

REED VALVE INSPECTION

1. Measure:

- Valve stopper height ①

Out of specification → Adjust stopper/Replace valve stopper.



Valve stopper height ①
6.0~6.4 mm (0.24~0.25 in)

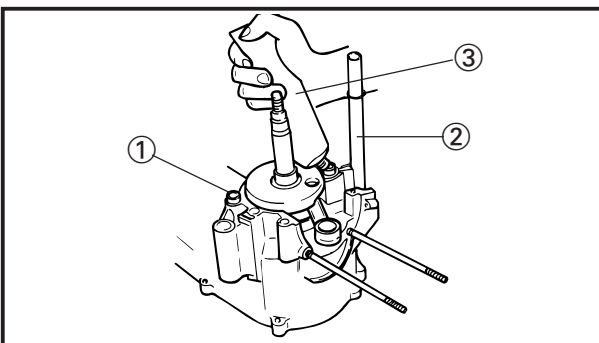
2. Measure:

- Reed valve clearance ②

Out of specification → Replace reed valve.



Reed valve clearance ②
Less than 0.2 mm (0.0079 in)



CRANKCASE (RIGHT) INSTALLATION

1. Install:

- Dowel pins ①
- Engine mount spacer ②

2. Apply:

- Sealant ③

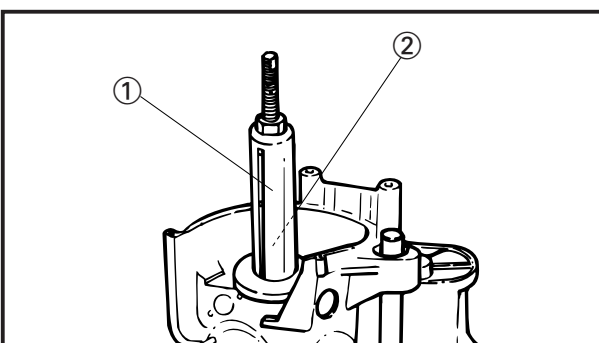
To the mating surfaces of both case halves.



Quick gasket®:
ACC-1100-15-01

NOTE:

Do not allow any sealant to come into contact with the oil galley.

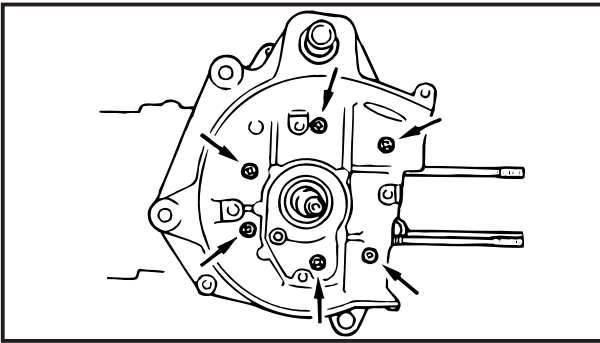


3. Attach:

- Crankshaft installing tool ①, ②



Crankshaft installation set ①
YU-90050
Crankshaft installer adapter
(M10) ②
YU-90062



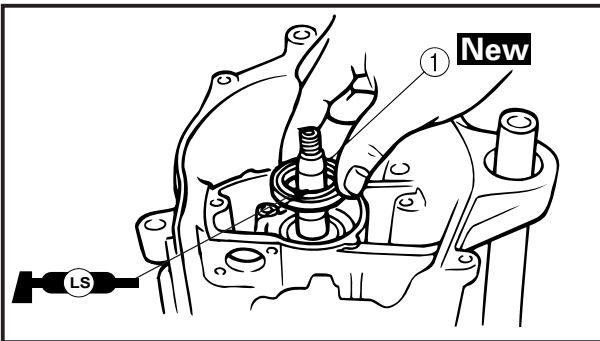
4. Tighten:

- Crankcase holding screws

12 Nm(1.2 m.kg, 8.4 ft.lb)

NOTE:

Tighten the crankcase holding screws in stage, using a crisscross pattern.

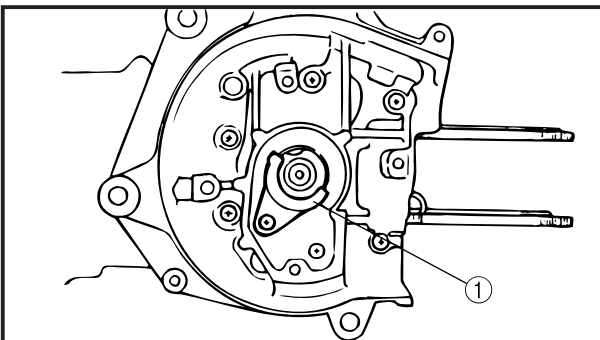


5. Check:

- Crankshaft operation
- Unsmooth operation Repair.

6. Install:

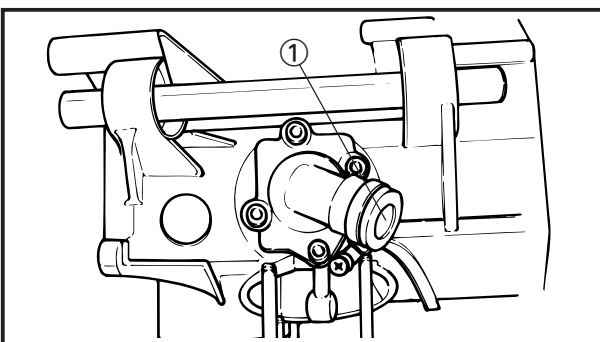
- Oil seal (right crank case) ① **New**
Apply grease on to oil seal lip.



7. Install:

- Oil seal stopper plate ①

9 Nm(0.9 m.kg, 6.5 ft.lb)

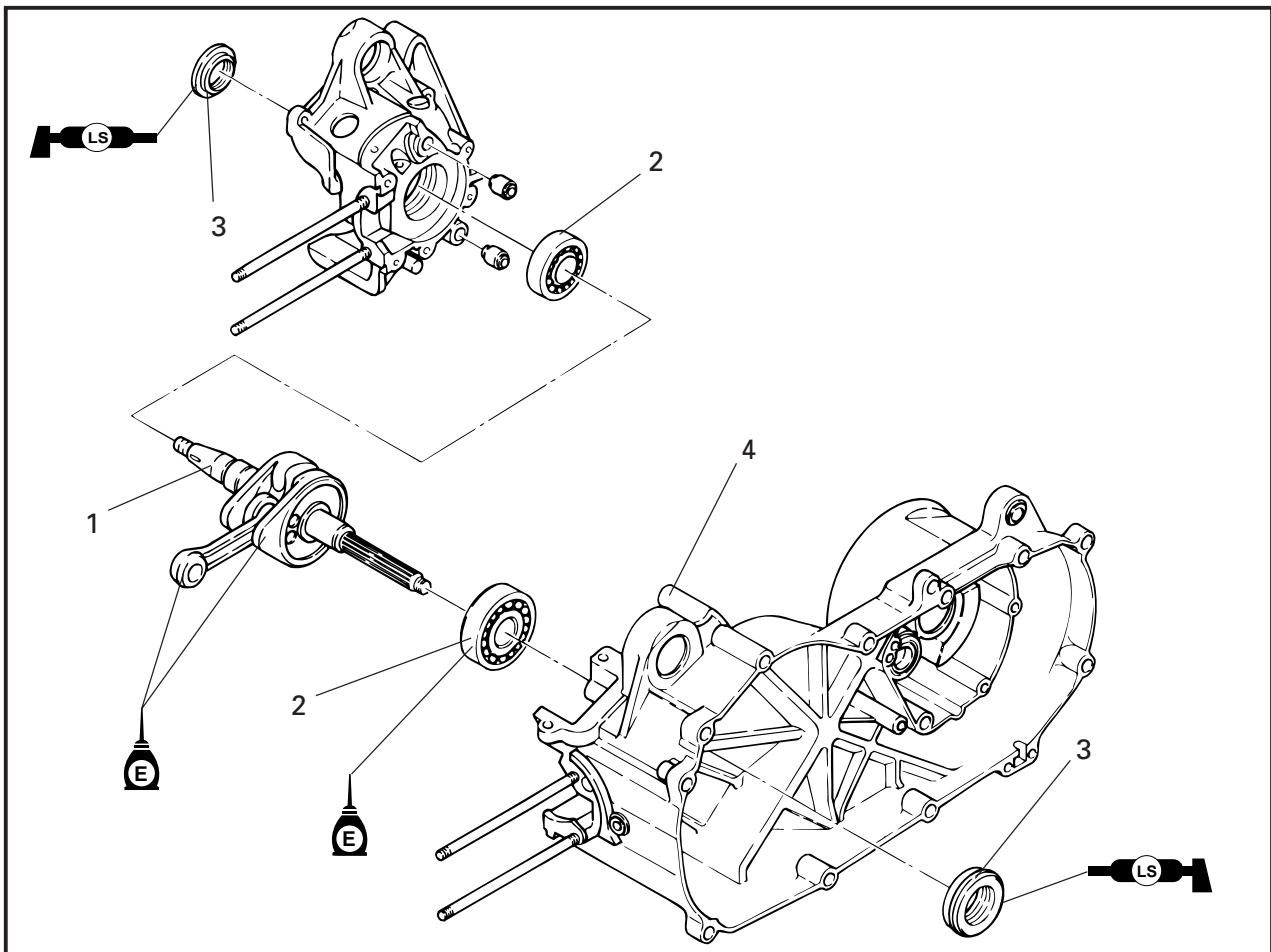


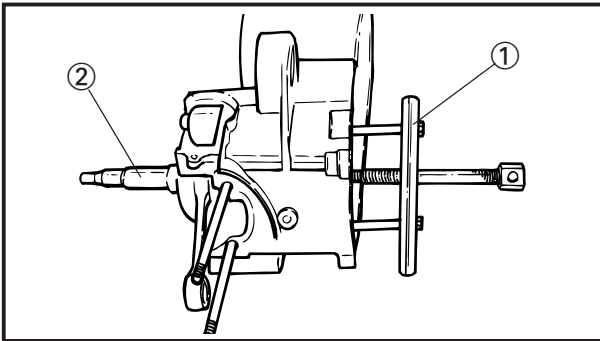
8. Install:

- Gasket
- Reed valve
- Intake manifold ①

11 Nm(1.1 m.kg, 8 ft.lb)

CRANKSHAFT

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CRANKSHAFT REMOVAL

1. Attach:
 - Crankcase separating tool ①

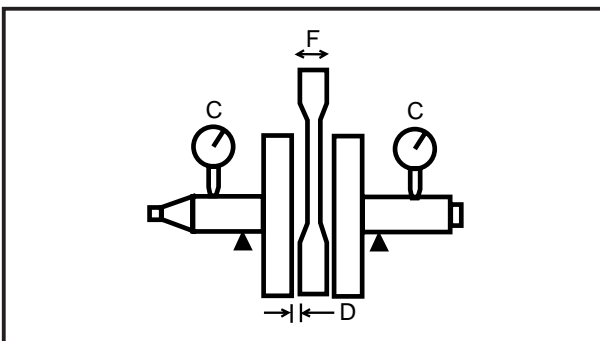


Crankcase separating tool:
YU-01135-A

2. Remove:
 - Crankshaft ②

NOTE:

Make sure the crankcase separating tool is centered over the crankshaft assembly.



CRANKSHAFT INSPECTION

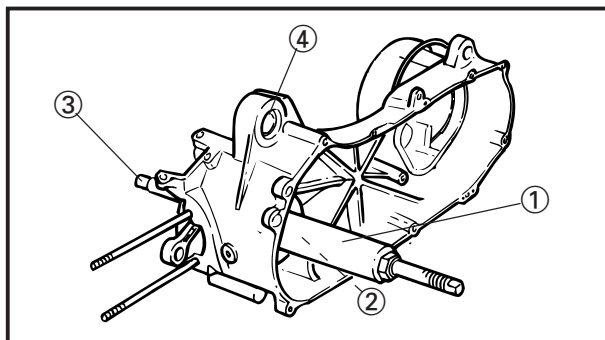
1. Measure:
 - Runout limit "C"
 - Connecting rod big end side clearance "D"
 - Small end free play limit "F"

Out of specification → Replace.
Use V-blocks, dial gauge and thickness gauge.



Runout limit "C":
0.03 mm(0.0012 in)
Connecting rod big end side clearance "D":
0.2 ~ 0.5 mm(0.0079 ~ 0.020 in)
Small end free play "F":
0.4 ~ 0.8 mm(0.016 ~ 0.031 in)

2. Inspect:
 - Bearings (crankshaft)
Spin the bearing inner race.
Excessive play/Roughness → Replace.
Pitting/Damage → Replace.



CRANKSHAFT INSTALLATION

1. Attach:
 - Crankshaft Installing Tool



Crankshaft installation set ①
YU-90050
Crankshaft installer adapter
(M10) ②
YU-90062

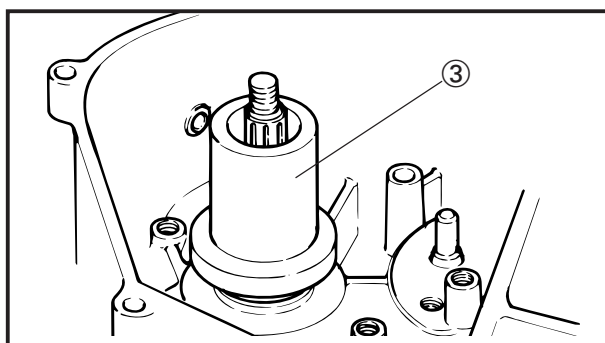
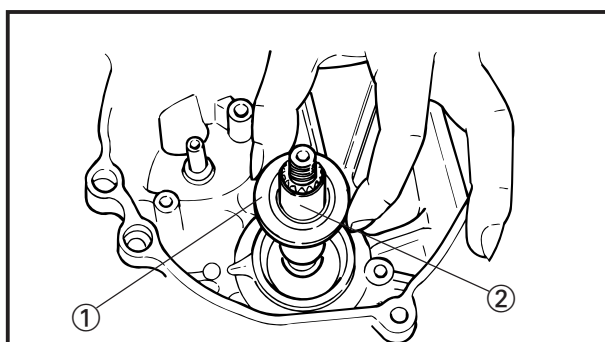
2. Install:
 - Crankshaft ③
(to the crankcase ④)

CAUTION:

To avoid scratching the crankshaft and to ease the installation procedure, lubricate the oil seal lips with grease and each bearing with engine oil.

NOTE:

Hold the connecting rod at top dead center (TDC) with one hand while turning the nut of the crankshaft installing tool with the other. Turn the crankshaft installing tool until the crankshaft assembly bottoms against the bearing.



3. Install:
 - Oil seal ① **New**
 - Apply lithium soap base grease onto the oil seal lip.
 - Use the guide ② and seal driver ③ to install the oil seal

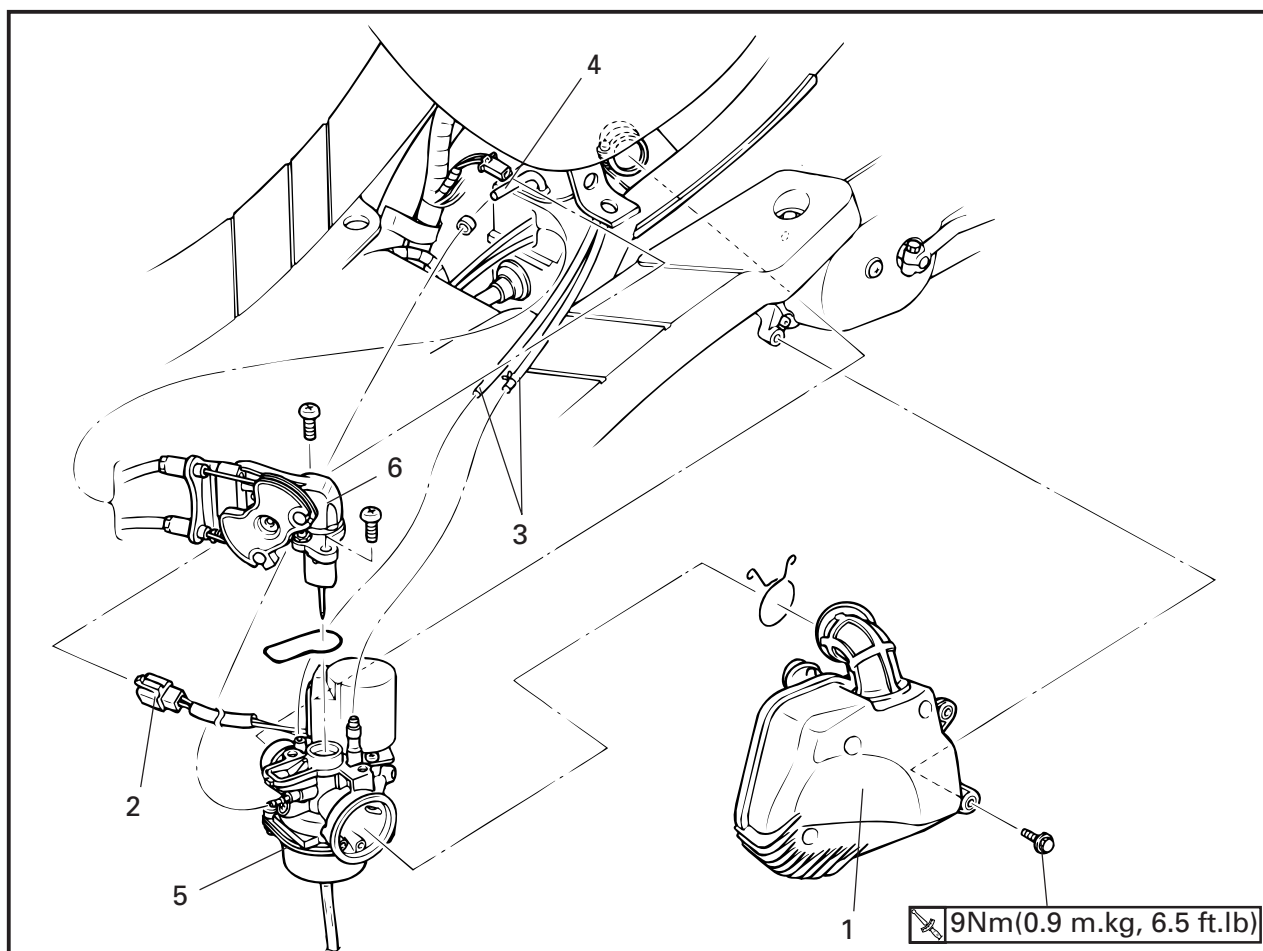


Oil seal driver
YM-1410
Oil seal guide
YM-1409



CARBURETION

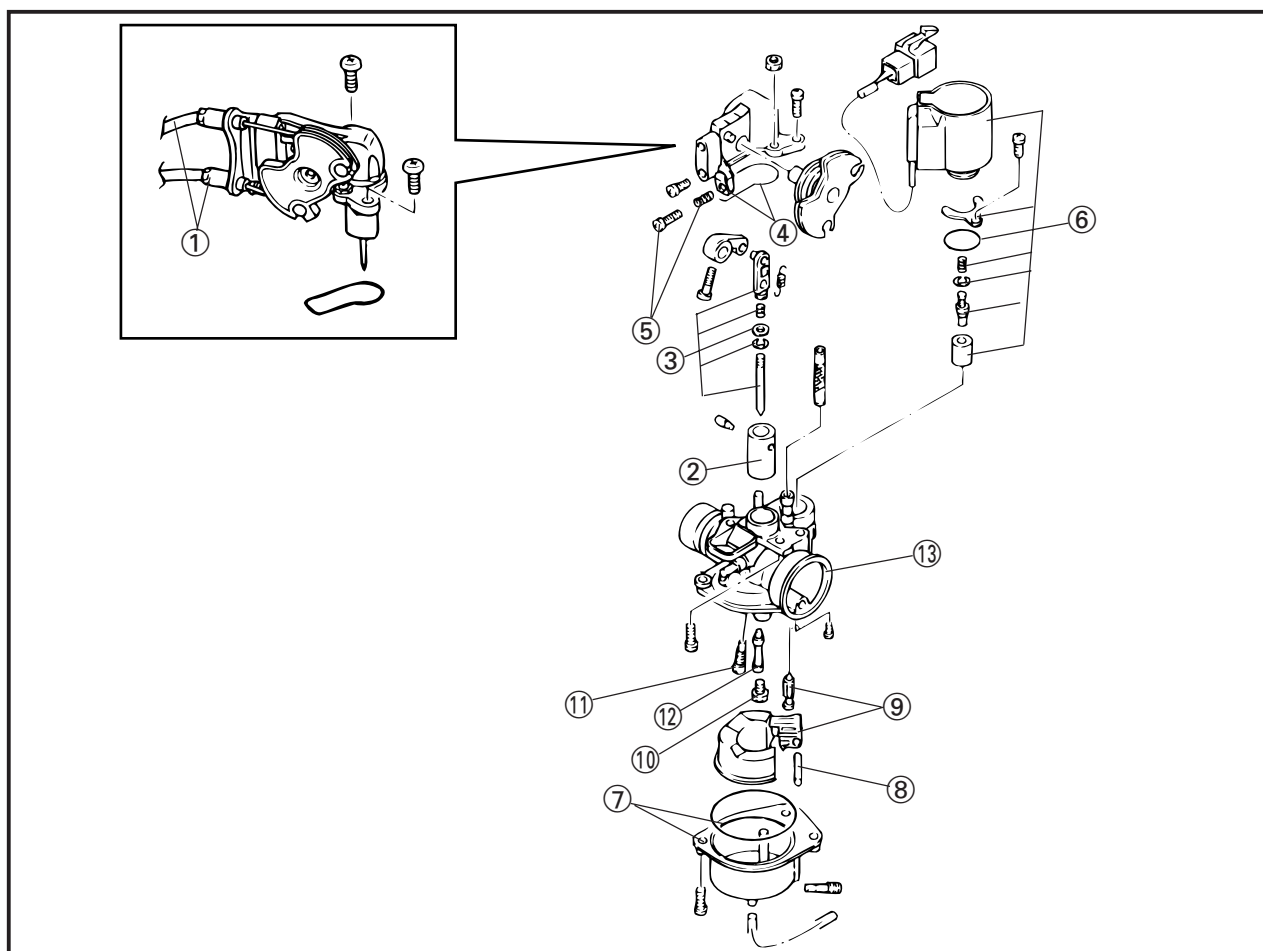
CARBURETOR



Order	Job name/Part name	Q'ty	Remarks
	Carburetor removal		Remove the parts in order.
	Battery box cover		
	Grip		
	End cover		
	Left/Right cover		Refer to "COVER AND PANEL" section in CHAPTER 3.
	Center cover		
1	Air cleaner case assembly	1	
2	Auto choke lead coupler	1	
3	Fuel hose/vacuum hose	1	
4	Oil delivery pipe assembly	1	
5	Carburetor	1	
6	Throttle cable	1	
			Reverse the removal procedure for installation.



CARBURETOR DISASSEMBLY

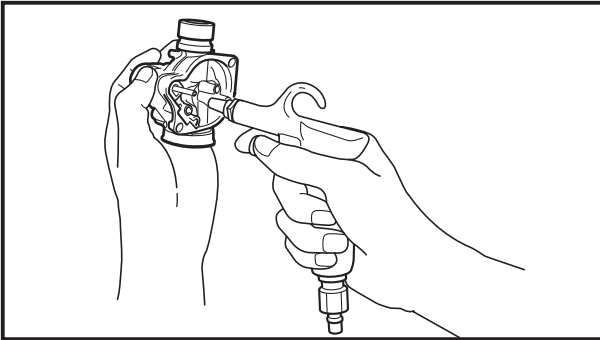


Order	Job name/Part name	Q'ty	Remarks
	Carburetor disassembly		Disassemble the parts in order.
①	Throttle cable	1	
②	Throttle valve	1	
③	Needle set	1	
④	Carburetor top cover/o-ring	1	
⑤	Throttle stop screw	1	
⑥	Auto choke unit assembly	1	
⑦	Float chamber/Seal ring	1/1	
⑧	Float pin	1	
⑨	Float/Needle valve	1	
⑩	Main jet	1	
⑪	Pilot jet	1	
⑫	Main nozzle	1	
⑬	Carburetor body	1	Reverse the removal procedure for installation.



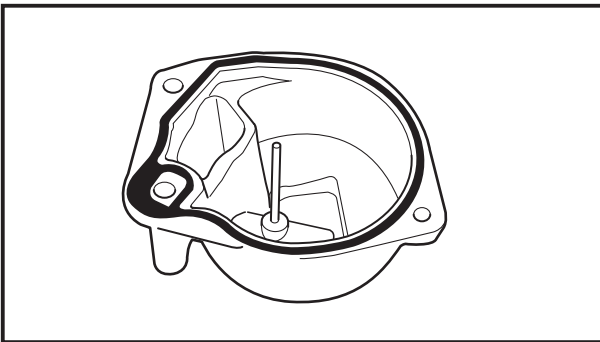
CABURETOR INSPECTION

1. Check:
 - Carburetor body
 - Float chamber
 - Jet housing
 Cracks/damage → Replace.

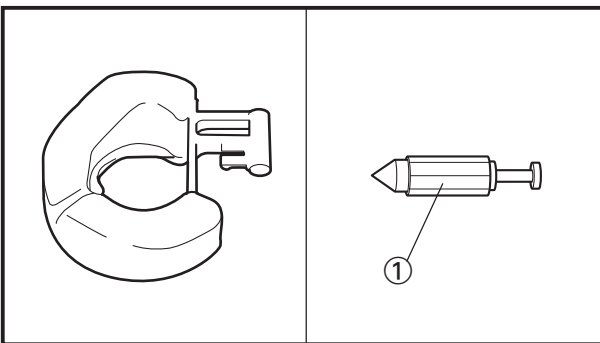


2. Check:
 - Fuel passages
 Obstruction → Clean.

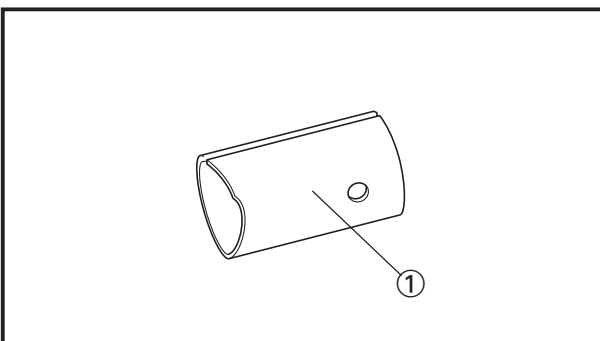
- a. Wash the carburetor in a petroleum-based solvent. Do not use any caustic carburetor cleaning solution.
- b. Blow out all of the passages and jets with compressed air.



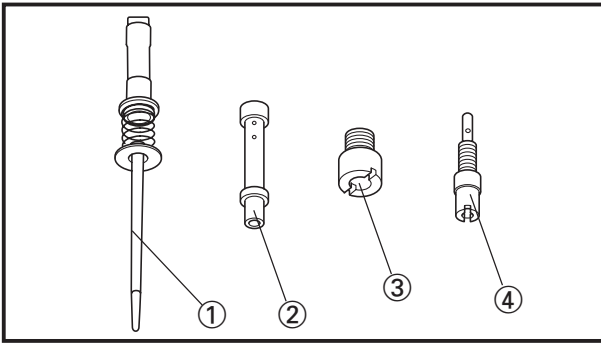
3. Check:
 - Float chamber body
 Dirt → Clean.
4. Check:
 - Float chamber rubber gasket
 Cracks/damage/wear → Replace.
5. Check:
 - Float
 Damage → Replace.



6. Check:
 - Needle valve ①
 Damage/obstruction/wear → Replace the needle valve.



7. Check:
 - Throttle valve ①
 Damage/scratches/wear→ Replace.



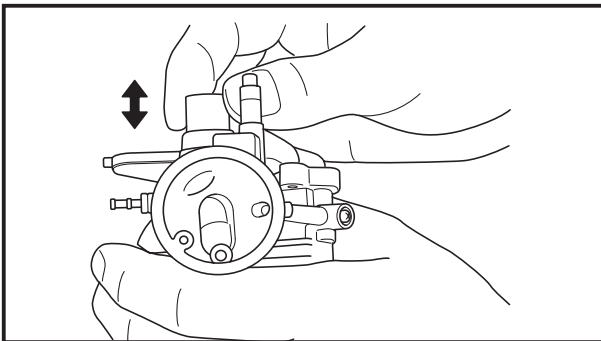
8. Check:

- Jet needle kit ①
- Main nozzle ②
- Main jet ③
- Pilot jet ④

Bends/damage/wear → Replace.

Obstruction → Clean.

Blow out the jets with compressed air.



9. Check:

- Throttle valve movement

Insert the throttle valve into the carburetor

Body and move it up and down.

Tightness → Replace the piston valve.

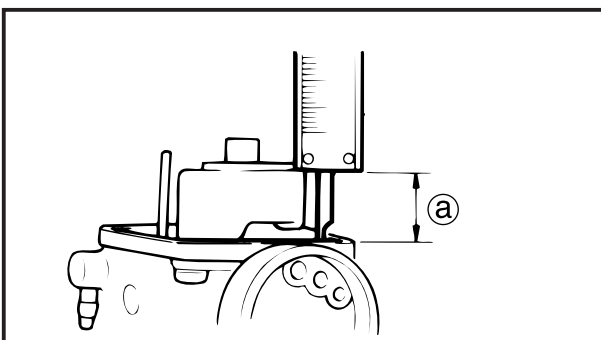
10. Check:

- Vacuum hose
- Fuel hose

Cracks/damage/wear → Replace.

Obstruction → Clean.

Blow out the hoses with compressed air.



11. Measure:

- Float height ①

Out of specification → Inspect needle valve, float and valve seat.



Float height:
15 ~ 17 mm (0.59 ~ 0.67 in)

Float height measurement steps:

- Install the needle valve, float and float pin to the carburetor body.
- Hold the carburetor in an upside down position.
- Measure the distance between the mating surface of the float chamber (gasket removed) and top of the float using a gauge.

**NOTE:**

The float arm should be resting on the needle valve, but not compressing the needle valve.

- If the float height is not within specification, inspect the needle valve, float and valve seat.
- If it is worn, replace it.

NOTE:

The float height is properly adjusted at the Yamaha factory. Never attempt to adjust it.

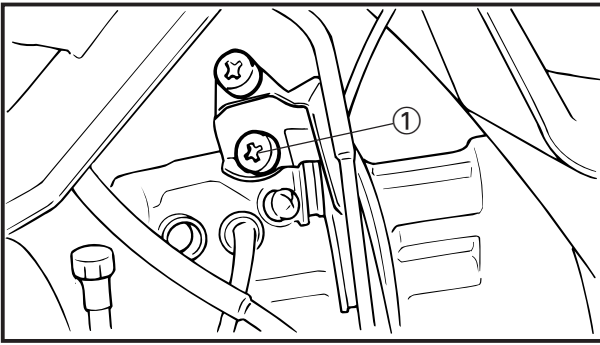
CARBURETOR ASSEMBLY

To assemble the carburetor, reverse the disassembly procedures.

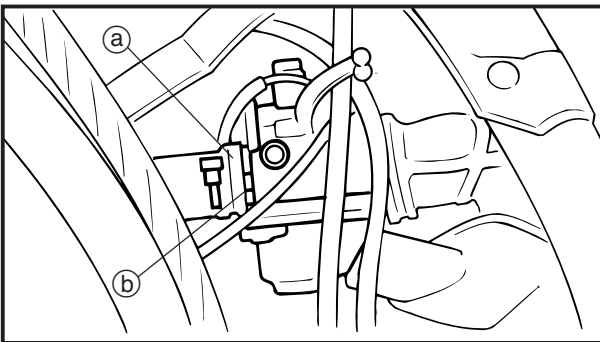
Note the following points.

CAUTION:

- Before reassembling, wash all parts in clean gasoline.
- Always use a new gasket.

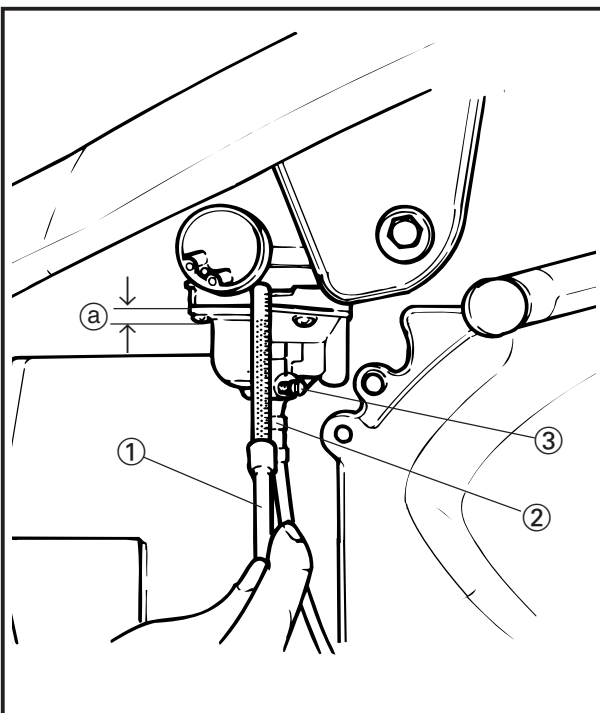


1. Install:
 - Throttle cable ①



2. Install:
 - Carburetor assembly

NOTE: Align the projection (a) with the projections (b).



FUEL LEVEL ADJUSTMENT

1. Measure:
 - Fuel level (a)

Out of specifications → Adjust.



Fuel level (a):
3.0~4.0 mm (0.12~0.16 in)
(Below the float chamber line)

Measurement steps:

- Place the scooter on a level surface.
- Use a garage jack under the engine to ensure that the carburetor is positioned vertically.
- Connect the fuel level gauge ① to the drain pipe ②.

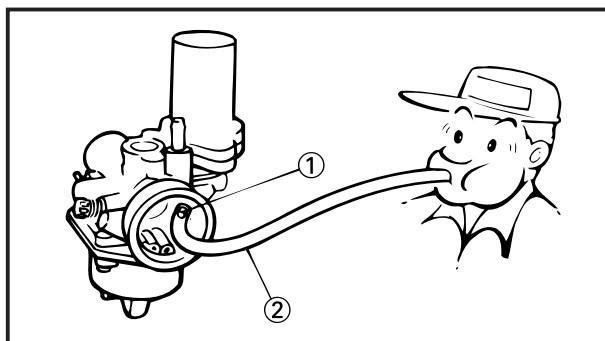


Fuel level gauge:
YM-01312-A

- Loosen the drain screw ③.
- Measure the fuel level (a) with the gauge.
- If the fuel level is incorrect, adjust the fuel level:
- Remove the float chamber float and the needle valve.
- Inspect the needle valve.
- If it is worn, replace it.



- Install the carburetor.
- Recheck the fuel level.



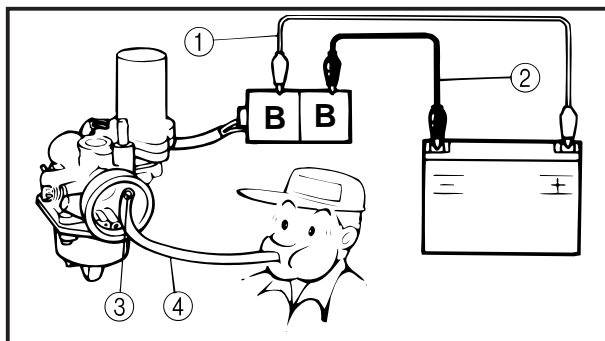
AUTO CHOKE INSPECTION

(Ambient temperature lower than 45°C)

1. Remove:
 - Carburetor
2. Inspect:
 - Autochoke unit

Connect a suitable hose ② to the starter ①, and blow it with the mouth etc.
Possible→Good condition.
Impossible→Replace auto choke unit.

3. Inspect:
 - Auto choke unit (with battery)



Inspection and adjustment steps:

- Connect auto choke unit leads to the 12 V battery for 5 minutes.
Black terminal→12 V battery (+) ①
Black terminal→12 V battery (-) ②
- Connect a suitable hose ④ to the starter ③, and blow it with the mouth etc.
Possible→Replace auto choke unit.
Impossible→Good condition.

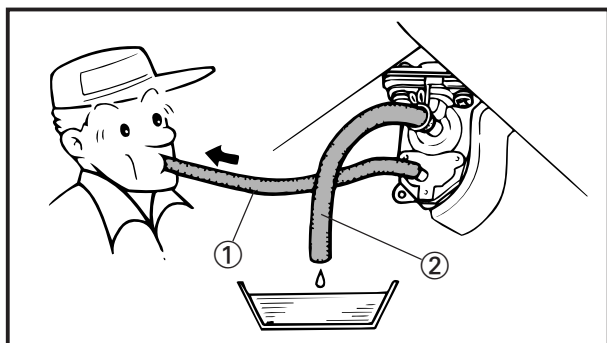
**FUEL COCK INSPECTION**

1. Stop the engine.
2. Remove:
 - Rear carrier
 - Tail cover
 - Left side cover
 - Battery box coverRefer to "COVER AND PANEL" section in chapter 3.
3. Inspect:
 - Fuel cock

Fuel cock inspection steps:

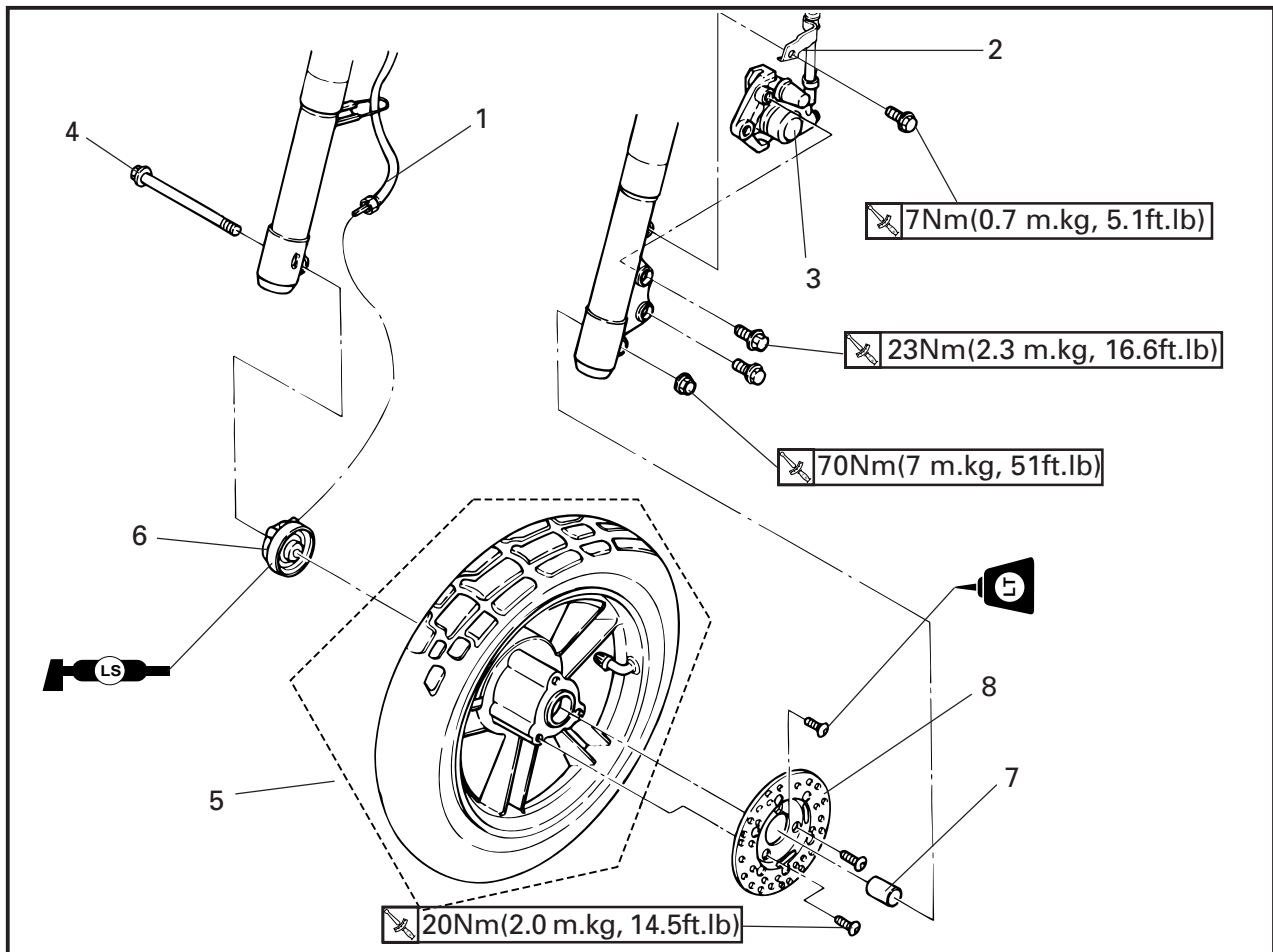
- Disconnect the fuel hose ①.
- Place the receptacle under the fuel hose end.
- If fuel stops flowing out in a few seconds, the fuel cock is in good condition. If not, clean or replace the fuel cock.
- Disconnect the vacuum hose ② and breathe in the vacuum hose with the mouth etc. for vacuum .
- If fuel flows out of the fuel hose under vacuum and stops under non-vacuum, the fuel cock is in good condition.
If not, clean or replace the vacuum hose, fuel hose and fuel cock.

4. Install:
 - Battery box cover
 - Left side cover
 - Tail cover
 - Rear carrier



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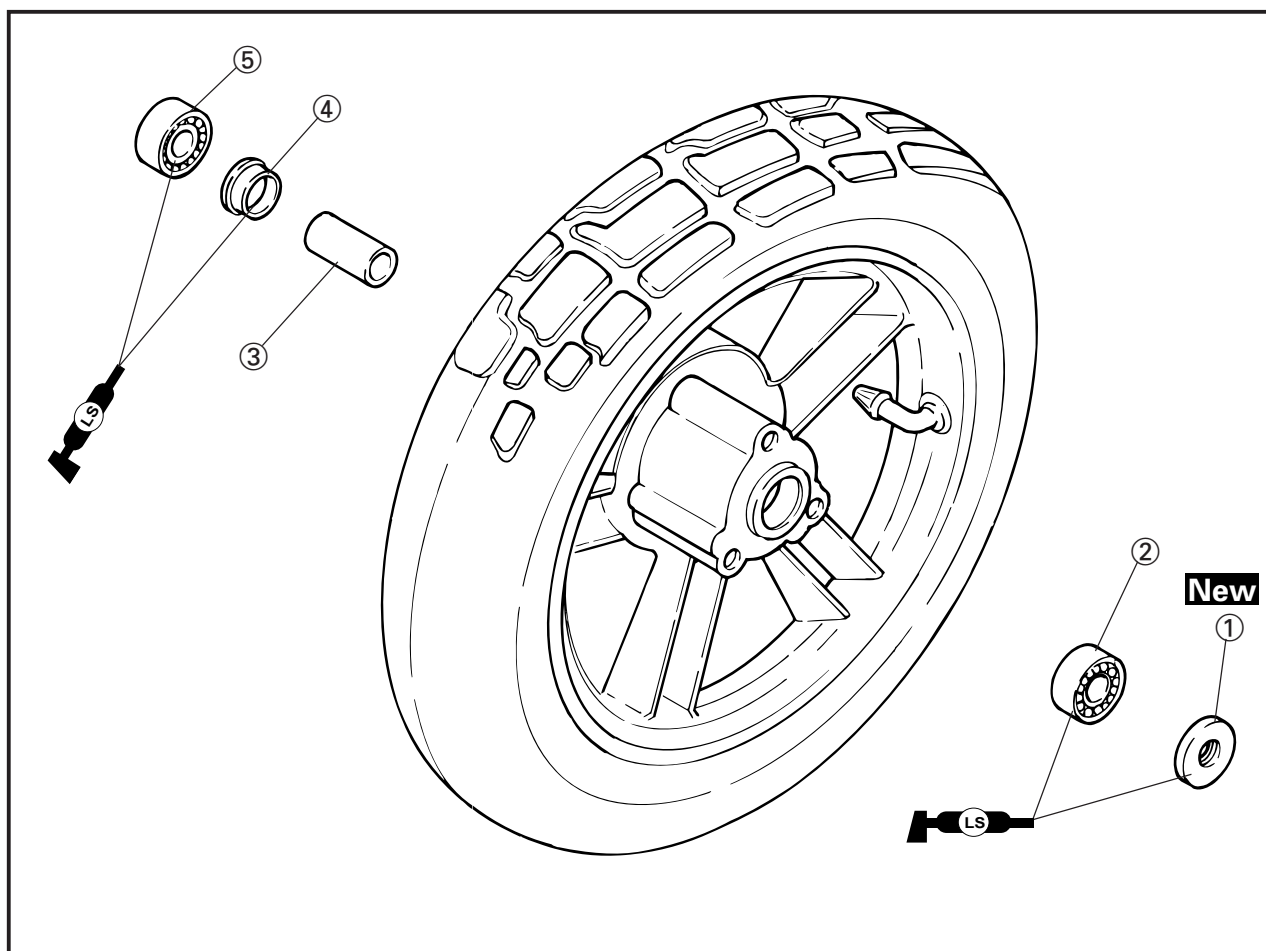
FRONT WHEEL AND BRAKE DISC



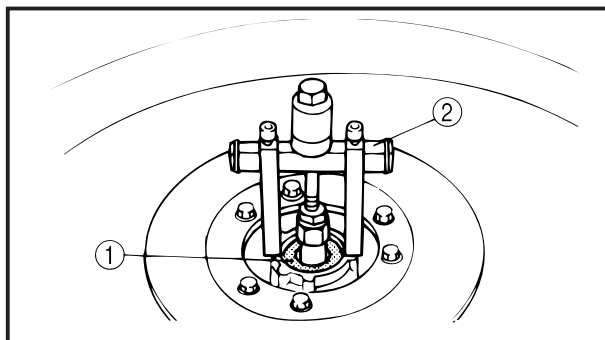
Order	Job name/Part name	Q'ty	Remarks
	Front wheel and brake disc removal		Remove the parts in order.
			⚠ WARNING
			Securely support the scooter so there is no danger of it falling over.
1	Speedometer cable	1	Refer to "FRONT WHEEL INSTALLATION" section.
2	Front brake hose holder	1	
3	Brake caliper	1	
4	Wheel axle	1	
5	Front wheel assembly	1	
6	Gear unit assembly	1	Refer to "FRONT WHEEL ASSEMBLY" section.
7	Collar	1	
8	Brake disc	1	
			Reverse the removal procedure for installation.



FRONT WHEEL DISASSEMBLY



Order	Job name/Part name	Q'ty	Remarks
	Front wheel disassembly		Remove the parts in order.
①	Oil seal	1	Refer to "FRONT WHEEL DISASSEMBLY/ASSEMBLY" section.
②	Bearing	1	
③	Collar	1	
④	Spacer	1	
⑤	Bearing	1	
			Reverse the removal procedure for installation.



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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.

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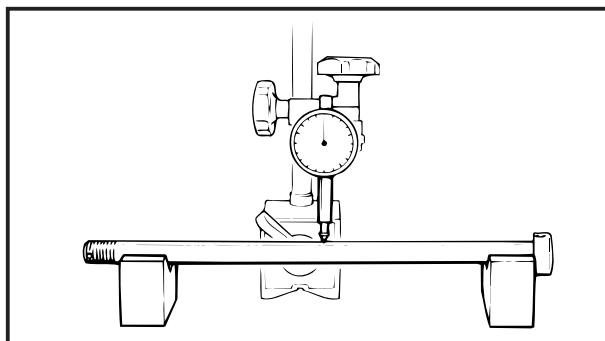
FRONT WHEEL INSPECTION

1. Inspect:

- Front wheel axle
(by rolling it on a flat surface)
Bends→Replace.

WARNING

Do not attempt to straighten a bent wheel axle.



Wheel axle bending limit:
0.25 mm (0.0098 in)

2. Inspect:

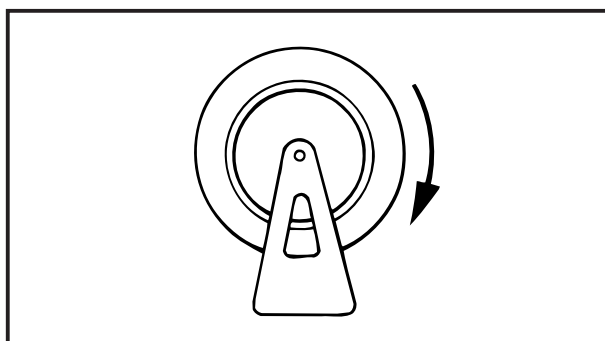
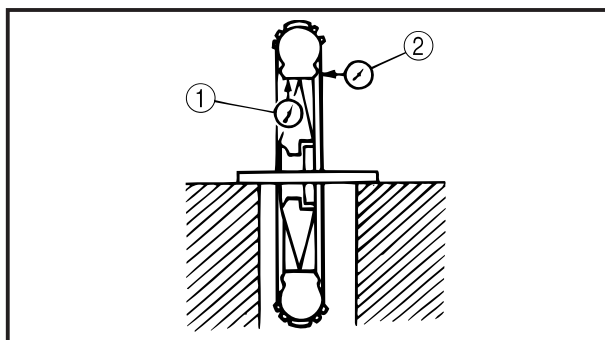
- Front tire
Wear/damage→Replace.
Refer to "TIRE INSPECTION" in CHAPTER 3.
- Front wheel
Refer to "WHEEL INSPECTION" in CHAPTER 3.

3. Measure:

- Front wheel runout
Over the specified limits→Replace.

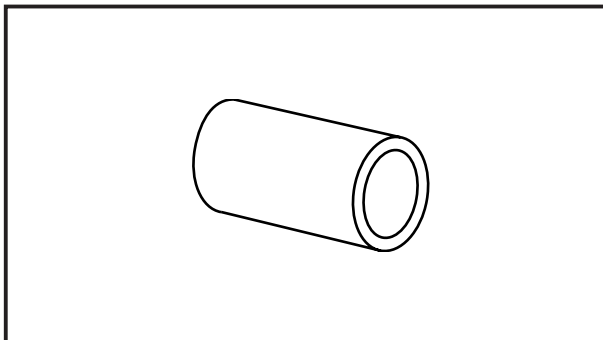


Front wheel runout limits:
Radial ①: 1.0 mm (0.04 in)
Lateral ②: 1.0 mm (0.04 in)



4. Inspect:

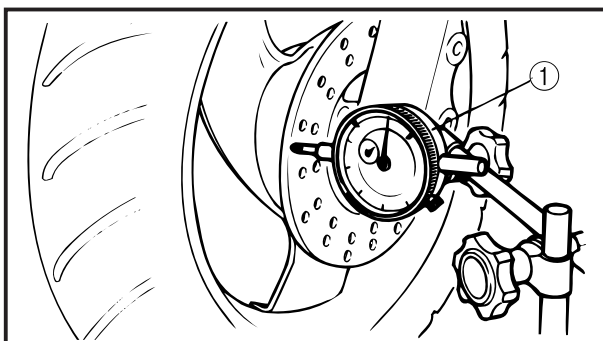
- Front wheel bearings
Bearings allow free play in the wheel hub or the wheel does not turn smoothly→ Replace.
- Oil seals
Wear / damage→Replace.



4. Inspect:

- Collar

Grooved wear→Replace the collar and the oil seal as a set.



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BRAKE DISC INSPECTION

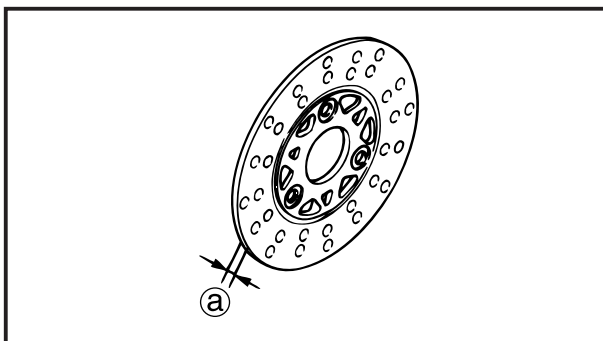
1. Measure:

- Brake disc deflection①



Maximum deflection:
0.15 mm (0.0059 in)

Out of specification→Replace.



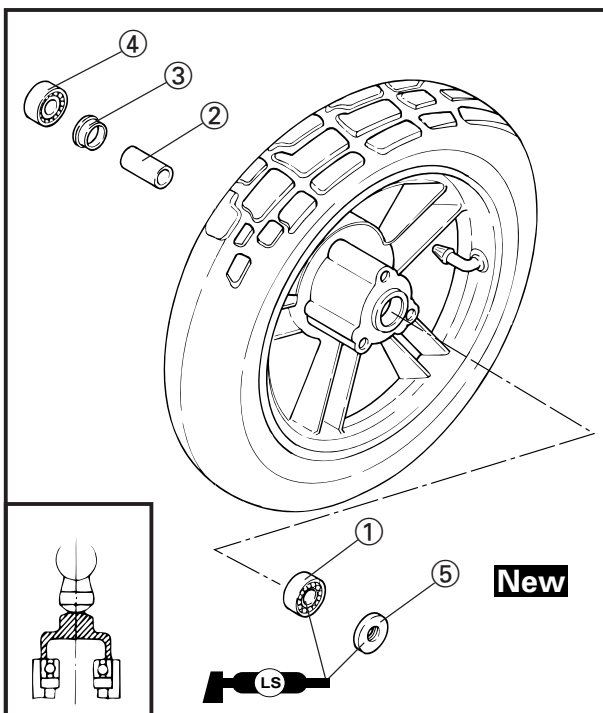
2. Measure:

- Brake disc thickness②



Brake disc thickness:
4.0 mm (0.16 in)
Minimum thickness:
3.5 mm(0.14 in)

Out of specification→Replace.



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FRONT WHEEL ASSEMBLY

1. Install:

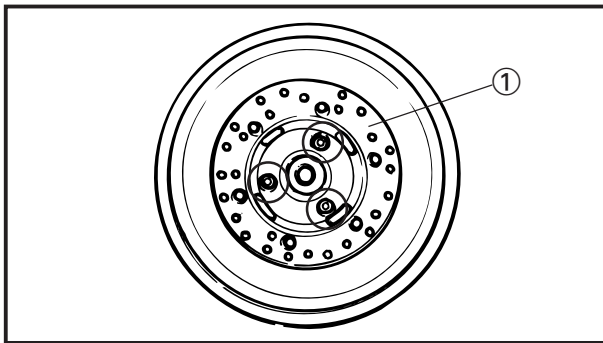
- Bearing ①
- Collar ②
- Spacer ③
- Bearing ④
- Oil seal ⑤

NOTE:


- Apply the lithium soap base grease on the bearing and oil seal lip when installing.
- Use a socket that matches the outside diameter of the race of the bearing.
- Always use a new oil seal.
- Install the oil seal with its manufacturer's marks or numbers facing outward.

CAUTION:

Do not strike the inner race of balls of the bearing. Contact should be made only with the outer race.



2. Install:

- Brake disc ①  20 Nm(2.0 m.kg, 14 ft.lb)

NOTE:

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

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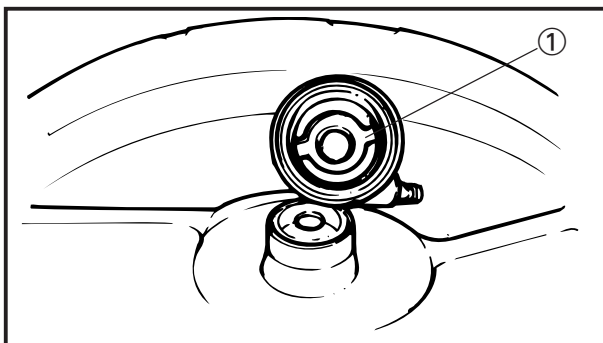
FRONT WHEEL INSTALLATION

Reverse the "REMOVAL" procedure.

Note the following points.

1. Lubricate:

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



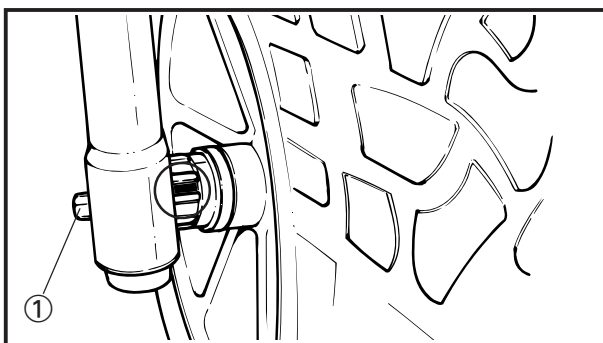
Recommended lubricant:
Lithium soap base grease

2. Install:

- Speedometer gear unit ①

NOTE:

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



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 ①
- Axle nut (front wheel axle)



70 Nm(7.0 m.kg, 51 ft.lb)

CAUTION:

Before tightening the axle nut, stroke the front fork several times to check for proper fork operation.

⚠ WARNING

Make sure that the brake hose is routed properly.

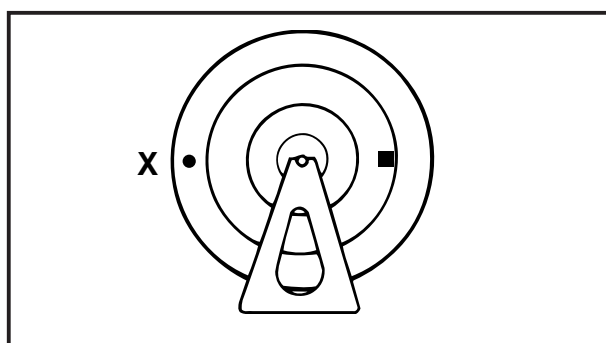
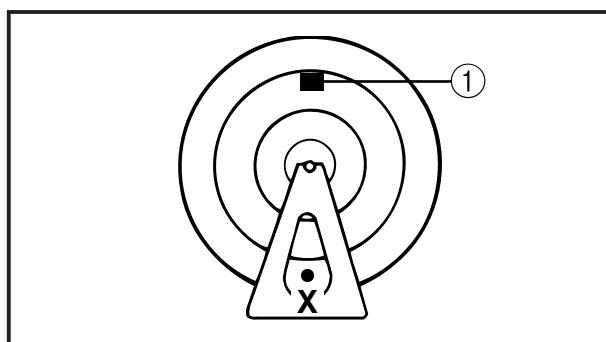
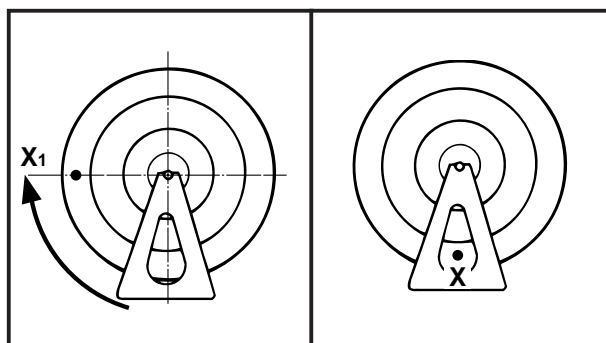
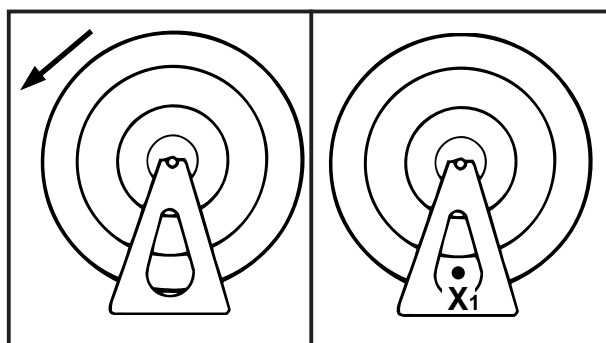


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WHEEL STATIC BALANCE ADJUSTMENT

NOTE:

- After replacing the tire and/or rim, the wheel static balance should be adjusted.
- Adjust the front wheel static balance with the brake disc installed.



1. Remove:
 - Balancing weight
2. Set:
 - Wheel
(on a suitable stand)
3. Find:
 - Heavy spot

Procedure:

- a. Spin the wheel and wait for it to rest.
- b. Put an "X1" mark on the wheel's bottom spot.
- c. Turn the wheel so that the "X1" mark is 90° up.
- d. Release the wheel and wait for it to rest. Put an "X2" mark on the wheel's bottom spot.
- e. Repeat the above b., c., and d. several times until all marks come to the same spot.
- f. This spot is the wheel's heavy spot "X".

4. Adjust:
 - Wheel static balance

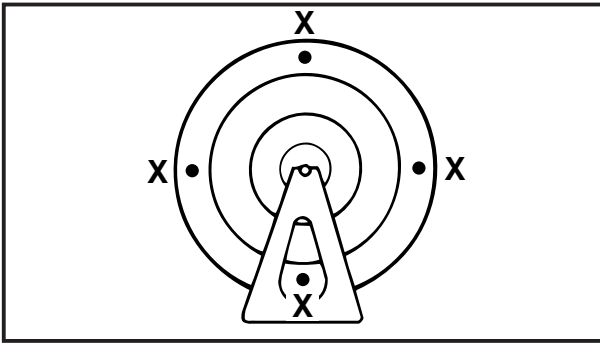
Adjusting steps:

- Install a balancing weight ① on the rim exactly opposite to the heavy spot "X".

NOTE:

Start with the smallest weight.

- Turn the wheel so that the heavy spot is 90° up.
- Check that the heavy spot is at rest there. If not, try another weight until the wheel is balanced.



5. Check:

- Wheel static balance

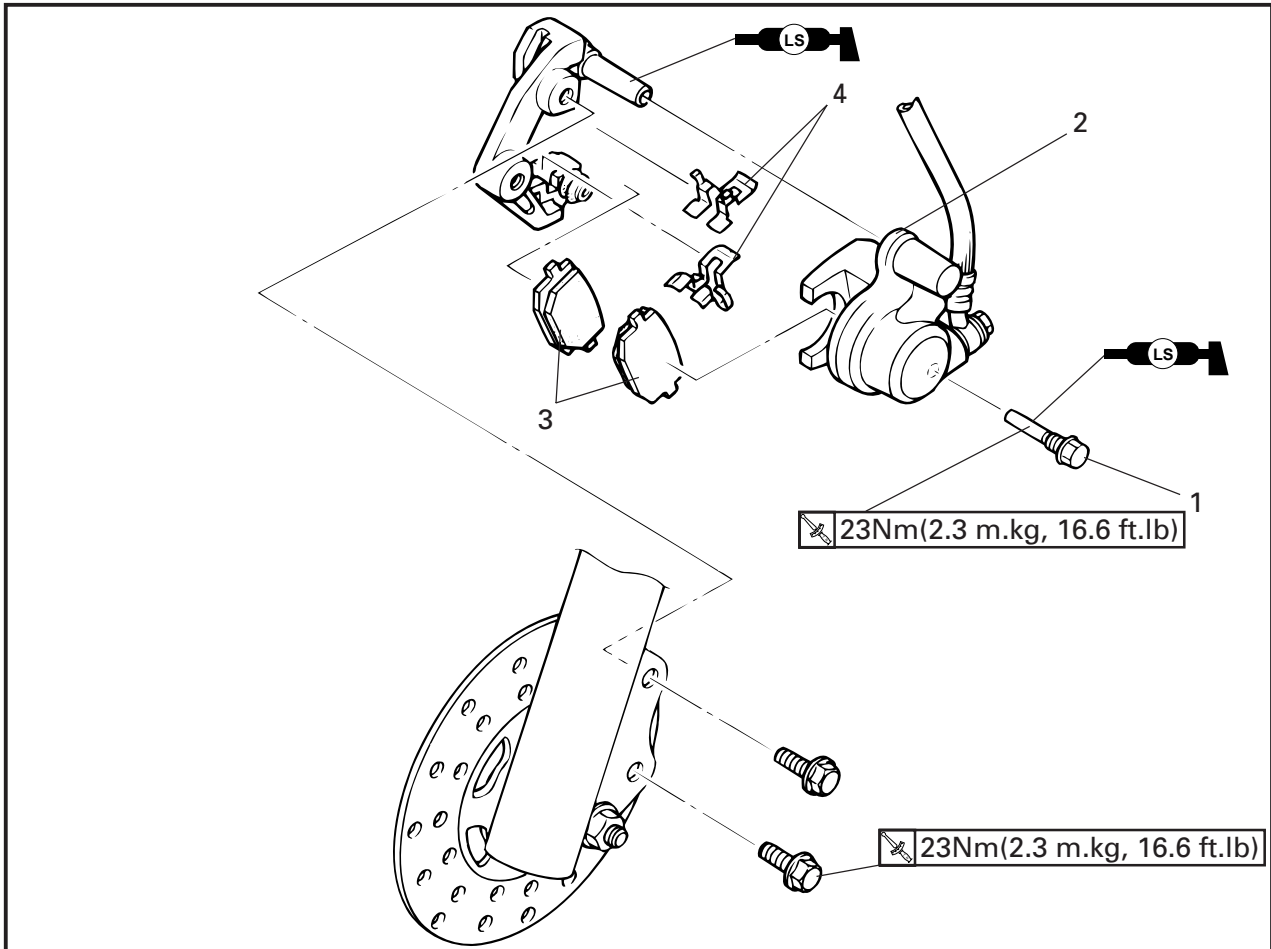
Checking steps:

- Turn the wheel so that it comes to each point as shown.
- Check that the wheel is at rest at each point.

If not, readjust the front wheel static balance.

FRONT BRAKE

BRAKE PAD

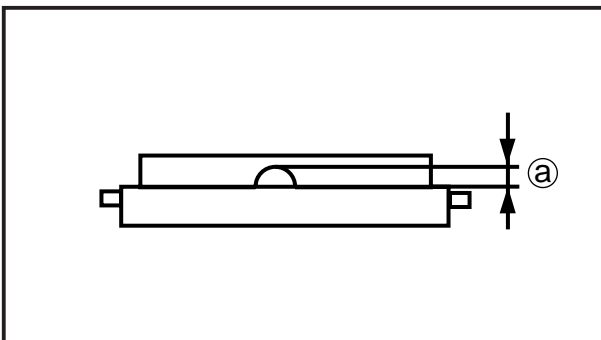
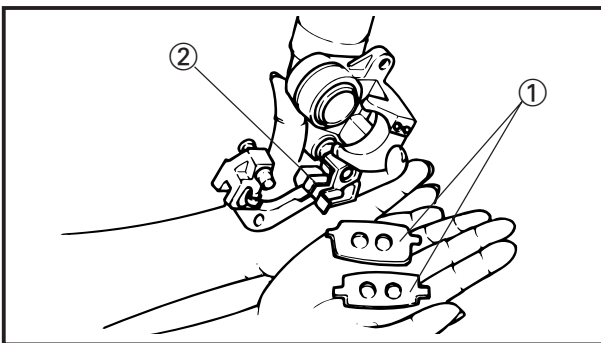
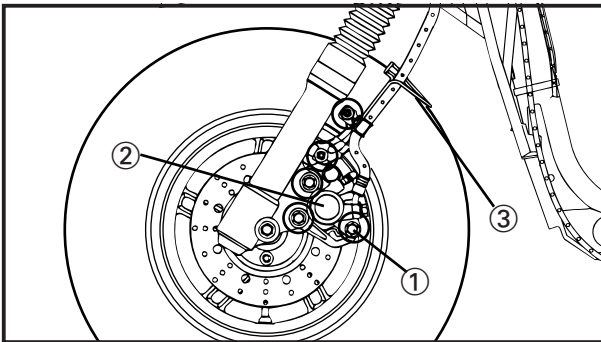


Order	Job name/Part name	Q'ty	Remarks
1	Brake pad removal	1	Remove the parts in order. Refer to " BRAKE PAD REPLACEMENT " section . Reverse the removal procedure for installation.
2	Caliper support bolt	1	
3	Caliper	1	
4	Brake pad	2	
	Pad spring	2	

CAUTION:

Disc brake components rarely require disassembly. **DO NOT:**

- Disassembly components unless absolutely necessary.
- Use solvents in internal brake component.
- Use contaminated brake fluid for cleaning.
- Use only clean fluid.
- Allow brake fluid to come in contact with the eyes otherwise eye injury may occur.
- Allow brake fluid to contact painted surfaces or plastic parts otherwise damage may occur.
- Disconnect any hydraulic connection otherwise the entire system must be disassembled, drained, cleaned, and then properly filled and bled after reassembly.



BRAKE PAD REPLACEMENT

NOTE:

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

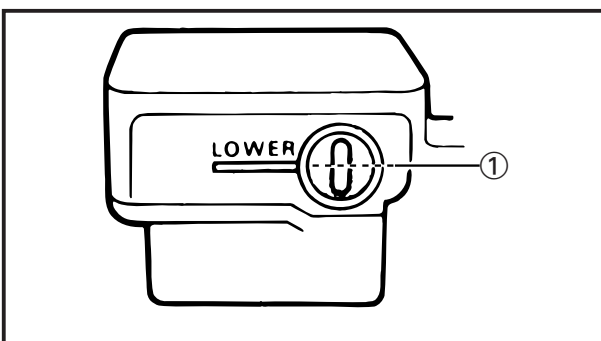
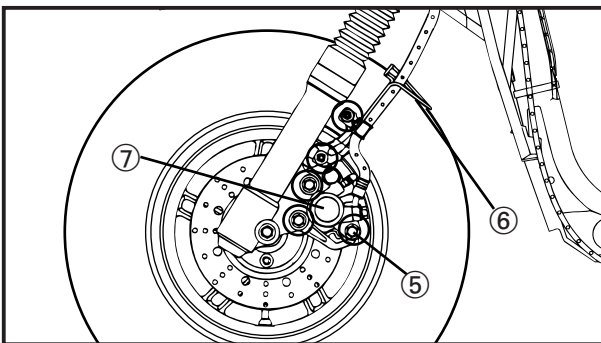
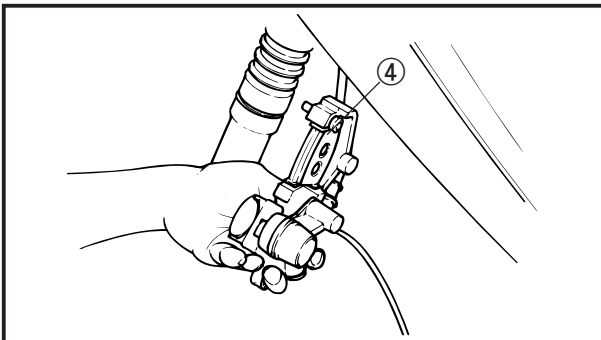
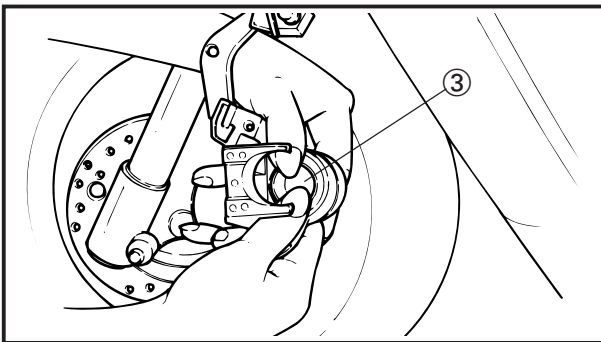
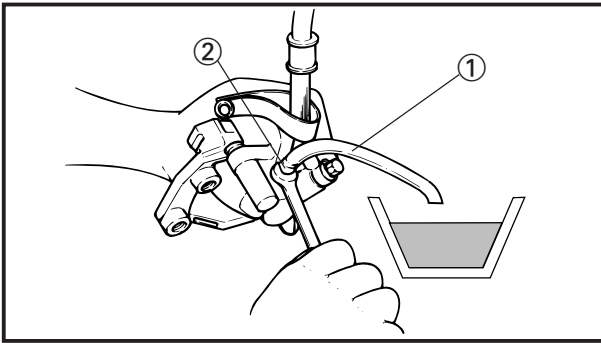
1. Loosen:
 - Retaining bolt ①
2. Remove:
 - Brake caliper ②
 - Holder (brake hose) ③
3. Remove:
 - Retaining bolt
 - Pads ①
 - Pad spring ②

NOTE:

- Replace the pad spring if the pad replacement is required.
- Replace the pads as a set if either is found to be worn to the wear limit.



Wear limit (a):
0.8 mm (0.03 in)



4. Install:

- Pad springs
- Brake pads (new)

Installation steps:

- Connect a suitable hose (1) tightly to the caliper bleed screw (2). Then, place the other end of this hose into an open container.
- Loosen the caliper bleed screw and push the piston (3) into the caliper by your finger.
- Tighten the caliper bleed screw.

6 Nm (0.6 m.kg, 4.3 ft.lb)

- Install the pad spring (new) and brake pad (new) (4)
- Tighten retaining bolt (5)

23 Nm (2.3 m.kg, 16.6 ft.lb)

- Install brake hose holder (6)

7 Nm (0.7 m.kg, 5.15 ft.lb)

- Install caliper (7)

23 Nm (2.3 m.kg, 16.6 ft.lb)

5. Inspect:

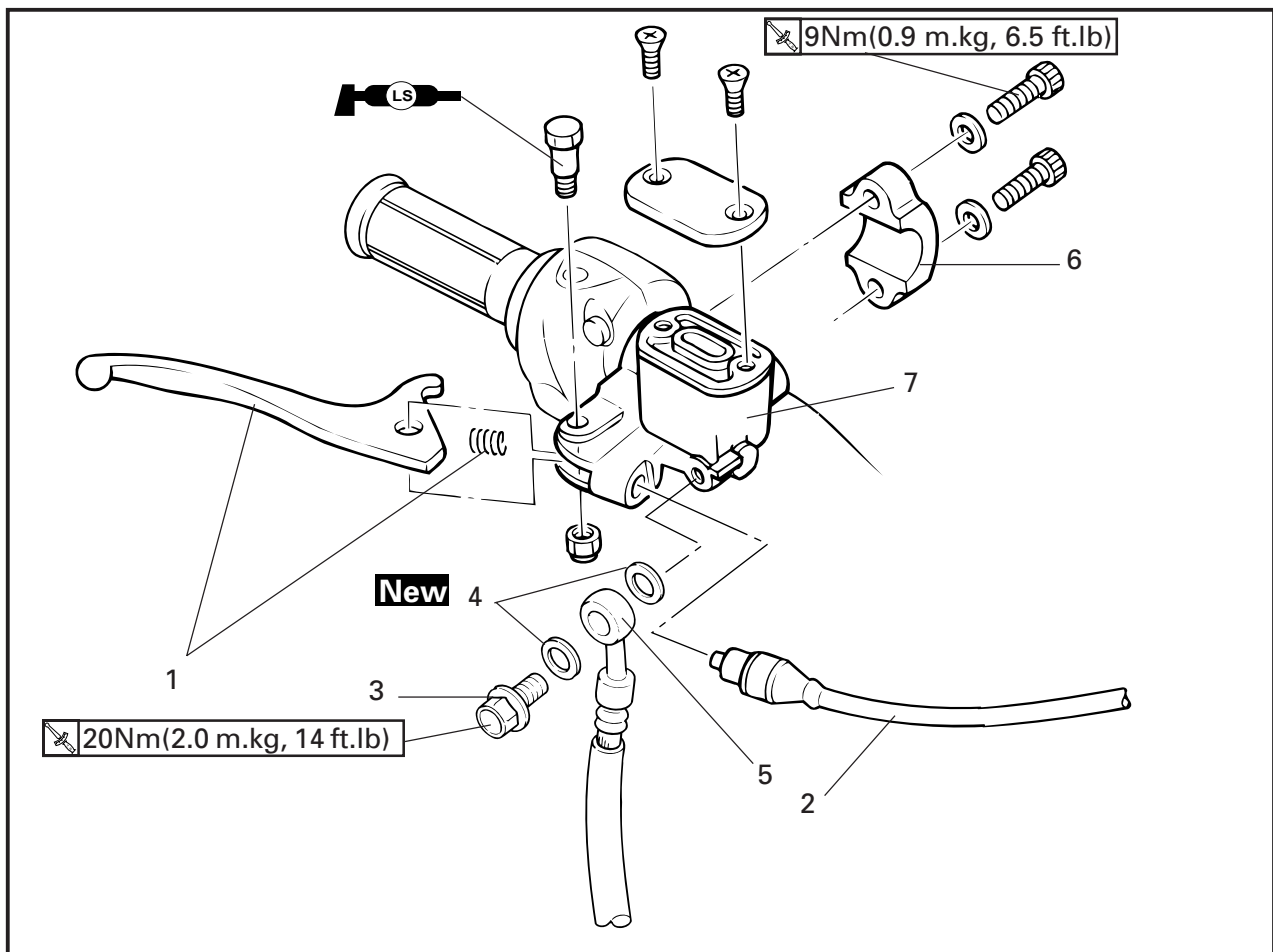
- Brake fluid level

Refer to the "BRAKE FLUID INSPECTION" section in the CHAPTER 3.

① "LOWER" level line

6. Check:
 - Brake lever operation
A softy or spongy feeling Bleed→brake system.
Refer to “ AIR BLEEDING ” section in the CHAPTER 3.

MASTER CYLINDER



Order	Job name/Part name	Q'ty	Remarks
	Master cylinder removal Drain the brake fluid		Remove the parts in order. Refer to "BRAKE FLUID REPLACEMENT" section in CHAPTER 3.
1	Brake lever/compression spring	1/1	Refer to "MASTER CYLINDER INSTALLATION" section.
2	Brake switch	1	
3	Union bolt	1	
4	Copper washer	2	
5	Brake hose	1	
6	Master cylinder bracket	1	Reverse the removal procedure for installation.
7	Master cylinder	1	