

Steering/Handle

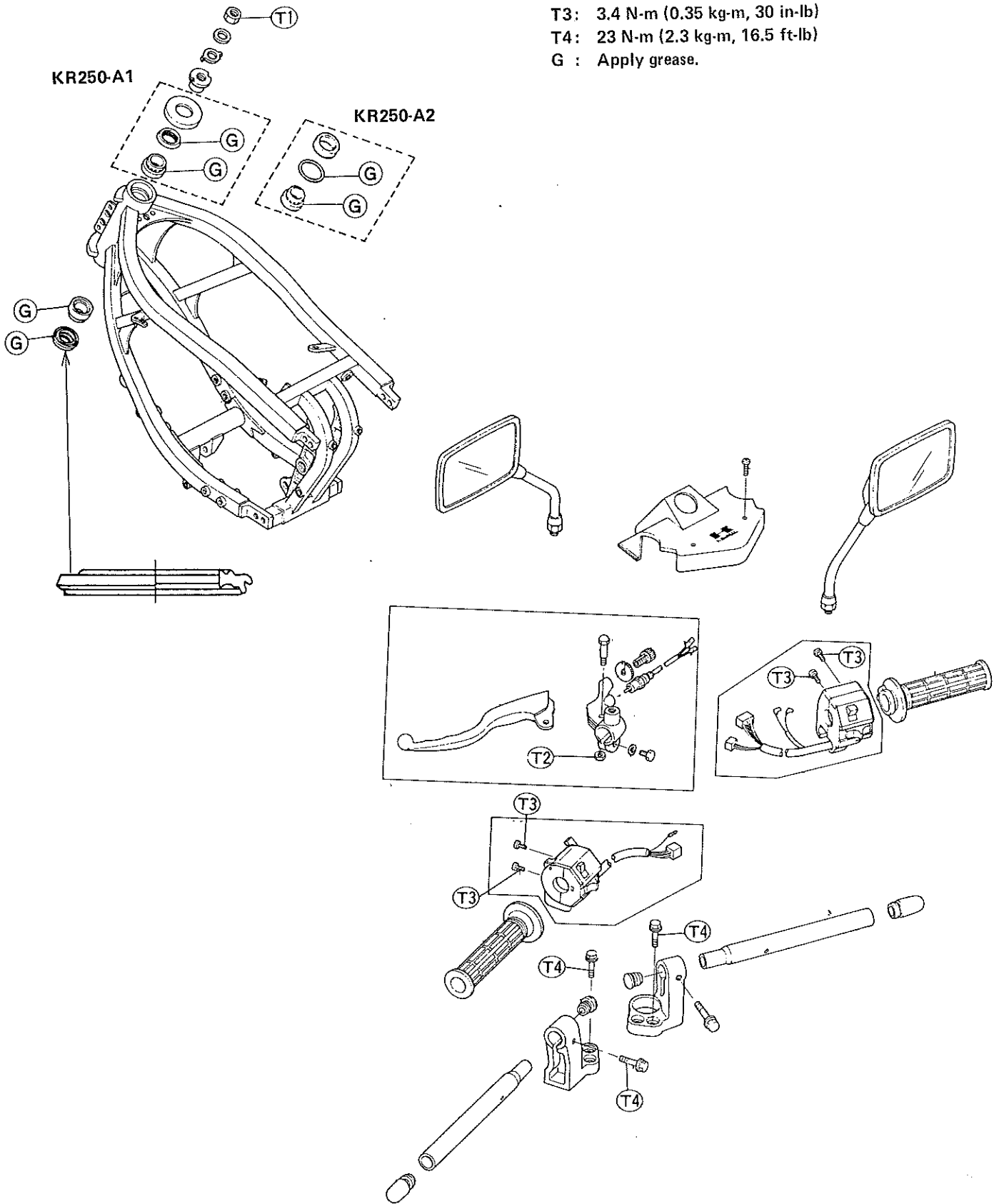
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13-2 STEERING/HANDLE

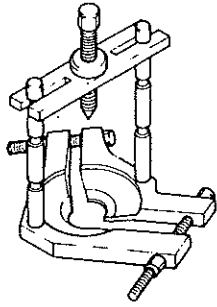
Exploded View

- T1: 39 N-m (4.0 kg-m, 29 ft-lb)
- T2: 5.9 N-m (0.6 kg-m, 52 in-lb)
- T3: 3.4 N-m (0.35 kg-m, 30 in-lb)
- T4: 23 N-m (2.3 kg-m, 16.5 ft-lb)
- G : Apply grease.



Special Tools

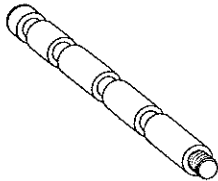
Bearing Puller: 57001-158



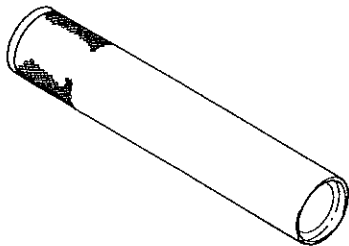
Adapter: 57001-317



Pole: 57001-1190



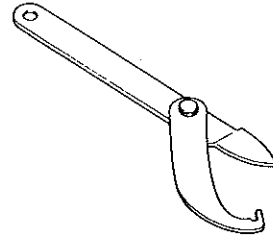
Stem Bearing Driver: 57001-137



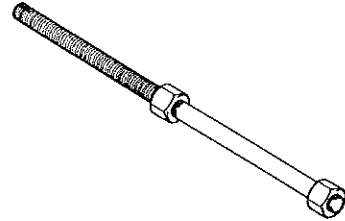
Adapter: 57001-1092



Stem Nut Wrench: 57001-1100



Driver Press Shaft: 57001-1075



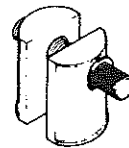
Driver: 57001-1106



Driver: 57001-1076



Stem Bearing Remover: 57001-1107



NOTE

○The poles (P/N 57001-1190) are included in the bearing puller (P/N 57001-158).

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Steering Adjustment

When the steering bearings are properly adjusted, the handlebar will turn freely from side to side with no looseness of the steering stem within the frame. In other words, the bearings will have little or no free play and absolutely no preload. Inspect the steering according to the Periodic Maintenance Chart or if the following symptoms are noticed.

Symptoms:

Tight

1. The motorcycle wanders while being ridden.
2. The steering feels tight.
3. The bearing races becomes notched.

Loose

1. The forks "clunk" or "click" when the brake is applied or when the motorcycle is ridden over a pothole.
2. The handlebars seem to vibrate more than normal.

Steering Inspection

- Use a suitable means to lift the front wheel off the ground (see Front Fork Air Pressure Adjustment in Suspension).

Checking for Steering Too Tight:

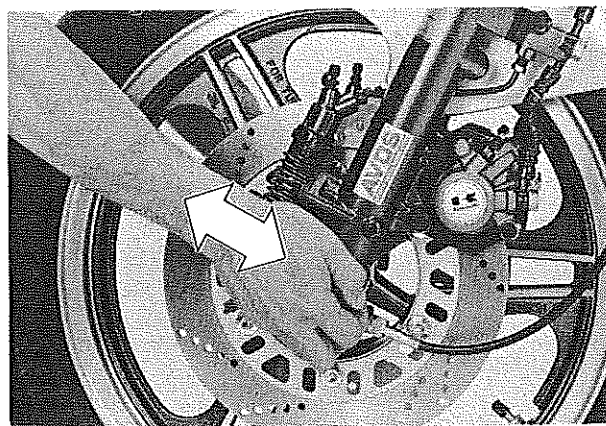
- With the front wheel pointing straight ahead, alternately tap each end of the handlebar. The front wheel should swing fully left and right from the force of gravity until the fork hits the stop.
- ★ If the wheel binds or catches before the stop, the steering is too tight.

NOTE

- The cables and wiring will have some effect on the motion of the fork which must be taken into account. Be sure the wires and cables are properly routed.
- The bearings must be in good condition and properly lubricated in order for any test to be valid.

Checking for Steering Too Loose:

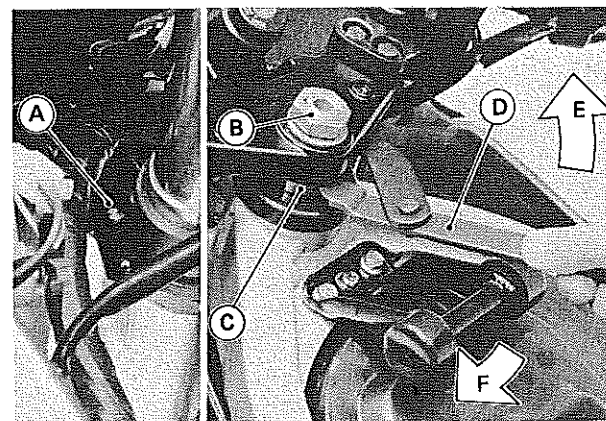
- Stand in front of the motorcycle and grasp the lower ends of fork near the axle.
- Feel for steering looseness by pushing and pulling the forks.
- ★ If you feel looseness, the steering is too loose.



Steering Adjustment

Proper steering adjustment is completed by finding out the correct position of the stem locknut and by tightening the stem head nut to the specified torque.

- Remove all the fairings.
- Remove the fuel tank to avoid damaging the painted surface.
- Remove the screws, and take off the stem head cover.
- Loosen the front fork lower clamp bolts and stem head nut.
- Lift the front wheel off the ground.
- Loosen the stem locknut all the way with the stem nut wrench (special tool).



- A. Lower Clamp Bolts
- B. Stem Head Nut
- C. Stem Locknut
- D. Stem Nut Wrench: 57001-1100
- E. Loosen the stem locknut
- F. Tighten the stem locknut

- If the steering is too tight, loosen the stem locknut a fraction of turn; if the steering is too loose, tighten the locknut a fraction of turn. Turn the locknut a 1/8 turn at maximum at a time.

- Tighten the steering stem head nut to the specified torque.
- Tighten the front fork lower clamp bolts to the specified torque.
- Check the steering again.
- ★ If the steering is still too tight or too loose, repeat the adjustment.
- Install the removed parts.

NOTE

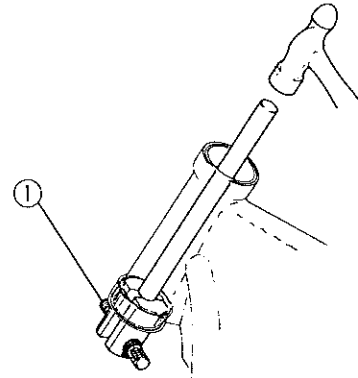
○ If any steering stem bearing is damaged, it is recommended that both the upper and lower bearings (including outer races) should be replaced with new ones.

Outer Race Removal

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Steering Removal/Installation

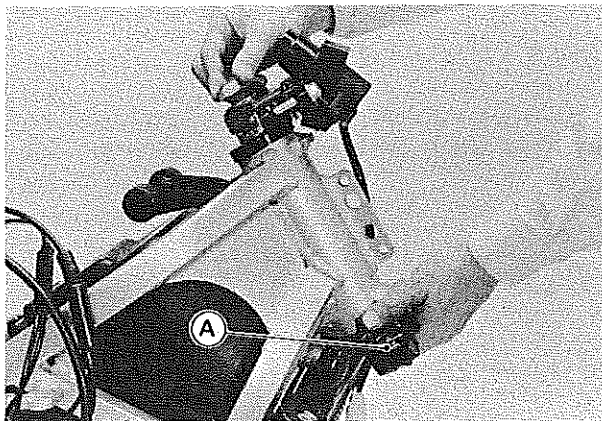
Steering Stem Removal

- Remove the following parts.
 - Fuel tank
 - Front wheel
 - Fairing, fairing stay
 - Handlebars
 - Front fork legs
- Remove the mounting bolts (2), free the brake hose joint from the stem base, and remove the front brake assembly as a set.
- Remove the stem head nut and flat washer.
- Remove the steering stem head.
- Take off the lockwasher.
- Push up on the stem base, and remove the steering stem locknut with the stem nut wrench (special tool), then remove the steering stem and stem base (single unit).



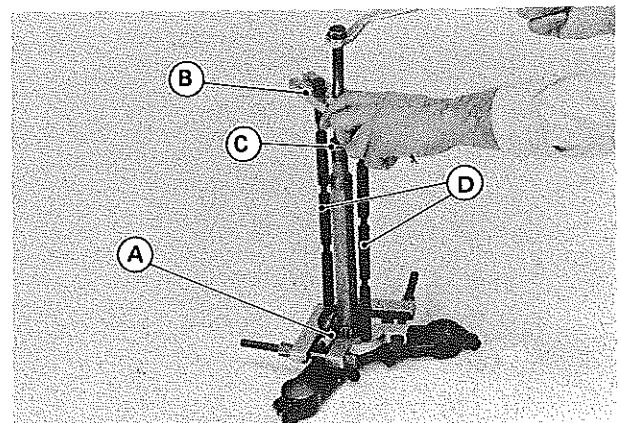
1. Stem Bearing Remover: 57001-1107

- Remove the lower inner race with grease seal which is pressed onto the steering stem, with the steering stem bearing puller and adapters (special tools).



A. Steering Stem and Stem Base

- Remove the steering stem cap and upper tapered roller bearing inner race.
- To remove the outer races pressed into the head pipe, install the stem bearing remover (special tool) as shown below, and hammer the stem bearing remover to drive it out.



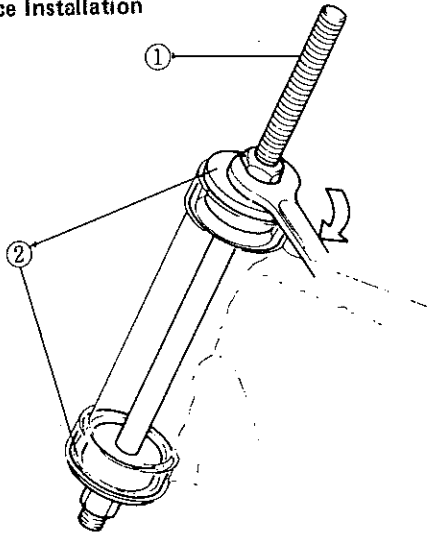
A. Lower Inner Race and Grease Seal
 B. Bearing Puller: 57001-158
 C. Adapters: 57001-317
 D. Pole: 57001-1190

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Steering Stem Installation

- Apply grease to the outer races, and then drive them into the head pipe using the drivers and the driver press shaft (special tools).

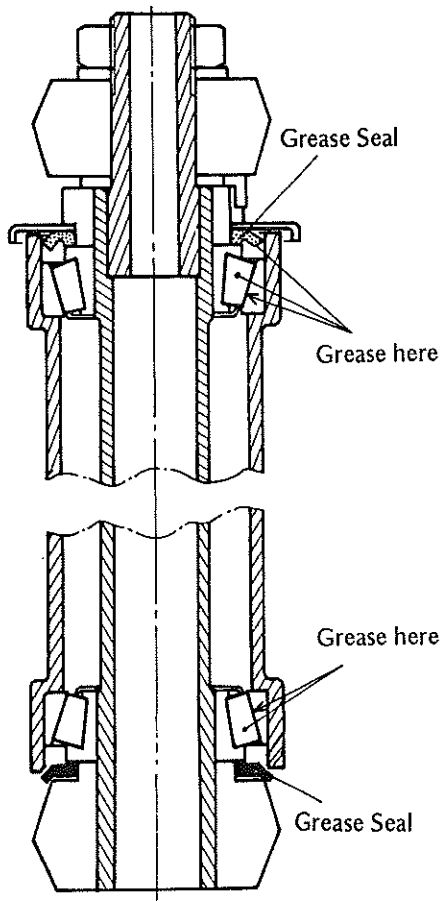
Outer Race Installation



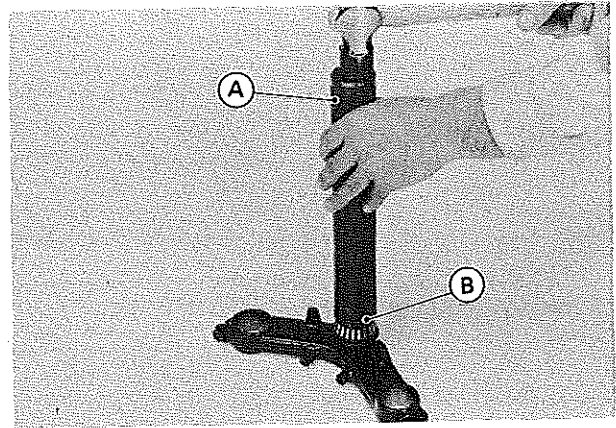
1. Driver Press Shaft: 57001-1075
2. Driver: 57001-1106

- Install the grease seals being careful of the direction shown. Apply grease to the lips, and insert them into the head pipe.

Grease Seal Installation



- Apply grease to the tapered roller bearing, and drive it onto the steering stem using the stem bearing driver and adapter (special tools).



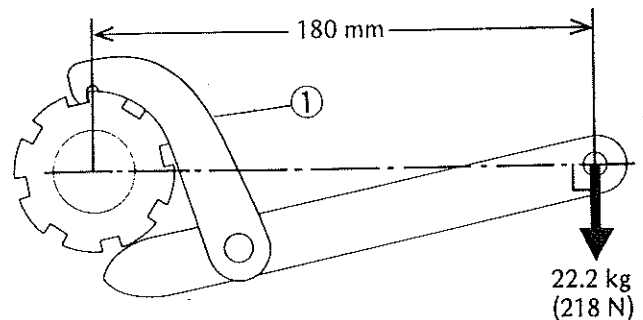
- A. Stem Bearing Driver: 57001-137
- B. Adapter: 57001-1092

- After lubricating the steering stem bearing liberally with grease, turn the bearing around by hand a few times to make sure the grease is distributed sufficiently inside the bearing.
- Install the stem locknut so that the smaller diameter side faces down.
- Install the lockwasher, steering stem head, washer, and nut. Loosely install the nut at this time.

The following four steps should be performed after steering bearing installation. This procedure settle the bearings in place.

- Using the stem nut wrench, tighten the stem locknut to 39 N·m (4.0 kg·m, 29 ft·lb) of torque. To tighten the steering stem locknut to the specified torque, hook the wrench on the stem locknut, and pull the wrench at the hole by 22.2 kg force in the direction shown.

Torquing Stem Locknut



1. Stem Nut Wrench: 57001-1100

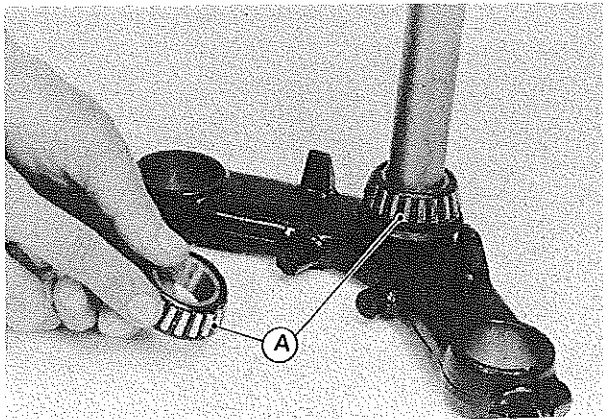
- Check that there is no play and the steering stem turns smoothly without the rattle. If not, the steering stem bearing may be damaged.
- Again back out the stem locknut a fraction of a turn until it turns lightly.
- Turn the stem locknut lightly clockwise until it just becomes hard to turn. Do not overtighten, or the steering will be too tight.
- Adjust the steering (see Steering Adjustment).
- Reinstall the following parts.
 - Front fork legs
 - Handlebars
 - Fairing stay, fairing
 - Front wheel
 - Fuel tank
- Route the cables and harnesses correctly. The cables and wiring harnesses must not hinder handlebar movement.
- Check and adjust the following items.
 - Front brake
 - Clutch
 - Throttle cable
 - Headlight aim

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Steering Maintenance

Steering Stem Bearing Lubrication

In accordance with the Periodic Maintenance Chart, the steering stem bearings should be relubricated.

- Remove the steering stem.
- Using a high flash-point solvent, wash the upper and lower tapered roller bearings in the cages, and wipe the upper and lower outer races, which are press-fitted into the frame head pipe, clean of grease and dirt.
- Visually check the outer races and the rollers.
- ★ Replace the bearing assemblies if they show wear or damage.
- Pack the upper and lower tapered roller bearings in the cages with grease, and apply light coat of grease to the upper and lower outer races.
- Turn the bearing around by hand a few turns to make sure the grease is distributed sufficiently inside the bearing.
- Install the steering stem, and adjust the steering.



A. Steering Stem Bearings

Bearing Wear, Damage

- Using a high flash-point solvent, wash the upper and lower tapered rollers in the cages, and wipe the upper and lower outer races, which are press-fitted into the frame head pipe, clean of grease and dirt.
- Visually check the outer races and the rollers.
- ★ Replace the bearing assemblies if they show damage.

Grease Seal Deterioration, Damage

- Inspect the grease seal on the upper and lower tapered roller bearing for any signs of deterioration or damage.
- ★ Replace the grease seal if necessary.

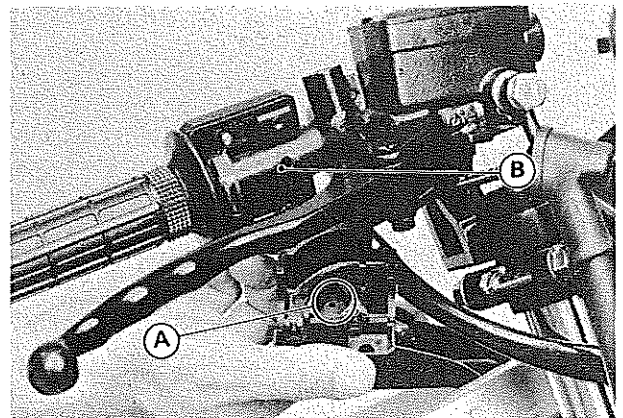
Steering Stem Warp

- Whenever the steering stem is removed, or if the steering cannot be adjusted for smooth action, check the steering stem for straightness.
- ★ If the steering stem shaft is bent, replace the steering stem.

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Handlebars

Handlebars Installation Notes

- Position the handlebar on the stem head, and tighten the mounting bolts to the specified torque.
- The front half of both the left and right switch housings has a small projection. Fit the projection into a small hole in the handlebar.

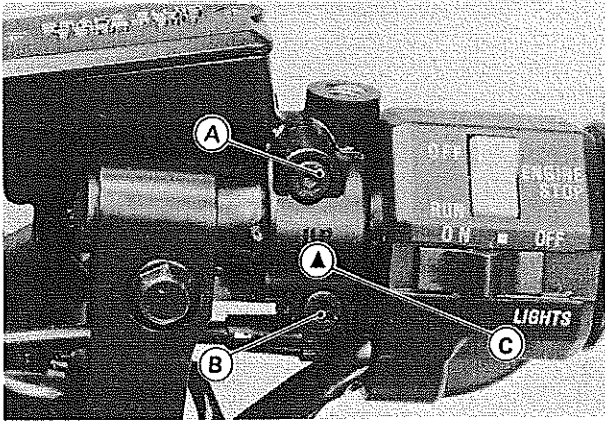


A. Projection

B. Hole

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- The front brake master cylinder clamps must be installed with the arrow mark upward. Tighten the upper clamp bolt first, and then the lower clamp bolt both to the specified torque. There will be a gap at the lower part of the clamp after tightening.



- A. Upper Clamp: tightened first
- B. Lower Clamp
- C. Arrow Mark

- Check and adjust the following items:
 - Throttle grip
 - Clutch
 - Front brake