

FRONT BRAKE ADJUSTMENT

1. CHECK:

- Brake lever free play ①
- Out of specification → Adjust.



Brake lever free play: 2-5mm

Adjustment steps:

- Loosen the locknut ②
- Turn the adjuster ③ in or out until the specified free play is obtained.

Turning in → Free play is decreased.

Turning out → Free play is increased.

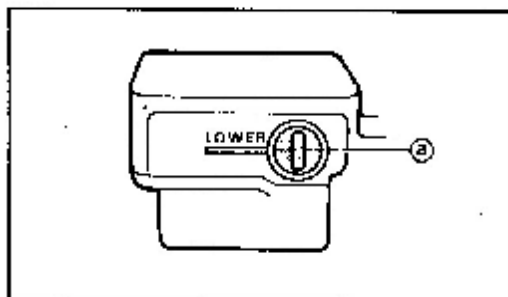
- Tighten the locknut.

WARNING:


Make sure that there is no brake drag after adjusting the front brake lever free play.

WARNING:

A soft or spongy feeling in the brake lever can indicate the presence of air in the brake system. This air must be removed by bleeding the brake system before the motorcycle is operated. Air in the brake system will considerably reduce braking performance and could result in loss of control and possibly an accident. Inspect and bleed the brake system if necessary.



BRAKE FLUID LEVEL INSPECTION

1. Stand the scooter on  level surface.

NOTE: Make sure the scooter is upright when inspecting the brake fluid level.

2. Stand the scooter on its centerstand.

3. Inspect:

- Brake fluid level:

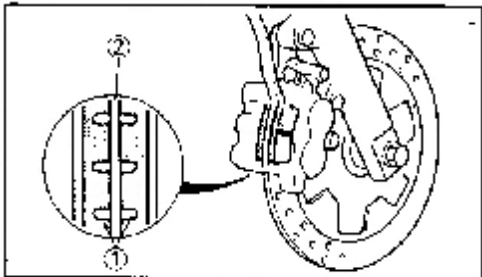
Brake fluid level is below the "LOWER" level line
Fill to proper level.

NOTE: For a correct reading of the brake fluid level, make sure the top of the handlebar brake fluid reservoir is horizontal.

CAUTION: Brake fluid may corrode painted surfaces or plastic parts. Always clean up any spilt fluid immediately.

WARNING:

- Use only the designated brake fluid. Other fluids may deteriorate the rubber seals, causing leakage and poor brake performance.
- Refill with same type of fluid. Mixing fluids may result in a harmful chemical reaction leading to poor brake performance.
- Be careful that water does not enter the brake fluid reservoir during refilling. Water will significantly lower the boiling point of the fluid and may cause vapor lock.



BRAKE PAD INSPECTION

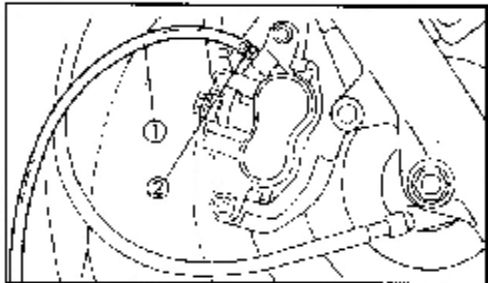
1. Operate the brake lever.

2. Inspect

- Brake pad (front)

Wear indicators ① almost touch the brake disc →

Replace the brake pads as a set.



AIR BLEEDING

WARNING:

Bleed the brake system whenever:

- The system is disassembled
- A brake hose is loosened or removed
- The brake fluid level is very low
- Brake operation is faulty

Loss of braking performance may occur if the brake system is not properly bled.

1. Bleed:

- Brake system

Air bleeding steps:

- Fill the reservoir with the proper brake fluid.
- Install the diaphragm. Be careful not to spill any fluid or allow the reservoir to overflow.
- Connect a clear plastic hose ① tightly to the caliper bleed screw ②.
- Place the other end of the hose into a container.
- Slowly apply the brake lever several times.
- Pull the lever in. Hold the lever in position.
- Loosen the bleed screw and allow the lever to travel towards its limit.
- Tighten the bleed screw when the lever limit has been reached, then release the lever.
- Repeat steps (e) to (h) until all air bubbles have disappeared from the brake fluid.

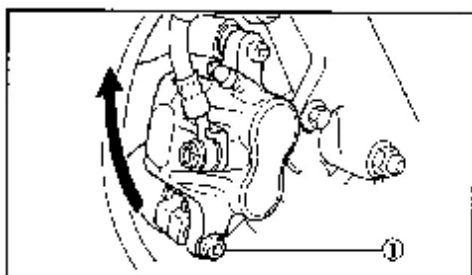
NOTE: When bleeding the brake system, make sure that there is always enough brake fluid in the brake fluid reservoir before applying the brake lever. Ignoring this precaution could allow air to enter the brake system, considerably lengthening the bleeding procedure.

- Tighten the bleed screw. The tightening torque for the bleed screw is 6Nm.
- NOTE: If bleeding is difficult, it may be necessary to let the brake fluid settle for a few hours. Repeat the bleeding procedure when the tiny bubbles in the brake system have disappeared.

- Fill the brake fluid reservoir to the proper level.

WARNING:

Check brake operation after bleeding the brake system.



BRAKE PAD REPLACEMENT

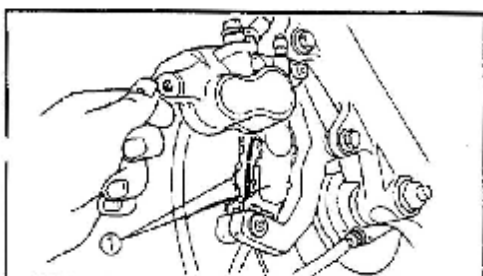
NOTE:

It is not necessary to disassemble the brake caliper and brake hose to replace the brake pads.

1.Remove:

·Bolt (caliper support bolt)①

Move the direction brake caliper to the arrow mark.

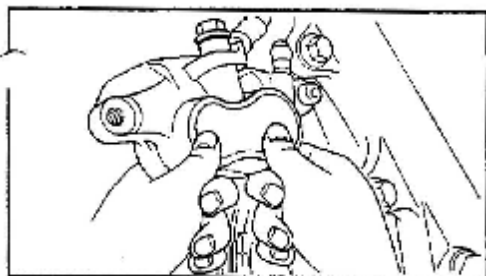
**2.Remove:**

·Brake

NOTE:

Install new brake pad springs when the brake pads have to be replaced.

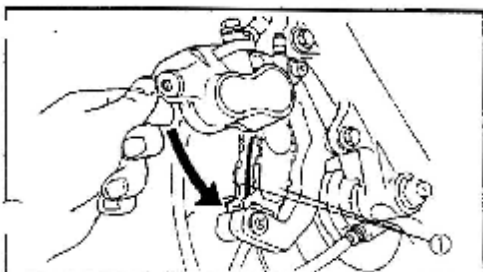
Replace the brake pads as a set if either is found to be worn to the wear limit.



3.Push the caliper piston into the brake caliper by finger.

CAUTION:

When pushing the caliper piston into the brake caliper, brake fluid level in reservoir tank is increasing higher.

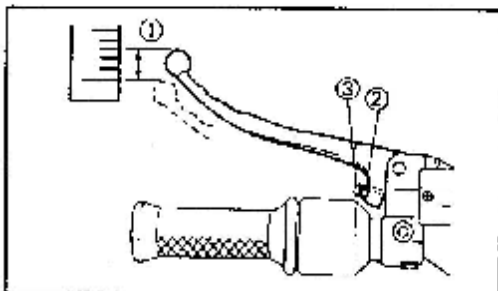
**4.Install:**

·Brake pad①

Install the brake pad, and move the brake caliper to the arrow mark direction.

5.Install

·Brake (caliper support bolt)



REAR BRAKE ADJUSTMENT

1. Check

- Brake lever free play①

Out of specification→Adjust.



Brake lever free play: 2-5mm

Adjustment steps:

- Loosen the locknut②
- Turn the adjuster③in or out until the specified free play is obtained.

Turning in→Free play is decreased

Turning out→Free play is increased

- Tighten the locknut.

WARNING:

Make sure that there is no brake drag after adjusting the rear brake lever free play.

WARNING:

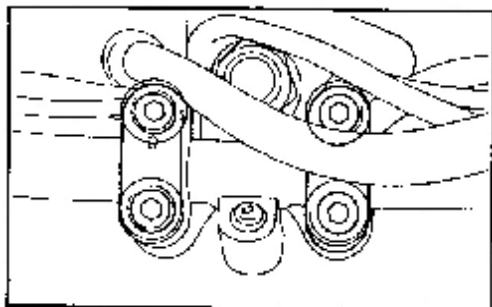
A soft or spongy feeling in the brake lever can indicate the presence of air in the brake system. This air must be removed by bleeding the brake system before the motorcycle is operated. Air in the brake system will considerably reduce braking performance and could result in loss of control and possibly an accident. Inspect and bleed the brake system if necessary.

The adjustment and fluid level and pad inspection of the rear brake are just the same as that of the front brake.



STEERING HEAD INSPECTION

WARNING Securely support the scooter so that there is no danger of it falling over.



1. Stand the scooter on a level surface.
NOTE: Stand the scooter on its centerstand.

2. Elevate the front wheel by placing a suitable stand under the engine.

3. Check:

- Steering assembly bearings

Grasp the bottom of the lower front fork tubes and gently rock the fork assembly.

Looseness → Adjust the steering head.

4. Remove:

- Handlebar cover
- Handlebar

Refer to the relevant sections.

5. Remove

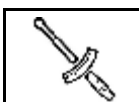
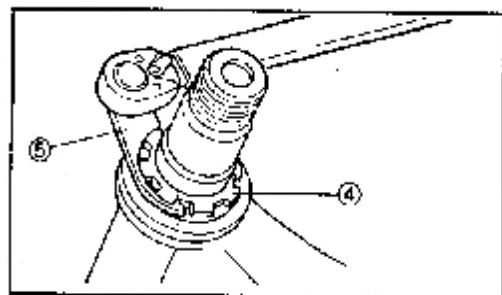
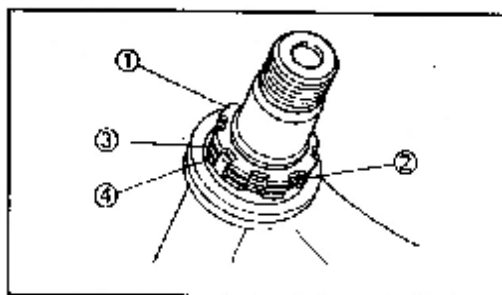
- Handlebar lower holder

6. Adjust

- Steering head

Adjustment steps:

- Remove the ring nut (upper) ①, lock washer ②, the ring nut (center) ③ and the rubber washer ④.
- Loosen the ring nut (lower) ④.
- Tighten the ring nut (lower) ④ using the ring nut wrench ⑤.



38Nm

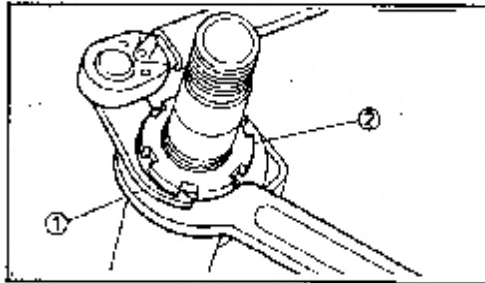
NOTE:

Set the torque wrench at right angles to the ring nut wrench.

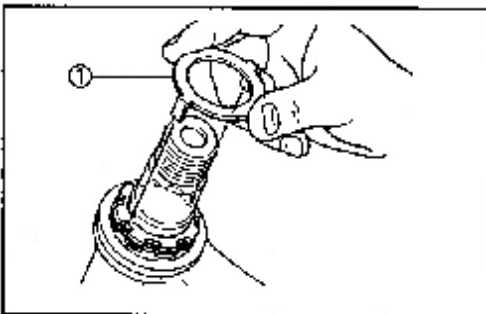
- Loosen the ring nut (lower) ④ completely, then tighten it to specification.



22Nm



- Check the steering head for looseness or binding by turning it all the way in both directions. If it binds, remove the steering stem assembly and inspect the steering bearings.
- Install the rubber washer.
- Install the center nut (2)
- Finger tighten the ring nut (2), then align the slots of both ring nuts (4). If necessary, hold the ring nut (1) and tighten the ring nut (2) until their slots are aligned.



- Install the lock washer (1)

NOTE:

Make sure the lock washer tabs sit correctly in the ring nut slots.

- Hold the ring nut (under and center), using the exhaust and ring nut wrench, and tighten the ring nut (upper) using the ring nut wrench.

	75Nm
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7. Install

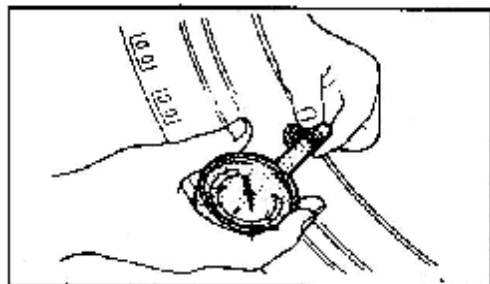
- Woodruff key
- handlebar Lower holder
- Handlebar

8. Install

- Handlebar cover



TIRE INSPECTION

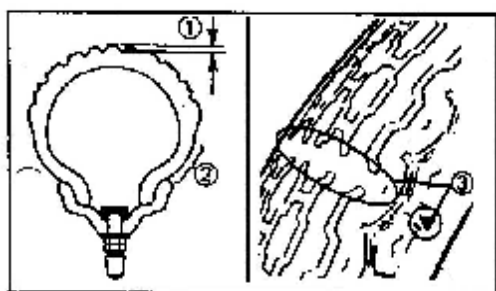


1. Measure:

- Tire inflation pressure
Out of specification → Adjust.

	Front	Rear
Up to 90kg load	175kPa	200kPa
90kg-max. load	200kPa	225kPa

Load is the total weight of the cargo, rider, passenger and accessories.

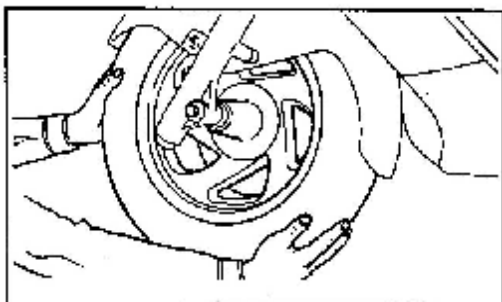


2. Inspect

- Tire surfaces
Wear/damage → Replace.

	Minimum tire tread depth (front and rear:) 1.6mm
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1. Tread depth
2. Side wall
3. Wear indicator

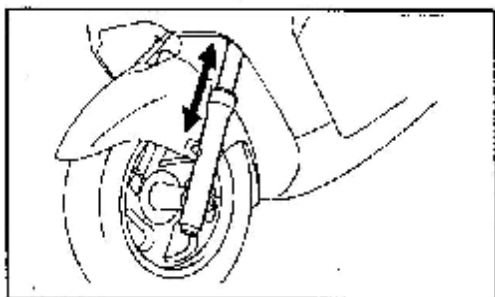


WHEEL INSPECTION

1. Inspect

- Wheels
Damage/Bends → Replace
WARNING:

Never attempt to make any repairs to the wheel.



FRONT FORK INSPECTION

1. Check:

- Inner tube
Scratches/Damage → Replace.
- Oil seal
Excessive oil leakage → Replace.

2. Check:

- Operation
Unsmooth operation → Replace.
- Front fork mount



Looseness→Tighten.

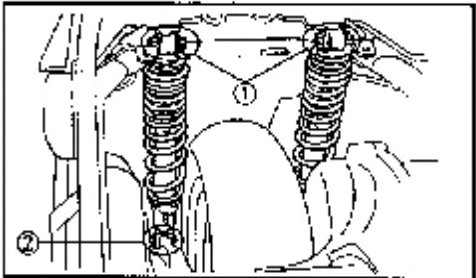
REAR SHOCK ABSORBER INSPECTION

1. Check:

- Rear shock absorber
Unlock/Damage→Replace

2. Inspect

- Rear shock absorber mount
Looseness→Tighten.



Bol t①

Bol t②

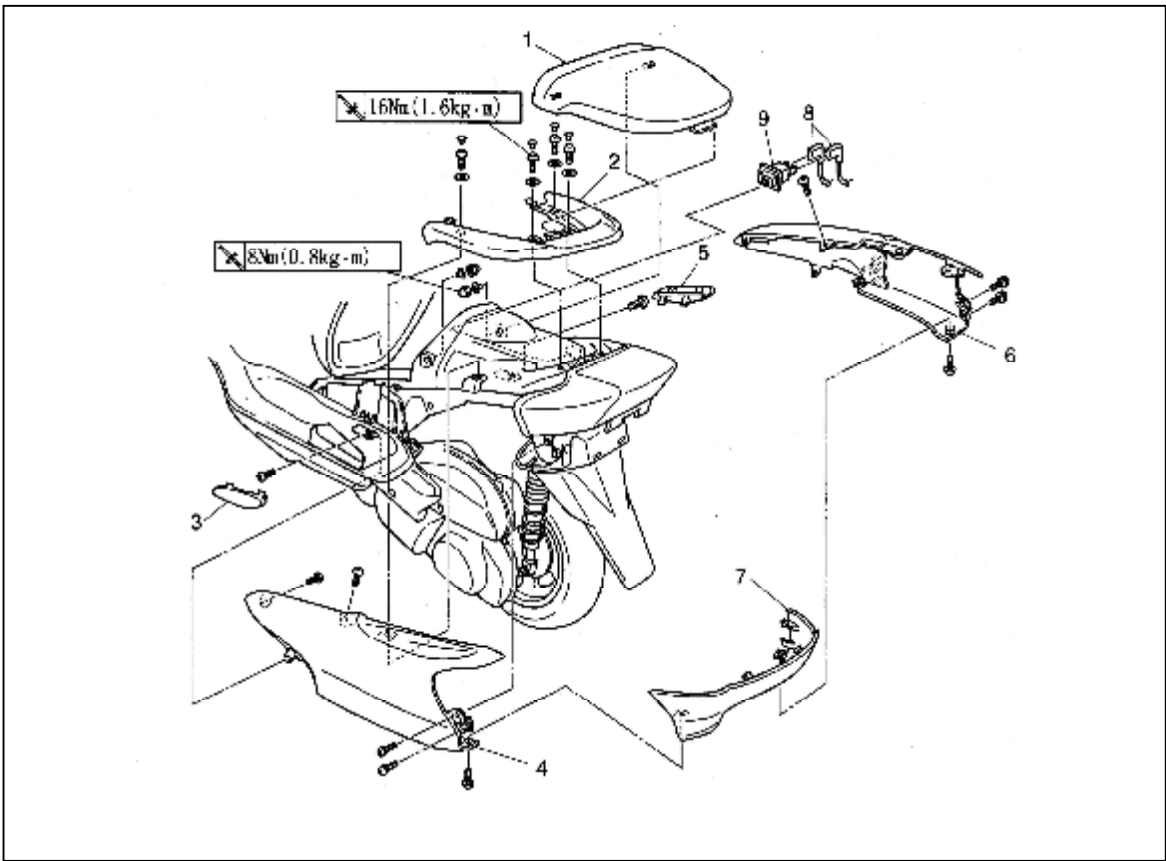


40Nm

16Nm



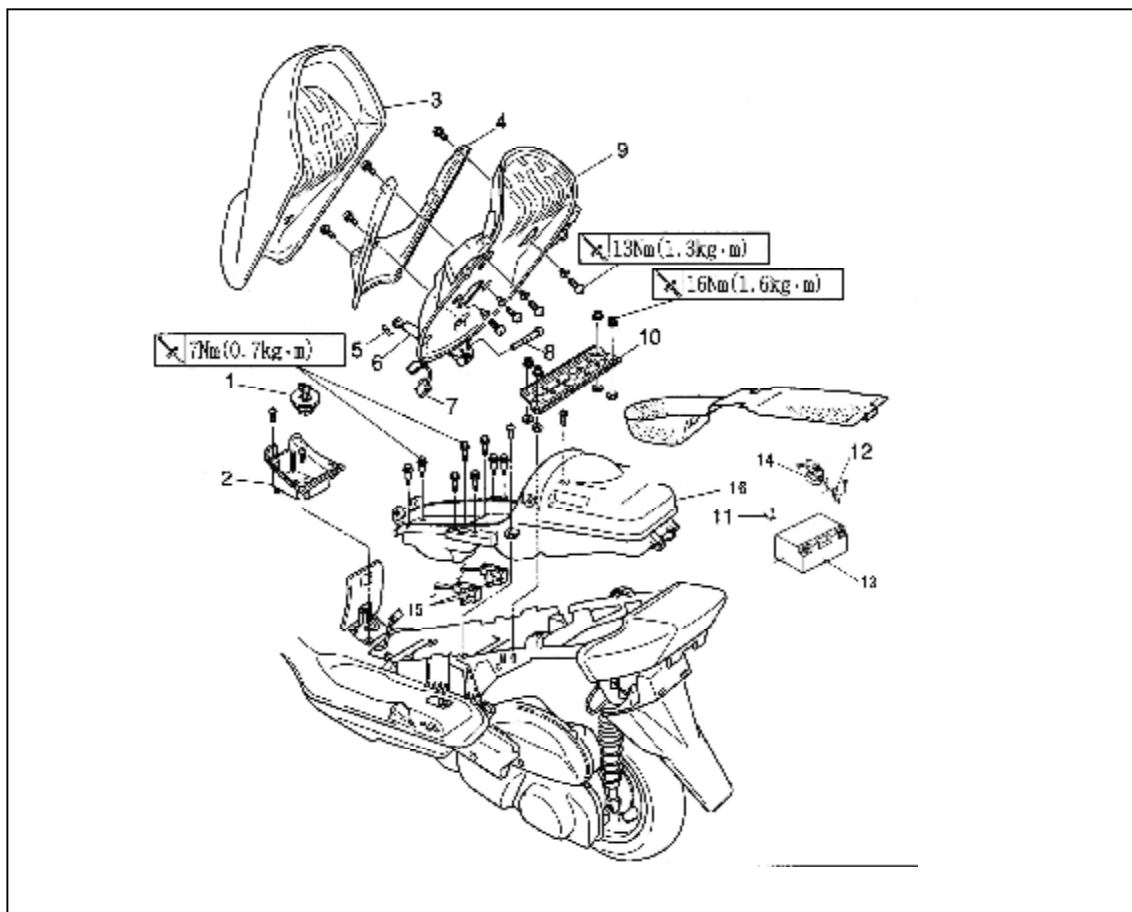
COVER AND PANEL



Order	Job name/Part name	Q' ty	Remarks
			Unlock the seat
1	Rear seat	1	
2	Grab bar	1	
3	Left cover	1	
4	Side panel (left)	1	
5	Right cover	1	
6	Side panel (right)	1	
7	Rear panel/Tail light	1	
8	Boot light coupler	2	
9	Boot light coupler	1	
		Reverse the removal procedure for installation.	



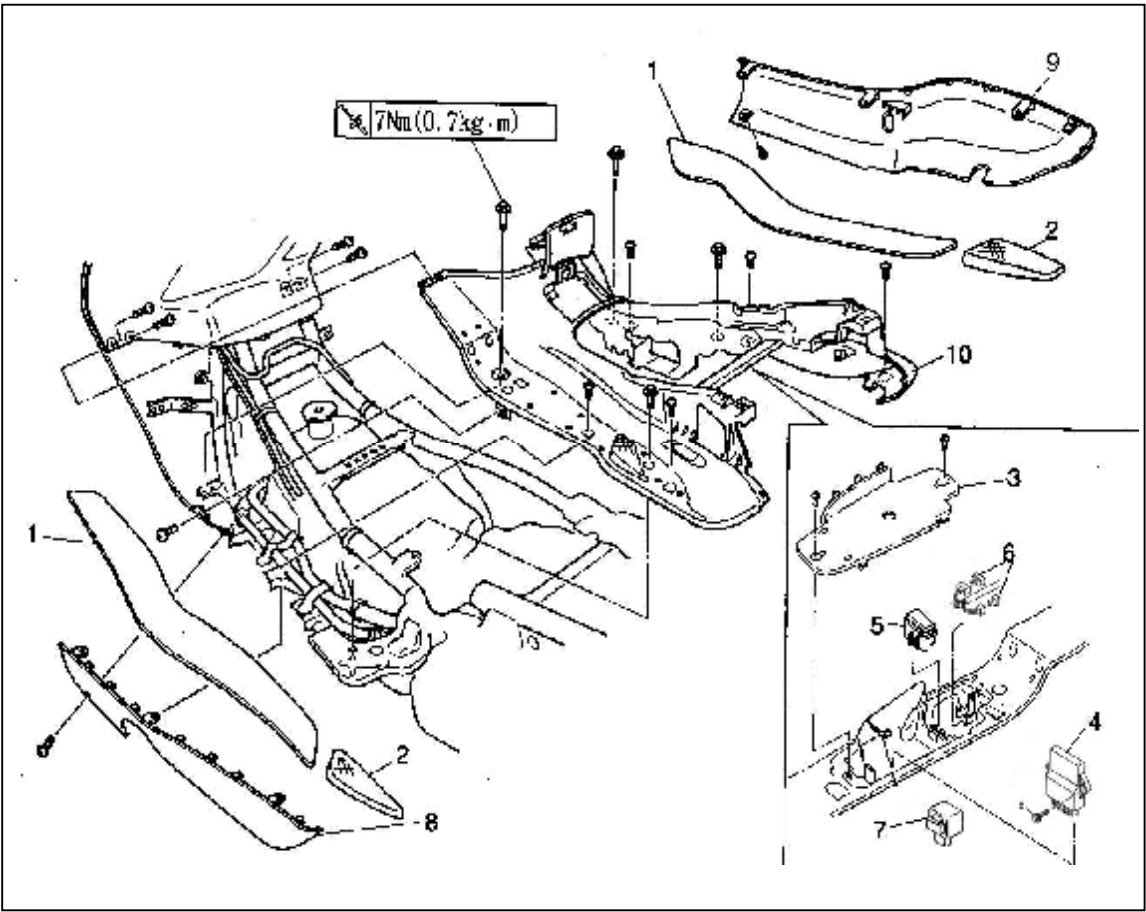
COVER AND PANEL



Order	Job name/Part name	Q' ty	Remarks
			Remove the parts in order.
1	Fuel tank cap	1	
2	Fuel overflow box	1	
3	Front seat	1	
4	Center cover	1	
5	Cotter pin	1	
6	Pressure brace	1	
7	Boot light switch coupler	1	
8	Clip	1	
9	Lid	1	
10	Bracket	1	
11	Battery positive(-) lead	1	
12	Battery positive(+) lead	1	
13	Battery	1	
14	Starter relay	1	
15	Boot lock	2	
16	Boot	1	
			Reverse the removal procedure for installation.



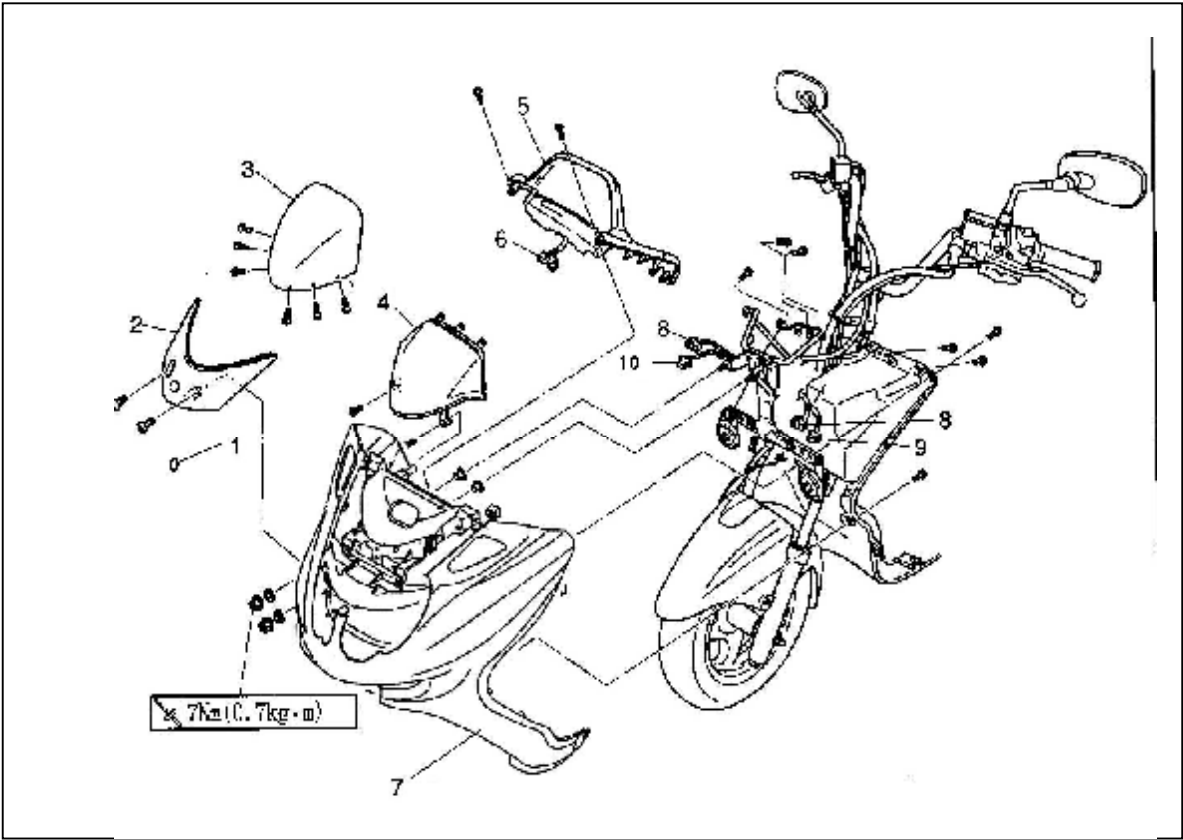
COVER AND PANEL



Order	Job name/Part name	Q' ty	Remarks
			Remove the parts in order.
1	Footrest board mat (big)	1	
2	Footrest board mat (small)	1	
3	Ignitor case cover	1	
4	Ignitor	1	
5	Fuse case	1	
6	Protector	2	
7	Flasher	1	
8	Left protective bar	1	
9	Right protective bar	1	
10	Footrest board	1	
			Reverse the removal procedure for installation.



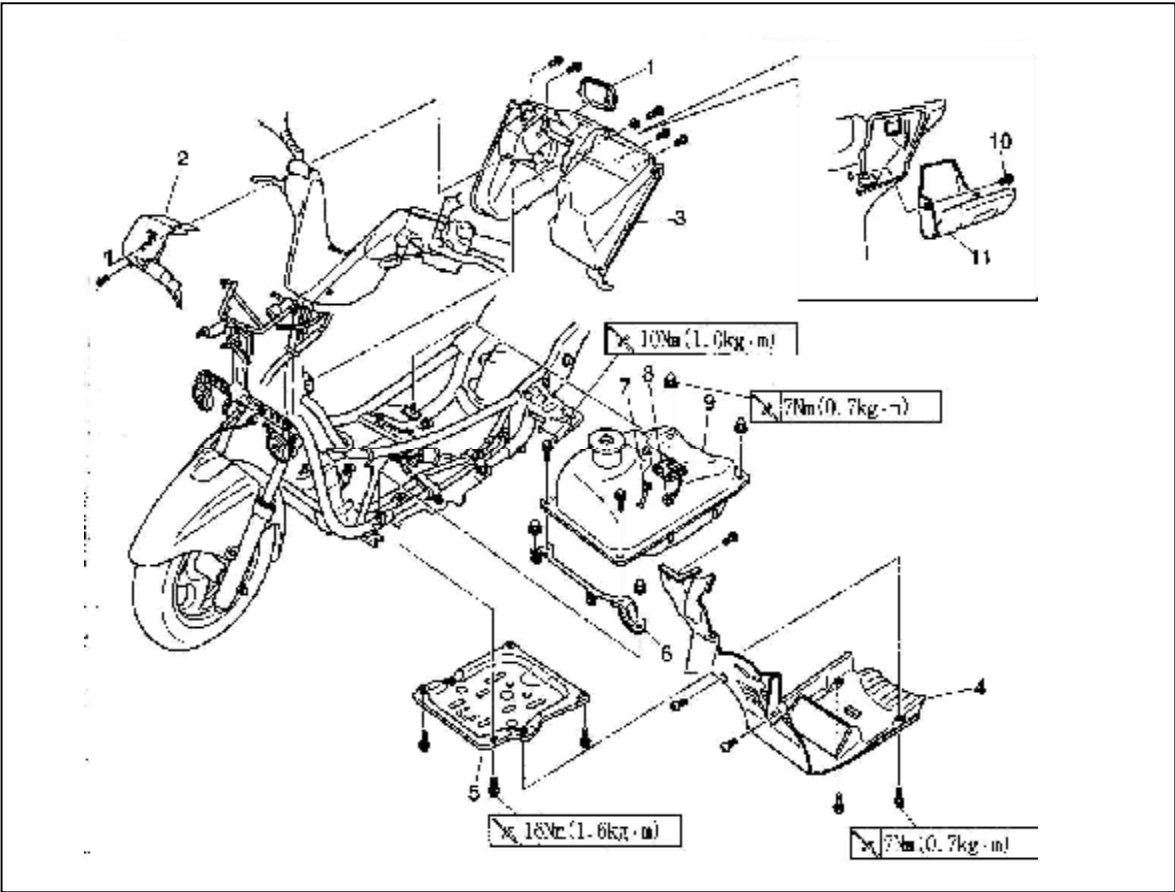
COVER AND PANEL



Order	Job name/Part name	Q' ty	Remarks
			Remove the parts in order.
1	Upper cover	1	
2	Screen decorative panel	1	
3	Wind screen	1	
4	Inner panel	1	
5	Speedometer bracket	1	
6	Meter coupler	1	
7	Front panel	1	
8	Coupler(headlight lead)	2	
9	Coupler(front left flasher light lead)	1	
10	Coupler(front right flasher light lead)	1	
			Reverse the removal procedure for installation.



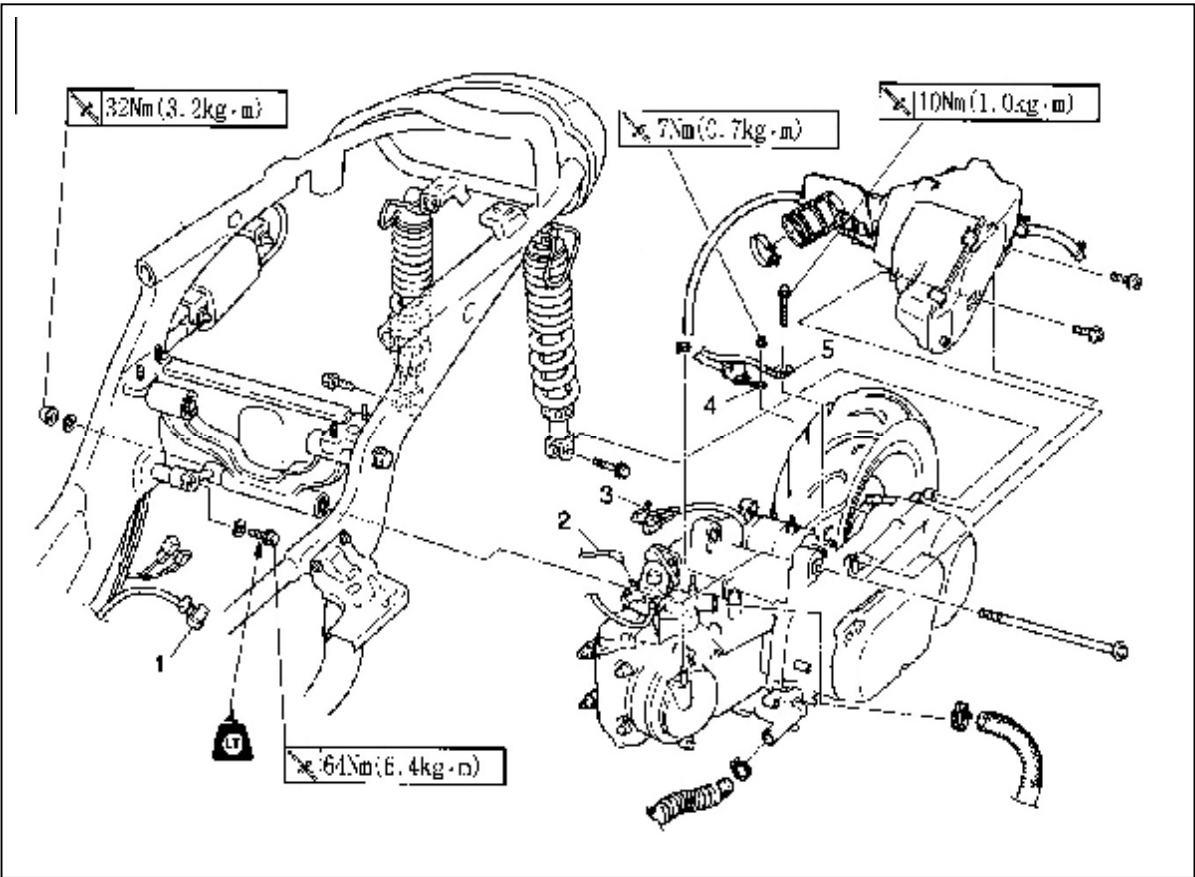
COVER AND PANEL



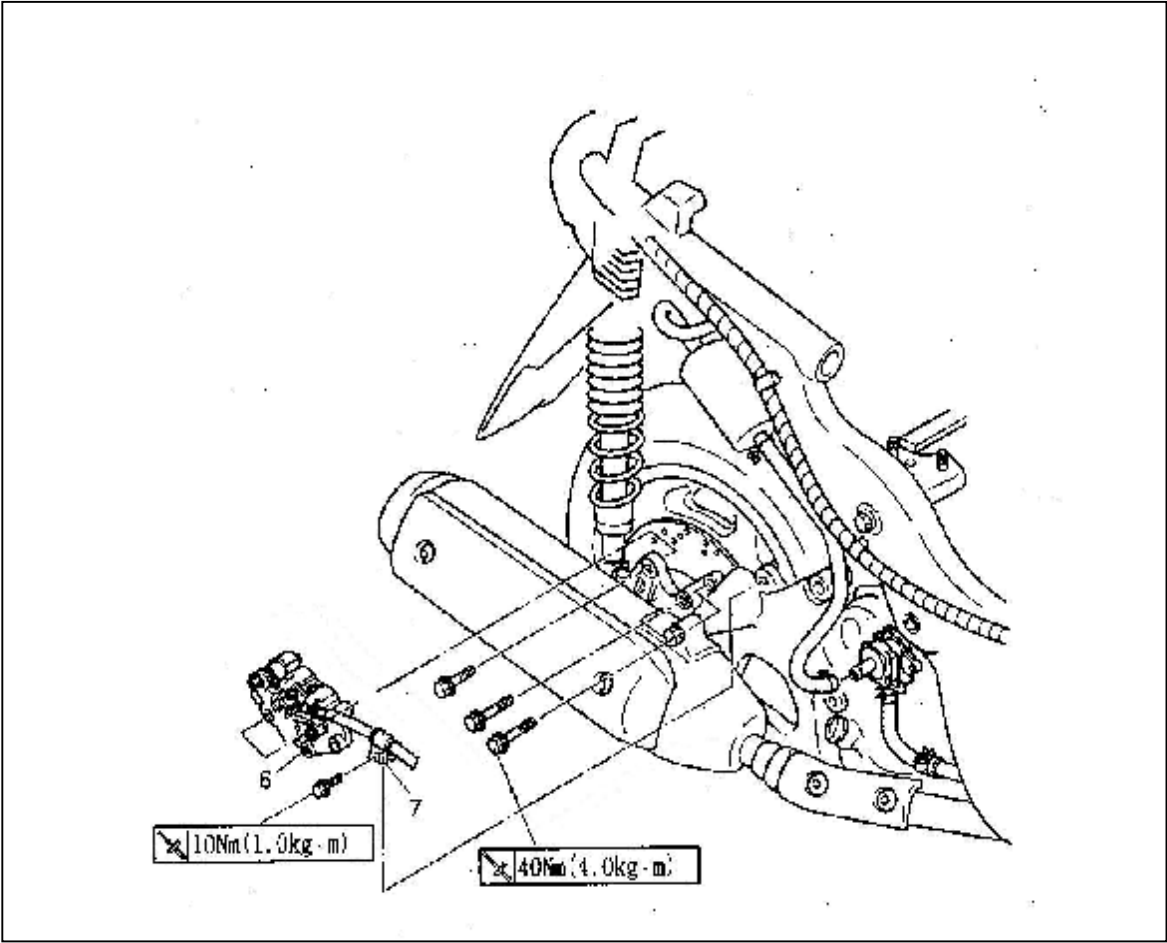
Order	Job name/Part name	Q'ty	Remarks
			Remove the parts in order.
1	Main switch indicative cover	1	
2	Bracket	1	
3	Front storage compartment	1	
4	Bottom protective cover	1	
5	Fuel tank protector	1	
6	Fuel tank bracket	1	
7	Hose	1	
8	Fuel sensor coupler	4	
9	Fuel tank	1	
10	Pin	1	
11	Right compartment cover	1	
			Reverse the removal procedure for installation.



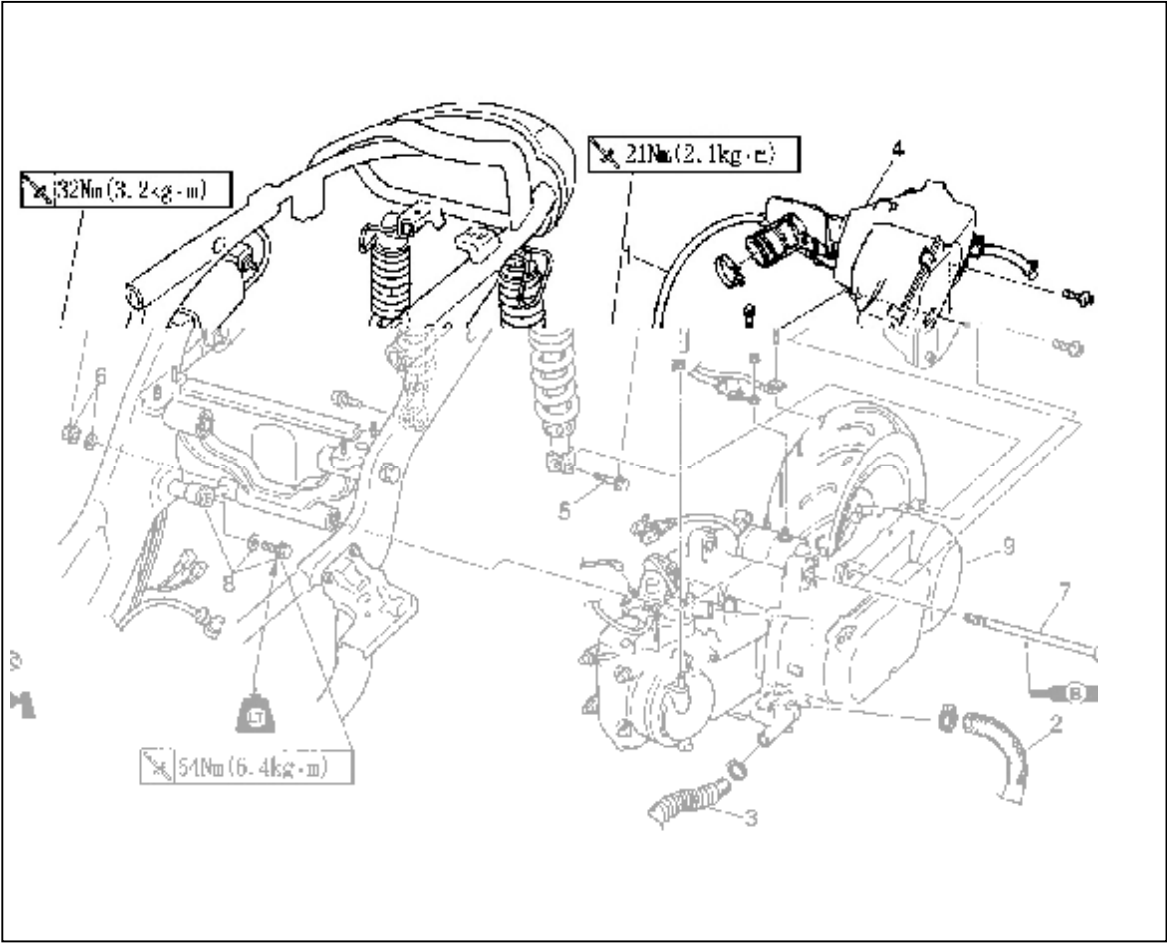
ENGINE OVERHAUL



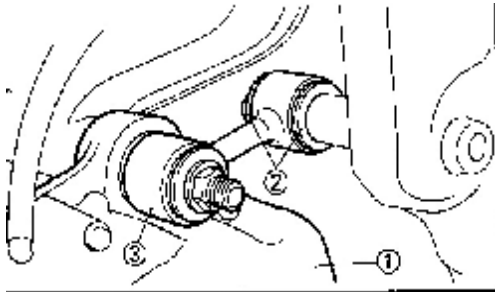
Order	Job name/Part name	Q'ty	Remarks
	Engine Removal		Remove the parts in order.
1	Spark plug cap	1	
2	Thermo unit lead coupler	1	
3	Stator coil	1	
4	Starting motor lead coupler	1	
5	Earth lead coupler	1	
	Reverse the removal procedure for installation.		



Order	Job name/Part name	Q' ty	Remarks
			Remove the parts in order.
6	Pump	1	
7	Clip	1	
		Reverse the removal procedure for installation.	



Order	Job name/Part name	Q' ty	Remarks
			Remove the parts in order.
1	Crankcase breather hose	1	
2	Inlet hose(water pump)	1	
3	Outlet hose(cylinder head)	1	
4	Air filter case assembly	2	
5	Bol t	1	
6	Nut/Washer	1-1	
7	Bol t	1	
8	Bol t/Washer/Rocker	1-2-1	
9	Engi ne	1	
	Reverse the removal procedure for installation.		



ENGINE REMOUNTING

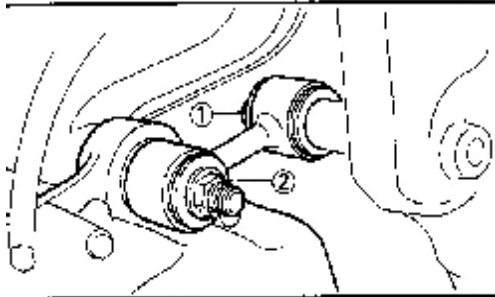
1. Apply screw glue to the bolt.

2. Install:

- Engine
- Plane washer
- Rod

NOTE:

Temporarily install the rod and engine, and then tighten the bolts and nuts to specification.

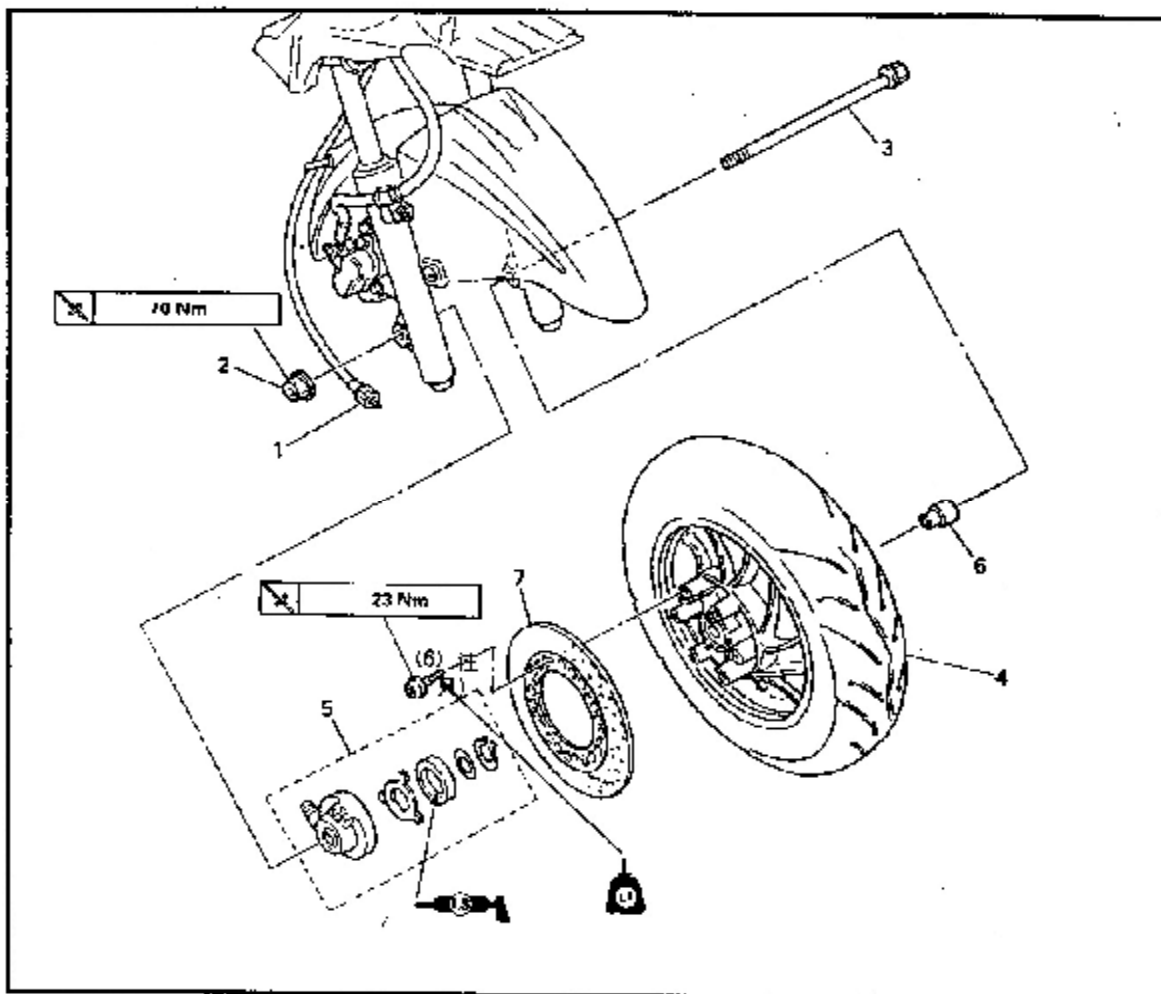


3. Tighten:

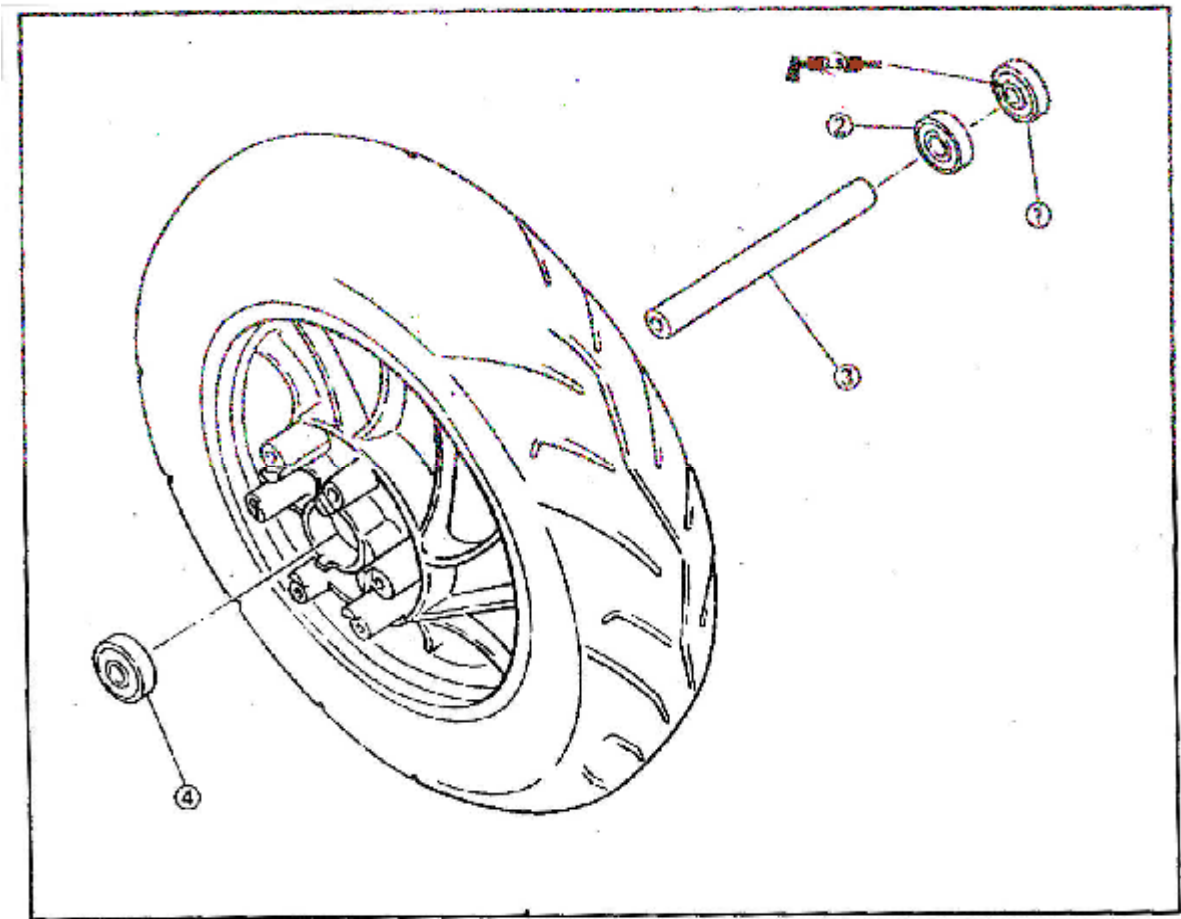
- Bolt
- Self locknut



Front wheel and brake disc



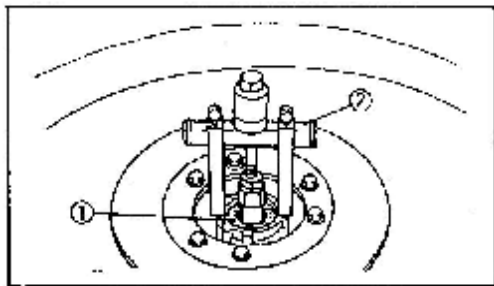
Order	Job name/Part name	Q' ty	Remarks
	Front wheel and brake disc removal		Remove the parts in order.
1	Speedometer cable	1	
2	Axle nut	1	
3	Wheel axle	1	
4	Front wheel assembly	1	
5	Gear unit assembly	1	
6	Collar	1	
7	Brake disc	1	
	Reverse the removal procedure for installation.		



Order	Job name/Part name	Q' ty	Remarks
	Front wheel disassembly		Remove the parts in order.
1	Oil seal	1	
2	Bearing	1	
3	Spacer	1	
4	Bearing	1	
			Reverse the removal procedure for installation.



FRONT WHEEL DISASSEMBLY



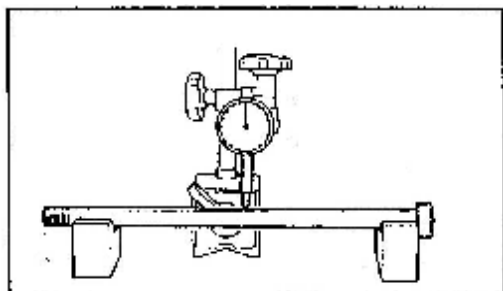
1. Remove:
 - Bearing ①
 - Spacer

Remove the bearing using a general bearing puller ②.

CAUTION:

Handle the wheel with care not to damage the brake disc. If the brake disc is damaged, replace.

FRONT WHEEL INSPECTION



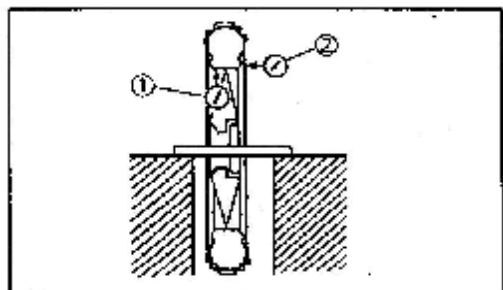
1. Inspect:
 - Front wheel axle
 Bends → Replace.

WARNING:

Do not attempt to straighten a bent axle.



Wheel axle bending limit: 0.25mm



2. Measure:
 - Front wheel runout
 Over the specified limits → Replace



Front wheel runout limits:

Radial: 2.0mm

Lateral: 2.0mm

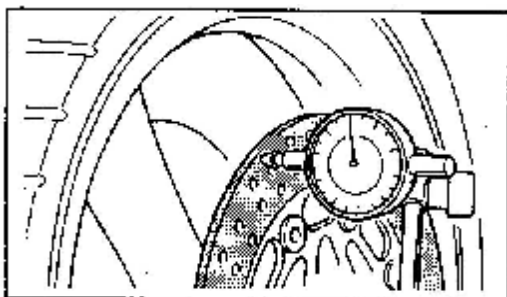


3. Inspect

- Front tire
Wear/Damage → Replace.

4. Inspect

- Front wheel bearings
Bearings allow free play in the wheel hub or the wheel does not turn smoothly → Replace.



BRAKE DISC INSPECTION

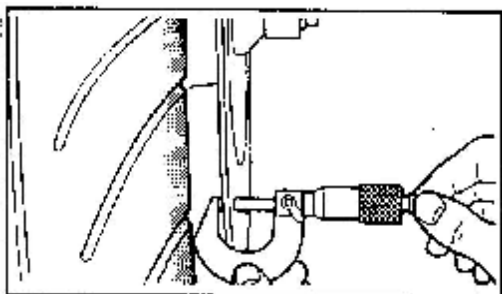
1. Measure

- Brake disc deflection



Maximum deflection: 0.15mm

Out of specification → Replace.



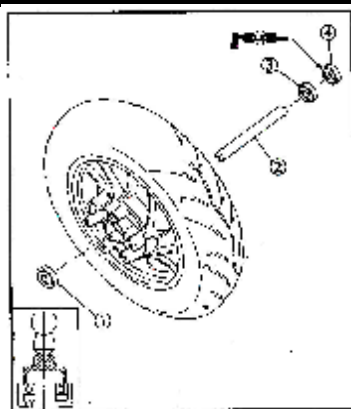
2. Measure

- Brake disc thickness



Brake disc thickness: 4.0mm
Minimum thickness: 3.5mm

Out of specification → Replace.



FRONT WHEEL ASSEMBLY

1. Install

- Bearing ①
- Spacer ②
- Bearing ③
- Oil seal ④

2. Install

- Brake disc ①

3. Tighten

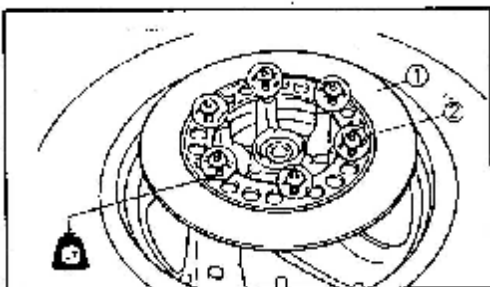
- Six bolts (brake disc) ②



23Nm

CAUTION:

Tighten the bolts (brake disc) in stage using a crisscross pattern.



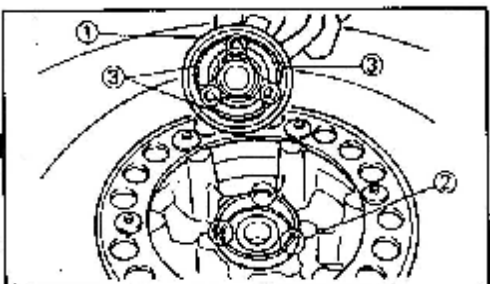
FRONT WHEEL INSTALLATION

1. Lubricate:

- Front wheel axle
- Bearing
- Oil seal
- Drive/driven gear (speedometer)

2. Install

- Speedometer gear unit ①



NOTE:

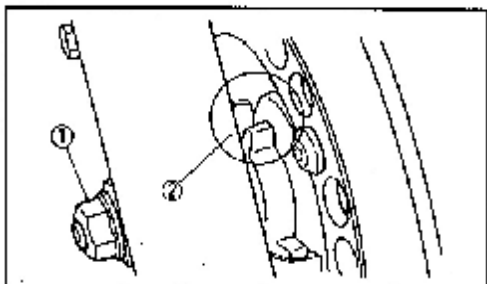
Make sure that the wheel hub and the speedometer gear unit are installed with the three projections ② meshed into the three slots ③.

3. Install:

- Front wheel

NOTE:

Make sure that the slot in the speedometer gear unit fits over the stopper on the front fork outer tube.

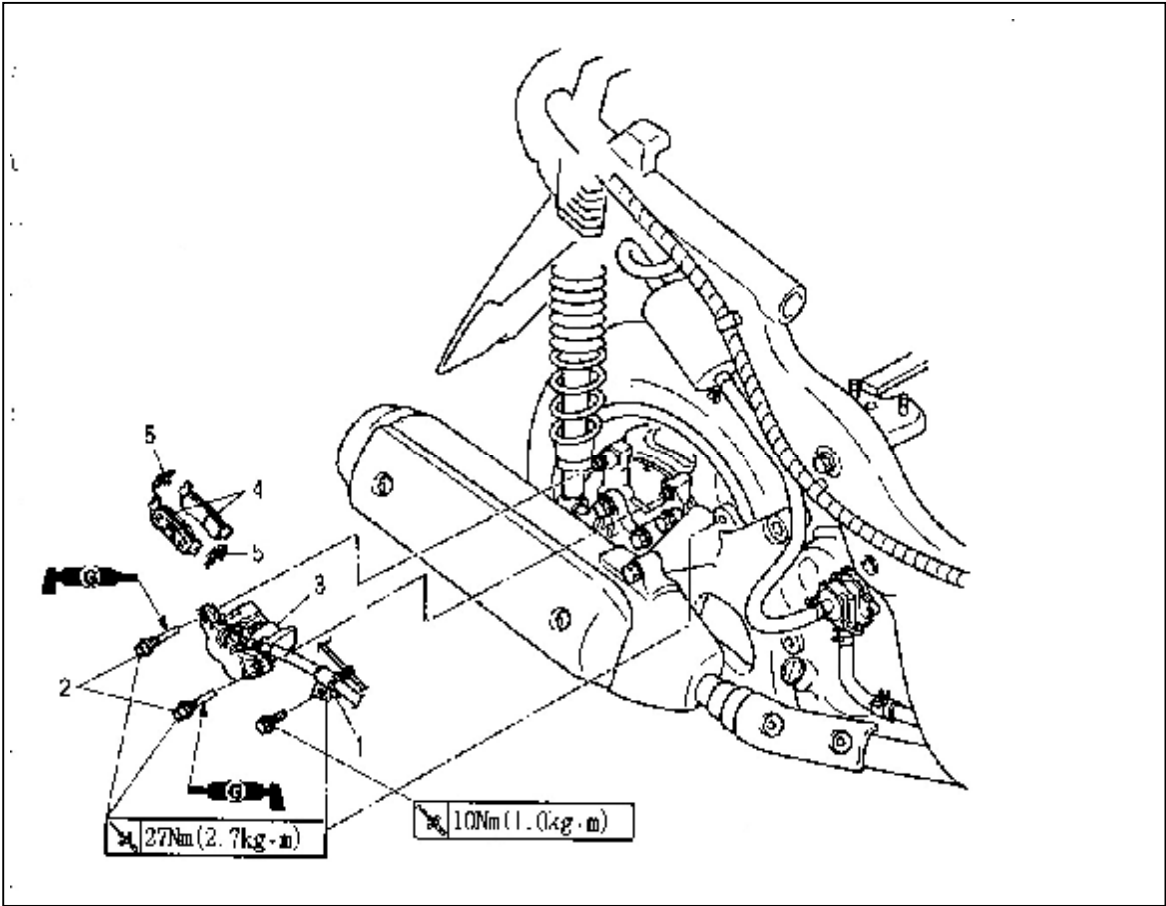


4. Tighten:

- Front wheel axle
- Axle nut (front wheel axle) ①



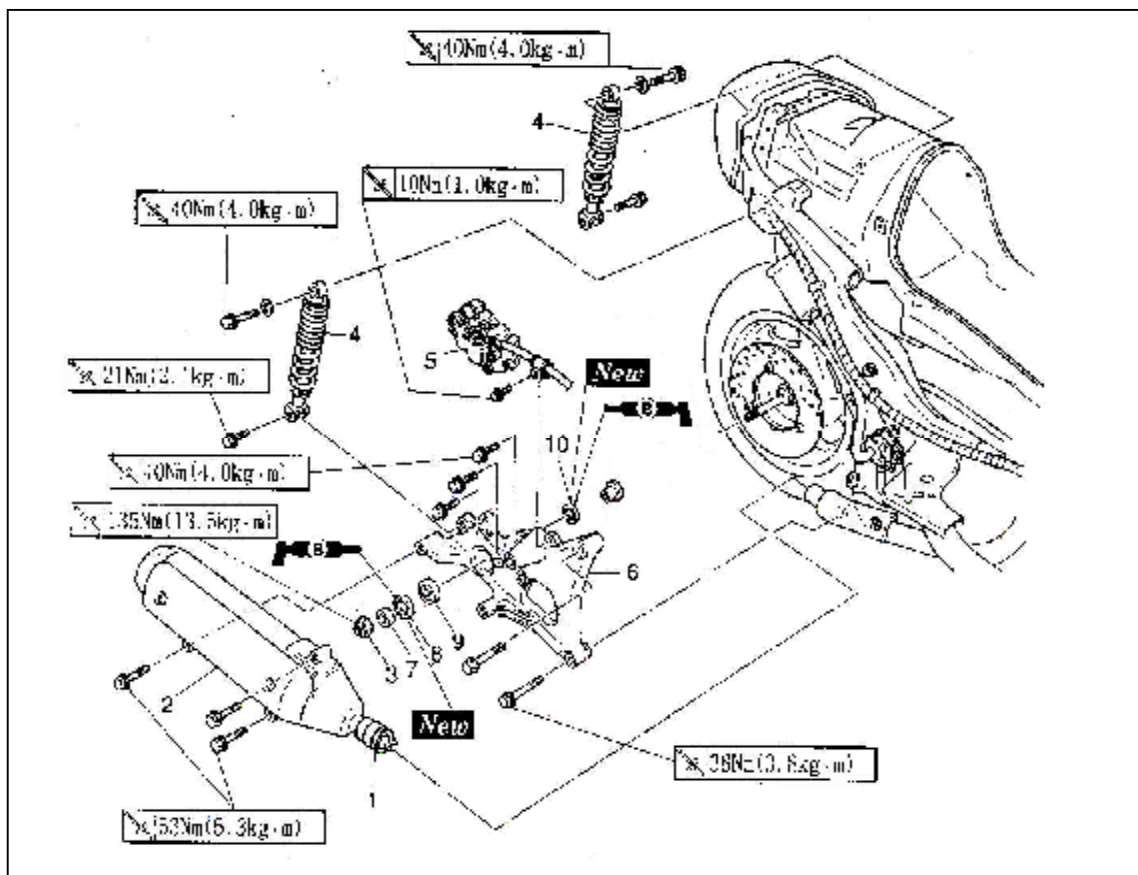
REAR BRAKE



Order	Job name/Part name	Q' ty	Remarks
			Remove the parts in order.
1	Brake hose holder	1	
2	Caliper support bolt	2	
3	Caliper support bolt	1	
4	Brake pad	2	
5	Pad support	2	
			Reverse the removal procedure for installation.



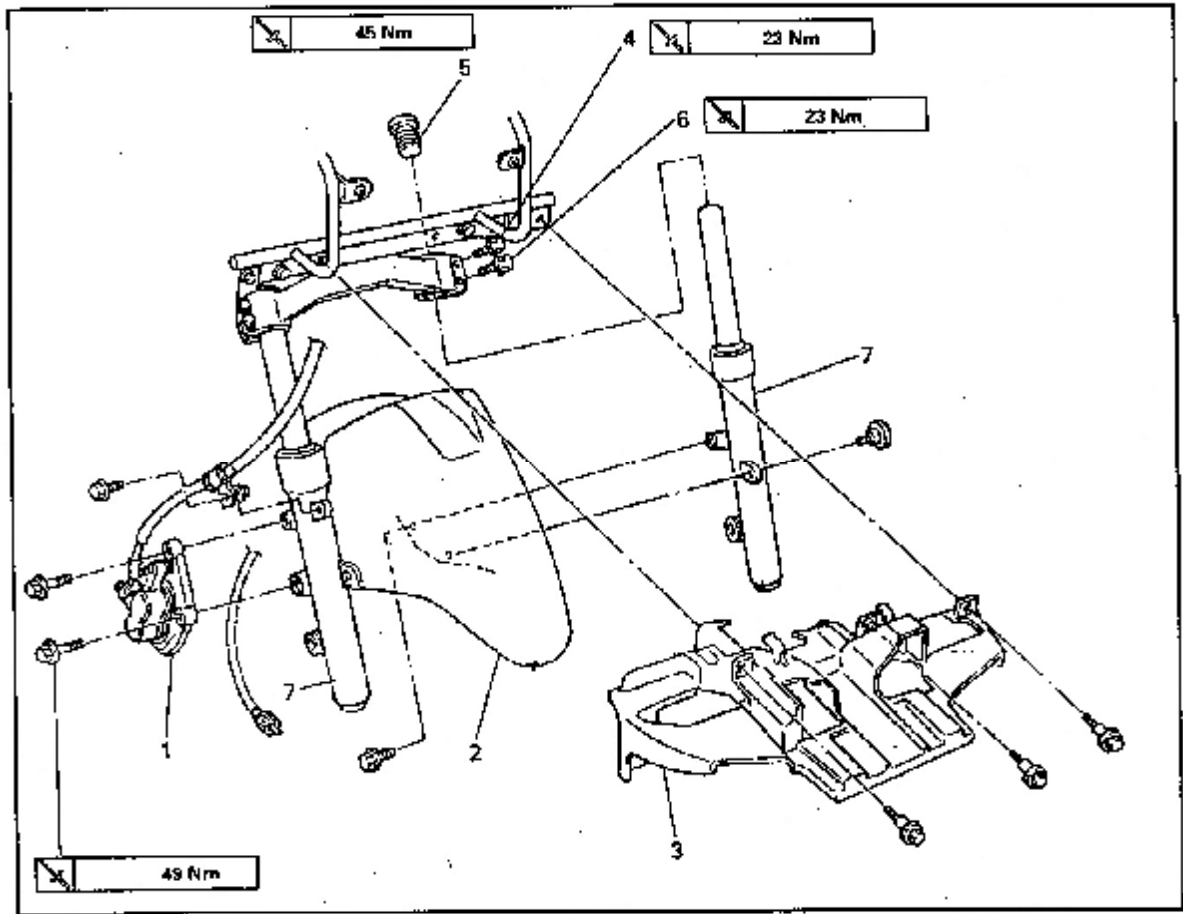
REAR SHOCK ABSORBER AND SWINGARM



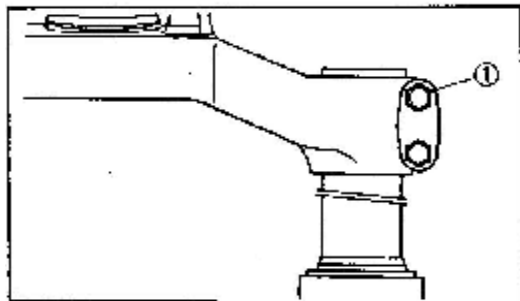
Order	Job name/Part name	Q'ty	Remark
			Remove the parts in order.
1	Circlip	1	
2	Muffler assembly	1	
3	Nut	1	
4	Rear shock absorber	2	
5	Caliper(rear brake)	1	
6	Swingarm	1	
7	Collar	1	
8	Oil seal	1	
9	Bearing	1	
10	Oil seal	1	
			Reverse the removal procedure for installation.



FRONT FORK



Order	Job name/Part name	Q' ty	Remarks
			Remove the parts in order.
1	Caliper assembly	1	
2	Front fender	1	
3	Inner fender	1	
4	Bolt M8X40	2	
5	Cap bolt/O-ring	2	
6	Bolt M8X40	2	
7	Front shock absorber (left/right)	1	
			Reverse the removal procedure for installation.



FRONT FORK REMOVAL

1. Loosen:

- Bolt ①

NOTE: _____

Loosen only the upper bolt ①



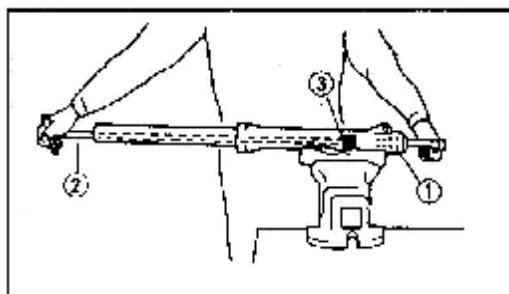
2. Remove:

- Cap bolt ①

NOTE: _____

Use 17mm width hexagonal wrench for removing.

3. Loosen the bolt ① to remove the front forks.

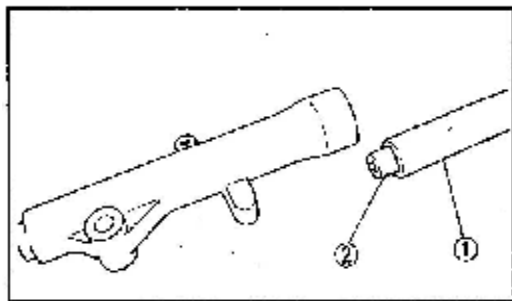


FRONT FORK DISASSEMBLY

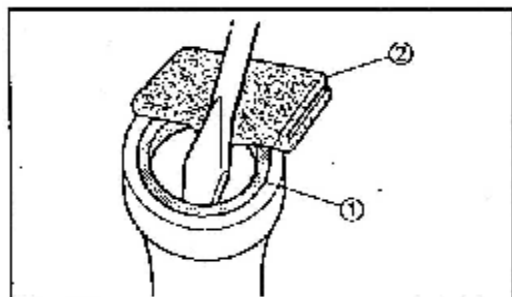
1. Remove:

- Bolt (damper rod) ①

Loosen the bolt ① while holding the damper rod with T-handle ② and holder ③.

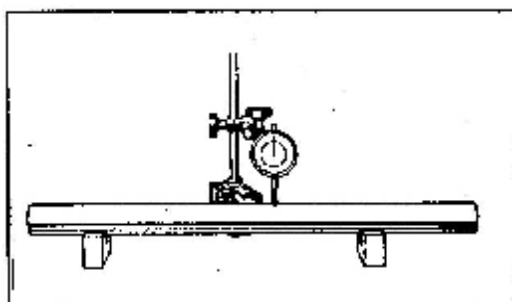


2. Remove:
- Inner tube ①
 - Oil lock piece ②



3. Remove
- Oil seal ①

CAUTION: _____
Never reuse the oil seals.



FRONT FORK INSPECTION

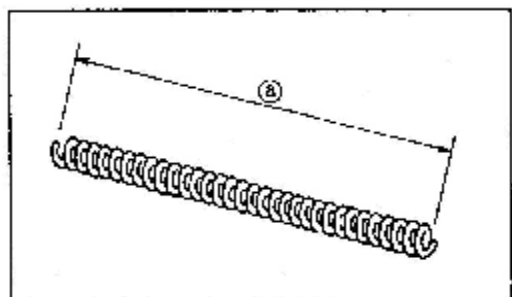
1. Inspect
- Inner tube bending



Inner tube bending limit: 0.2mm

WARNING:

Do not attempt to straighten a bent inner tube as this may dangerously weaken the tube.

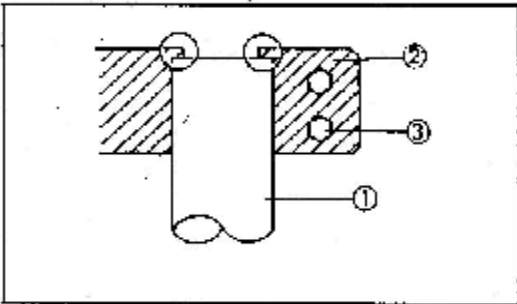


2. Measure
- Fork spring ③



Front fork spring free length: 268.5mm
wear limit: 263.5mm

Over the specified limit → Replace.



FRONT FORK INSTALLATION

Reverse the "REMOVAL" procedure.

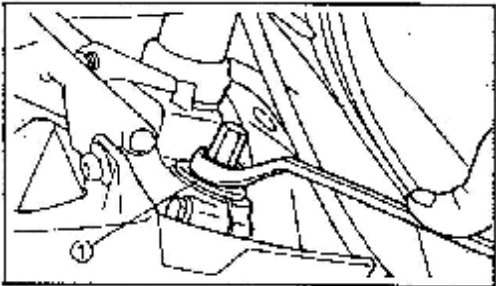
Note the following points:

1. Install:

- Front fork (1)
- Temporarily tighten the pinch bolts (3)

NOTE: _____

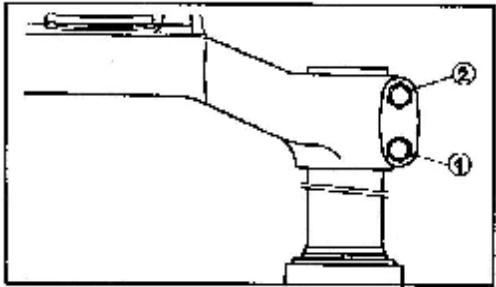
Pull up the inner tube until its end flushes the top of the under bracket (2), then temporarily tighten the bolt (under bracket lower) (3).



2. Tighten:

- Cap bolts (1)

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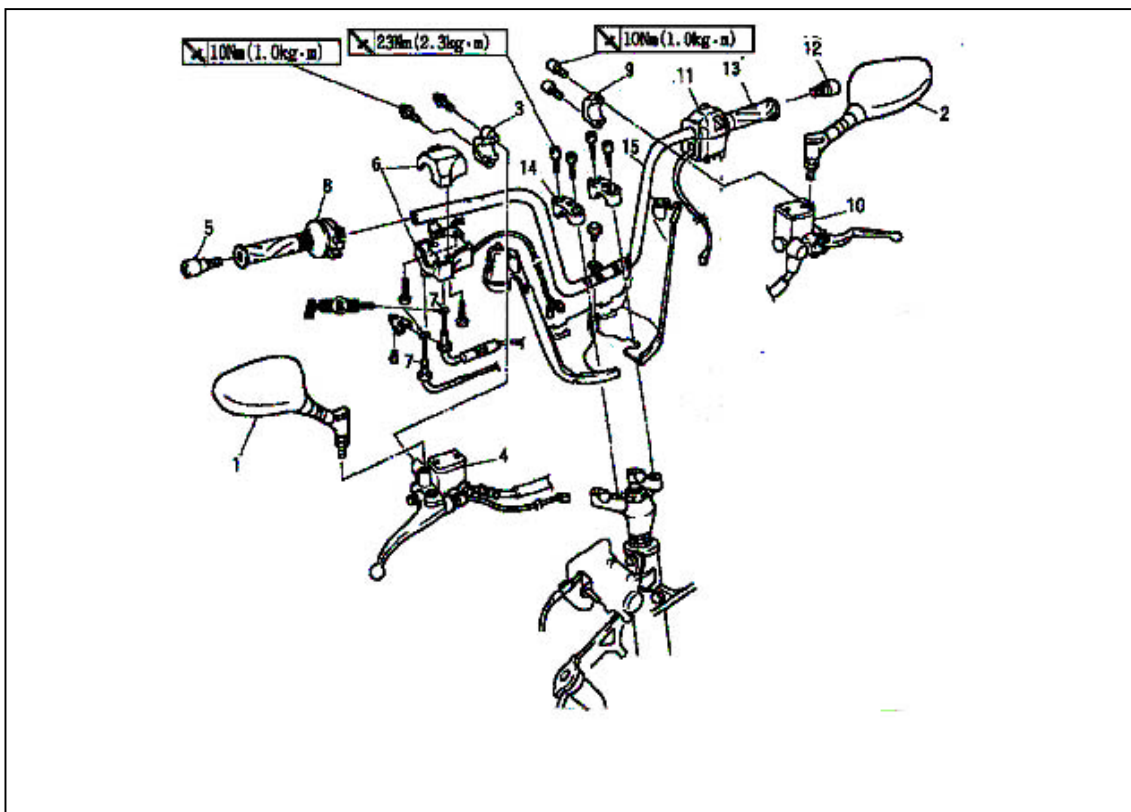


- Pinch bolts (under bracket upper/lower) (1), (2).

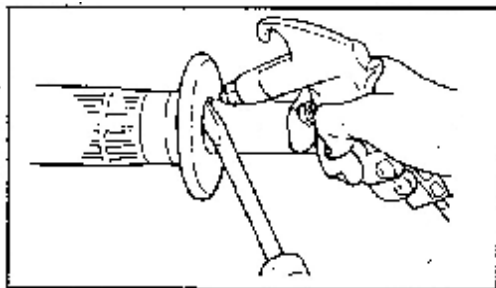
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HANDLEBAR



Order	Job name/Part name	Q' ty	Remarks
			Remove the parts in order.
1	Rear view mirror(right)	1	
2	Rear view mirror(left)	1	
3	Master cylinder bracket	1	
4	Master cylinder	1	
5	Grip end (right)	2	
6	Handlebar switch (right)	1	
7	Throttle cable	1	
8	Grip assembly	1	
9	Rear brake lever holder	1	
10	Rear brake pump fixing bracket	1	
11	Handlebar switch(left)	1	
12	Grip end(left)	1	
13	Grip	1	
14	handlebar holder	2	
15	Handlebar	1	
			Reverse the removal procedure for installation



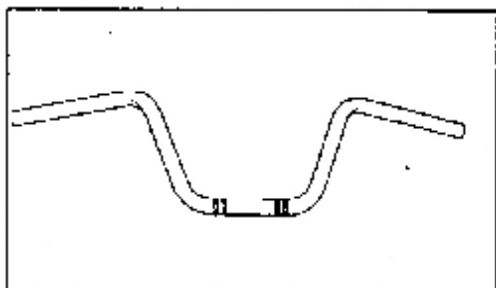
HANDLEBAR REMOVAL

1. Remove:

- Grip (Left)

Removal steps

- Remove the grip end (Left)
- Blow with compressed air between the handlebar and adhesive side of the grip to remove.



HANDLEBAR INSPECTION

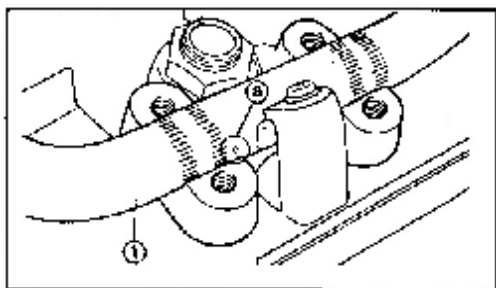
1. Inspect

- Handlebar

Bends/Cracks/Damage → Replace.

WARNING:

Do not attempt to straighten a bent handlebar as this may dangerously weaken the handlebar.



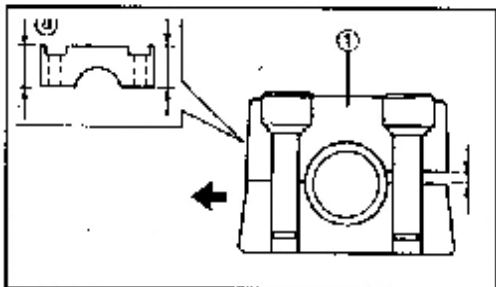
HANDLEBAR INSTALLATION

1. Install

- Handlebar ①

NOTE:

Align the match marks (a) on the handlebar with the lower handlebar holder upper surface.



2. Install

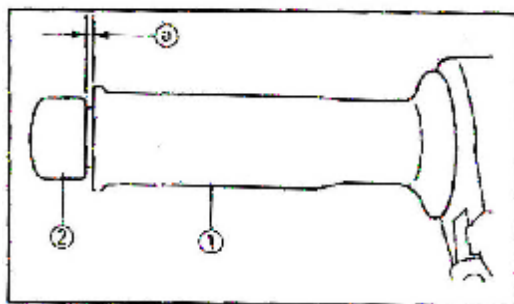
- Upper handlebar holder ①



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NOTE:

- The upper handlebar holders should be installed with the arrow marks (a) facing forward.

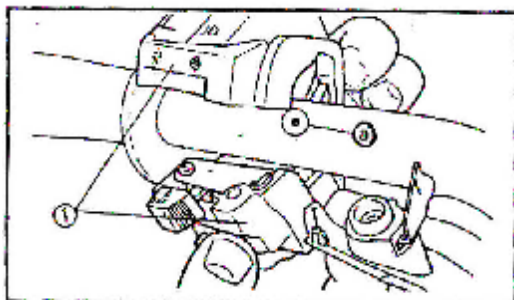


3. Install

- Grip ①
- Grip end(left) ②

NOTE:

Provide a clearance of 0.5mm between the handlebar grip ① and handlebar grip end ②.

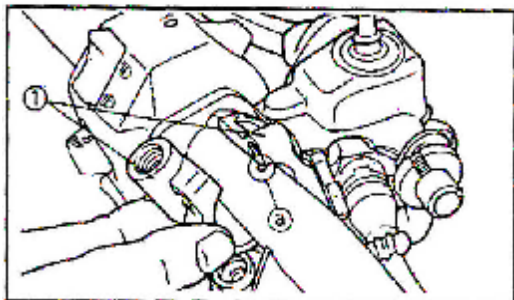


4. Install

- Handlebar switch(left) ①

NOTE

Align the handlebar switch mating surface ① with the punched mark ③ on the handlebar.

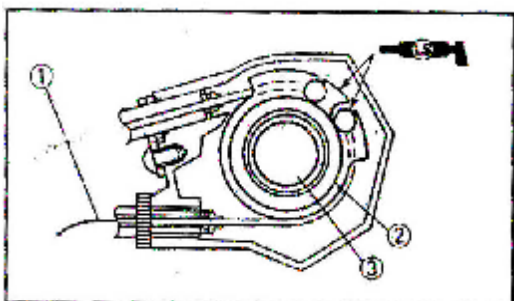


5. Install

- Lever holder ①

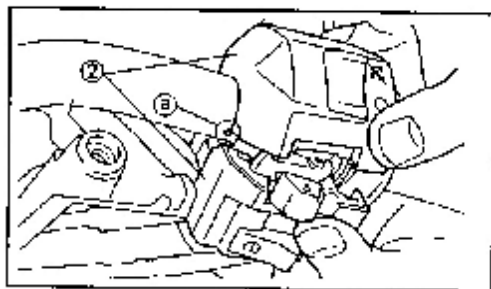
NOTE:

Align the lever holder mating surface ① with the punched mark ③ on the handlebar.



6. Install

- Throttle cable ①
- Grip assembly ②

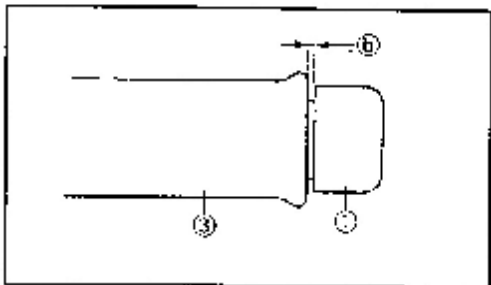


7. Install

- Grip end (right) ①
- Handlebar switch(right)②

Installation steps:

- Align the handlebar switch(right)② mating surface and the punched mark ③ on the handlebar.



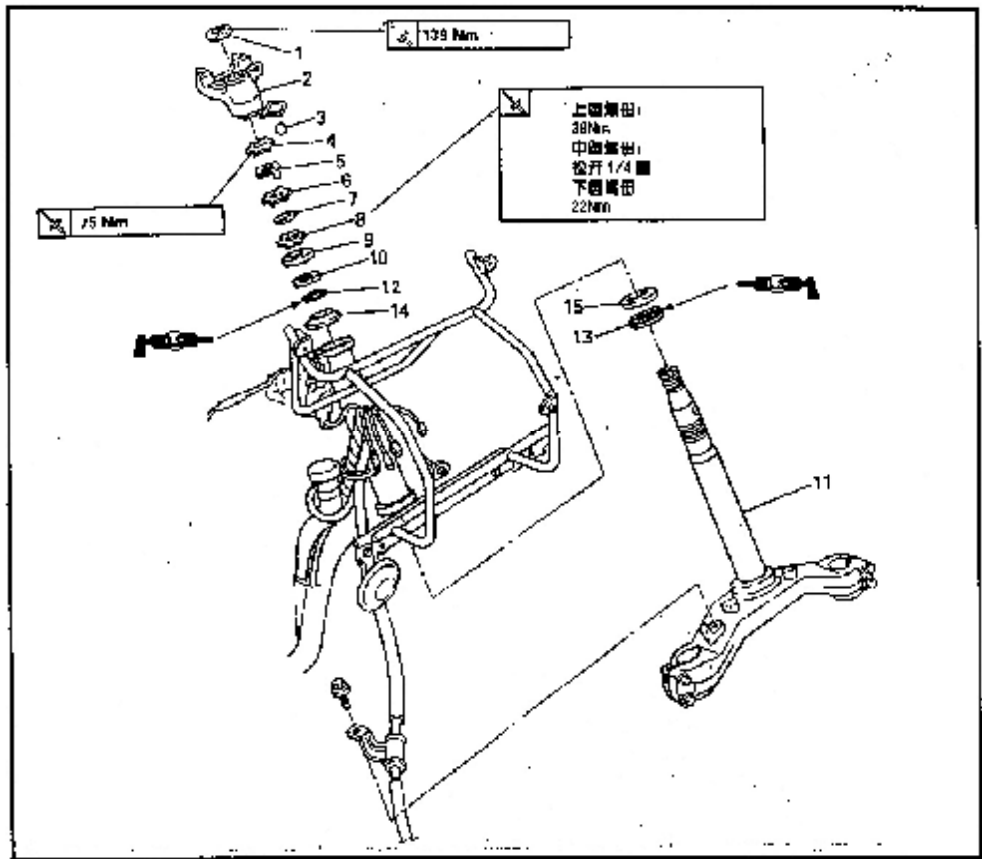
- Provide a clearance (b) of 2.5mm between the grip assembly ③ and the handlebar grip ①.

WARNING:

Check the throttle grip for smooth operation.



STEERING



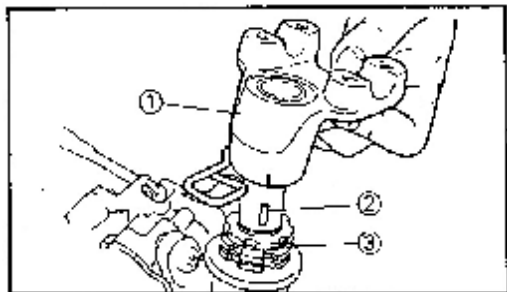
Order	Job name/Part name	Q' ty	Remarks
			Remove the parts in order.
1	Nut	1	
2	Handlebar lower holder	1	
3	Woodruff key	1	
4	Ring nut(upper)	1	
5	Lock washer	1	
6	Ring nut (center)	1	
7	Rubber washer	1	
8	Ring nut (lower)	1	
9	Ball race cover	1	
10	Ball race1	1	
11	Lower bracket	1	
12	Ball bearing	1	
13	Ball bearing	1	
14	Ball race 1	1	
15	Ball race 2	1	
			Reverse the removal procedure for installation.



STEERING REMOVAL

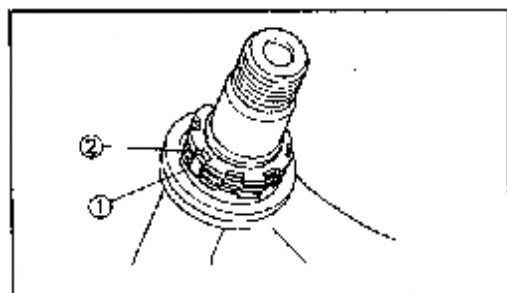
WARNING:

Securely support the scooter so that there is no danger of it falling over.



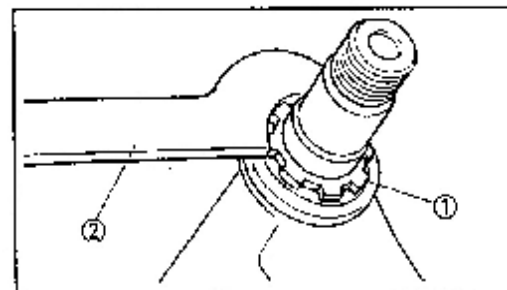
1. Remove:

- Handlebar lower holder ①
- Woodruff key ②
- Ring nut (upper) ③



2. Remove:

- Lock washer ①
- Ring nut (center) ②
- Rubber washer

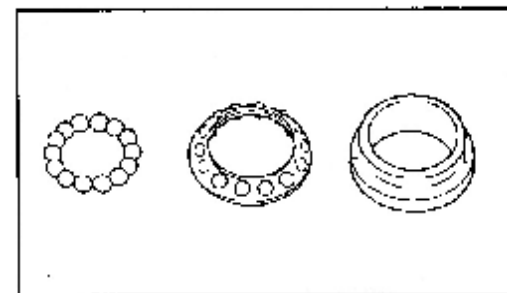


3. Remove:

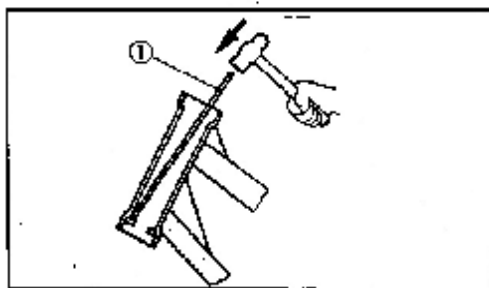
- Ring nut (lower) ①

NOTE:

Hold the lower bracket by hand, then remove by using the exhaust ring and steering nut wrench ②.

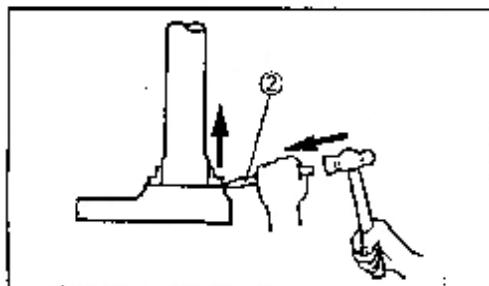
**INSPECTION:**

1. Wash the bearing and bearing races with a solvent.
 2. Inspect
 - Bearings
 - Bearing races
- Pitting/Damage--Replace.



Bearing race replacement steps:

- Remove the bearing races on the head pipe using long rod ① and the hammer as shown.
- Remove the bearing race on the under bracket using the floor chisel ② and the hammer as shown.



STEERING INSTALLATION

Reverse the "REMOVAL" procedure.

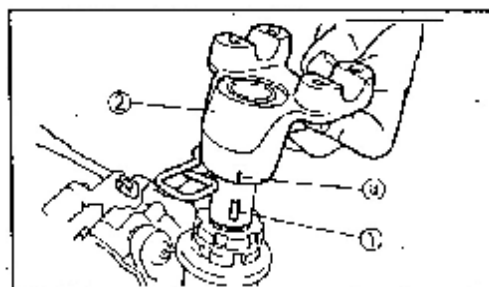
Note the following points:

1. Lubricate

- Bearings
- Bearing races



Recommended lubricant:
Lithium-soap base grease



2. Install

- Ring nut (lower)
- Rubber washer
- Ring nut (center)
- Lock washer
- Ring nut (upper)

Refer to "STEERING HEAD INSPECTION".

3. Install

- Woodruff key ①
- Handlebar lower bracket ②



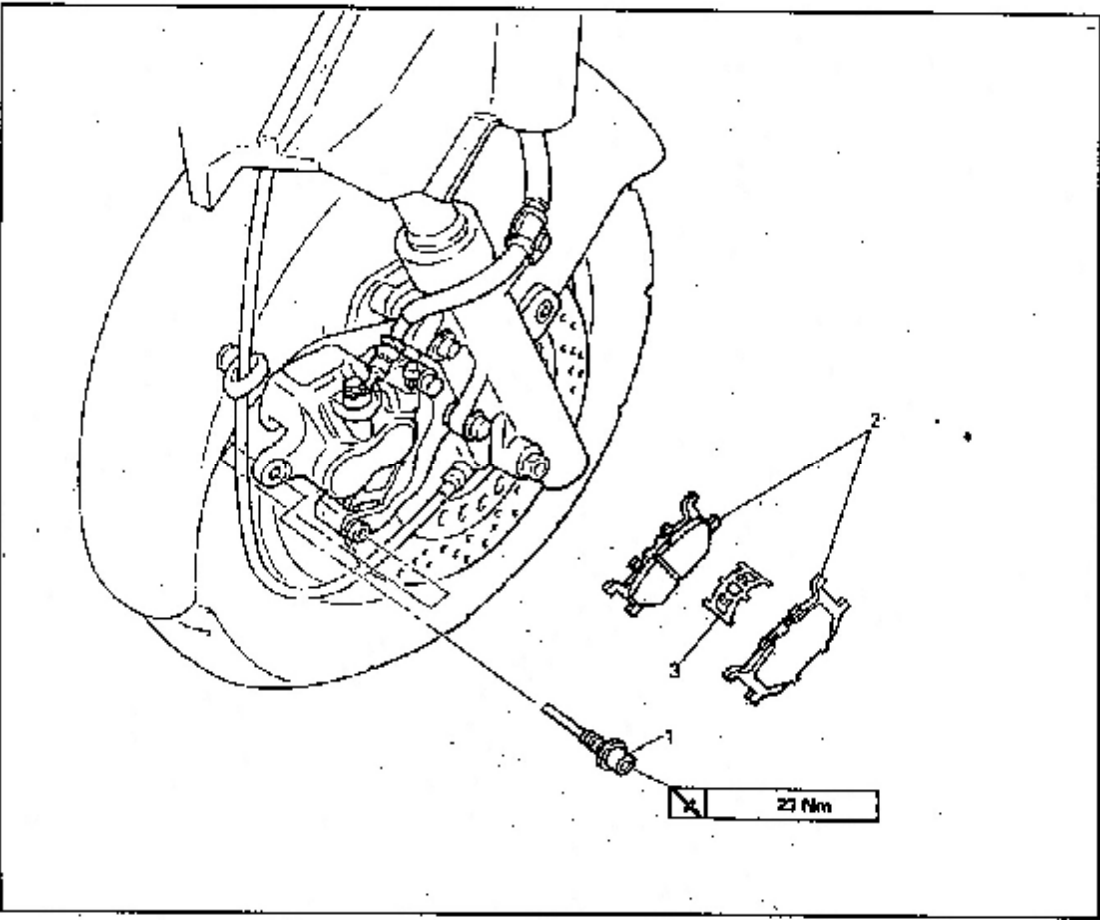
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NOTE

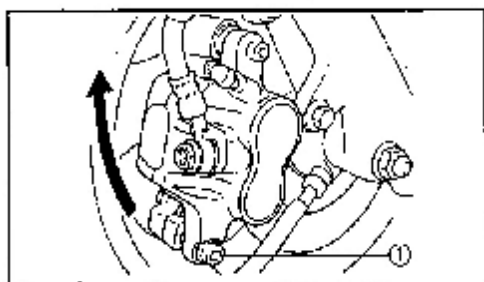
Align the woodruff key ① to key groove mark (a) on the handlebar lower holder ②.



FRONT BRAKE



Order	ame/Part name	Q' ty	Remarks
	Brake pad removal		Remove the parts in order.
1	Caliper suppor bolt	1	
2	Brake pad	1	
3	Pad support	1	
		Reverse the removal procedure for installation.	



BRAKE PAD REPLACEMENT

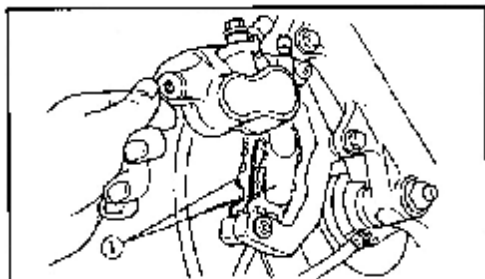
NOTE:

It is not necessary to disassemble the brake caliper and brake hose to replace the brake pads.

1. Remove

- Bolt(caliper support bolt) ①

2. Move the direction brake caliper to the arrow mark.



3. Remove

- Brake pads ①

NOTE:

- Install new brake pad springs when the brake pads have to be replaced.
- Replace the brake pads as a set if either is found to be worn to the wear limit.

3. Install:

- Brake pad
- Pad spring