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SERVICE INFORMATION

• WORKING PRACTICE

- Do not remove rivets, nuts and pins from the rim, spoke plate and hub, since they cannot be disassembled.
- Never ride on the spokes or try to bend the wheel.
- Avoid damaging the aluminum alloy rim.
- Check that the tire and rim are free from damage as the tire is tubeless.
- When removing the tire from the rim, use the special tools "TIRE LEVER" and "RIM PROTECTOR" to prevent damage to the rim.
- For tubeless tire repairs, see the "HONDA MOTORCYCLE TUBELESS TIRE REPAIR MANUAL."

• SPECIAL TOOLS/COMMON TOOLS

Special Tools		Common Tools	
TIRE LEVER	07772-0020100	PIN SPANNER	07702-0010000
RIM PROTECTOR	07772-0020200	LOCK NUT WRENCH SOCKET (32 x 30 mm)	07716-0020400
HOLLOW SET WRENCH (6 mm)	07917-3230000	EXTENSION BAR	07716-0020500
BALL RACE DRIVER (BOTTOM)	07945-3330300	BEARING DRIVER HANDLE (A)	07749-0010000
BALL RACE DRIVER (TOP)	07946-3290000	BEARING DRIVER OUTER (42 x 47 mm)	07746-0010300
STEERING STEM DRIVER	07946-3710600	BEARING DRIVER PILOT (15 mm)	07746-0040300
BALL RACE REMOVER	07953-3330000	FRONT FORK OIL SEAL DRIVER BODY	07747-0010100
		FRONT FORK OIL SEAL ATTACHMENT (D)	07747-0010500

• SPECIFICATIONS

ITEM	STANDARD	SERVICE LIMIT
Axle shaft 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.)
Front cushion spring free length	Upper	98.2 mm (3.87 in.)
	Lower	461.7 mm (18.18 in.)
Front fork tube bend	—	0.2 mm (0.008 in.)
Front fork oil capacity	135-140 cc (4.5-4.7 oz.)	—

TROUBLESHOOTING

Hard Steering

- Steering stem nut too tight
- Worn front wheel bearing
- Faulty steering stem bearings
- Distorted spokes
- Damaged steering stem ball race and/or cone race
- Faulty tire
- Insufficient tire pressure
- Axle not tightened properly

Soft Suspension

- Weak fork spring
- Insufficient fluid in front forks

Steers to One Side or Does Not Track Straight

- Unbalanced right and left shock absorbers
- Incorrect fluid weight in front forks
- Bent front forks
- Front Suspension Noise
- Bent front axle; wheel installed incorrectly.
- Slider binding
- Insufficient fluid in forks
- Loose front fork fasteners

Front Wheel Wobbling

- Distorted rim



HEADLIGHT

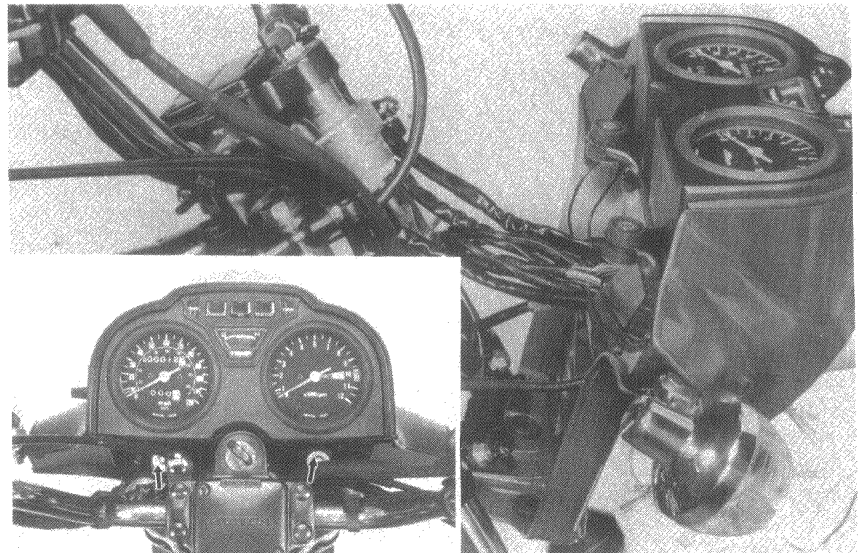
• HEADLIGHT CASE REMOVAL

Remove the headlight and disconnect all wires at their couplers and connectors.

NOTE

Hold the connectors with pliers to prevent the wires from being cut.

Remove the two fork top bridge bolts and remove the headlight case.



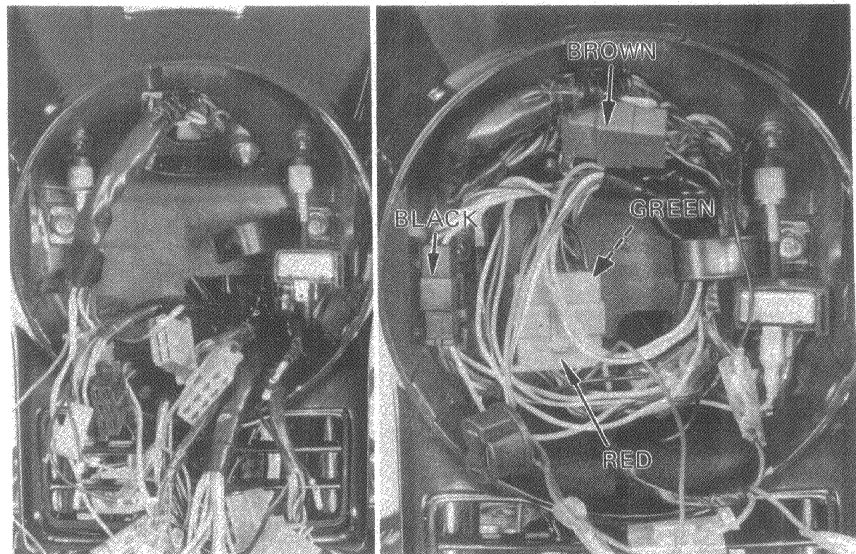
• WIRING CONNECTION IN HEADLIGHT CASE

Route the wires into the headlight case through the headlight case hole.

Connect the wires color-to-color.

Set each coupler in its correct holder in the headlight case.

WIRING (Section 1).



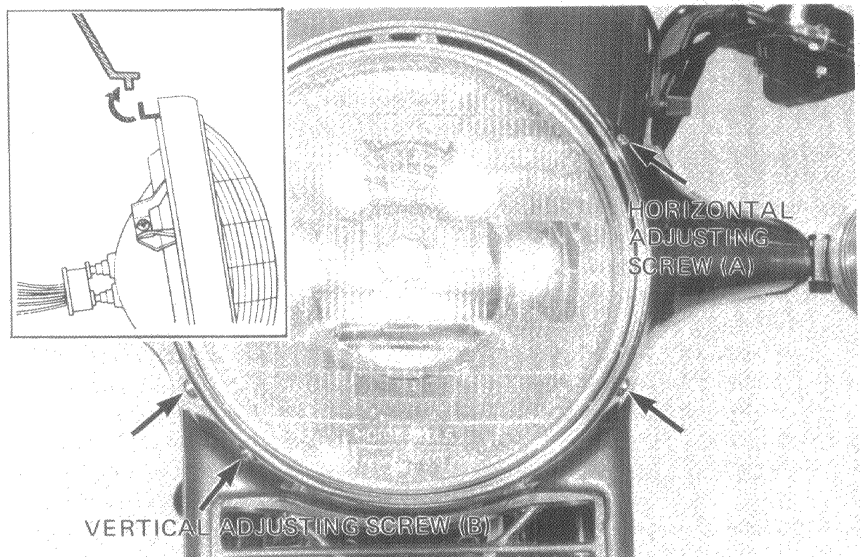
• HEADLIGHT INSTALLATION

Place the headlight upper hook over the headlight case and secure the headlight with two lower screws.

Check the headlight aim and adjust by screws (A), (B) if necessary.

NOTE

Check each component for operation after assembling.



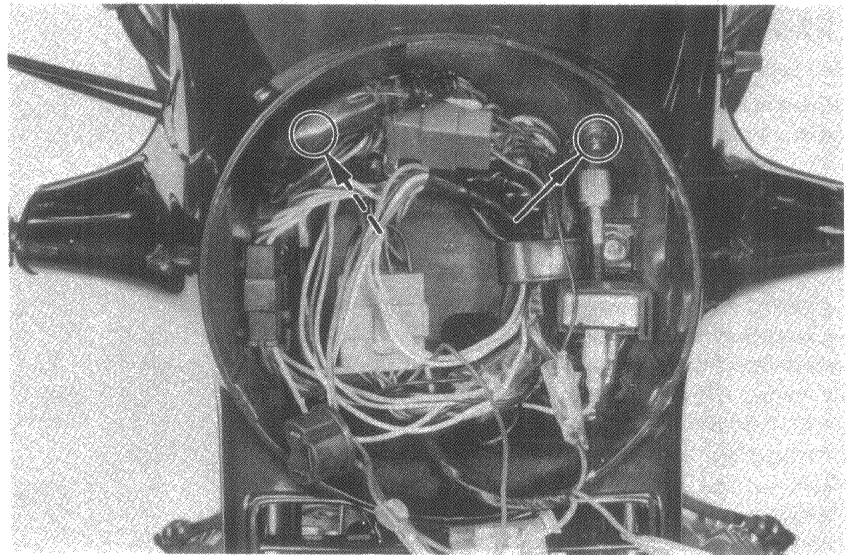


INSTRUMENTS

• CLUSTER DISASSEMBLY

Remove the headlight. Disconnect the meter cables and each applicable wire harness coupler. Separate the meters from the meter panel by removing the two nuts.

The meter lamps can be replaced under the above condition.



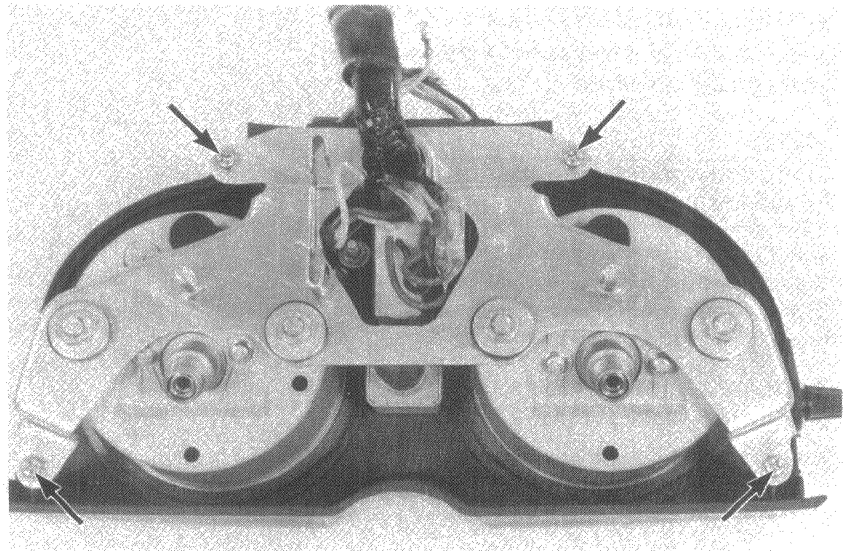
• INDICATOR LAMP REPLACEMENT

After installing a new bulb, check for continuity. If the bulb does not light, inspect the wiring for open or short circuits.

• METER DISASSEMBLY

To replace a meter, it is necessary to separate the cluster.

Remove the set plate and cable.

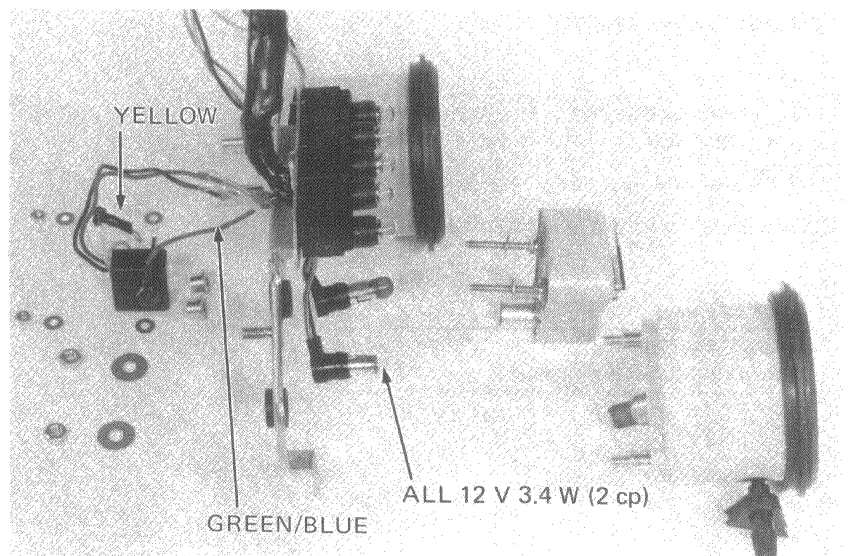


• METER ASSEMBLY

Connect the water temperature gauge wires as shown.

NOTE

Install the meter seal rubber properly.





HANDLEBAR

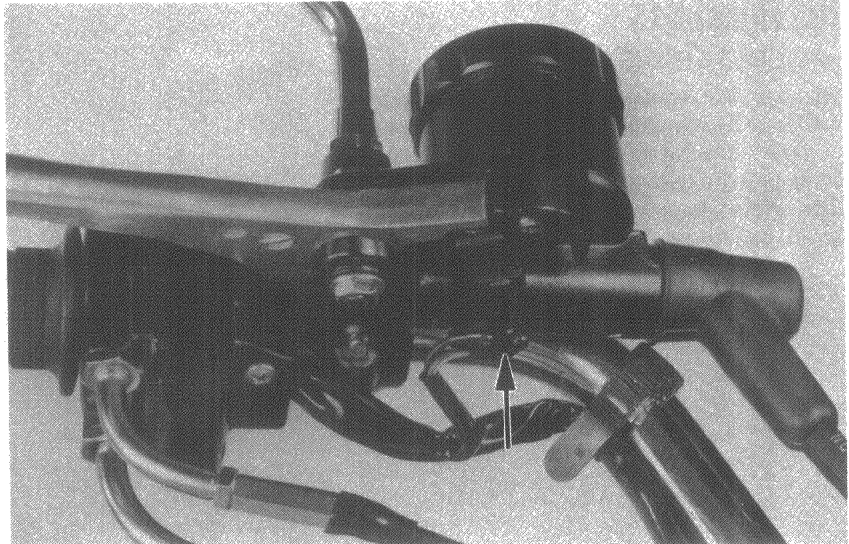
● HANDLEBAR REMOVAL

Disconnect the front brake stoplight switch wires and remove the master cylinder.

NOTE

Do not loosen the brake hose unless necessary.

Loosen the two screws attaching the throttle grip switch housing.
Disconnect the clutch switch wires.
Remove the two screws holding the left grip switch housing.
Remove the switch wire bands.
Remove the handlebar upper holder and the handlebar with the throttle grip and switch housing.



● HANDLEBAR INSTALLATION

Installation of the handlebar is essentially the reverse order of removal.

NOTE

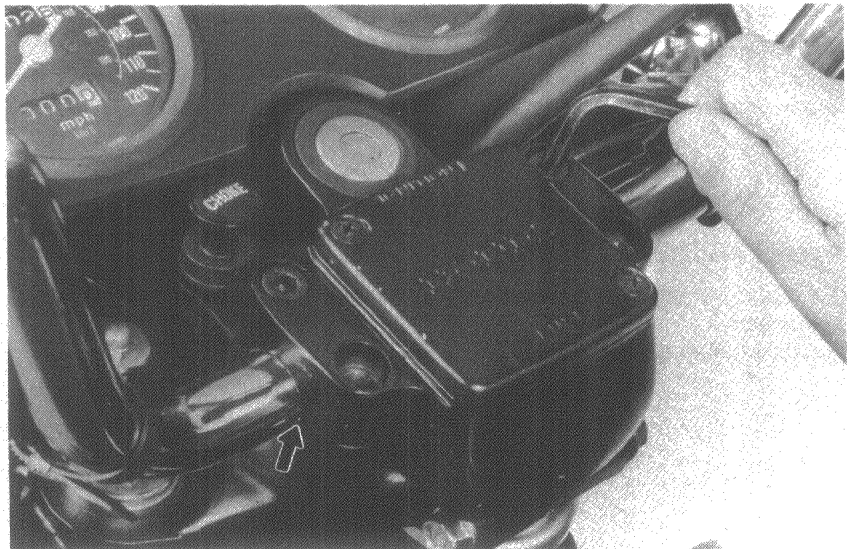
Coat the throttle grip area of the handlebar with grease.

Align the punch marks on the handlebar with the splits of the fuse box and switch housing.
Tighten the forward screw first, then tighten the rear screws to the same torque.

TORQUE SPECIFICATION:

2.5–3.0 kg-m (18–22 ft-lbs)

Connect the clutch switch wires.



Install the master cylinder.

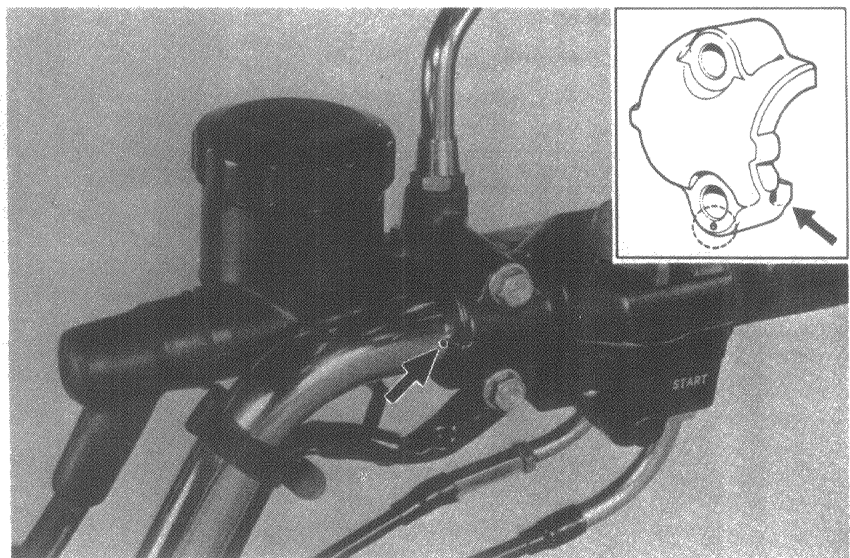
NOTE

Align the punch mark on the handlebar with the lug of the master cylinder holder.

Connect the front brake stoplight switch wires.

NOTE

Install the master cylinder holder with the wire relief facing down.





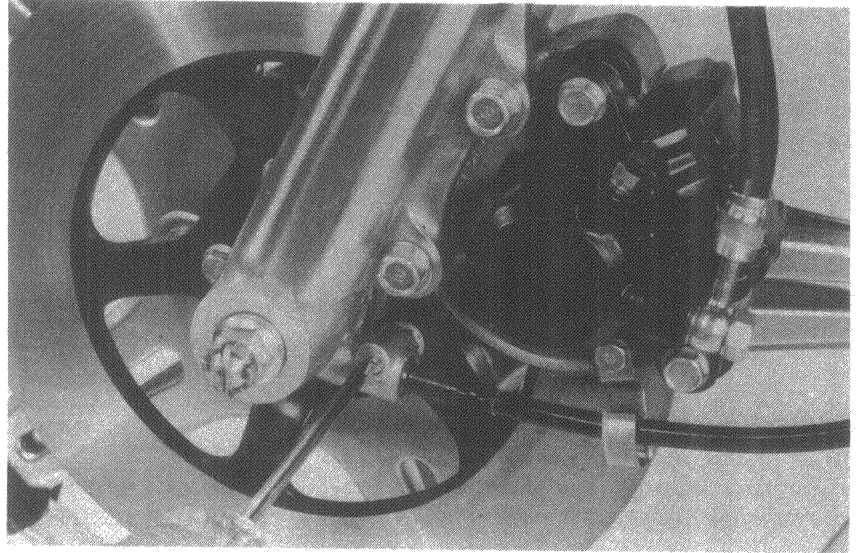
FRONT WHEEL

● FRONT WHEEL REMOVAL

Raise the front wheel off the ground by placing a block or safety stand under the engine.

Disconnect the speedometer cable from the speedometer gearbox.

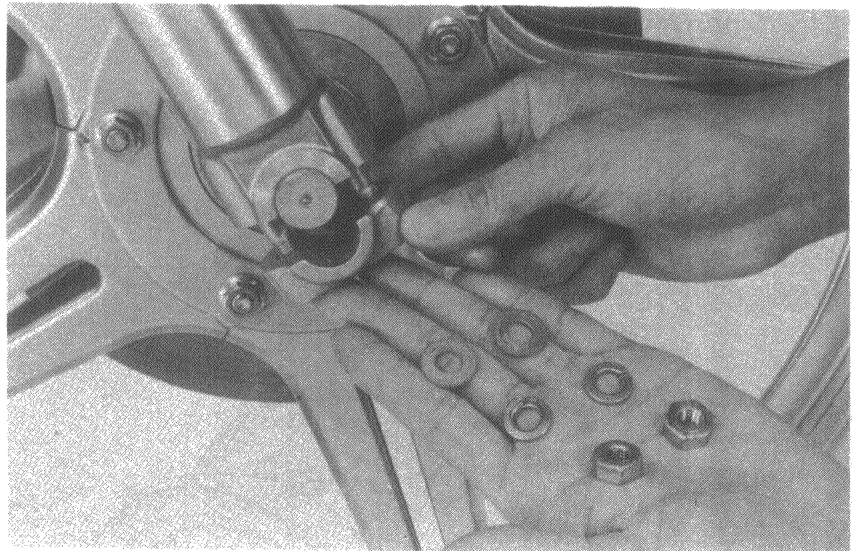
Remove the cotter pin and loosen the axle nut.



Remove the axle holder from the fork end. Withdraw the axle and remove the wheel.

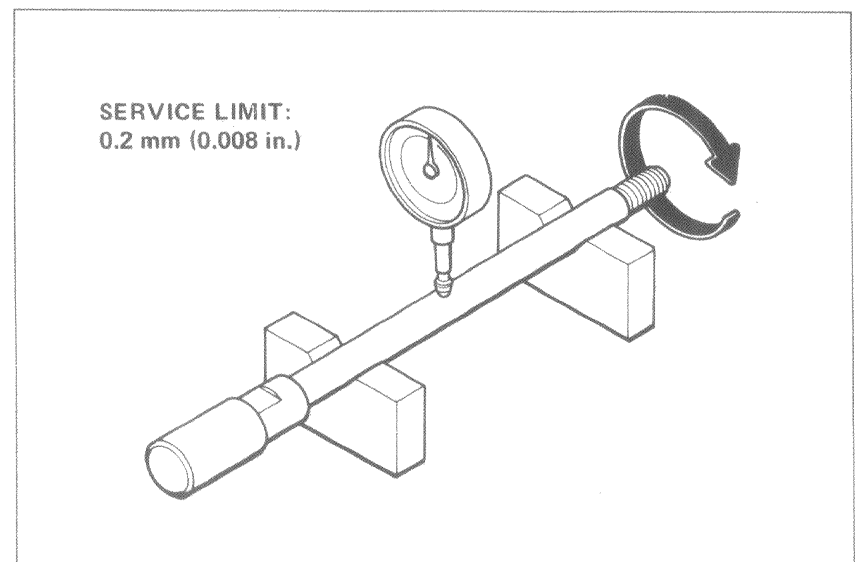
NOTE

Do not operate the front brake lever after removing the front wheel. To do so will cause difficulty in refitting the brake disc between the brake pads.



● AXLE INSPECTION

Set the axle in V blocks and measure the runout. The actual runout is 1/2 of TIR (Total Indicator Reading).

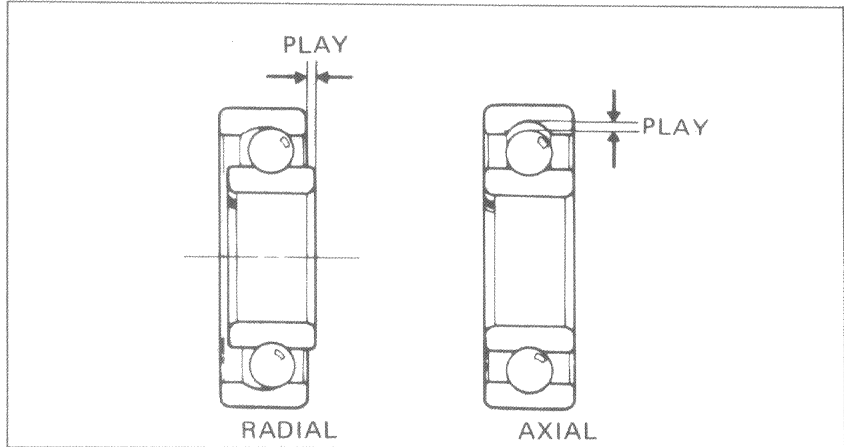




FRONT WHEEL/SUSPENSION

• **WHEEL BEARING INSPECTION**

Check the wheel bearing play by placing the wheel in a truing stand and spinning the wheel by hand. Replace the bearings with new ones if they are noisy or have excessive play.

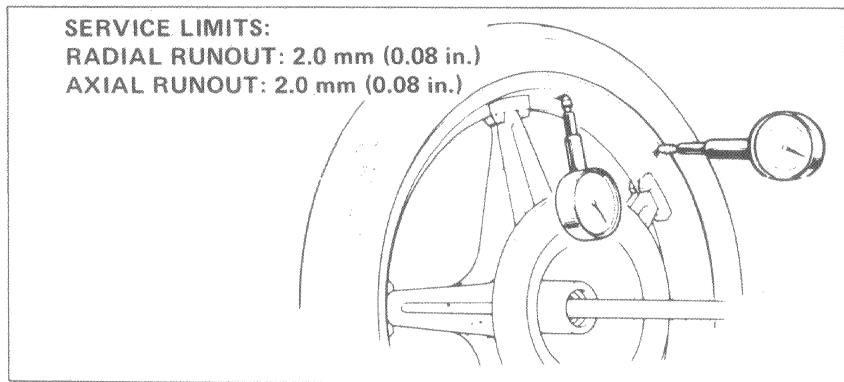


• **WHEEL INSPECTION**

Check the rim runout by placing the wheel in a truing stand. Then spin the wheel by hand, and read the runout using a dial indicator gauge.

NOTE

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

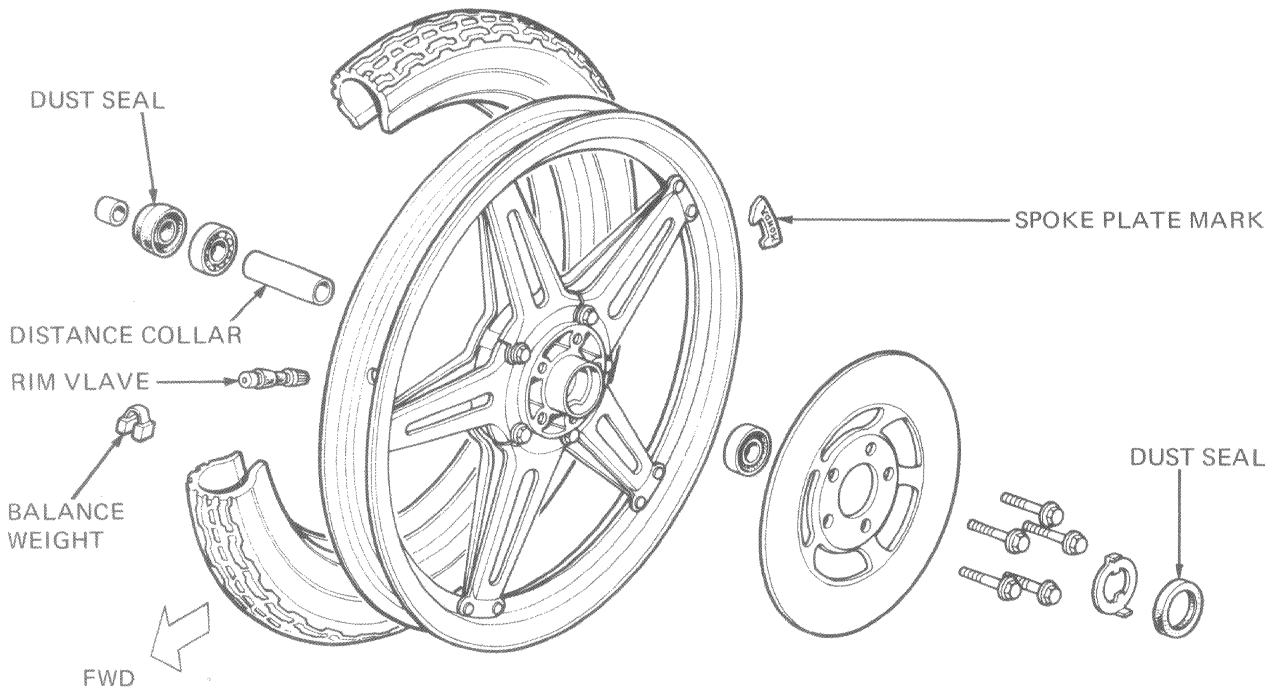


• **WHEEL DISASSEMBLY**

Remove the right bearing first.

NOTE

Tubeless tires are standard.



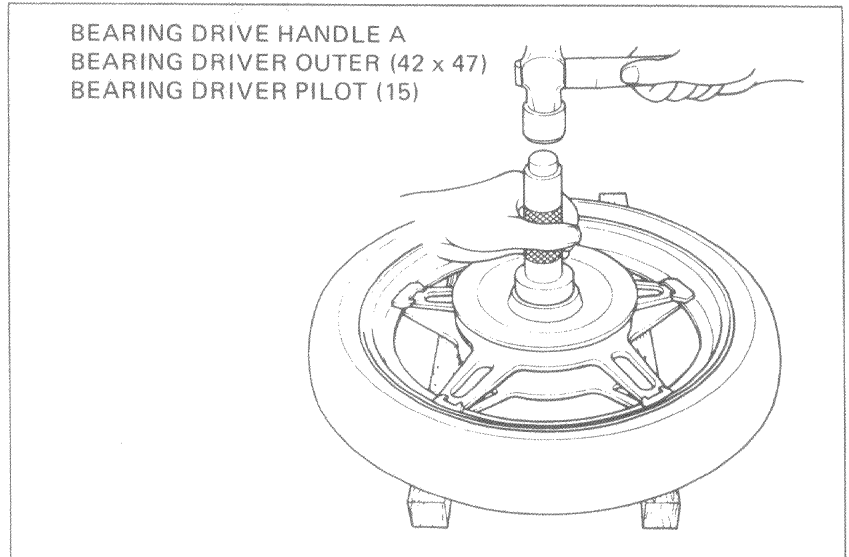


● FRONT WHEEL ASSEMBLY

Pack all bearing cavities with grease.
Drive in the right bearing first.
Press the distance collar into place.
Drive in the left bearing.

NOTE

- Drive the bearing squarely.
- Drive the bearing into position, making sure that it is fully seated and that the sealed side is facing out.



Lubricate the dust seal lip with grease.
Install the dust seal and collar in the hub on the right side.

NOTE

- The spoke plate bolts and nuts require no retightening since they are secured with lock pins. Do not remove these lock pins.

CAUTION

Remove all the grease around the outside of the oil seal.



Install the speedometer gear retainer in the hub from the left side.

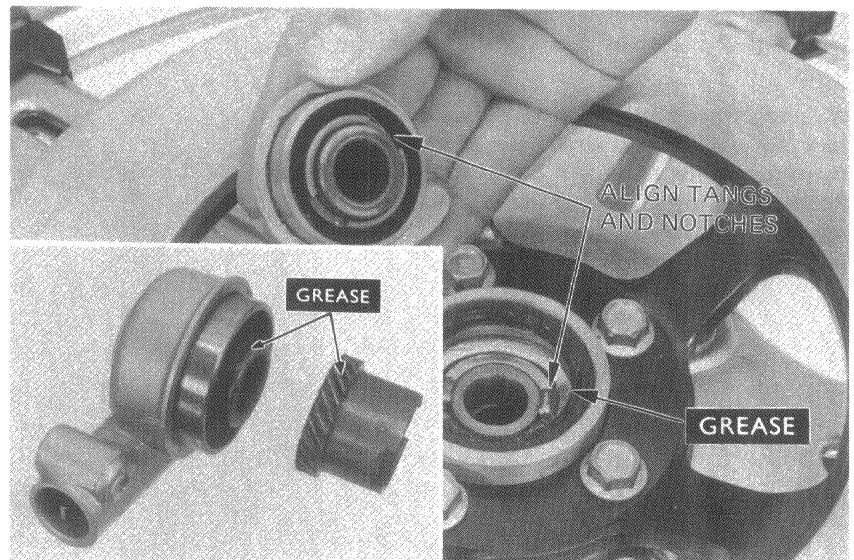
Lubricate the oil seal lip and install.

Disassemble the speedometer gear box and lubricate the gears and sliding faces.

Install the speedometer gear in the wheel hub, aligning the speedometer gear box notches with the tangs in the retainer.

CAUTION

Remove all the grease around the outside of the oil seal.





FRONT WHEEL/SUSPENSION

• **FRONT WHEEL INSTALLATION**

Insert the axle through the wheel hub from the right side.

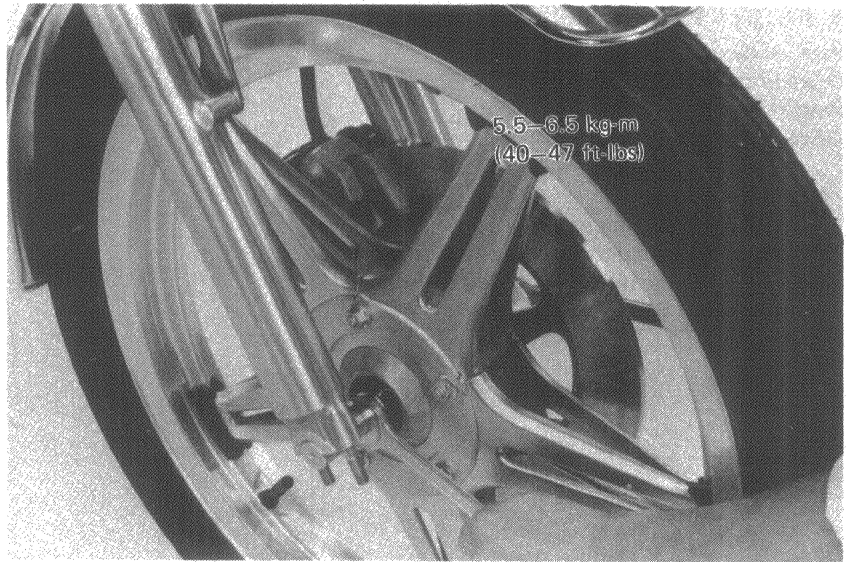
Torque the axle nut, noting the installation direction of the speedometer gearbox.

TORQUE SPECIFICATION:

5.5–6.5 kg-m (40–47 ft-lbs)

NOTE

Install the speedometer gearbox horizontally, being careful not to bend the speedometer cable.



Position the axle holder on the fork end with the arrow mark facing the front.

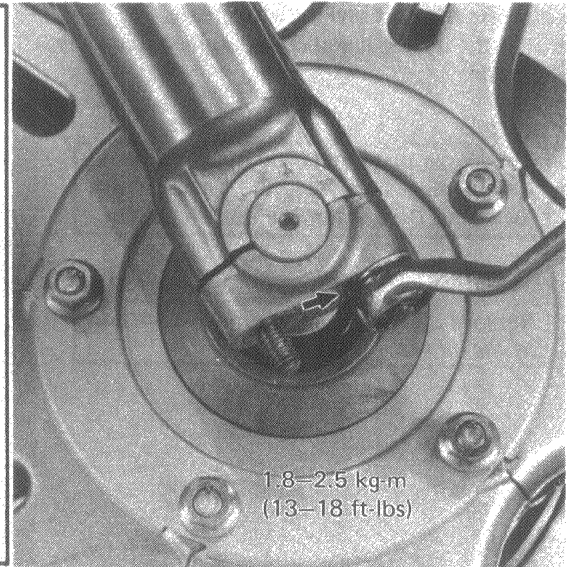
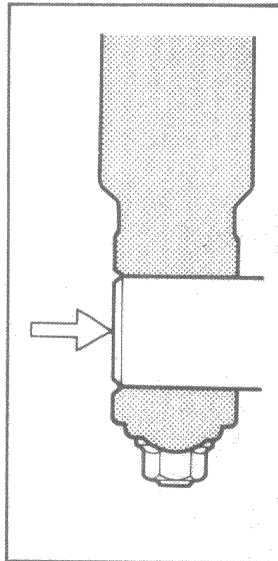
Tighten the forward nut to the specified torque first, then tighten the rear bolt to the same torque.

TORQUE SPECIFICATION:

1.8–2.5 kg-m (13–18 ft-lbs)

NOTE

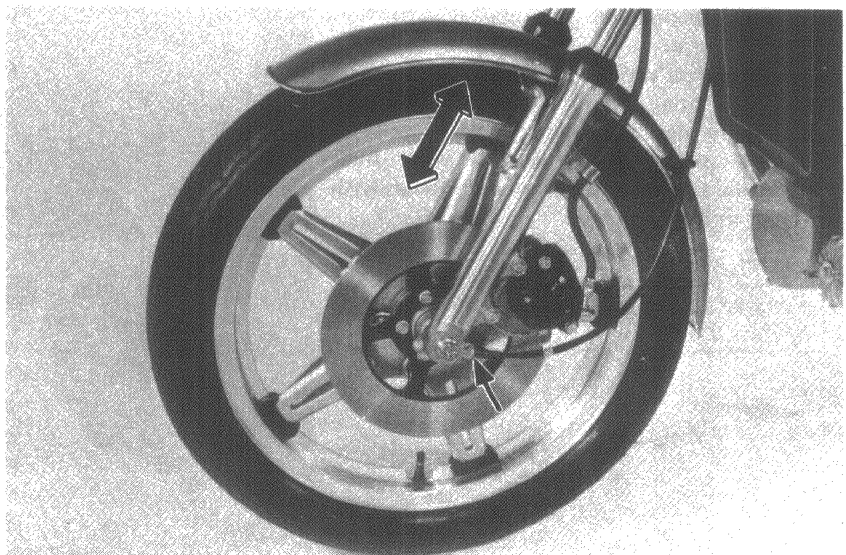
Place a stand under the engine to remove load from the front fork. Keep the front wheel forward. Align the end of axle with the outside face of fork.



Connect the speedometer cable to the speedometer gearbox while rotating the wheel by hand.

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

Recheck the installation of the axle holder and adjust, if necessary.





FRONT FORK

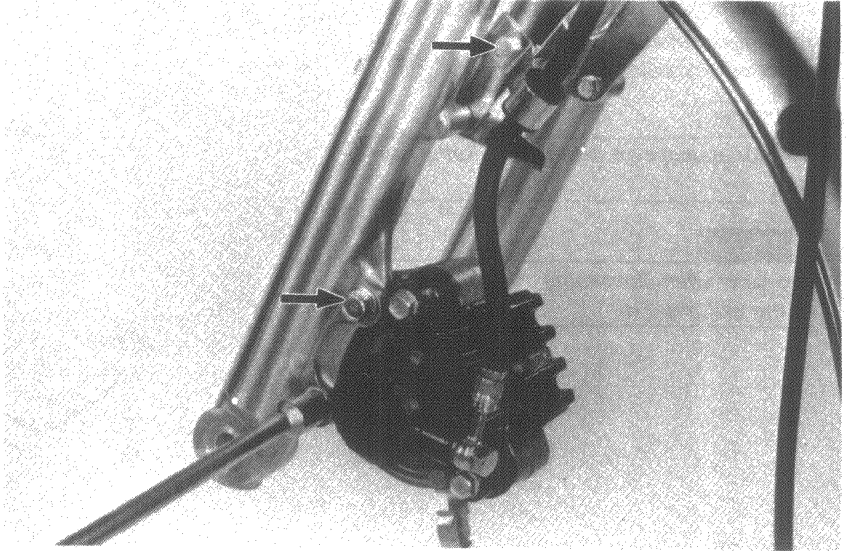
● FRONT FORK REMOVAL

Remove the front wheel (Page 13-5).
Remove the brake caliper by unscrewing the attaching bolts.
Remove the brake hose clamp.

NOTE

Do not loosen the brake hose unless necessary.

Remove the front fender.

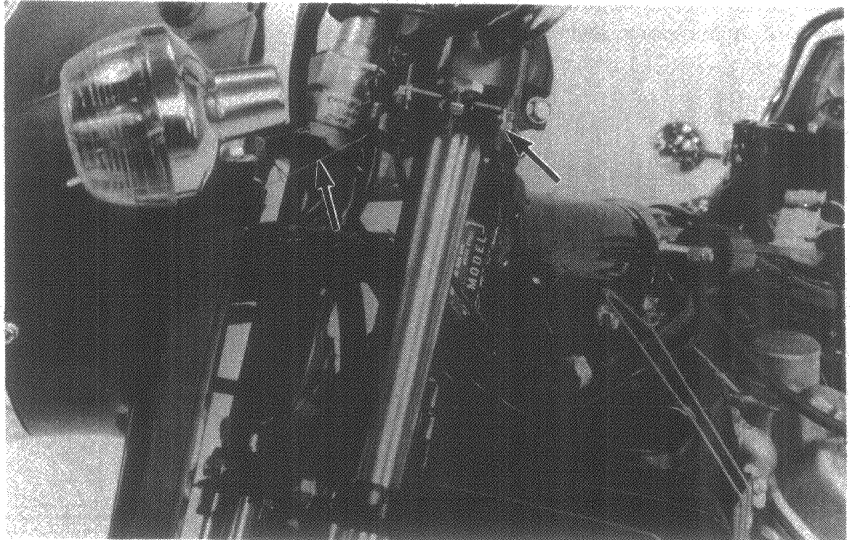


Remove the headlight case (Page 14-3).

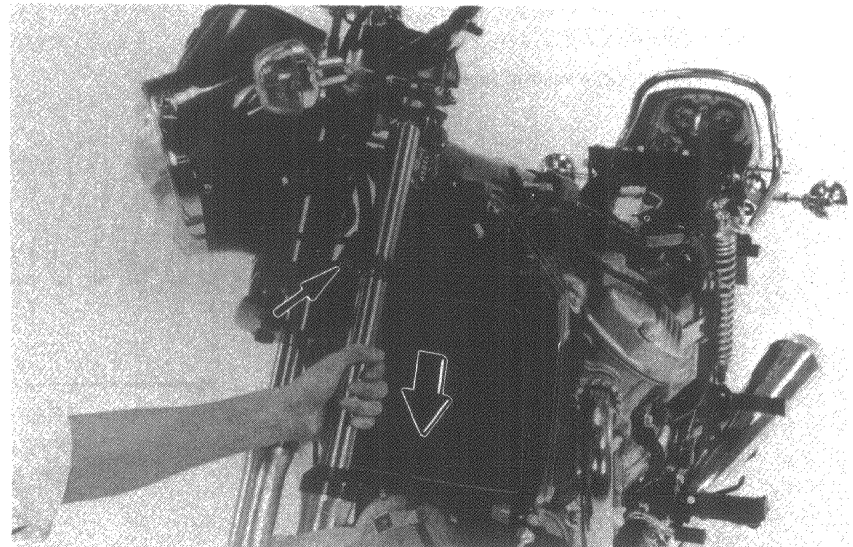
NOTE

Hold the headlight case with wire.

Loosen the fork bridge bolts.



Loosen the front fork steering stem bolts.
Remove the fork tubes from the bottom fork bridge, rotating them by hand if necessary.





- FRONT FORK DISASSEMBLY

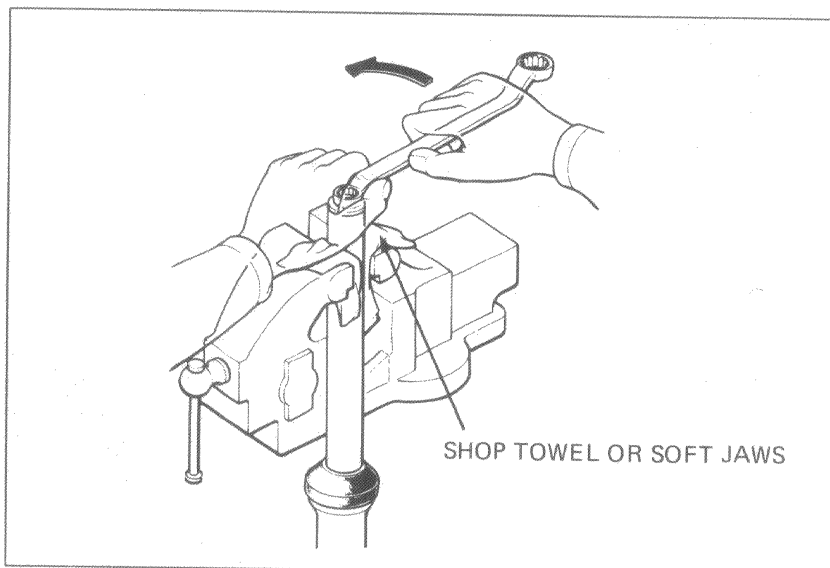
Hold the fork tube in a vise.
Loosen the fork bolt.

CAUTION

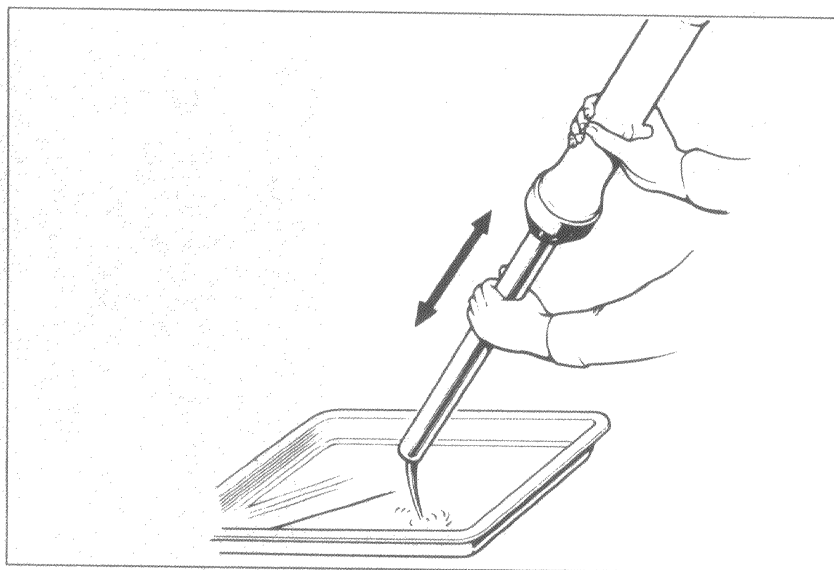
Do not damage or bend the sliding surface.

WARNING

Use care when loosening the bolt or the spring will pop out.

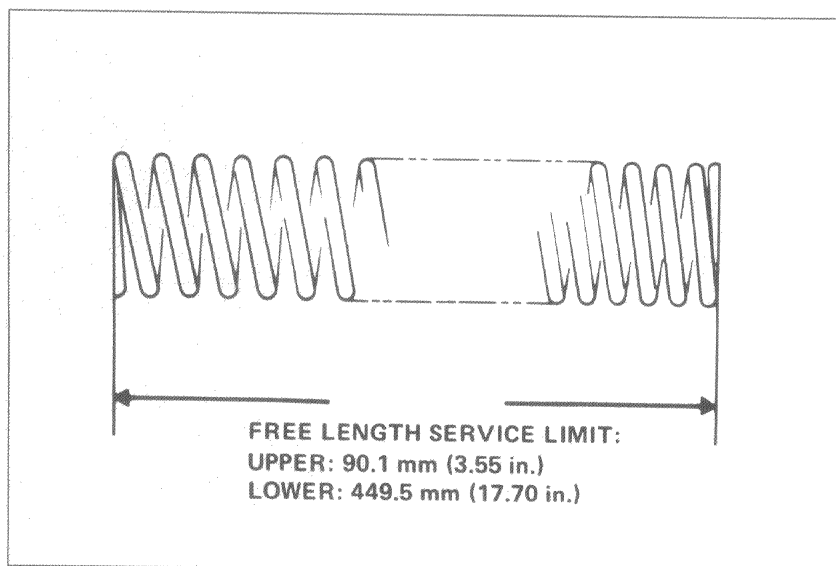


Pour out any remaining fork fluid by pumping the fork up and down several times.



- FRONT FORK SPRING FREE LENGTH INSPECTION

Measure the front damper spring free length.

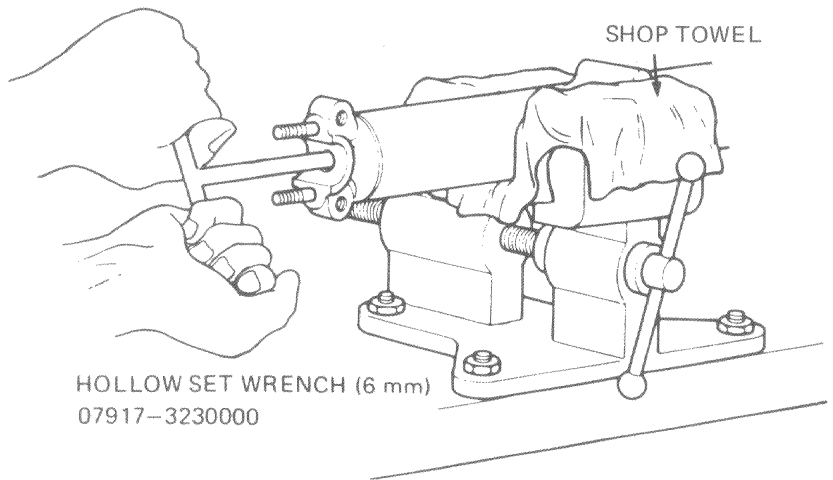




Remove the bolt from the bottom of the fork leg.
Remove the fork tubes and piston.

NOTE

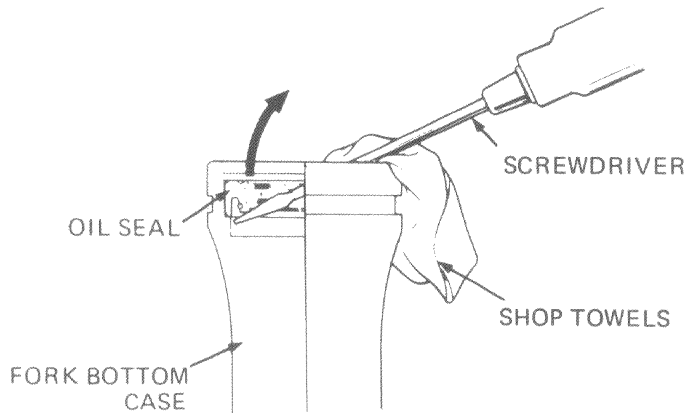
- Hold the fork slider in a vice, being careful not to tighten excessively.
- Temporarily install the spring and fork bolt if difficulty is encountered in removing the bolt.

**• OIL SEAL REMOVAL**

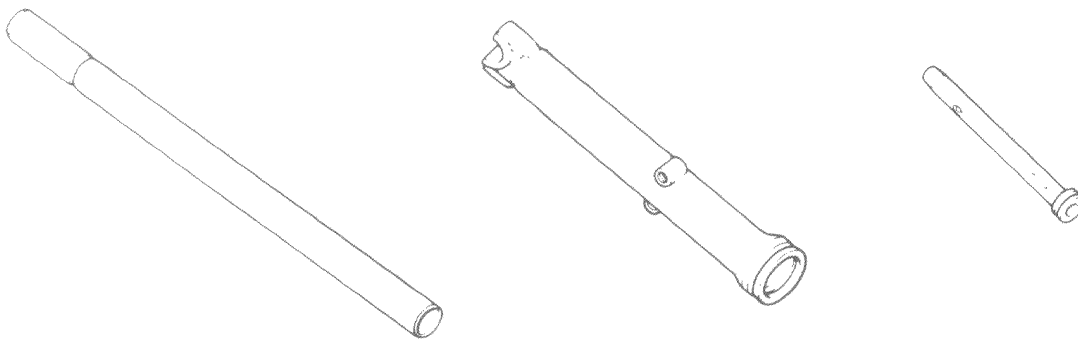
Remove the snap ring.
Carefully remove the oil seal with a screwdriver.

NOTE

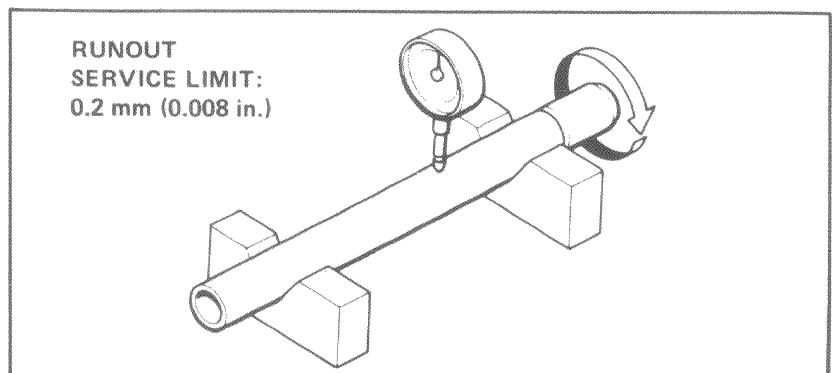
Avoid damaging the inner and outer surfaces of the slider when removing the seal.

**• FORK TUBE/FORK SLIDER/PISTON INSPECTION**

Check the fork tubes, fork sliders and pistons for score marks, scratches, or excessive or abnormal wear, replacing those which are damaged.

**• FORK TUBE INSPECTION**

Set the fork tube in V blocks and read the runout. Take 1/2 TIR to determine the actual runout.



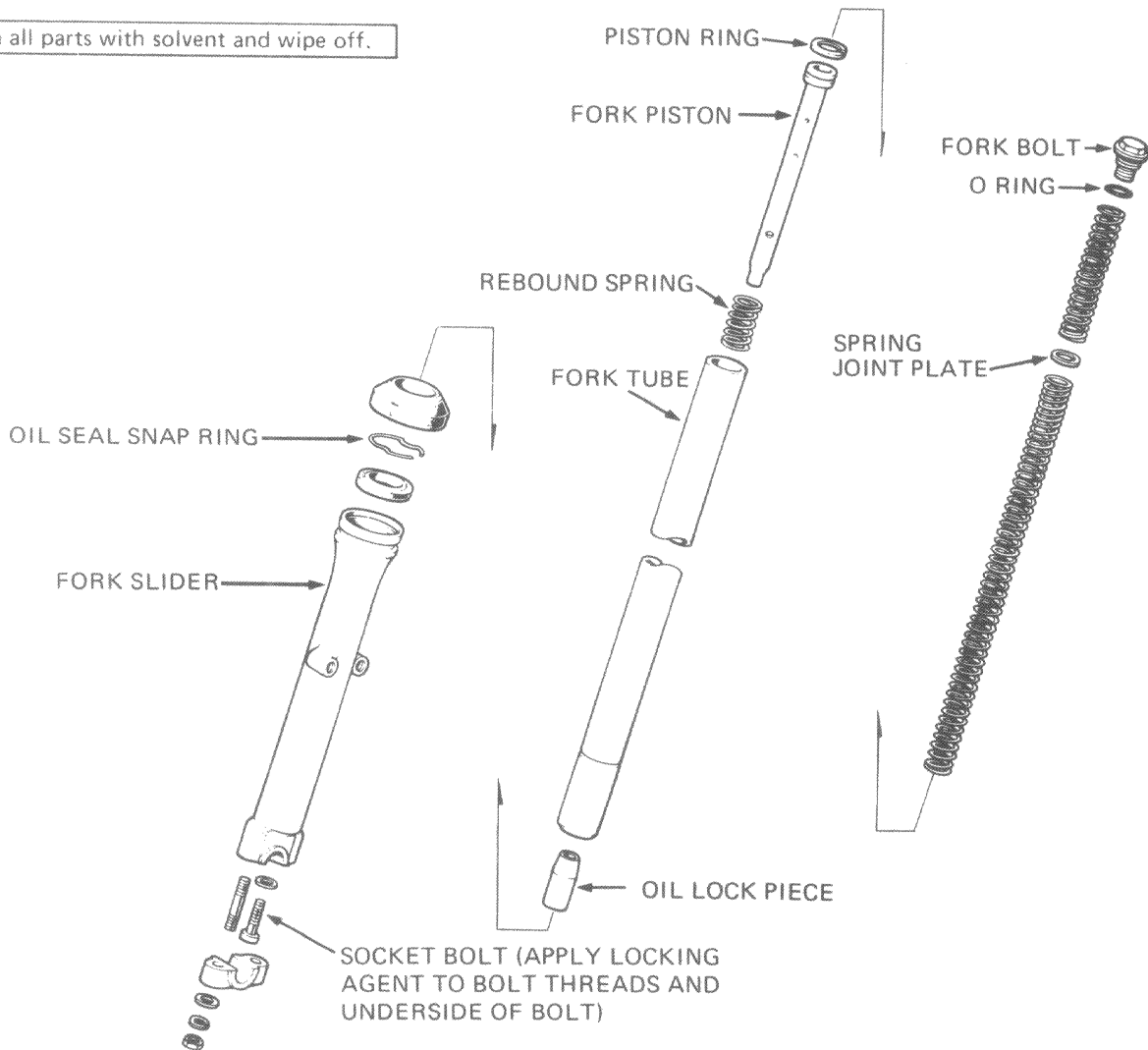


FRONT WHEEL/SUSPENSION

● **FRONT FORK ASSEMBLY**

NOTE

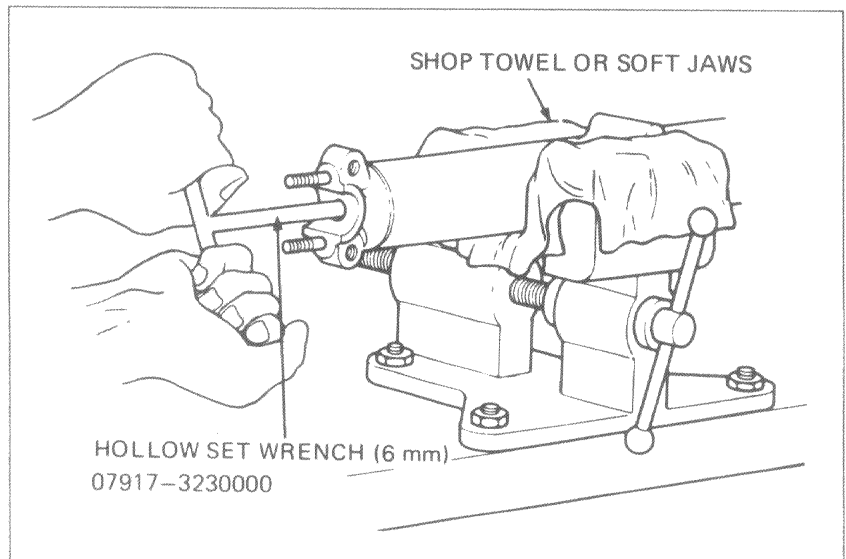
Clean all parts with solvent and wipe off.



Install the piston and fork tube.
Apply a locking agent to the bolt threads and underside of the bolt, then torque to specified tension.

NOTE

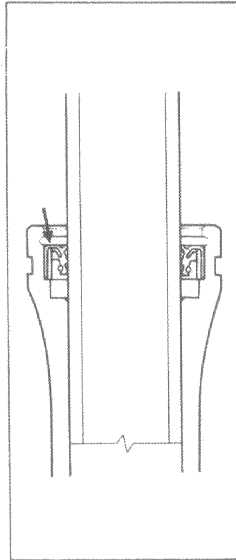
Do not tighten the fork slider excessively.





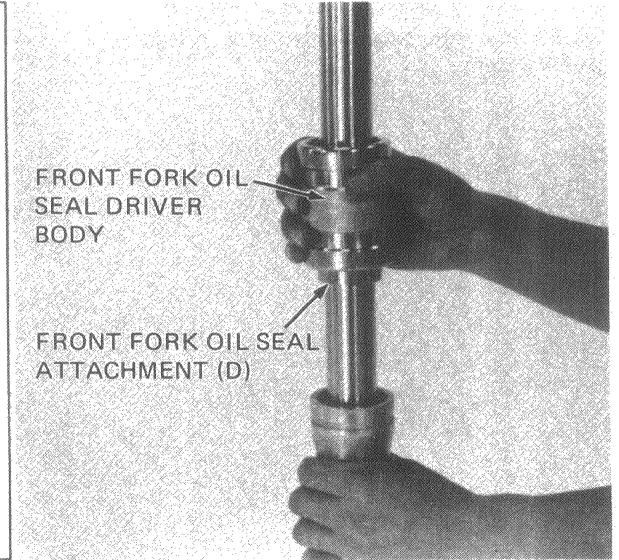
• OIL SEAL INSTALLATION

Drive the oil seal into position until the snap ring groove appears.
Install the snap ring and dust cover.



FRONT FORK OIL SEAL DRIVER BODY

FRONT FORK OIL SEAL ATTACHMENT (D)

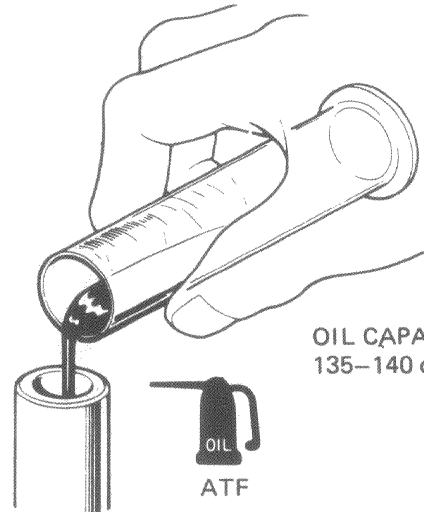


• FILLING WITH FORK OIL

Fill each front fork with ATF (Automatic Transmission Fluid).

NOTE

Pour the specified amount of ATF. Do not overfill.



OIL CAPACITY:
135-140 cc (4.5-4.7 ozs.)

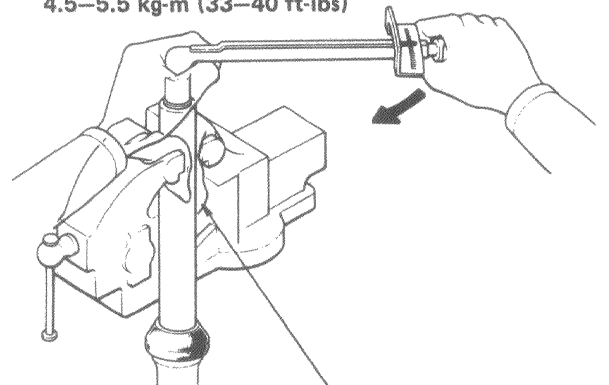
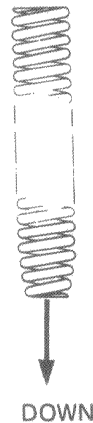
Slide the front fork spring and spring seat into position and tighten the fork bolt.

NOTE

- Place the fork tube in soft jaws, avoiding the sliding surface.
- Note the spring direction.

TORQUE SPECIFICATION:
4.5-5.5 kg-m (33-40 ft-lbs)

TORQUE SPECIFICATION:
4.5-5.5 kg-m (33-40 ft-lbs)

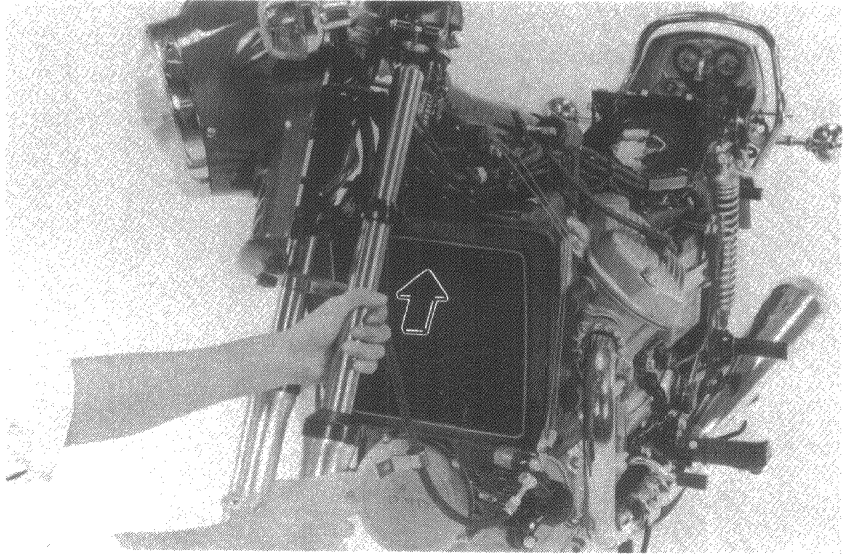


SHOP TOWEL OR SOFT JAWS

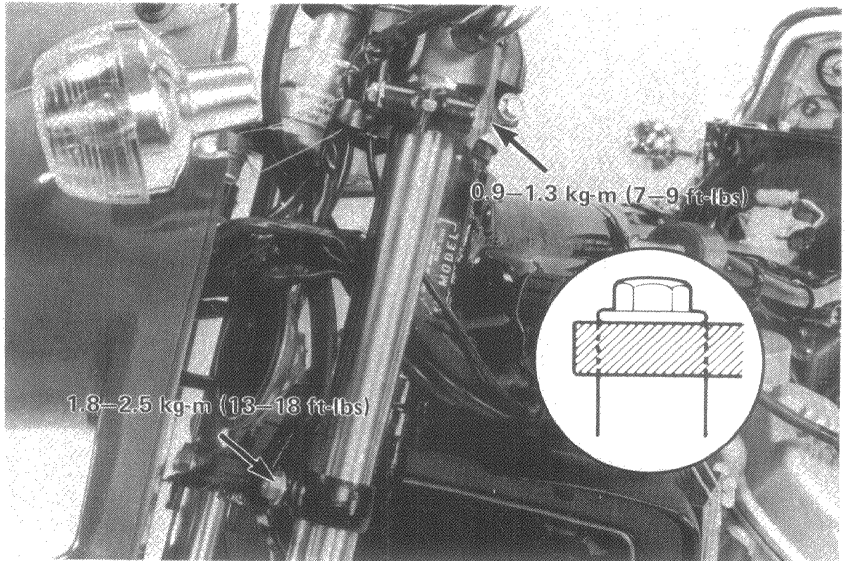


• FRONT FORK INSTALLATION

Install the fork tube in the fork bridge and steering stem.



Align the tube top edge flush with the top of the fork bridge.
Torque the front fork bolt at the steering stem.
Torque the front fork at the fork top bridge.
Install the headlight case.

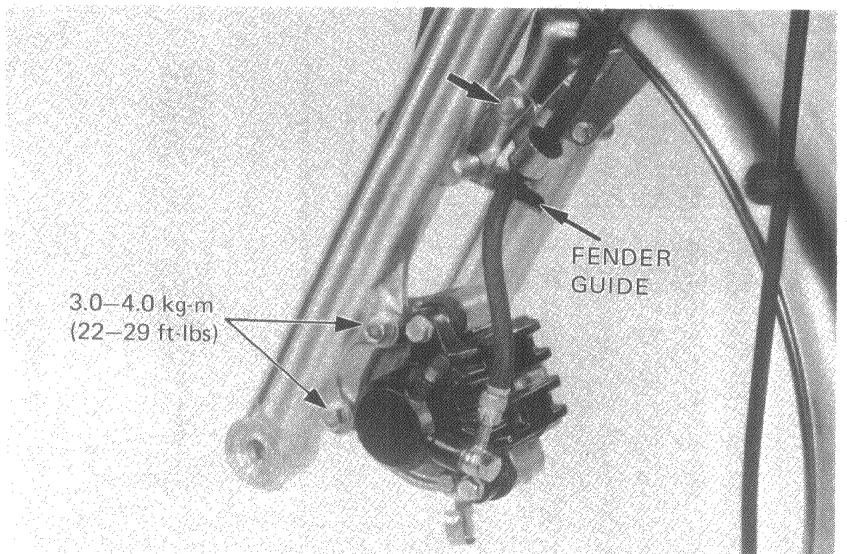


Install the fender.

NOTE

Note the fender guide direction.

Install the brake caliper.
Secure the brake hose.
Install the front wheel. (Page 13-8)

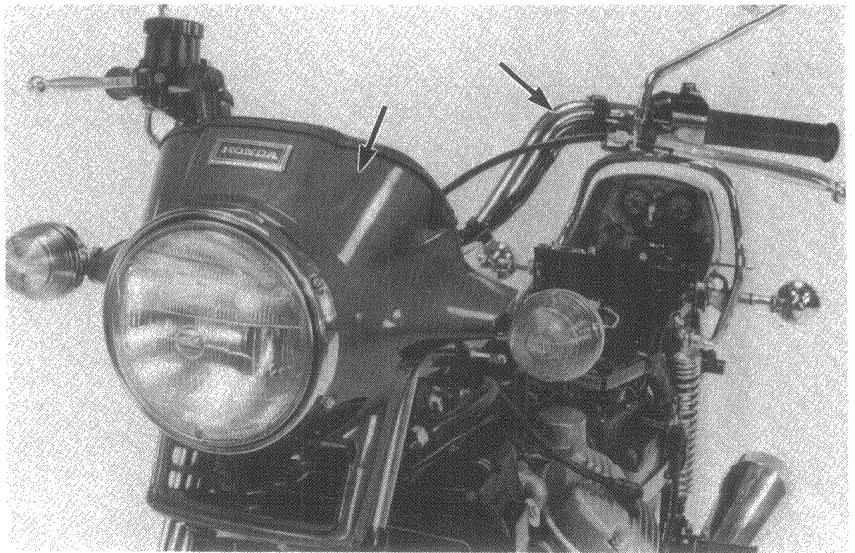




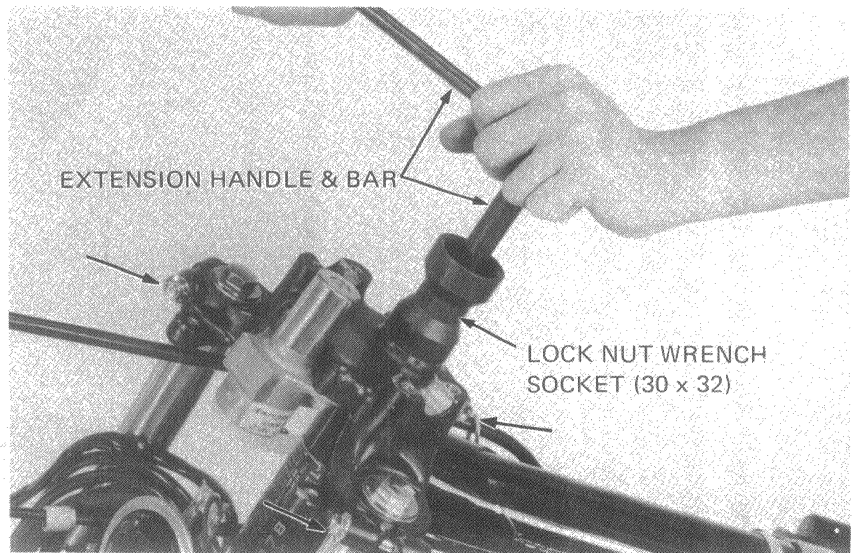
STEERING STEM

• STEERING STEM REMOVAL

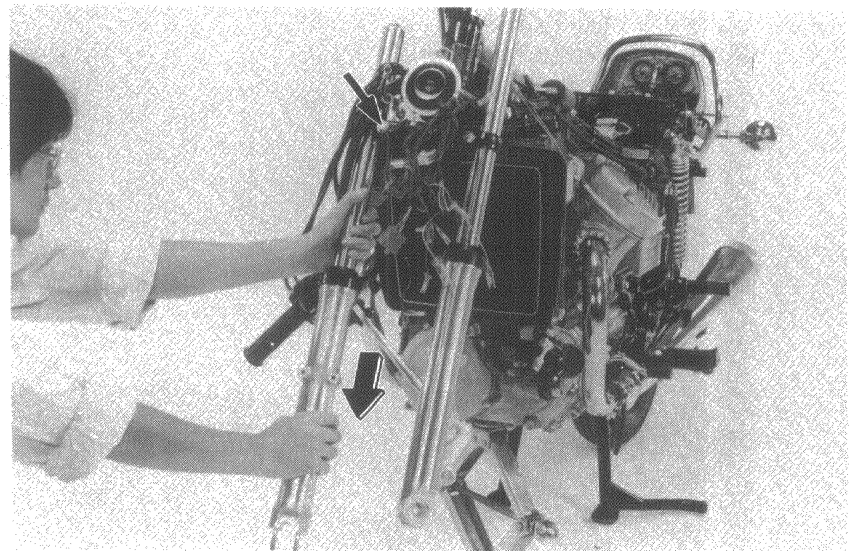
Remove the headlight case (Page 13-2).
Remove the handlebars (Page 13-4).



Unscrew the steering stem nut.
Loosen the fork bridge bolts and stem fixing bolt.
Remove the fork bridge.



Loosen the steering stem bolts.
Remove the front fork tubes.



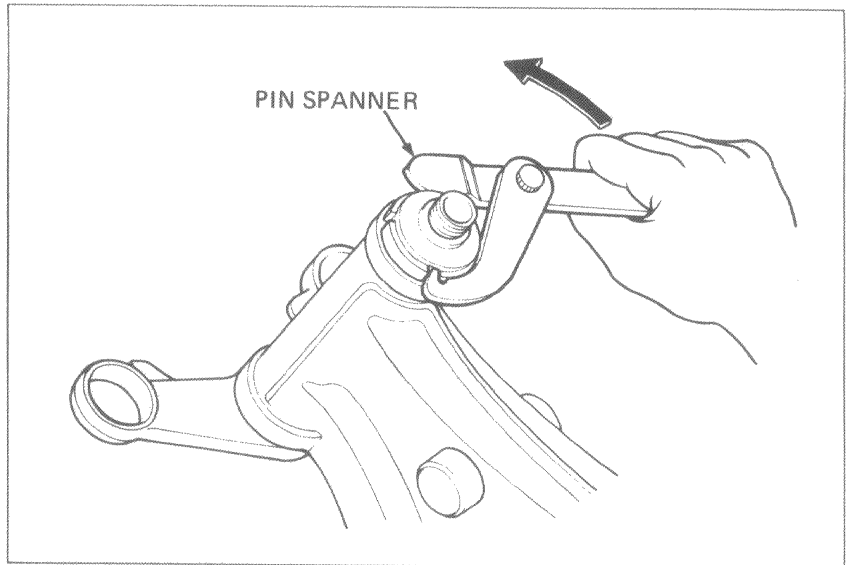


FRONT WHEEL/SUSPENSION

Remove the steering head adjuster.

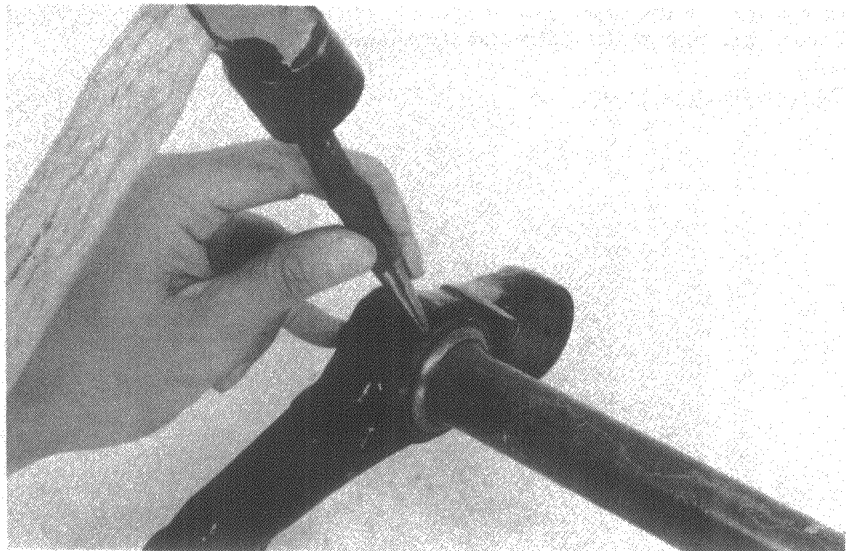
NOTE

Do not allow the steel balls to fall.

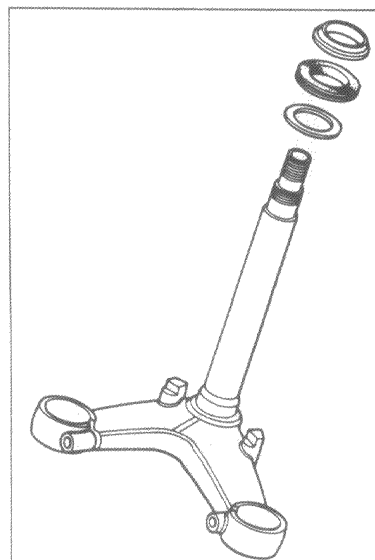


• **BOTTOM CONE RACE REPLACEMENT**

Inspect the bottom cone race for wear or damage and replace if necessary. Remove the bottom cone race with a hammer and a drift.



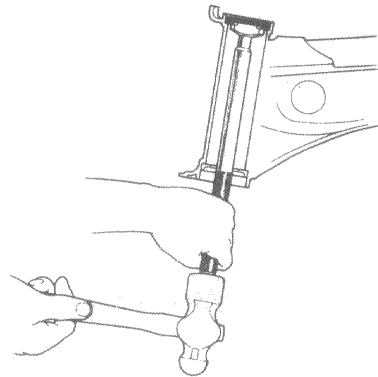
Install a new washer and dust seal. Drive a new bottom cone race into place.



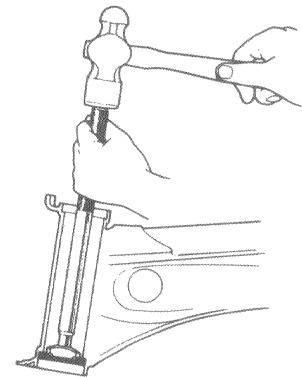


● BALL RACE REPLACEMENT

Inspect the top and bottom ball races and re-
place if worn or damaged.
Drive out the top ball race.
Drive out the bottom ball race.



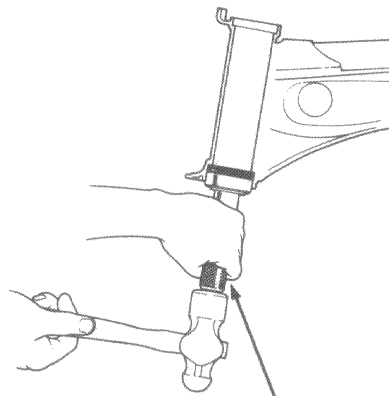
BALL RACE REMOVER
07953-3330000



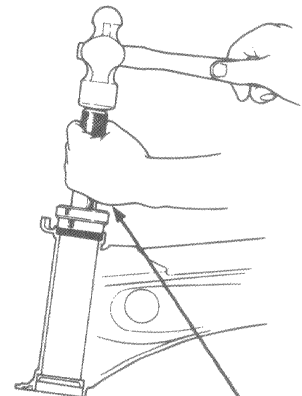
Install a new bottom ball race.
Install a new top ball race.

NOTE

- Drive the ball races squarely.
- Drive the ball races in until they seat.



BALL RACE DRIVER
07945-3330300
DRIVER HANDLE A



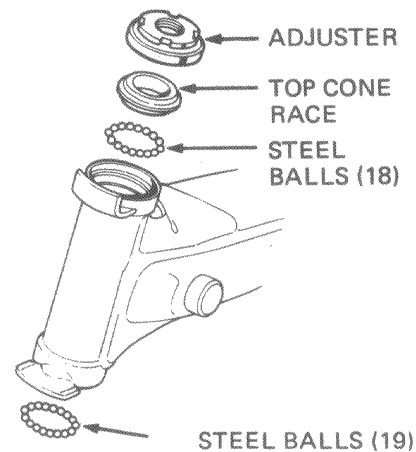
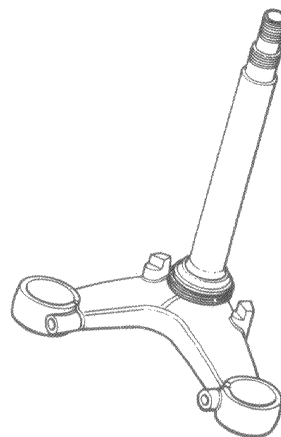
BALL RACE DRIVER
07946-3290000
DRIVER HANDLE A

● STEERING STEM INSTALLATION

Grease the top race and install 18 ball bearings.
Grease the lower cone race and install 19 ball bearings.

NOTE

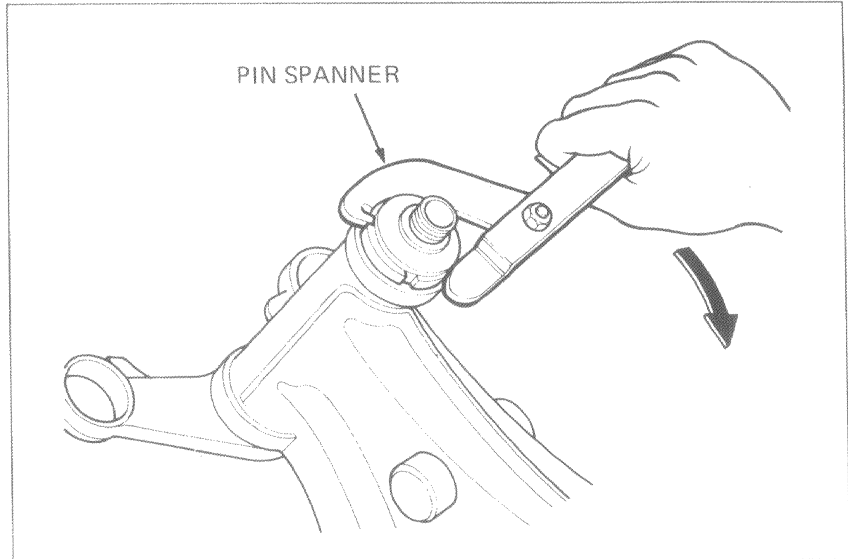
Do not allow the balls to fall.





FRONT WHEEL/SUSPENSION

Install the adjuster in the frame neck and tighten it until snug against the top cone race. Then, back it out 1/8 turn. Make sure that there is no vertical movement and the stem rotates freely.

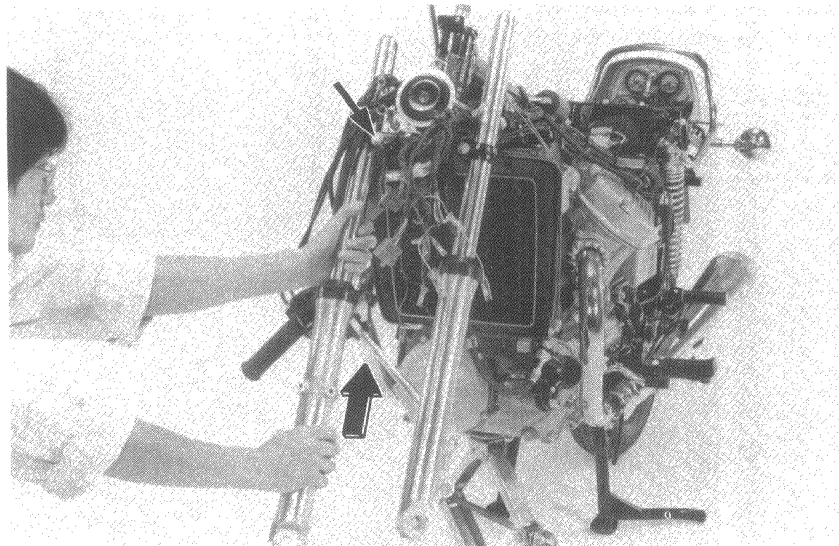


Install the front fork legs.

NOTE

Do not interchange the right and left fork legs.

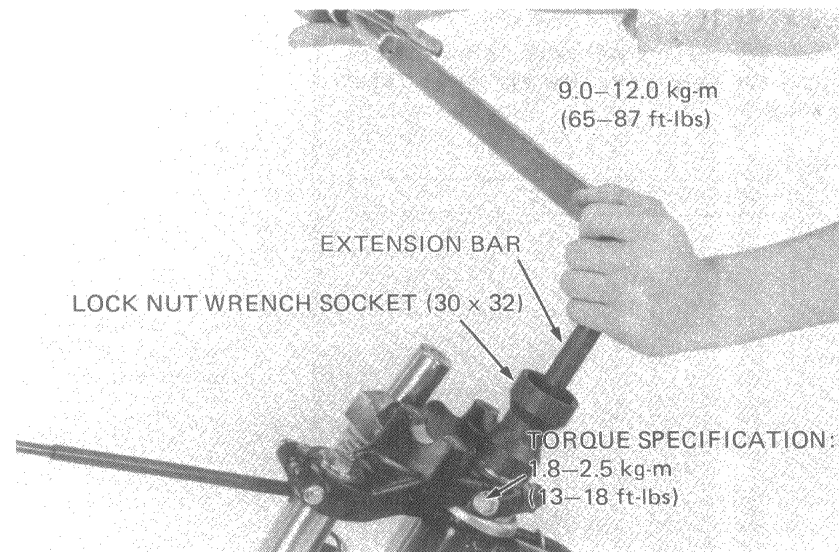
Temporarily hold the fork tubes by tightening the steering stem bolts.



Install the fork top bridge. Insert each fork into the front fork top bridge. Torque the steering stem nut.

TORQUE SPECIFICATION:
9.0–12.0 kg-m (65–87 ft-lbs)

Torque the stem fixing bolt.
TORQUE SPECIFICATION:
1.8–2.5 kg-m (13–18 ft-lbs)





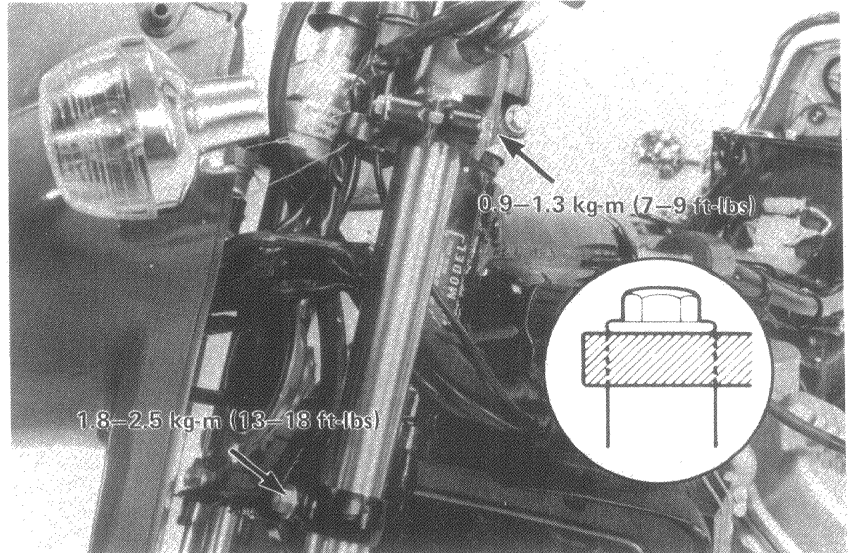
Align the tube's top edge flush with the top of the fork bridge.

Tighten the steering stem bolts.

TORQUE SPECIFICATION:
1.8–2.5 kg-m (13–18 ft-lbs)

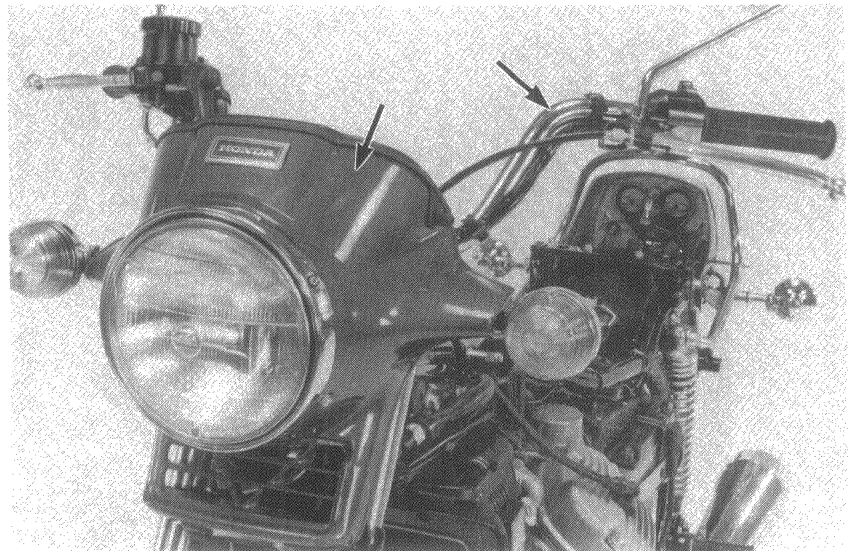
Tighten the fork bridge bolts.

TORQUE SPECIFICATION:
0.9–1.3 kg-m (7–9 ft-lbs)



Install the following:

- HANDLEBAR (Page 13–4)
- HEADLIGHT CASE (Page 13–2)
- FRONT FENDER
- FRONT WHEEL (Page 13–8)



REAR WHEEL/BRAKE/
FINAL DRIVE/SUSPENSION



HONDA
CX500

