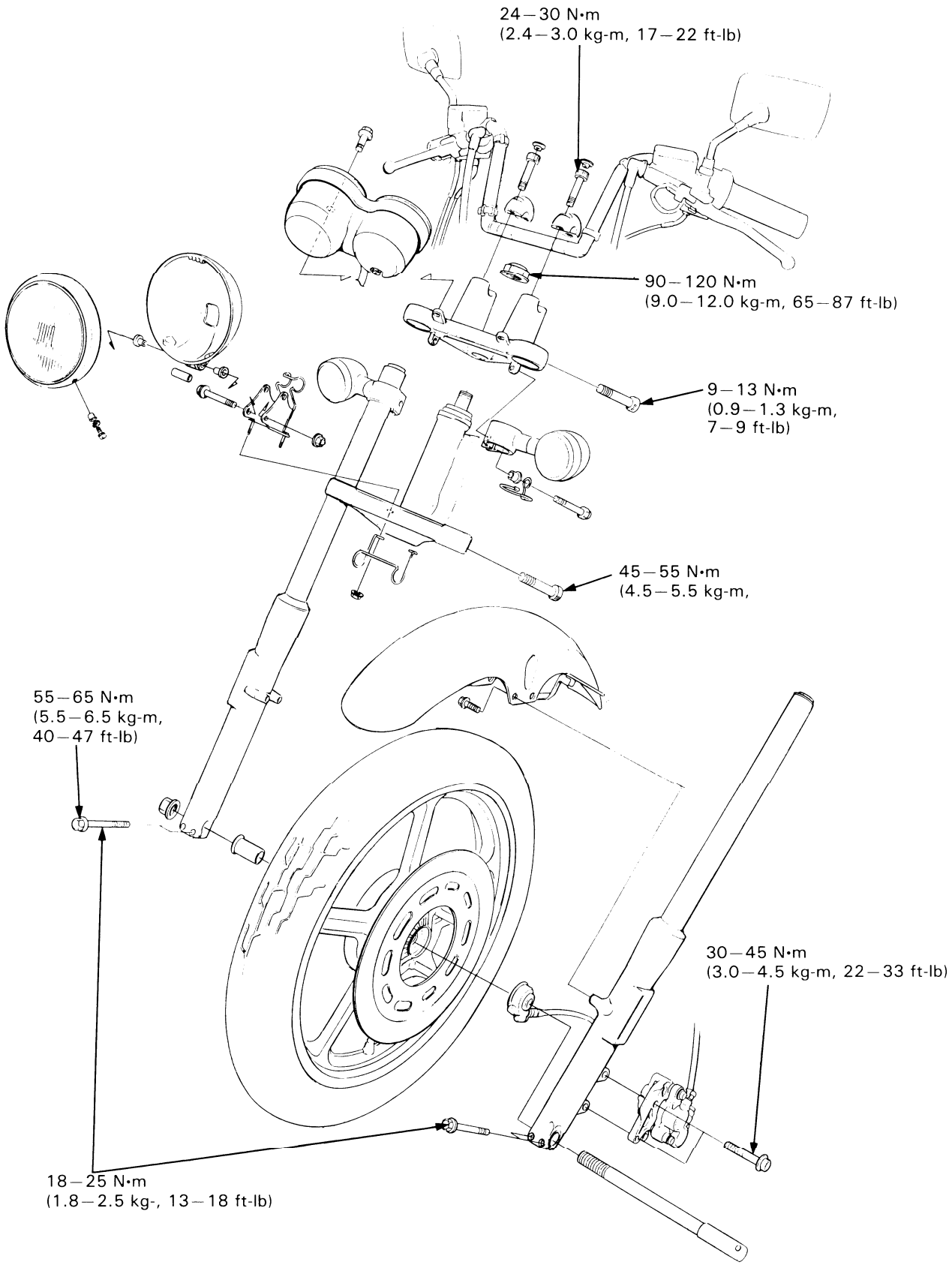

24—30 N•m
(2.4—3.0 kg-m, 17—22 ft-lb)
90—120 N•m
(9.0—12.0 kg-m, 65—87 ft-lb)
9—13 N•m
(0.9—1.3 kg-m,
7—9 ft-lb)
45—55 N•m
(4.5—5.5 kg-m,
55—65 N•m
(5.5—6.5 kg-m,
40—47 ft-lb)
30—45 N•m
(3.0—4.5 kg-m, 22—33 ft-lb)
18—25 N•m
(1.8—2.5 kg-, 13—18 ft-lb)

13. FRONT WHEEL/SUSPENSION

SERVICE INFORMATION

GENERAL

- A jack or other support is required to support the motorcycle, when you are working on the front wheel or fork.

SPECIFICATIONS

ITEM		STANDARD	SERVICE LIMIT
Axle shaft runout		—	0.2 mm (0.01 in)
Front wheel rim runout	Radial	0.3 mm (0.01 in) max.	2.0 mm (0.08 in)
	Axial	0.3 mm (0.01 in) max.	2.0 mm (0.08 in)
Fork spring free length		472.4 mm (18.59 in)	463.5 mm (18.2 in)
Fork tube runout		—	0.2 mm (0.01 in)
Fork fluid capacity		R/L 415 cc (14 US oz)	—

TORQUE VALUES

Handlebar upper holder	24—30 N·m (2.4—3.0 kg-m, 17—22 ft-lb)
Caliper mounting bolt	30—45 N·m (3.0—4.5 N·m, 22—33 ft-lb)
Front axle	55—65 N·m (5.5—6.5 kg-m, 40—47 ft-lb)
Axle pinch bolt	18—25 N·m (1.8—2.5 kg-m, 13—18 ft-lb)
Fork bolt	15—30 N·m (1.5—3.0 kg-m, 11—22 ft-lb)
Steering stem nut	90—120 N·m (9.0—12.0 kg-m, 65—87 ft-lb)
Brake disc	37—43 N·m (3.7—4.3 kg-m, 27—31 ft-lb)
Fork top pinch bolt	9—13 N·m (0.9—1.3 kg-m, 7—9 ft-lb)
Fork bottom pinch bolt	50—60 N·m (5.0—6.0 kg-m, 36—43 ft-lb)

TOOLS

Special

Hex. wrench, 6 mm	07917—3230000 or commercially available
Snap ring pliers	07914—3230001 or commercially available
Fork seal driver	07947—4630100
Bearing race remover	07946—3710500
Steering stem driver	07946—MB00000 or 07946—3710100 and 07964—MB00200
Ball race remover	07953—MJ1000A
Steering stem socket	07916—3710100

Common

Driver	07749—0010000
Lock nut wrench, 30 x 32 mm	07716—0020400 or commercially available
Attachment, 42 x 47 mm	07746—0010300
Pilot, 15 mm	07746—0040300
Extension bar	07716—0020500 or commercially available
Bearing remover shaft	07746—0050100 or commercially available
Bearing remover, 15 mm	07746—0050400 or commercially available
Attachment 52 x 55 mm	07746—0010400 or 07946—3710701

TROUBLESHOOTING

Hard steering
- Steering head bearing adjustment nut too tight
- Faulty steering head bearings
- Damaged steering head bearings
- Insufficient tire pressure

Steers to one side or does not track straight
- Unevenly adjusted right and left shock absorbers
- Bent fork
- Bent front axle: wheel installed incorrectly

Front wheel wobbling
- Bent rim
- Worn front wheel bearings
- Faulty tire
- Axle tightened improperly

Soft suspension
- Weak fork springs
- Insufficient fluid in fork

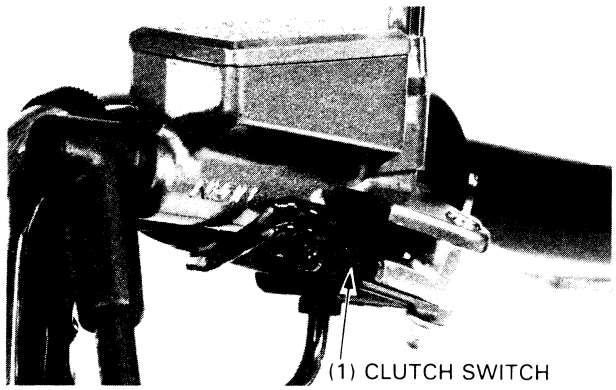
Hard suspension
- Incorrect fluid weight in
- Bent fork tubes
- Clogged fluid passage

Front suspension noise
- Worn slider or guide bushings
- Insufficient fluid in fork
- Loose fork fasteners
- Lack of grease in speedometer gearbox

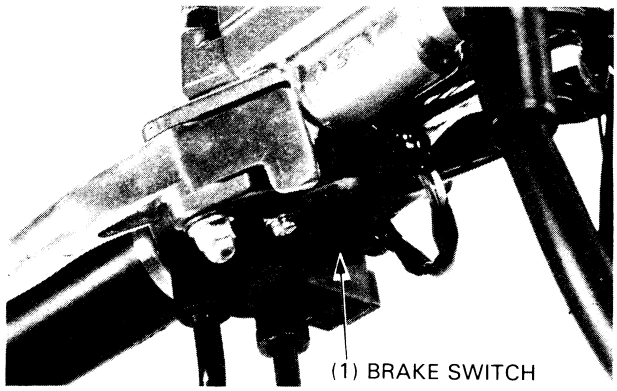
HANDLEBAR

REMOVAL

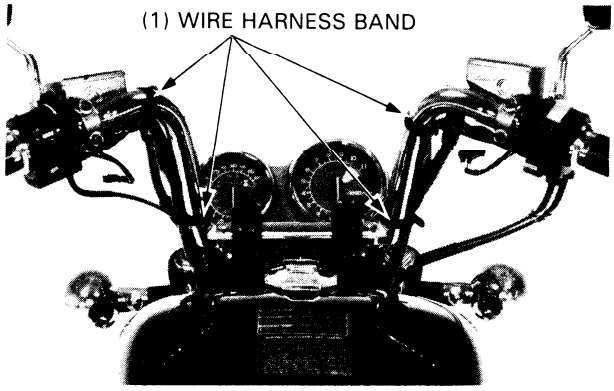
Disconnect the clutch switch wires.



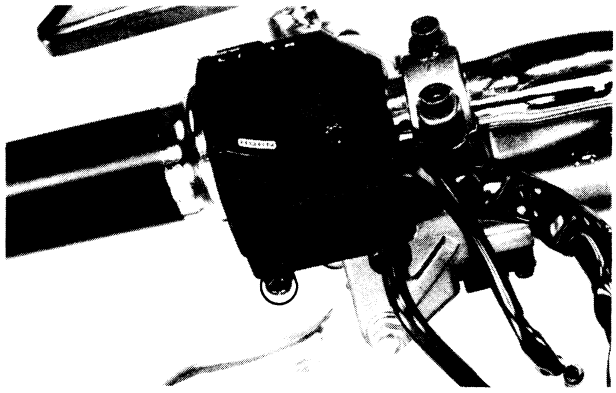
Disconnect the brake switch wires.



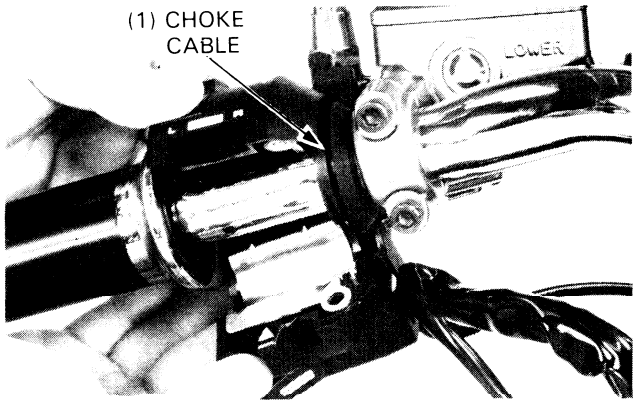
Remove the wire harness bands.



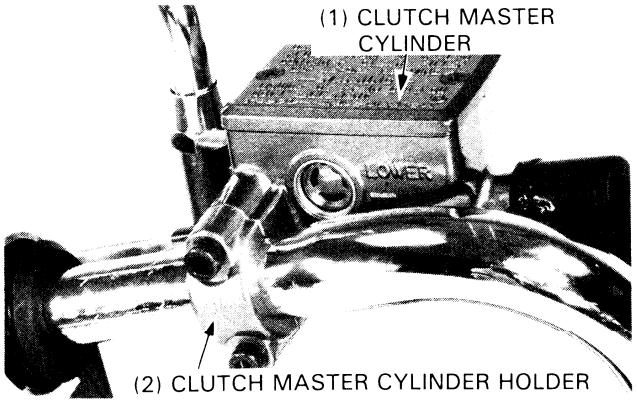
Remove the left handlebar switch mounting screws.



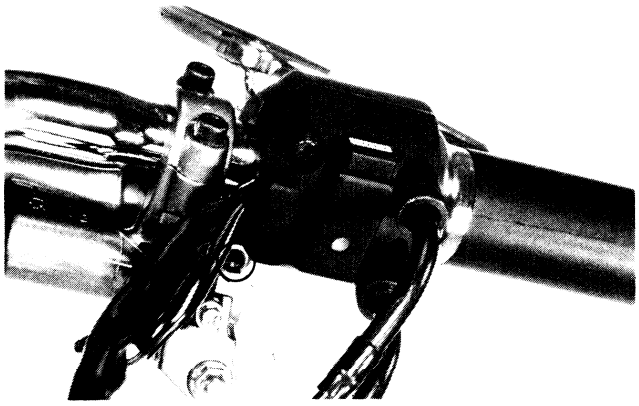
Disconnect the choke cable from the choke lever, then remove the handlebar switch.



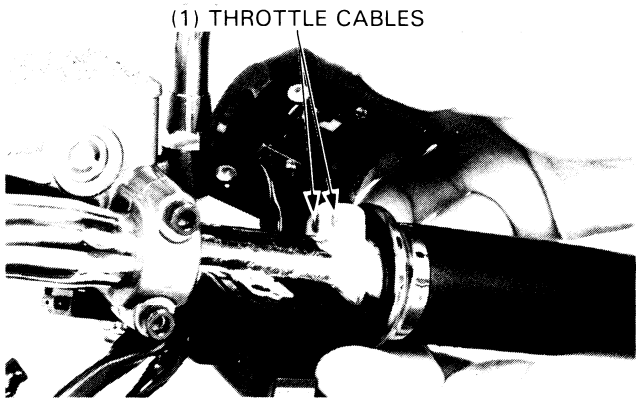
Remove the clutch master cylinder holder and master cylinder.



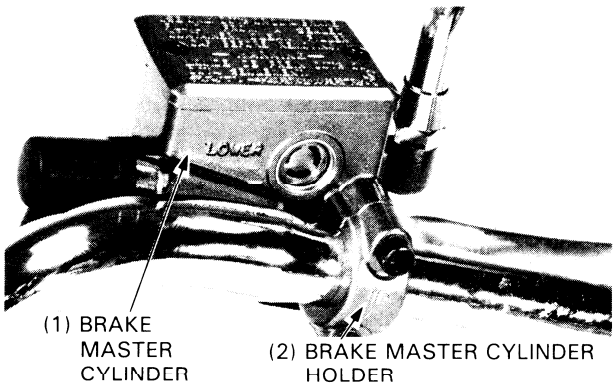
Remove the right handlebar switch mounting screws and handlebar switch



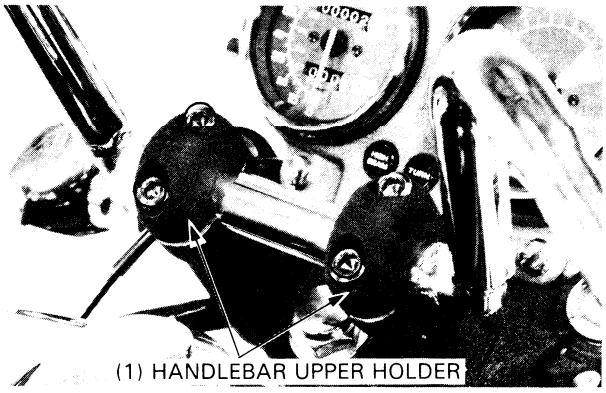
Disconnect the throttle cables from the throttle grip, then remove the handlebar switch.



Remove the handle grip and throttle grip from the handlebar.
Remove the front brake master cylinder holder and master cylinder.

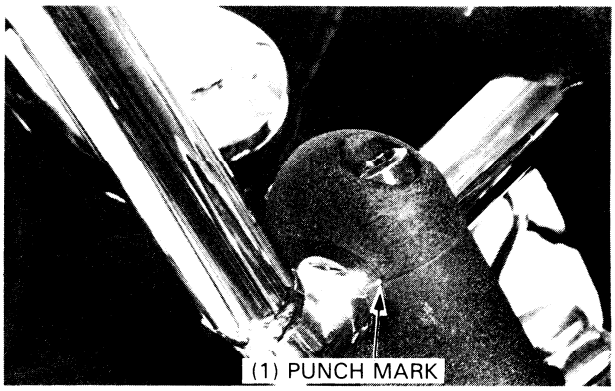


Remove the handlebar upper holder bolts and handlebar upper holders.
Remove the handlebar.



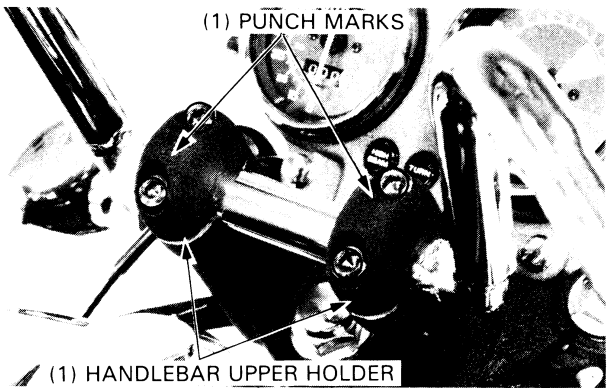
INSTALLATION

Place the handlebar on the lower holder aligning the punch mark with the upper face of the lower holder.



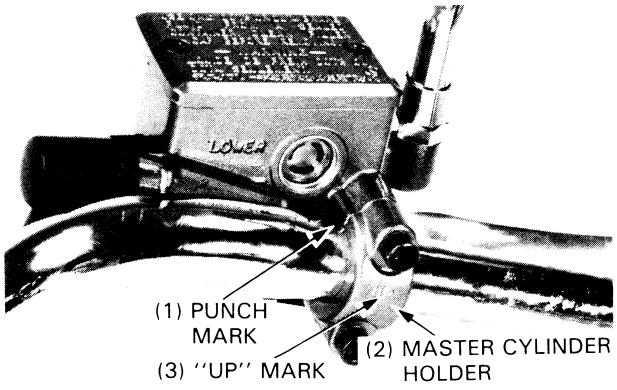
Place the upper holders on the handlebar with the punch marks facing forward.
Tighten the forward bolts first, then tighten the rear bolts.

TORQUE: 25—35 N·m (2.5—3.5 kg-m, 18—25 ft-lb)

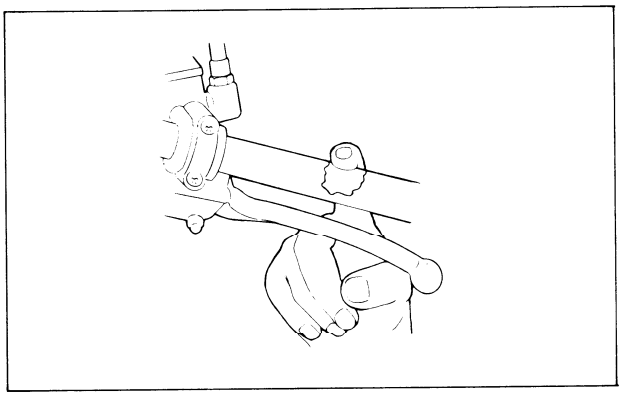


Place the front brake master cylinder on the handlebar and install the master cylinder holder with the "UP" mark facing up.

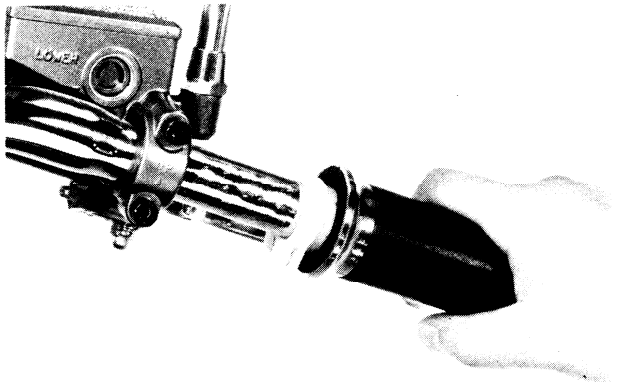
Align the holder mating surface with the punch mark on the handlebar, and tighten the upper bolt first then tighten the lower bolt.



Apply grease to the throttle grip sliding surface.
Apply Honda Bond A, Honda Hand Grip Cement, or an equivalent to the inside surface of the hand grips and to the clean surface of the left handlebar and throttle pipe.

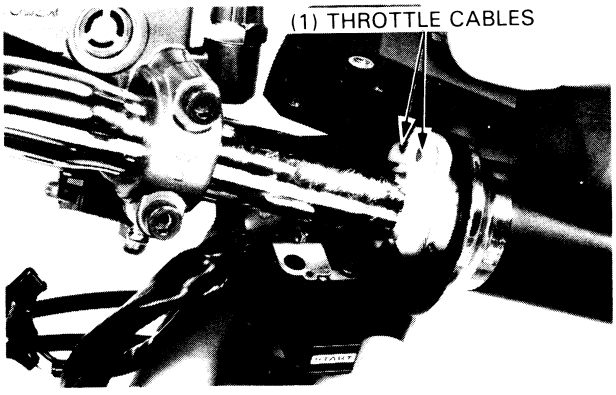


Wait 3-5 minutes and install the grips.
Rotate the grips for even application of the adhesive.
Allow the adhesive to dry for an hour before using.

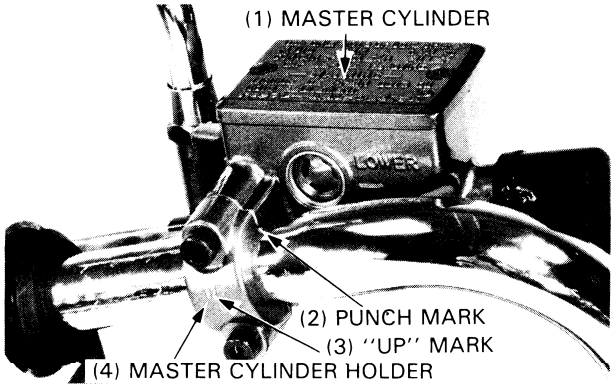


Connect the throttle cables to the throttle grip.
Align the right handlebar switch locating pin with the hole in the handlebar and install the right handlebar switch.
Install the top portion of the switch and tighten its screws.
Tighten the forward screw first, then tighten the rear screw.

Connect the front brake switch wires.



Place the clutch master cylinder on the handlebar and install the master cylinder holder with the "UP" mark facing up. Align the holder mating surface with the punch mark on the handlebar, and tighten the upper bolt.

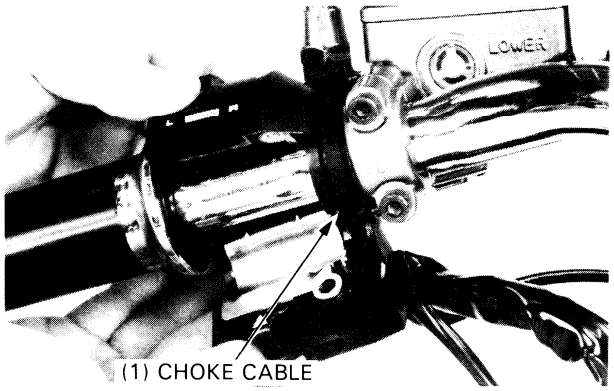


Connect the choke cable to the choke lever.

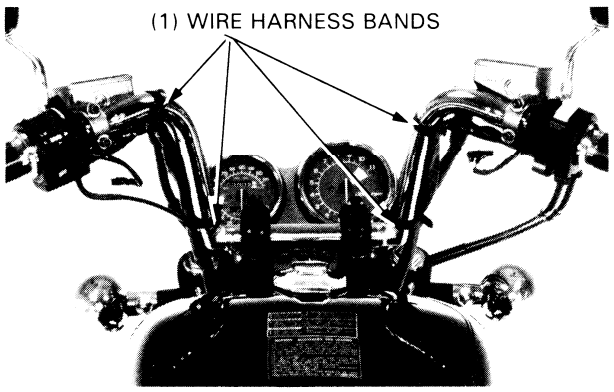
Align the left handlebar switch locating pin with the hole in the handlebar and install the left handlebar switch.

Tighten the upper screw first, then tighten the lower screw.

Connect the clutch switch wire.



Tying the wire harnesses with the cable bands as shown.

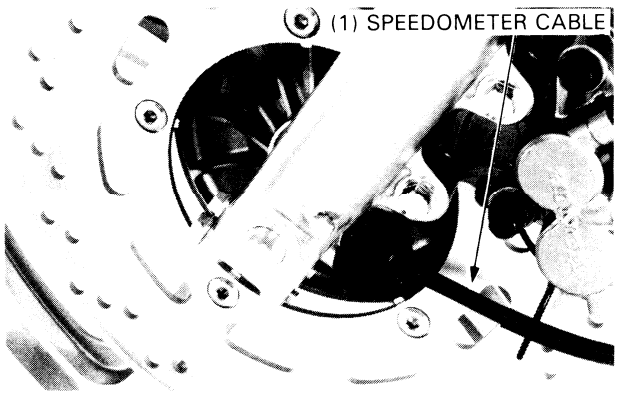


FRONT WHEEL

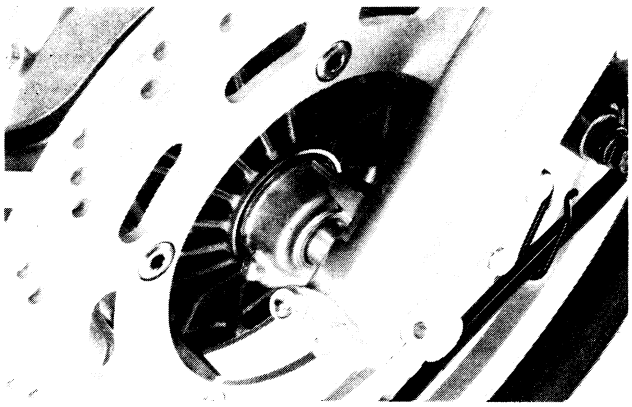
REMOVAL

Place a jack or support block under the engine, to raise the front wheel off the ground.

Remove the speedometer cable set screw and disconnect the speedometer cable.



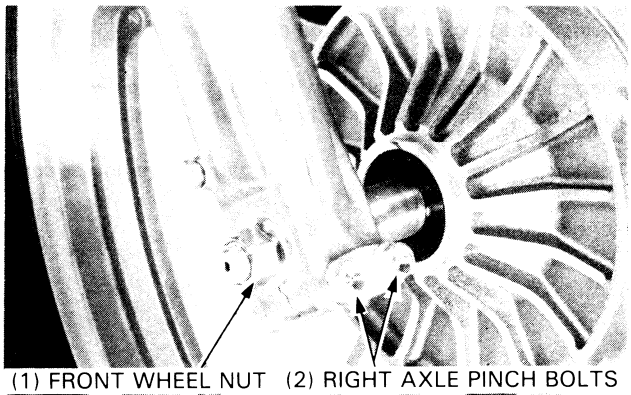
Loosen the left axle pinch bolts.



Loosen the right axle pinch bolts.
Remove the front wheel nut and the axle.
Remove the front wheel.

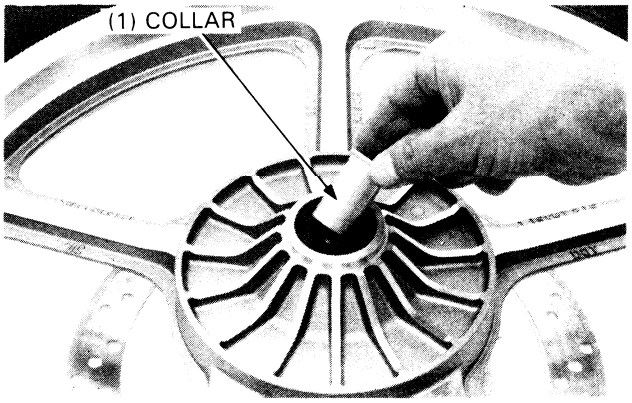
NOTE

- Do not operate the front brake lever after removing the front wheel.

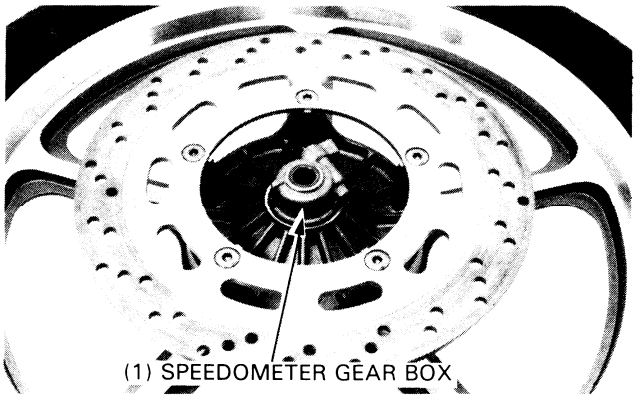


DISASSEMBLY

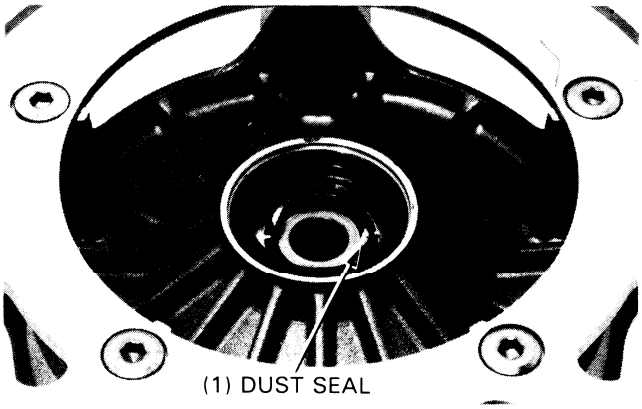
Remove the side collar and dust seal.



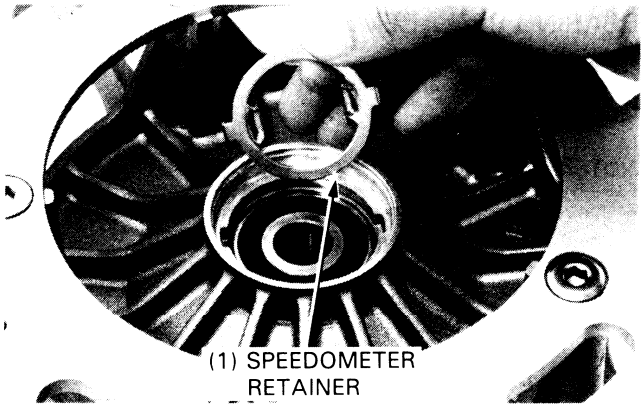
Remove the speedometer gear box.



Remove the dust seal.


(1) DUST SEAL

Remove the speedometer retainer.


(1) SPEEDOMETER RETAINER

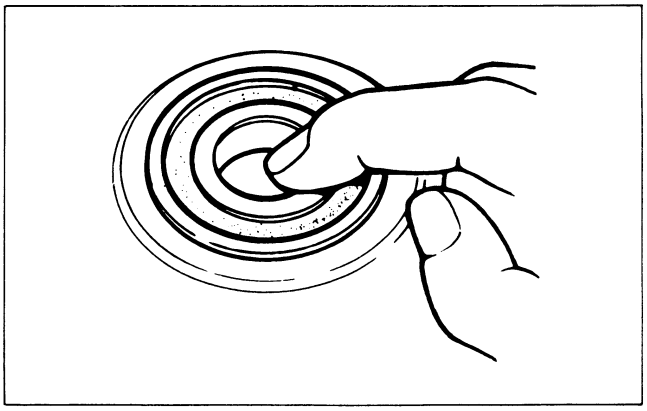
INSPECTION

Bearings
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.

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

NOTE

- Replace hub bearings in pairs.

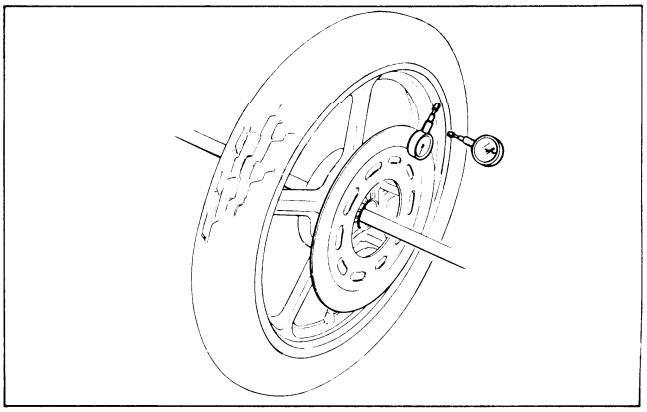


Wheel
Check the rim runout by placing the wheel in a truing stand. Spin the wheel slowly and read the runout using a dial indicator.

SERVICE LIMIT:
RADIAL RUNOUT: 2.0 mm (0.08 in)
AXIAL RUNOUT: 2.0 mm (0.08 in)

NOTE

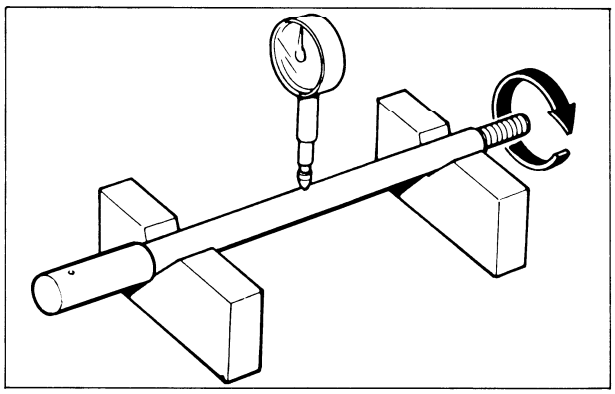
- The wheel cannot be repaired and must be replaced with a new one if the service limits are exceeded.



Axle

Set the axle in V blocks and measure the runout.
The actual runout is 1/2 of the total indicator reading.

SERVICE LIMIT: 0.2 mm (0.01 in)



BEARING REPLACEMENT

If replacing the bearing, remove the bearing and distance collar.

NOTE

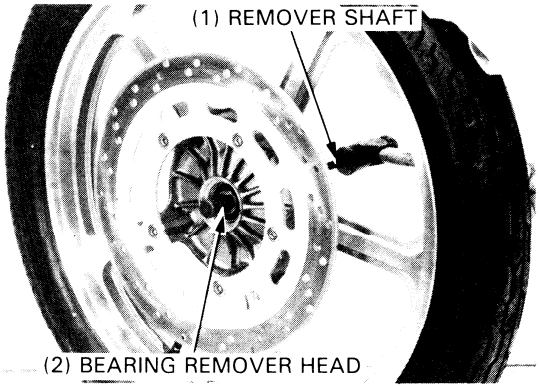
- Never reinstall old bearing; once the bearing are removed, they must be replaced with new one.

WARNING

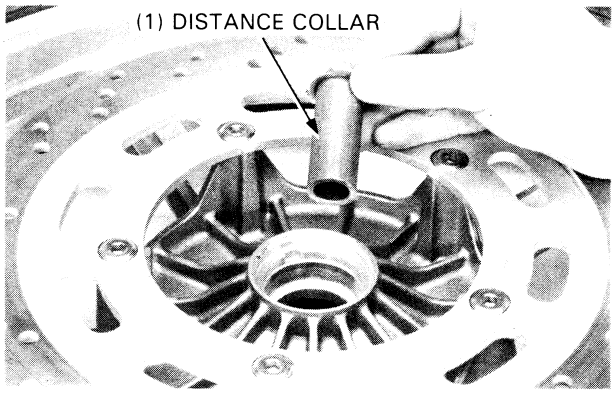
- *Do not get grease on the brake disc or stopping power will be reduced.*

TOOLS:

REMOVER SHAFT	**07746—0050100**
BEARING REMOVER HEAD, 15 mm	**07746—0050400**



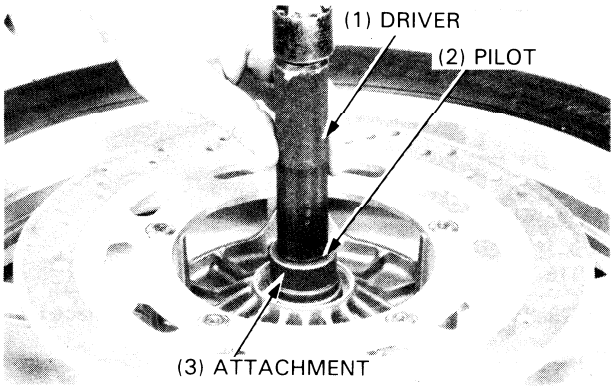
Place the distance collar into the wheel.



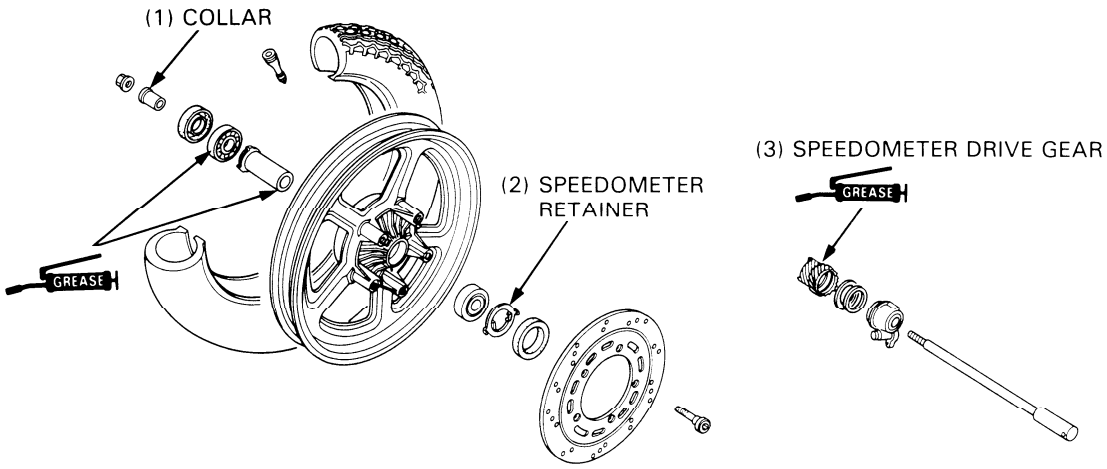
Pack new bearing cavities with grease.
Drive in the new bearing.

TOOLS:

DRIVER	**07749—0010000**
ATTACHMENT	**07746—0010300**
PILOT	**07746—0040300**



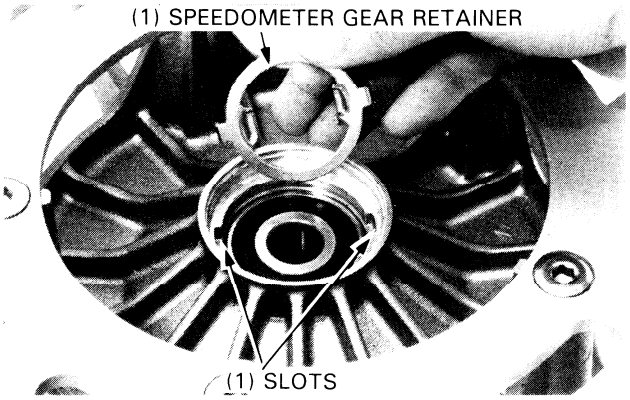
ASSEMBLY



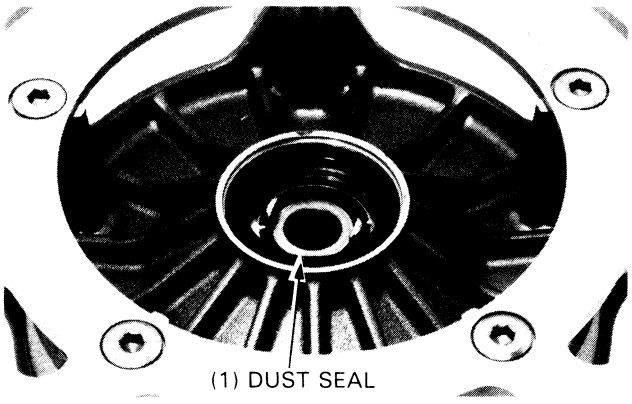
NOTE

- The cast wheel has no rim band.
- The front wheel uses a tubeless tire.
  For tubeless tire repair, refer to the Honda Tubeless Tire Manual.

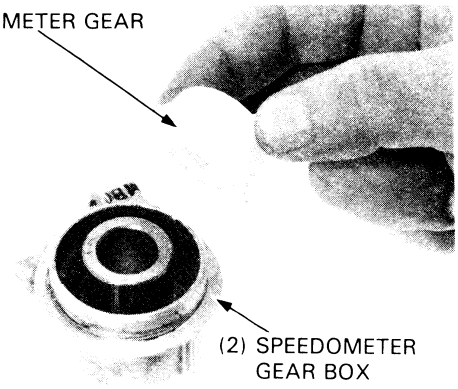
Install the speedometer gear retainer in the left side of the wheel hub, aligning its tangs with the slots in the hub.



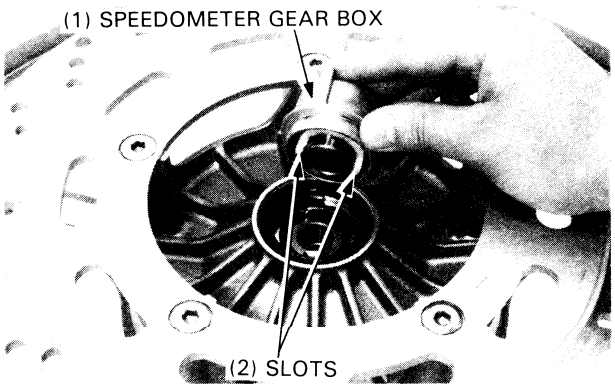
Apply grease to the speedometer gear retainer and inside lip of the dust seal.
Install the dust seal.



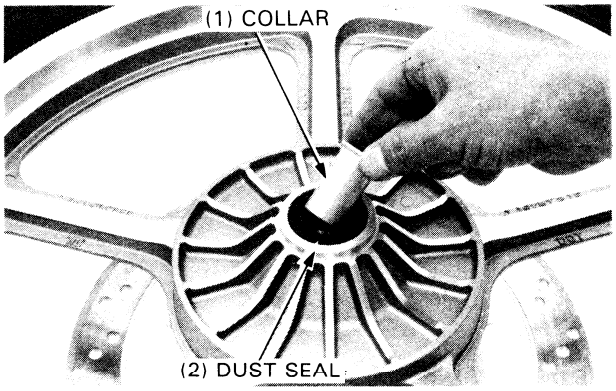
Fill the speedometer gearbox with grease and install the plain washer and drive gear.



Install the speedometer gearbox in the wheel hub, aligning the tangs with the slots.



Install the dust seal.
Install the collar.



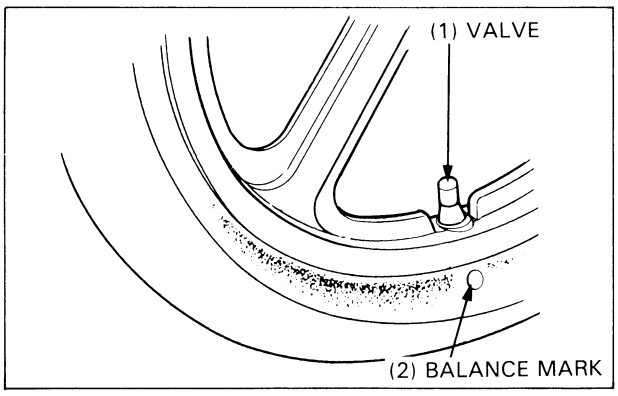
WHEEL BALANCING

CAUTION

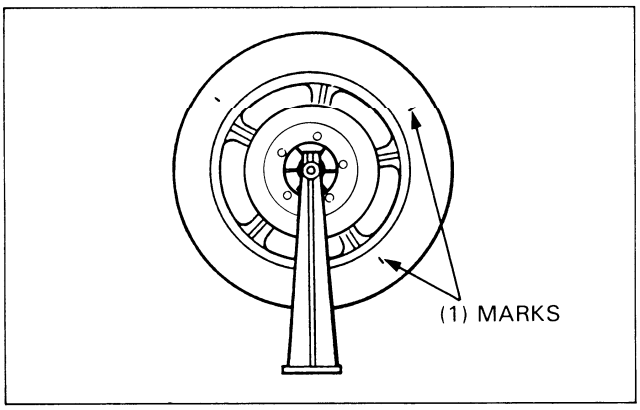
- *Wheel balance directly affects the stability, handling and overall safety of the motorcycle. Always check balance when the tire has been removed from the rim.*

NOTE

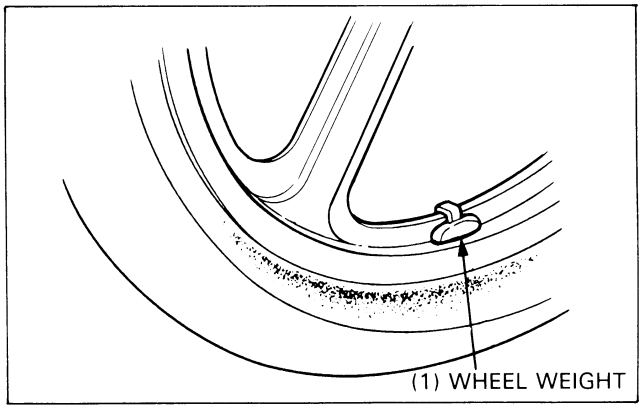
- For optimum balance, the tire balance mark (a paint dot on the side wall) must be located next to the valve stem. Remount the tire if-necessary.



Mount the wheel, tire, and brake disc assembly in an inspection stand.
If a stand is not available, mount the wheel on its axle, and clamp the axle in a vise.
Spin the wheel, allow it to stop, and mark the lowest (heaviest) part of the wheel with chalk. Do this two or three times to verify the heaviest area. When 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 to the chalk marks. Add just enough weight so the wheel will no longer stop in the same position when it's spun. Do not add more than 70 grams.

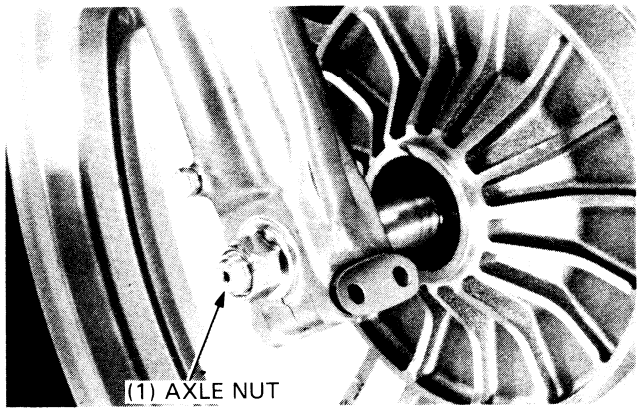


INSTALLATION

Fit the caliper over the disc, taking care not to damage the brake pads.
Install the front wheel into the fork, then through the front axle from the left side.

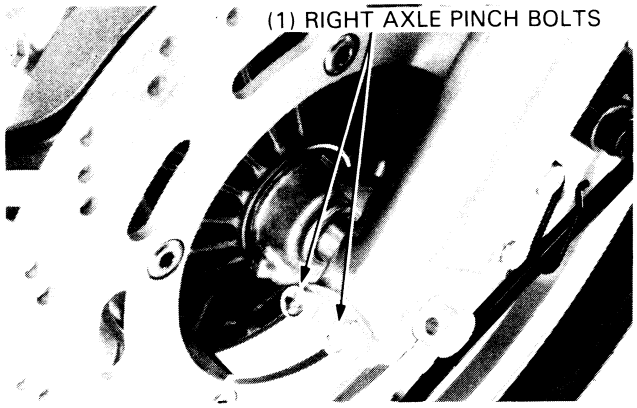
Tighten the axle nut to the specified torque.

TORQUE: 55—65 N·m (5.5—6.5 kg-m, 40—47 ft-lb)

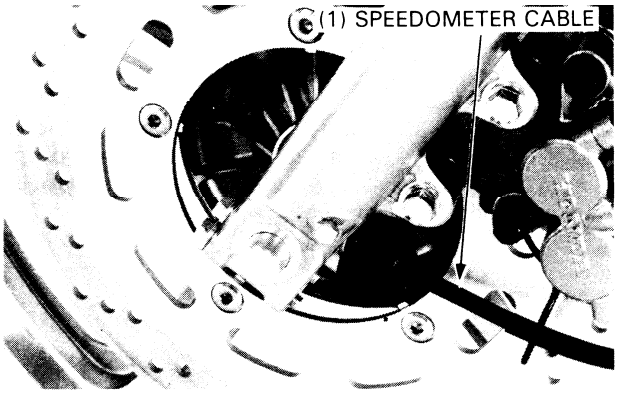


Tighten the left and right axle pinch bolts.

TORQUE: 18—25 N·m (1.8—2.5 kg-m, 13—18 ft-lb)



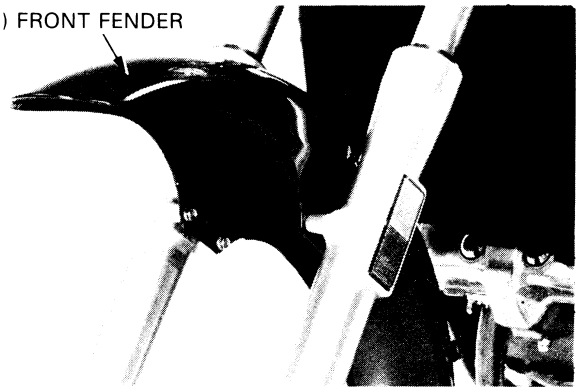
Install the speedometer cable into the speedometer gear box and tighten the set screw.



FORK

REMOVAL

Remove the following parts.
- front wheel (page 13-7).
- brake calipers (page 15-9).
- Remove the front fender mounting bolts and the front fender.



Loosen the fork upper and lower pinch bolts.

Pull each fork tube out of the fork bridge.

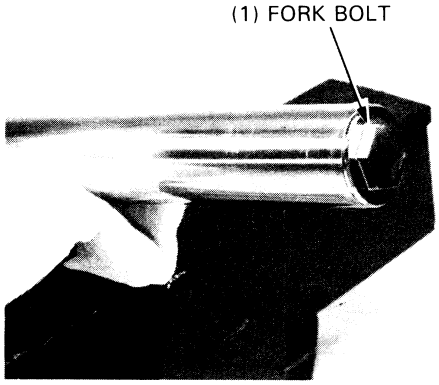
DISASSEMBLY

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

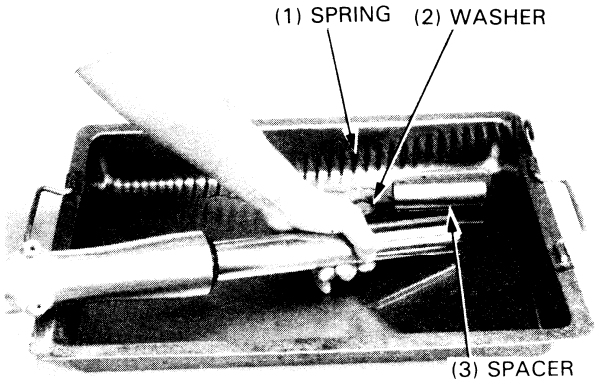
CAUTION

- *Do not damage the sliding surface.*

Remove the fork bolt.



Remove the fork spring, spacer and washer.
Force out the fork fluid by pumping the fork up and down several times.



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

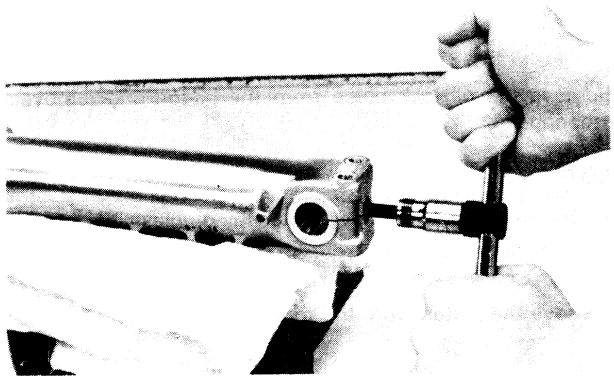
CAUTION

- *Do not damage the fork slider.*

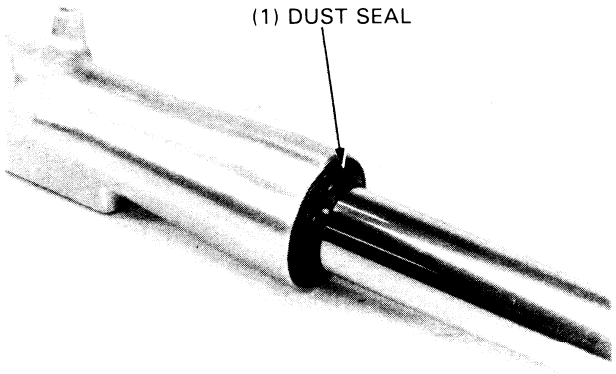
Remove the socket bolt.

NOTE

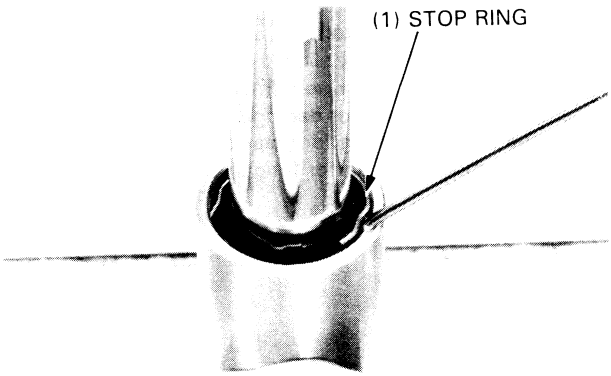
- Temporarily install the spring and fork cap if difficulty is encountered in removing the socket bolt.



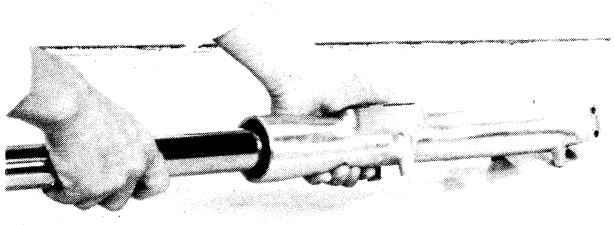
Remove the dust seal.



Remove the 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.



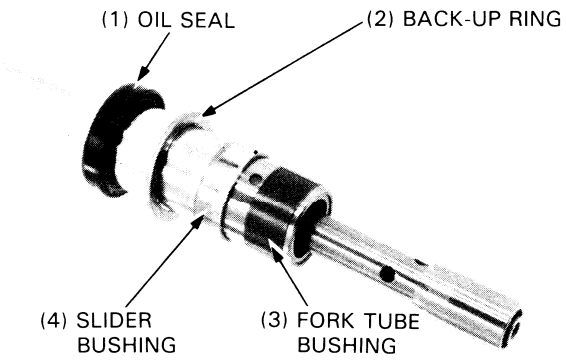
Remove the oil seal, back-up ring, and slider bushing from the fork tube.

Remove the oil lock piece from the piston and remove the stopring.

NOTE

- Do not remove the fork tube bushing unless it is necessary to replace it.

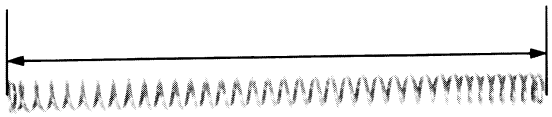
Remove the piston from the fork tube.



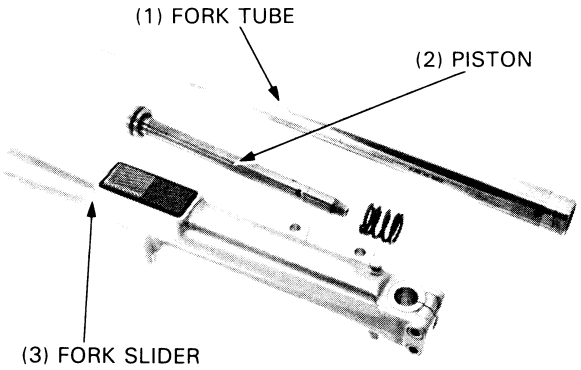
INSPECTION

Piston Spring Free Length
Measure the fork spring free length.

SERVICE LIMIT: 463.5 mm (18.2 in)

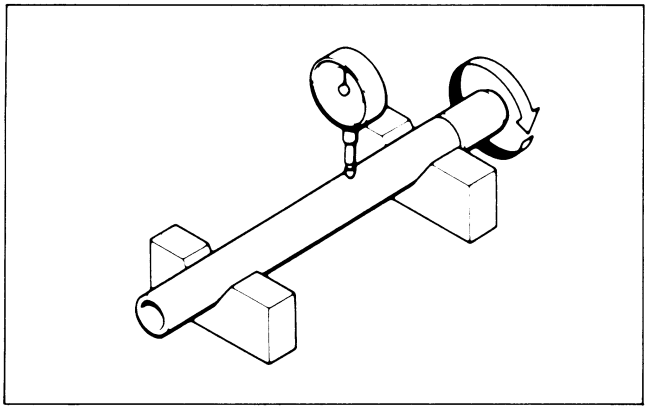


Fork Tube/Fork Slider/Piston
Check the fork tube, fork slider and piston for score marks, scratches, or excessive or abnormal wear. Replace any components which are worn or damage.
Check the fork piston ring for wear or damage.
Check the rebound spring for fatigue or damage.



Set the fork tube in V blocks and check its runout.

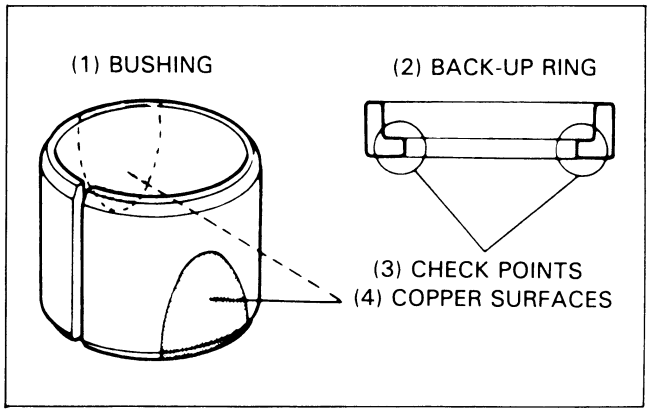
SERVICE LIMIT: 0.2 mm (0.01 in)



Bushing/Back-up Ring

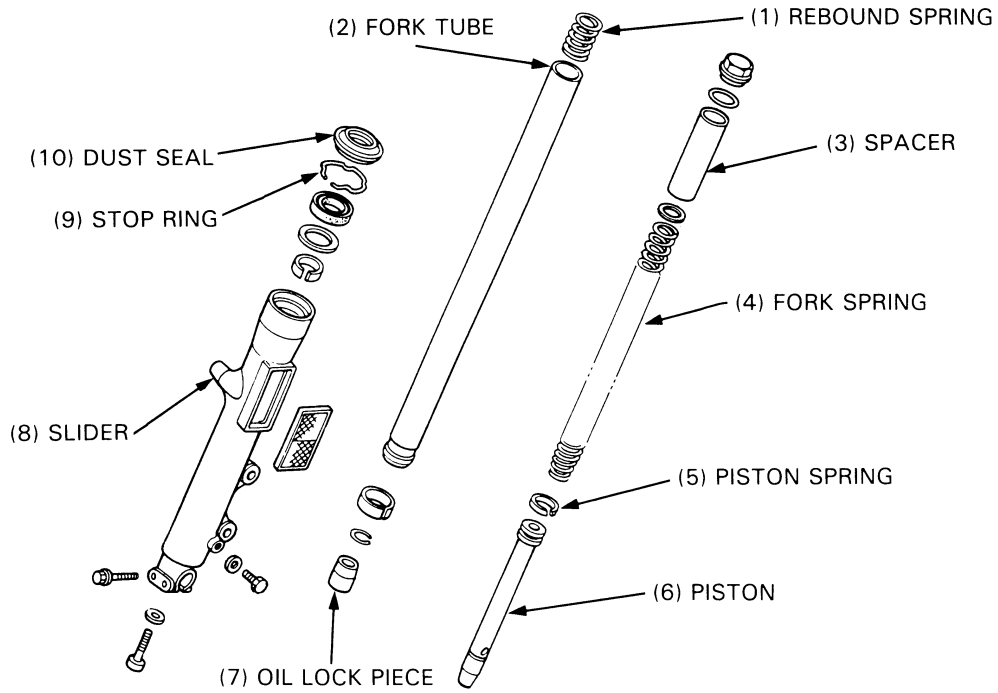
Visually inspect the slider and fork tube bushings.
Replace the bushings if there is excessive scoring or scratching, or if the teflon is worn so that the copper surface appears on more than 3/4 of the entire surface.

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

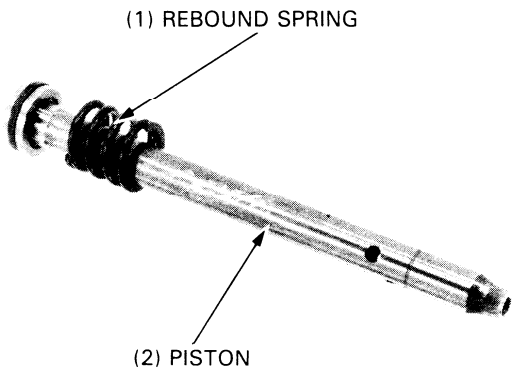


ASSEMBLY

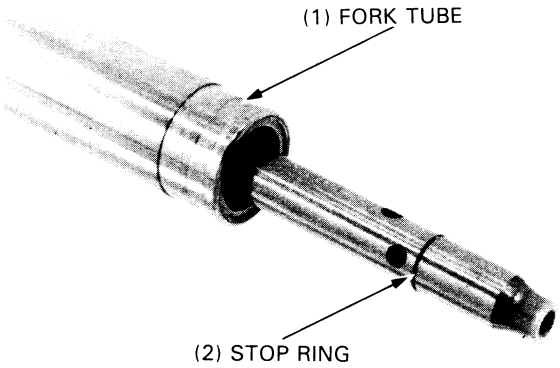
Before assembly, wash all parts with a high flash point or non-flammable solvent and wipe them off completely.



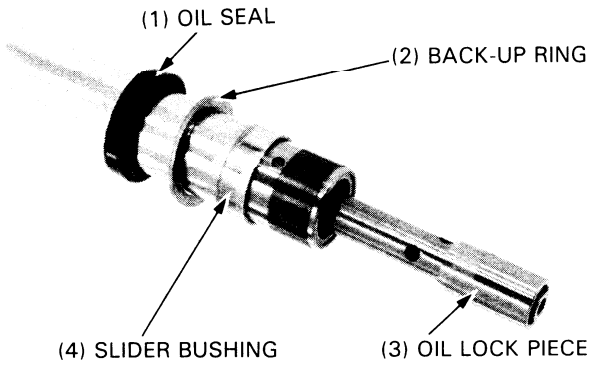
Insert the piston and rebound spring into the fork tube.



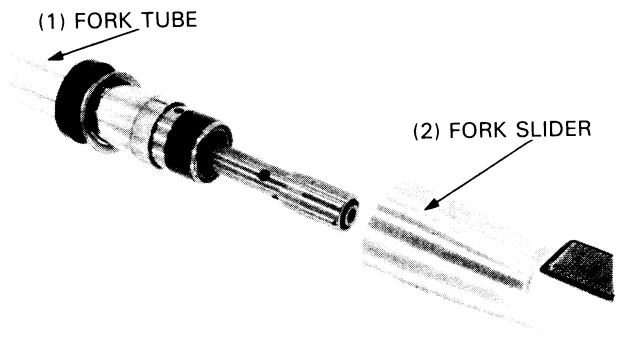
Install the stop ring onto the piston.



Install the dust seal, back-up ring, and slider bushing onto the fork tube.
Install the oil lock piece onto the end of the piston.



Insert the fork tube into the fork slider.

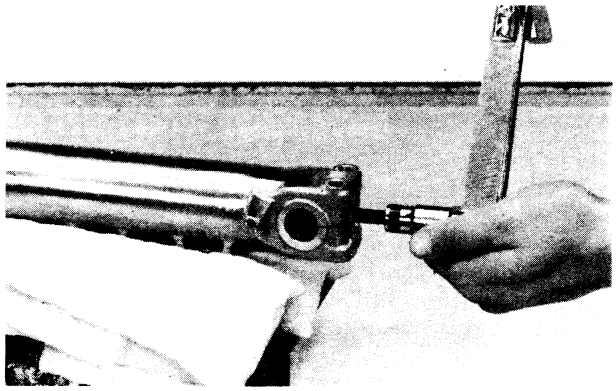


Clamp the fork slider in a vise with soft jaws or use a shop towel.
Apply a locking agent to the socket bolt and thread it into the piston. Tighten the socket bolt.

NOTE

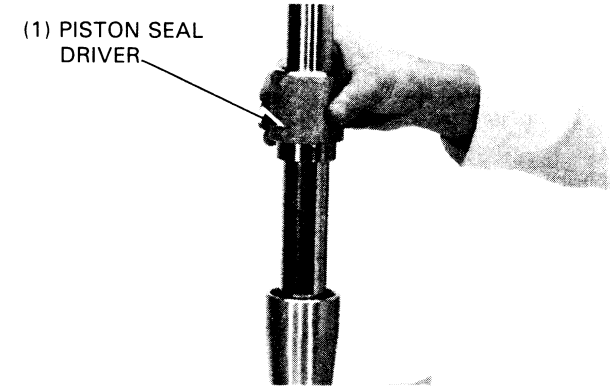
- Temporarily install the fork spring and fork cap bolt to tighten the socket bolt.

TORQUE: 15—25 N·m (1.5—2.5 kg-m, 11—18 ft-lb)

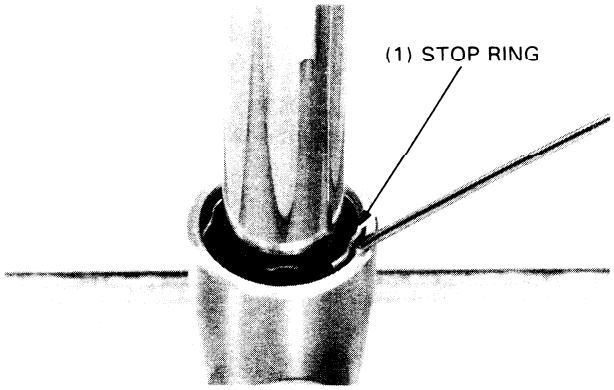


Place the slide bushing over the fork tube and rest it on the slider. Put the back-up ring and an old bushing or equivalent tool on top.
Drive the bushing into place with the seal driver and remove the old bushing or equivalent tool.
Coat a new oil seal with ATF and install it with the seal markings facing up. Drive the seal in with the seal driver until the snap ring groove appears completely.

TOOL:
PISTON SEAL DRIVER 07947—4630100

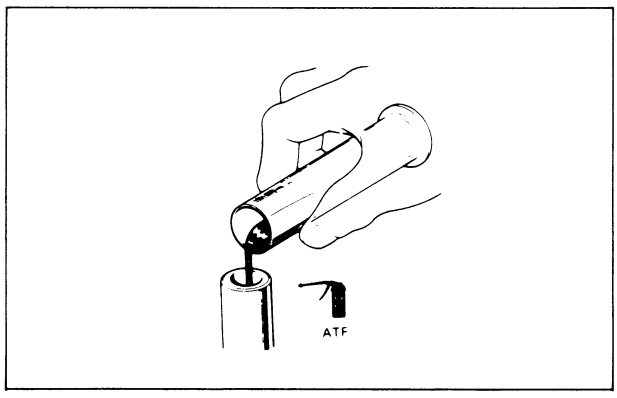


Install the stopring and dust seal.

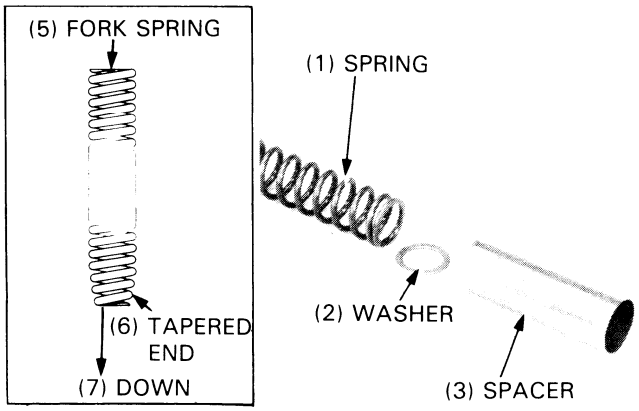


Pour the specified amount of ATF into the fork tube.

CAPACITY:
Right and left forks: 415 cc (14 US oz)



Install the fork spring, washer and spacer into the fork tube.
Wipe oil off the spring thoroughly using a clean cloth.
Install the fork spring with the tapered end facing down.

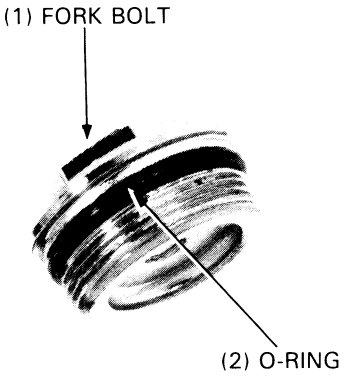


Install the new O-ring on the fork bolt and tighten the fork bolt.

CAUTION

- *Do not damage the sliding surface.*

TORQUE: 15—30 N·m (1.5—3.0 kg-m, 11—22 ft-lb)



INSTALLATION

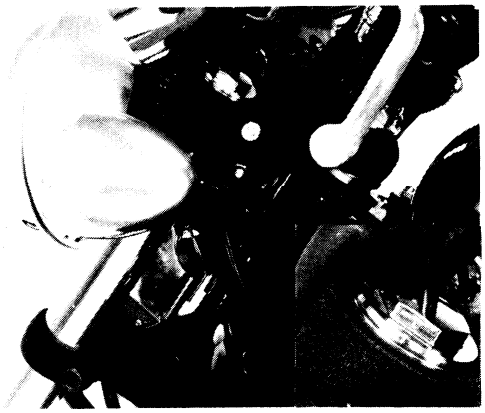
Install the fork.

Align the grooves in the fork tubes with the upper surface of the fork bridge.
Tighten the fork pinch bolts.

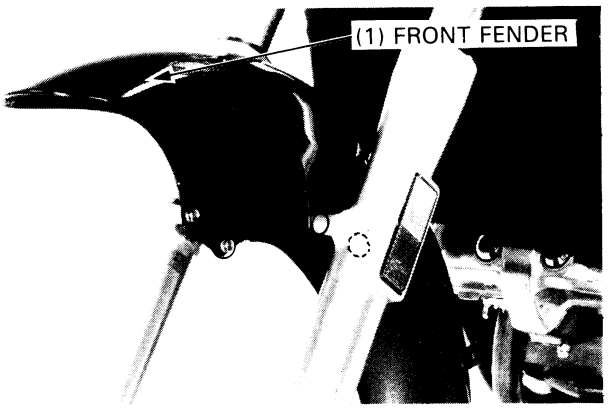
TORQUE: 9—13 N·m (0.9—1.3 kg-m, 7—9 ft-lb)

Tighten the fork lower pinch bolts.

TORQUE: 45—55 N·m (4.5—5.5 kg-m, 33—40 ft-lb)



Install the front fender.
Install the removed parts in the reverse order of removal.
— brake calipers (page 15-11).
— front wheel (page 13-12).

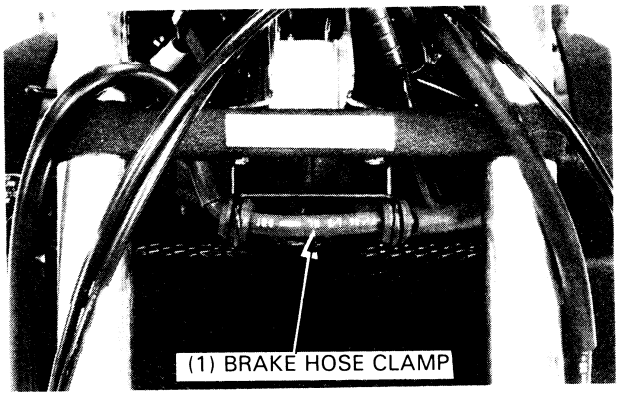


STEERING STEM

REMOVAL

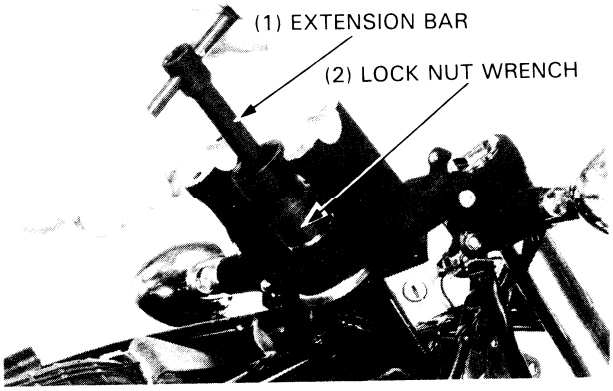
Remove the following parts:
- seats and fuel tank (page 4-17)
- headlight, headlight case (page 19-2)
- handlebar (page 13-3)
- front wheel (page 13-7)

Before removing the steering stem:
Drain the front brake fluid (page 15-3) and disconnect the brake fluid hose, then remove the brake fluid hose from the hose holder.
Pull out the brake fluid hose from the steering stem through the hole.

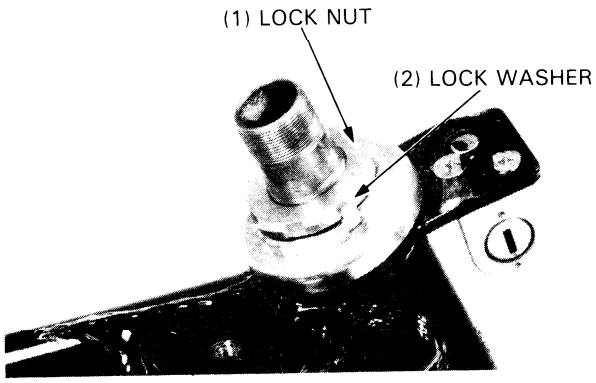


Remove the steering stet nut.
Remove the fork bridge.
Remove the fork tubes (page 13-14).

TOOLS:
LOCK NUT WRENCH, 30 x 32 mm 07716—0020400
EXTENSION BAR 07716—0020500

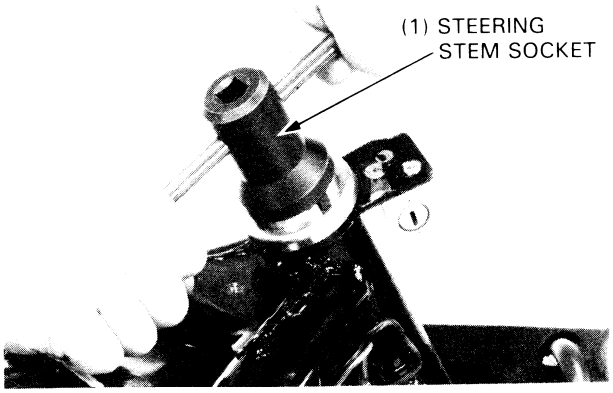


Straighten the lock washer tabs and remove the lock nut and lock washer.

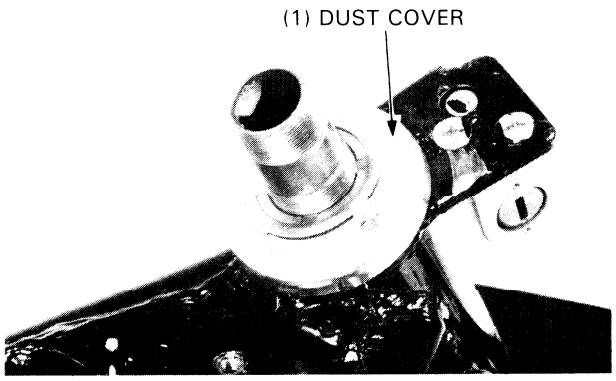


Loosen the bearing adjustment nut.

TOOL:
STEERING STEM SOCKET 07916—3710100



Remove the top dust cover.



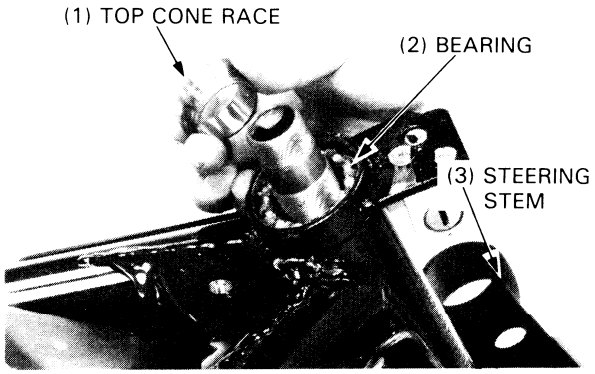
Remove the top cone race and the steel balls.

NOTE

- Be careful not to lose the steel balls that may fall out.

Remove the steering stem.

Inspect the inner and outer races and steel balls for wear or damage. Replace them if necessary.



BEARING REPLACEMENT

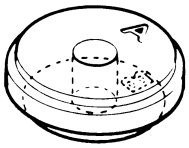
Remove the upper and lower ball races using the tools listed.

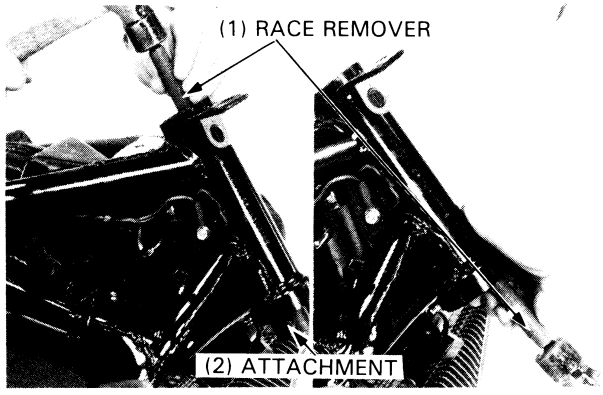
UPPER:

Race Remover	**07953—MJ00000**
Attachment, 42 x 47 mm	**07953—MJ0000A**

NOTE

- Use side "A" of the race remover attachment 07953—MJ1000A





LOWER:

Race Remover	**07946—3710500**
Attachment, 37 x 40 mm	**07746—0010200**
Driver	**07949—3710001 or 07949—3710000**

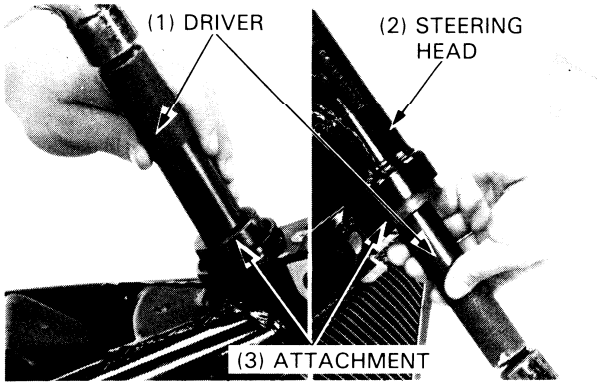
Drive the upper and lower ball races into the steering head using the tools listed.

UPPER:

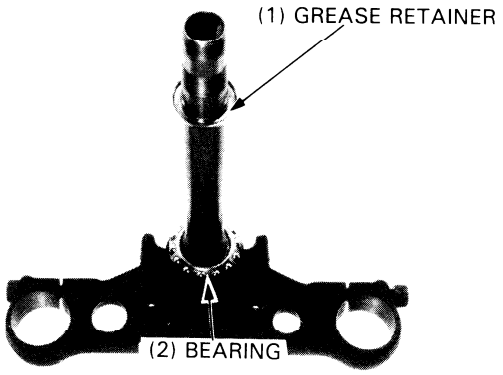
Attachment, 42 x 47 mm	**07746—0010300**
Driver	**07749—0010000**

LOWER:

Attachment, 52 x 55 mm	**07746—0010400 or 07946—3710701**
Driver	**07749—0010000**



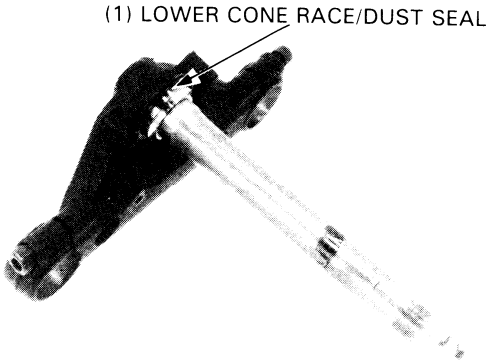
Remove the lower bearing and grease retainer from steering stem.



Loosely install the stem nut onto the steering stem to protect the threads and remove the lower cone race and dust seal using a punch.

NOTE

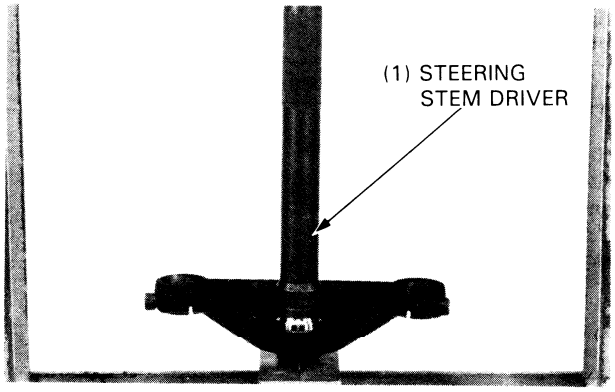
- Take care not to damage the steering stem and fork.



INSTALLATION

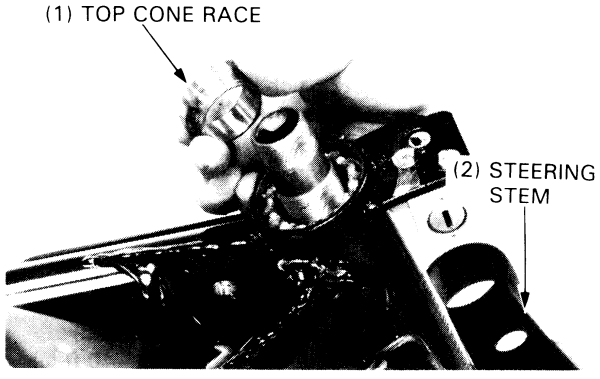
Install a new washer and the dust seal, onto the steering stem, then press a new lower cone race over the stem with the special tool.

TOOL:
STEERING STEM DRIVER **07946—MB00000**



Pack the bearing cavities with bearing grease.
Install the lower bearing and grease retainer onto the steering stem, then insert the steering stem into the steering head.

Install the upper bearing and upper bearing inner race.



Install the dust seal

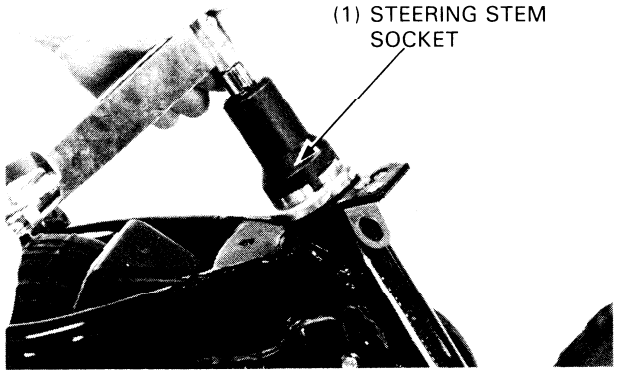
Install and tighten the steering stem adjusting nut.

TORQUE: 19—23 N·m (1.9—2.3 kg-m, 14—17 ft-lb)

Turn the steering stem lock to lock five times to seat the bearings.
Retorque the steering stem adjusting nut.

TORQUE: 19—23 N·m (1.9—2.3 kg-m, 14—17 ft-lb)

TOOL:
STEERING STEM SOCKET 07916—3710100



Install a new lock washer.
Bend two opposite tabs of the lock washer down into the grooves of the adjusting nut.

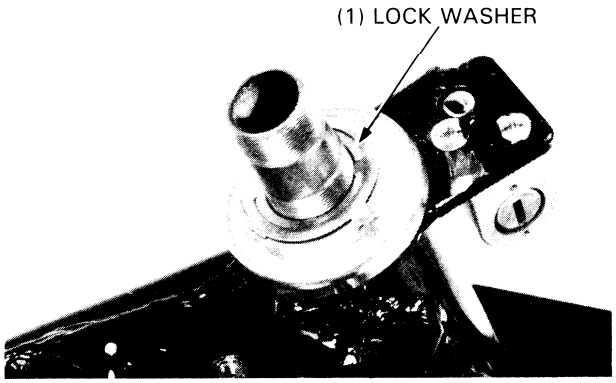
NOTE

- Do not install a used adjusting nut lock washer.

Hand tighten the lock nut.
Hold the adjusting nut and further tighten the lock nut only enough to align its grooves with the lock washer tabs.

NOTE

- If the lock nut grooves cannot be easily aligned with the lock washer tabs, remove the nut, turn it over and reinstall it.

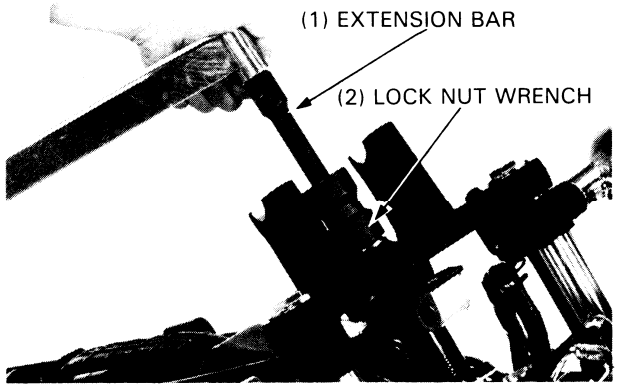


Place the fork tubes up through the steering stem and temporarily tighten the lower fork pinch bolts.
Install the fork bridge and tighten the steering stem nut.

TORQUE: 90—120 N·m (9.0—12.0 kg-m, 65—87 ft-lb)

Position the fork tubes in the fork bridge. Then tighten the fork tube pinch bolts.

TORQUE:
TOP: 9—13 N·m (0.9—1.3 kg-m, 7—9 ft-lb)
BOTTOM: 45—55 N·m (4.5—5.5 kg-m, 33—40 ft-lb)



STEERING HEAD BEARING ADJUSTMENT

Install the front wheel (page 13-13).
Place the stand under the engine and raise the front wheel off the ground.
Position the front end in the straight ahead position.
Hook a spring scale to the fork tube and measure the steering head bearing preload.

NOTE

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

The preload should be within 1.1—1.6 kg (2.36—3.55 lb) for right and left turns.
If the readings do not fall within the limit, lower the front wheel on the ground and adjust the bearing adjustment nut.
After adjusting the bearing preload, install the removed parts in the reverse order of removal.