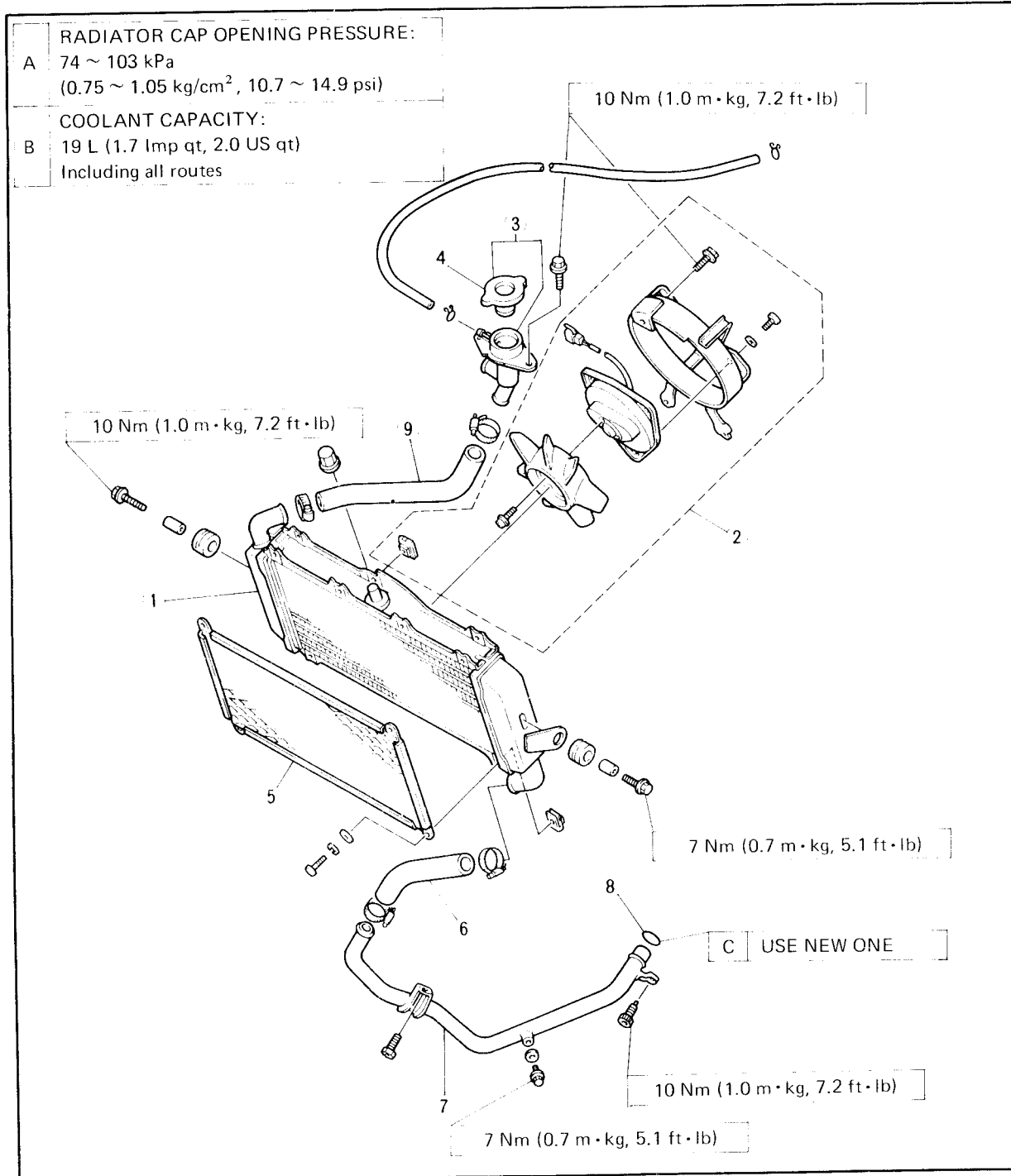




## COOLING SYSTEM

### RADIATOR

- |                         |                            |
|-------------------------|----------------------------|
| ① Radiator assembly     | ⑥ Hose (Radiator – Outlet) |
| ② Fan motor assembly    | ⑦ Outlet pipe              |
| ③ Radiator cap assembly | ⑧ O-ring                   |
| ④ Radiator cap          | ⑨ Hose (Radiator – Inlet)  |
| ⑤ Radiator cover        |                            |



**REMOVAL****1. Remove:**

- Lower cowlings (Left and Right)
- Side cowlings (Left and Right)

Refer to the "COWLING REMOVAL AND INSTALLATION — REMOVAL" section in the CHAPTER 3.

**2. Drain:**

- Cooling system

Refer to the "COOLANT REPLACEMENT" section in the CHAPTER 3.

**3. Remove:**

- Muffler assembly

**NOTE:**

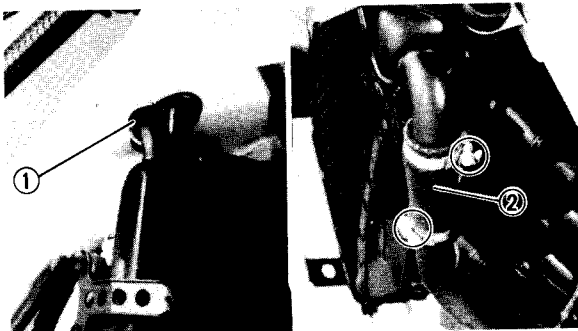
Thoroughly flush the cooling system with clean tap water.

**⚠ CAUTION:**

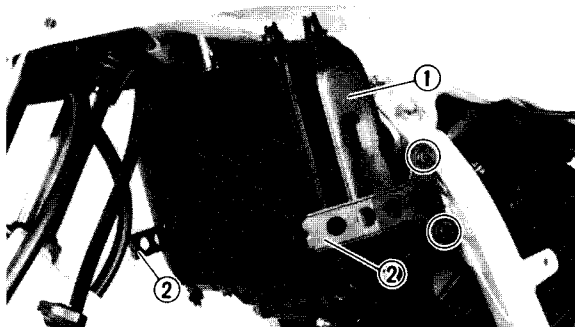
Take care so that coolant does not splash on painted surfaces. If splashes, wash it away with water.

**⚠ WARNING:**

Do not remove the radiator cap, drain bolt and hoses especially when the engine and radiator are hot. Scalding hot fluid and steam may be blown out under pressure, which could cause serious injury. When the engine has cooled, place a thick rag like a towel over the radiator cap, slowly rotate the cap counterclockwise to the detent. This procedure allows any residual pressure to escape. When the hissing sound has stopped, press down on the cap while turning counterclockwise and remove it.

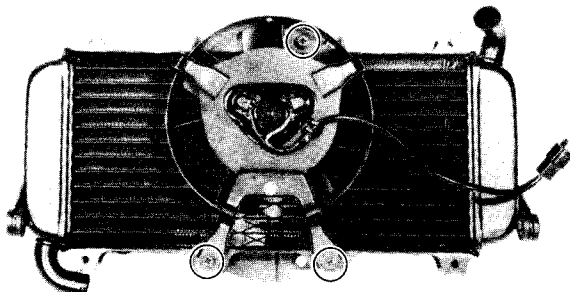
**4. Disconnect:**

- Hose (Radiator — Inlet) ①
- Hose (Radiator — Outlet) ②



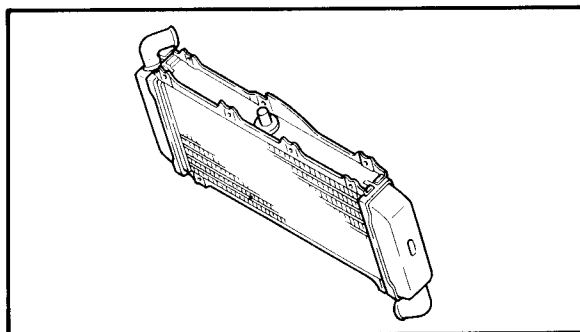
## 5. Remove:

- Radiator assembly ①
- Cowling stay ②



## 6. Remove:

- Fan motor assembly



## INSPECTION

## 1. Inspect:

- Radiator core

Obstruction → Blow out with compressed air through rear of the radiator.

Flattened fin → Repair/replace.

## 2. Inspect:

- Hose (Radiator – Inlet)  
Cracks/Damage → Replace.
- Hose (Radiator – Outlet)  
Cracks/Damage → Replace.
- Outlet pipe  
Cracks/Damage → Replace.

## 3. Measure:

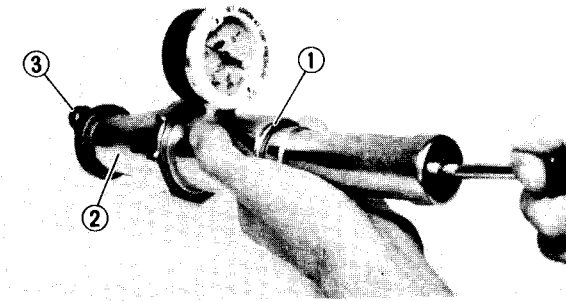
- Radiator cap opening pressure

Radiator cap opens at pressure below the specified pressure → Replace.

## Radiator Cap Opening Pressure:

74 ~ 103 kPa

(0.75 ~ 1.05 kg/cm<sup>2</sup>, 10.7 ~ 14.9 psi)

**Measurement steps:**

- Attach the Cooling System Tester ① and Adapter ② to the radiator cap ③ .



**Cooling System Tester:**  
YU-24460-01

**Adapter:**  
YU-33984

- Apply the specified pressure for 10 seconds, and make sure there is no pressure drop.

**INSTALLATION**

Reverse the "REMOVAL" procedure.  
Note the following points.

1. Install:

- Fan motor assembly



**Screws (Fan Motor Assembly):**  
10 Nm (1.0 m · kg, 7.2 ft · lb)

2. Install:

- Radiator



**Bolts (Radiator):**  
7 Nm (0.7 m · kg, 5.1 ft · lb)

3. Fill:

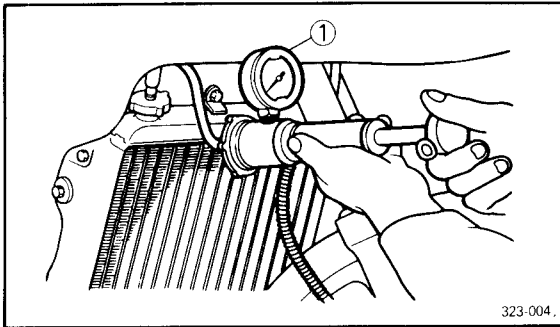
- Cooling system

Refer to the "COOLANT REPLACEMENT" section in the CHAPTER 3.

4. Inspect:

- Cooling system

Decrease of pressure (leaks) → Repair required.

**Inspection steps:**

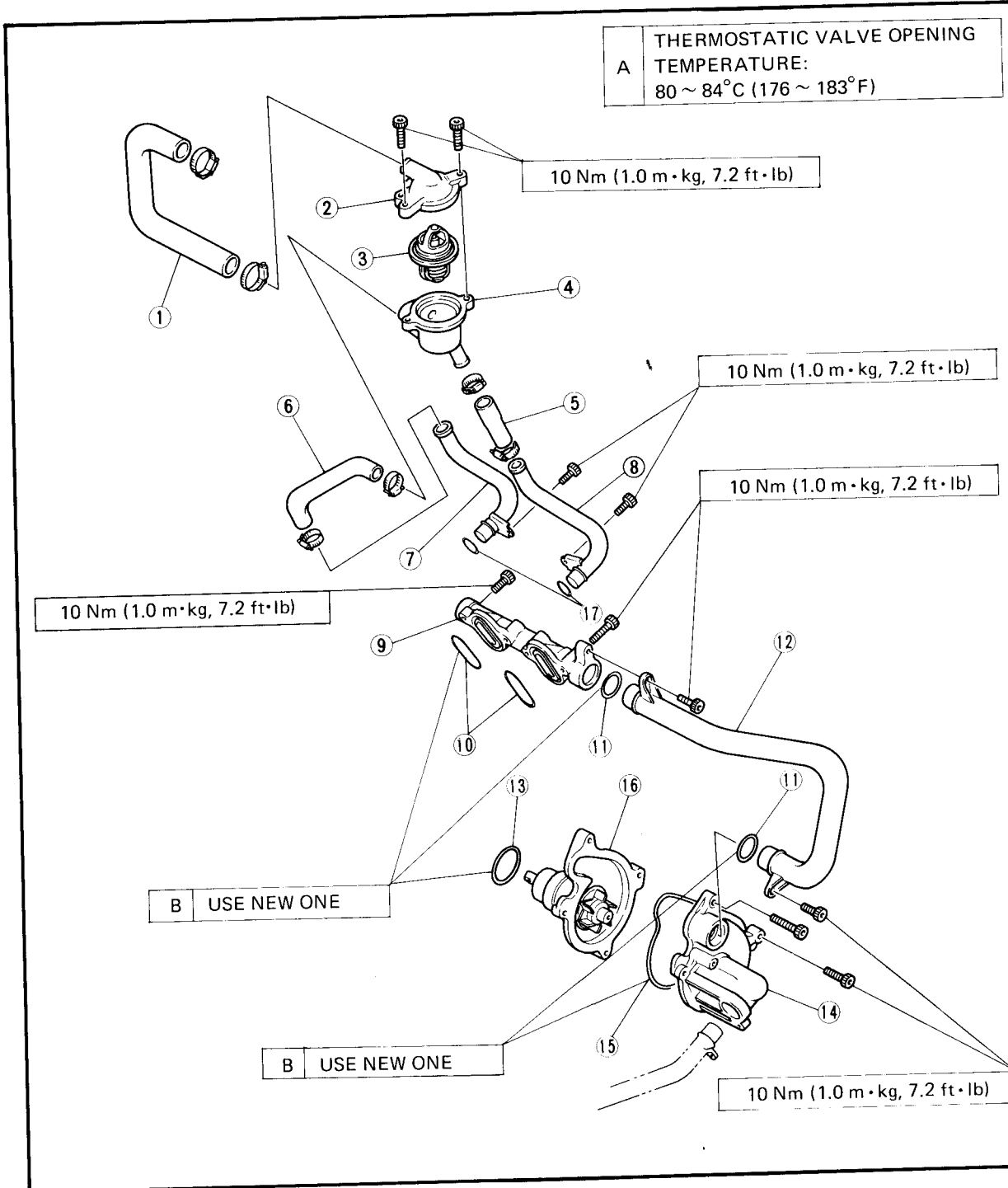
- Attach the Cooling System Tester ① to the radiator.

**Cooling System Tester:  
YU-24460-01**

- Apply 100 kPa (1.0 kg/cm<sup>2</sup>, 14 psi) pressure .
- Measure the indicated pressure with the gauge.

## WATER PUMP AND THERMOSTATIC VALVE

- |                        |                      |                      |
|------------------------|----------------------|----------------------|
| ① Hose 3               | ⑦ Pipe 2             | ⑬ O-ring             |
| ② Thermostatic cover   | ⑧ Pipe 1             | ⑭ Water pump cover   |
| ③ Thermostatic         | ⑨ Water jacket joint | ⑮ O-ring             |
| ④ Thermostatic housing | ⑩ O-ring             | ⑯ Water pump housing |
| ⑤ Hose 1               | ⑪ O-ring             | ⑰ O-ring             |
| ⑥ Hose 2               | ⑫ Water pipe         |                      |





### REMOVAL

#### 1. Remove:

- Lower cowlings (Left and right)
- Center cowlings (Left and right)
- Seat
- Top cover

Refer to the "COWLING REMOVAL AND INSTALLATION — REMOVAL" section in the CHAPTER 3.

#### 2. Drain:

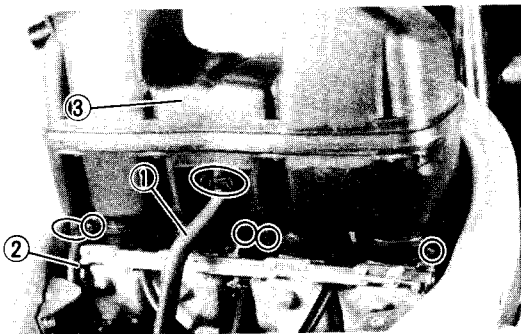
- Cooling system

Refer to the "COOLANT REPLACEMENT" section in the CHAPTER 3.

#### 3. Remove:

- Fuel tank

Refer to the "CARBURETOR — REMOVAL" section in the CHAPTER 6.

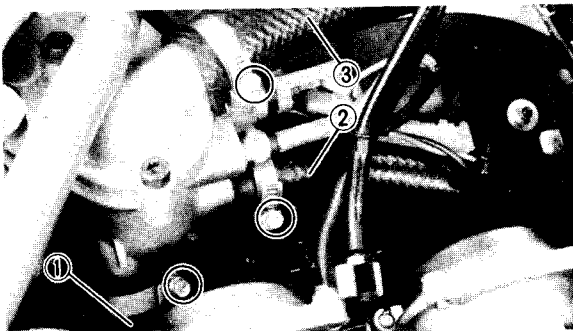


#### 4. Disconnect:

- Crankcase ventilation hose ①
- Air vent hose ②

#### 5. Remove:

- Air filter case ③

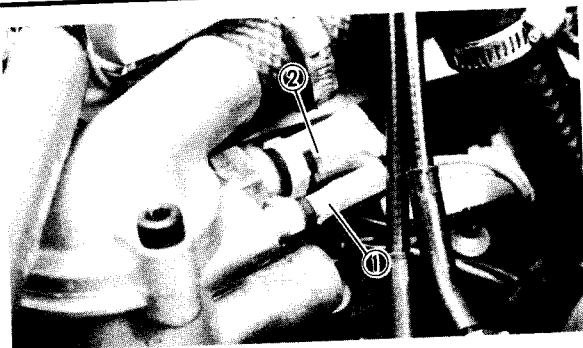


#### 6. Disconnect:

- Hose 1 ①
- Hose 2 ②
- Hose 3 ③

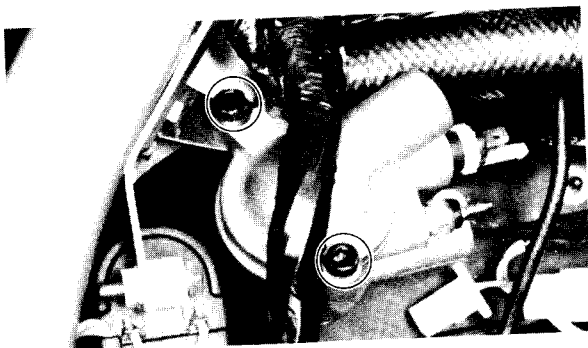
## WATER PUMP AND THERMOSTATIC VALVE

COOL



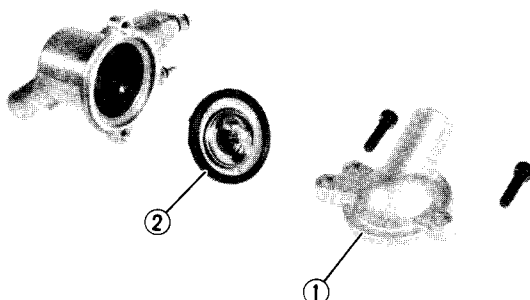
### 7. Disconnect:

- Thermo unit lead ①
- Thermo switch lead ②



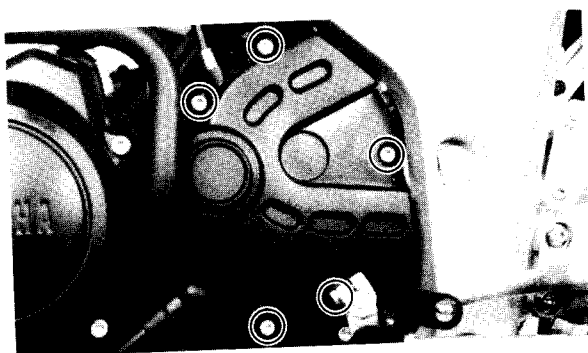
### 8. Remove:

- Thermostatic housing



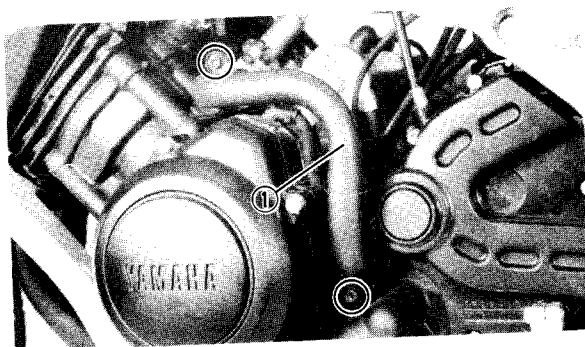
### 9. Remove:

- Thermostatic cover ①
- Thermostatic ②



### 10. Remove:

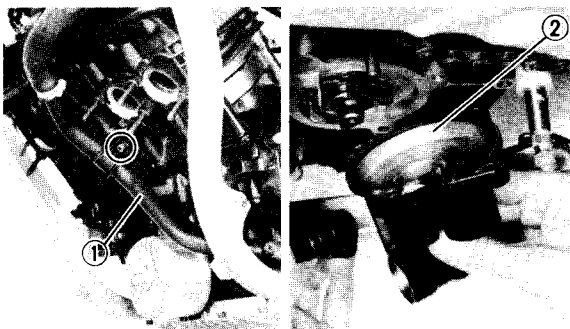
- Shift arm
- Crankcase cover (Left)



### 11. Remove:

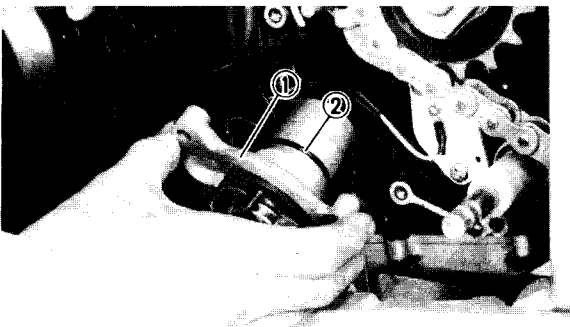
- Water pipe ①





12. Remove:

- Water pipe ①
- Water pump cover ②



13. Remove:

- Water pump housing ①

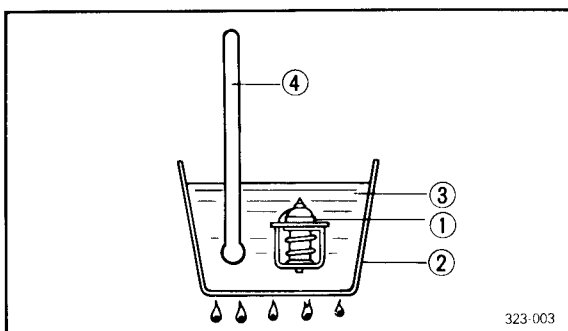
② O-ring

## INSPECTION

1. Inspect:

- Thermostatic valve

Valve does not open at  $80 \sim 84^{\circ}\text{C}$  ( $176 \sim 183^{\circ}\text{F}$ ) → Replace.

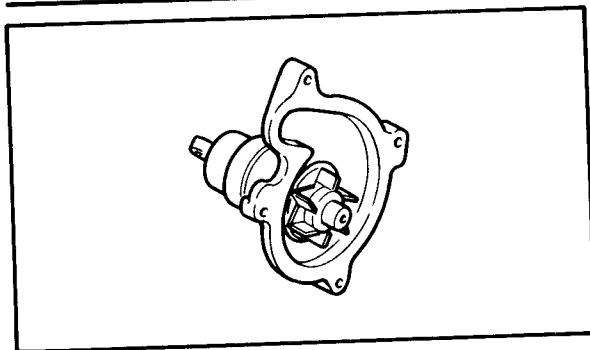


### Inspection steps:

- Suspend thermostatic valve ① in a vessel ② .
- Place reliable thermometer in a water ③ .
- Heat water slowly.
- Observe thermometer ④ , while stirring water continually.

### NOTE:

Thermostatic valve is sealed and its setting is specialized work. If its accuracy is in doubt, always replace it. A faulty unit could cause serious overheating or overcooling.



## 2. Inspect:

- Impeller
- Cracks/Wear/Damage → Replace.

## INSTALLATION

Reverse the "REMOVAL" procedure.  
Note the following points.

### 1. Install:

- Water pump cover
- Pipe
- Crankcase cover (Left)
- Shift arm
- Thermostatic cover



- Bolts (Water Pump Cover):**  
10 Nm (1.0 m · kg, 7.2 ft · lb)
- Bolts (Pipe):**  
10 Nm (1.0 m · kg, 7.2 ft · lb)
- Bolts (Crankcase Cover – Left):**  
10 Nm (1.0 m · kg, 7.2 ft · lb)
- Bolt (Shift Arm):**  
10 Nm (1.0 m · kg, 7.2 ft · lb)
- Bolts (Thermostatic Cover):**  
10 Nm (1.0 m · kg, 7.2 ft · lb)

## ⚠ CAUTION:

Always use new O-ring.

### 2. Fill:

- Cooling system
- Refer to the "COOLANT REPLACEMENT" section in the CHAPTER 3.

### 3. Inspect:

- Cooling system
- Decrease of pressure (Leaks) → Repair as required.



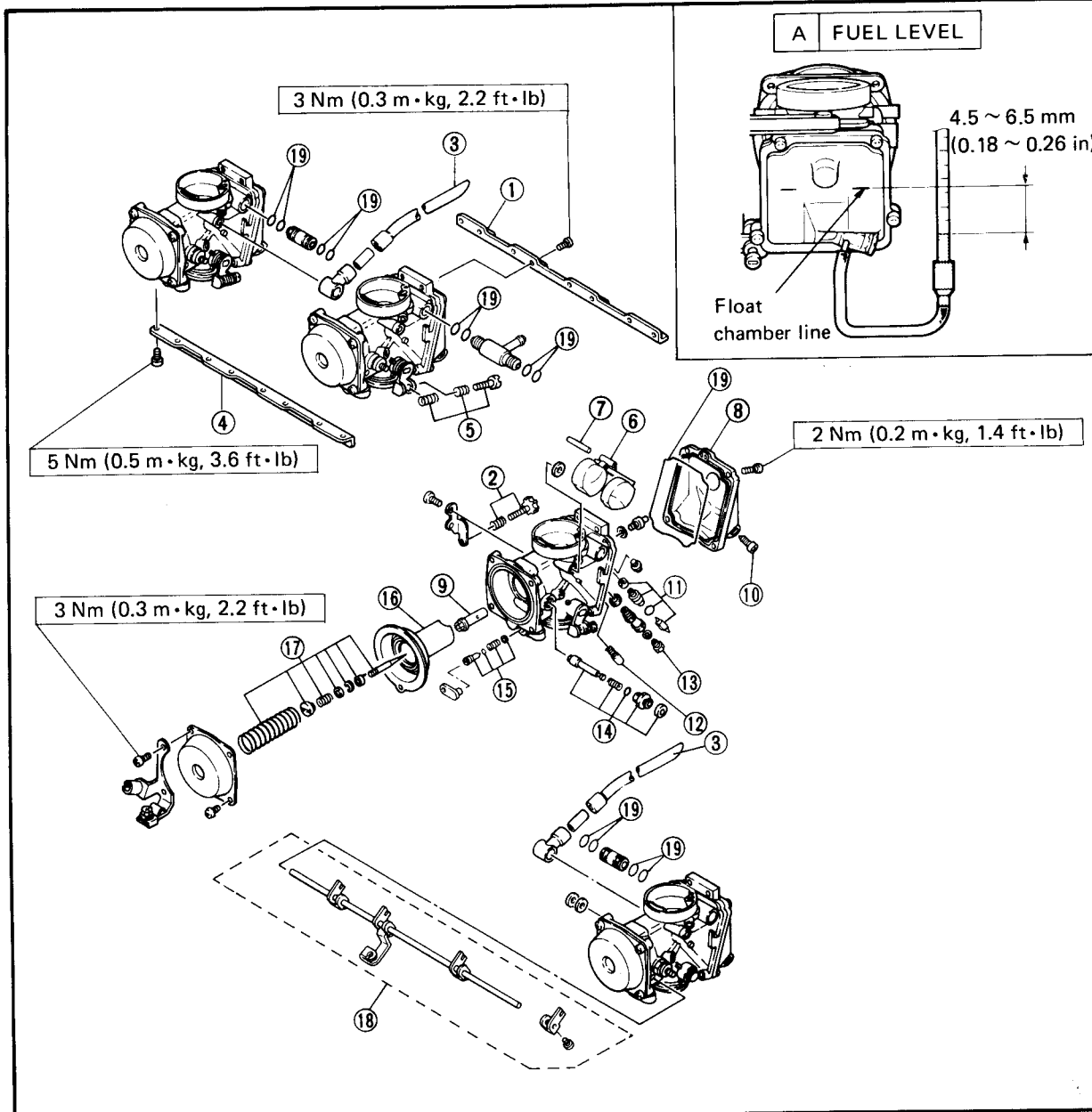
# CARBURETOR

## CARBURETOR

- |                       |                            |
|-----------------------|----------------------------|
| ① Upper bracket       | ⑪ Valve seat assembly      |
| ② Throttle stop screw | ⑫ Pilot jet                |
| ③ Fuel overflow hose  | ⑬ Main jet                 |
| ④ Lower bracket       | ⑭ Starter plunger assembly |
| ⑤ Synchronizing screw | ⑮ Pilot screw              |
| ⑥ Float               | ⑯ Piston valve assembly    |
| ⑦ Float pin           | ⑰ Jet needle set           |
| ⑧ Float chamber       | ⑱ Starter lever shaft      |
| ⑨ Needle jet          | ⑲ O-ring                   |
| ⑩ Fuel drain screw    |                            |

### SPECIFICATIONS

ID Mark	3BF-00 (Except for California), 3FH-00 (For California)
MAIN JET	#87.5
MAIN AIR JET	#60
PILOT JET	#15
PILOT AIR JET	#130
JET NEEDLE	5CF22
PILOT SCREW	3½
THROTTLE VALVE	#130
ENGINE IDLE SPEED	1,250 ~ 1,350 r/min
FUEL LEVEL	4.5 ~ 6.5 mm (0.18 ~ 0.26 in)



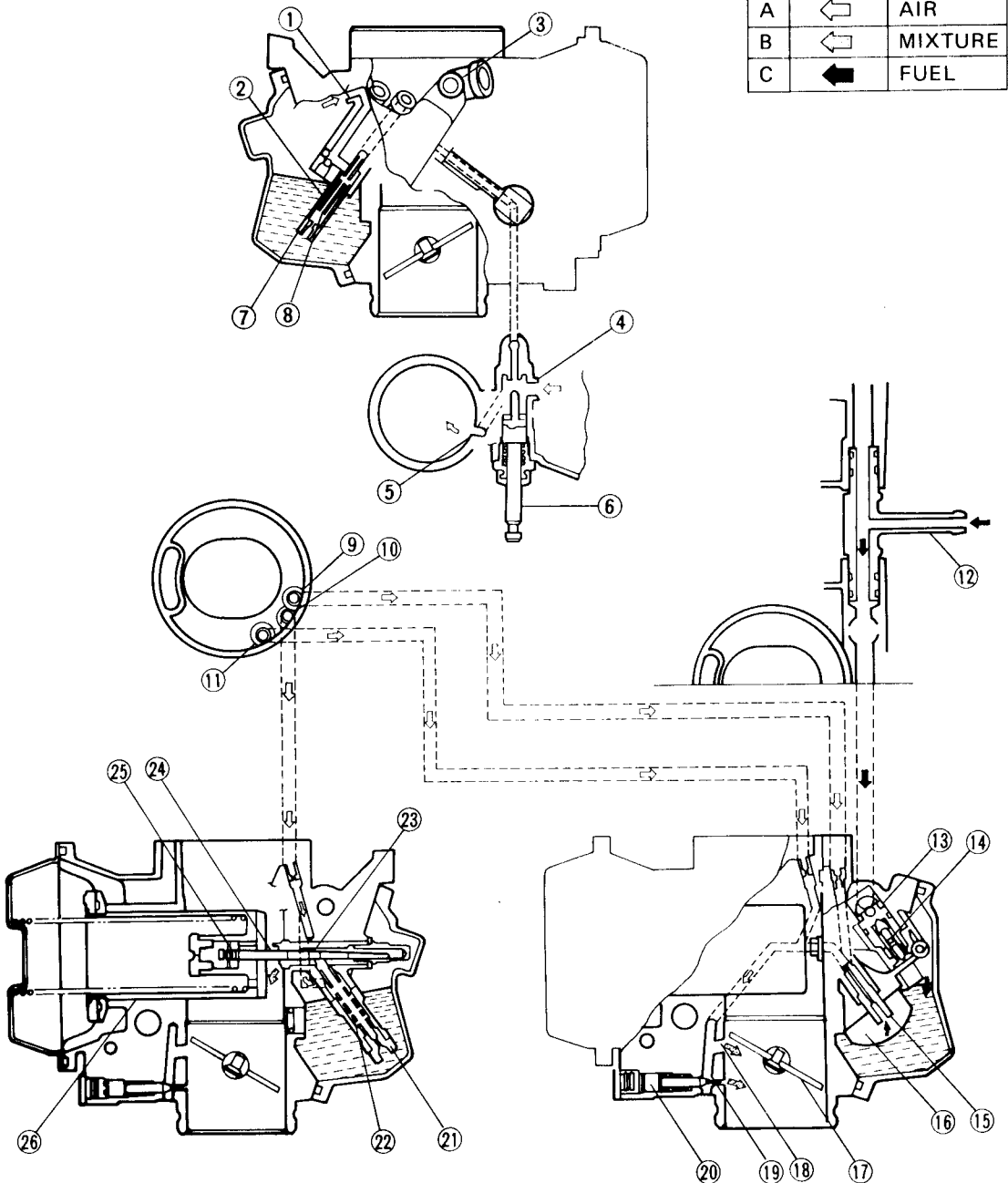


## SECTION VIEW

- |                          |                      |                   |
|--------------------------|----------------------|-------------------|
| ① Starter air bleed      | ⑩ Main air jet       | ⑲ Pilot outlet    |
| ② Starter air bleed pipe | ⑪ Pilot air jet 1    | ⑳ Pilot screw     |
| ③ Air vent               | ⑫ Fuel inlet         | ㉑ Main jet        |
| ④ Air inlet              | ⑬ Float needle valve | ㉒ Main bleed pipe |
| ⑤ Mixture outlet         | ⑭ Valve seat         | ㉓ Needle jet      |
| ⑥ Starter plunger        | ⑮ Pilot jet          | ㉔ Jet needle      |
| ⑦ Starter jet No 1       | ⑯ Float              | ㉕ Spring clip     |
| ⑧ Starter jet No. 2      | ⑰ Throttle valve     | ㉖ Piston valve    |
| ⑨ Pilot air jet 2        | ⑱ Bypass hole        |                   |

## ⚠ CAUTION:

The pilot screw settings are adjusted for maximum performance at the factory. Any attempt to change these settings will decrease engine performance.



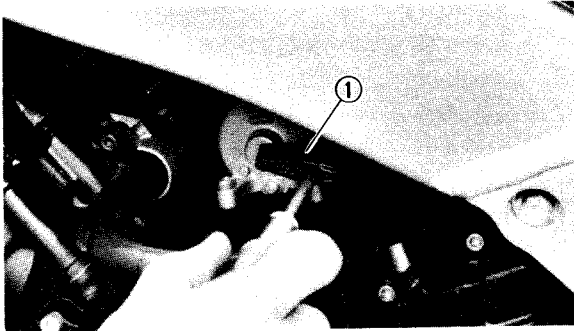


## REMOVAL

## 1. Remove:

- Seat
- Top cover

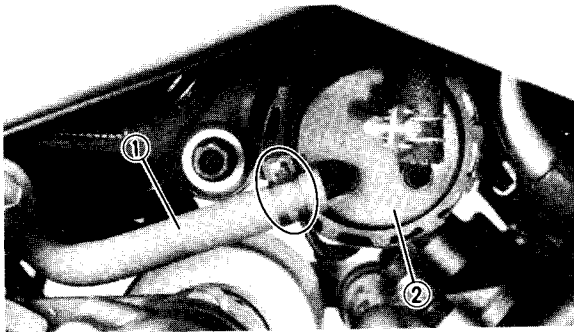
Refer to the "COWLING REMOVAL AND INSTALLATION – REMOVAL" section in the CHAPTER 3.



## 2. Turn the fuel cock to "OFF" position.

## 3. Remove:

- Fuel cock lever ①



## 4. Disconnect:

- Fuel hose ①

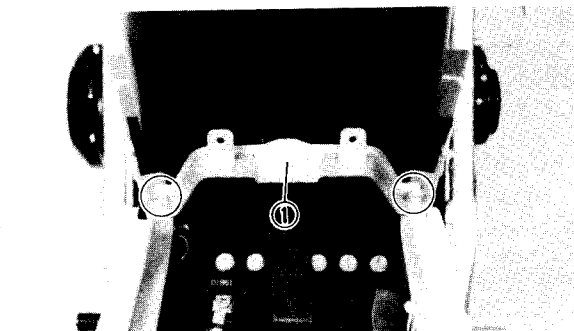
## 5. Remove:

- Fuel pump ②

**⚠ WARNING:**

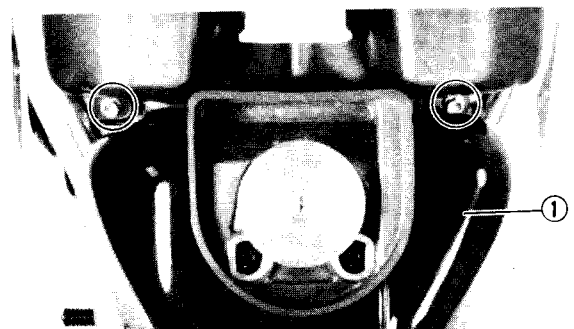
Gasoline is highly flammable.

Avoid spilling fuel on the hot engine.



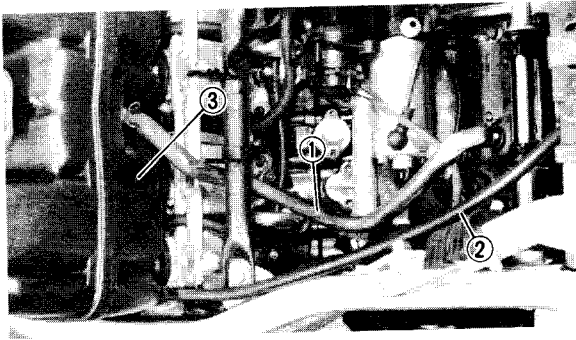
## 6. Remove:

- Fuel tank bracket ①



## 7. Remove:

- Fuel tank ①

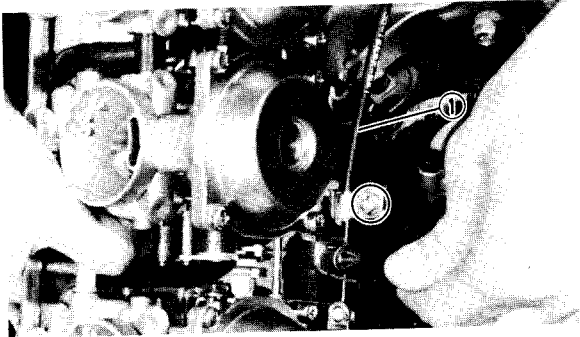


## 8. Disconnect:

- Crankcase ventilation hose ①
- Air vent hose ②

## 9. Remove:

- Air filter case ③

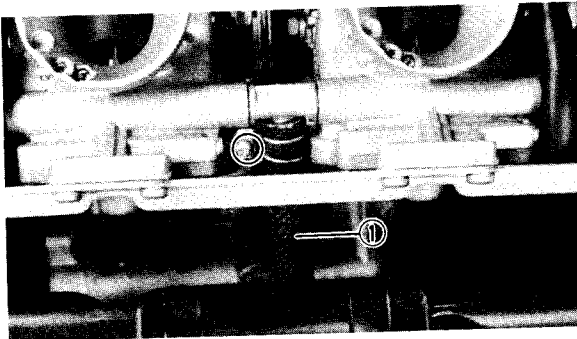


## 10. Loosen:

- Screw (Starter cable clamp)

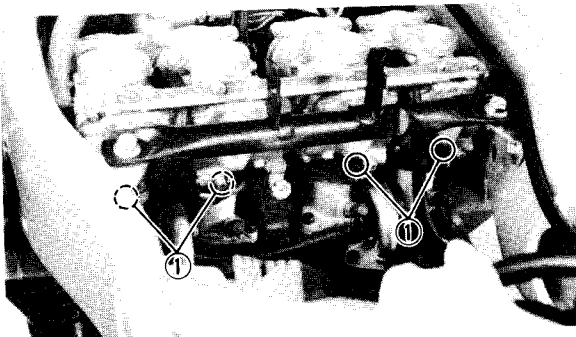
## 11. Disconnect:

- Starter cable ①



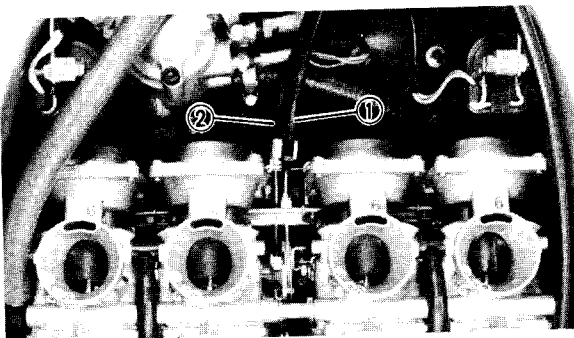
## 12. Disconnect:

- Fuel hose ①



## 13. Loosen:

- Screws (Carburetor joint clamp – U ①)



## 14. Remove:

- Carburetor assembly

## 15. Disconnect:

- Throttle cable 1 ①
- Throttle cable 2 ②

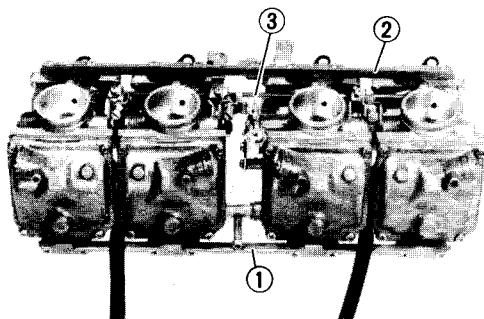


## DISASSEMBLY

NOTE: \_\_\_\_\_

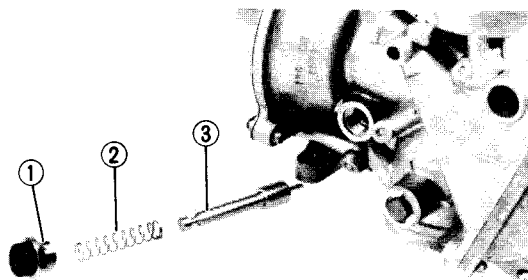
The following parts can be cleaned and inspected without carburetor separation.

- Throttle valve
- Piston valve
- Starter plunger
- Float chamber components



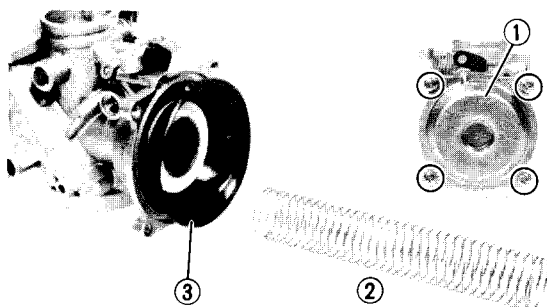
### 1. Remove:

- Bracket (Upper) ①
- Bracket (Lower) ②
- Starter lever shaft ③



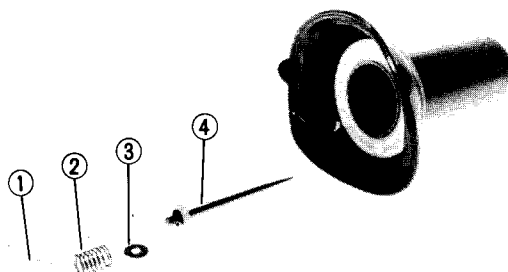
### 2. Remove:

- Nut ①
- Spring ②
- Starter plunger ③



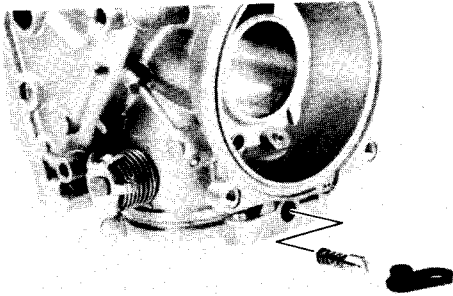
### 3. Remove:

- Vacuum chamber cover ①
- Spring ②
- Piston valve assembly ③



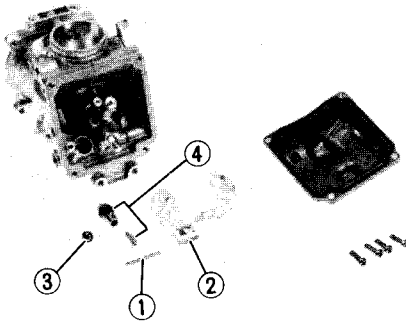
### 4. Remove:

- Plug (Jet needle) ①
- Spring ②
- Washer ③
- Jet needle ④



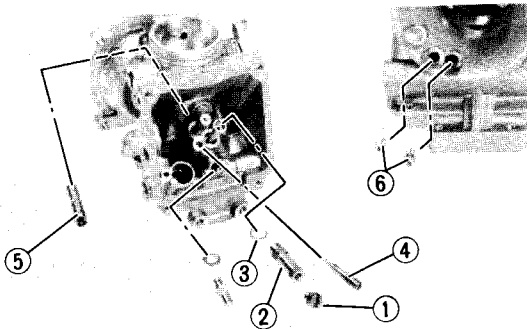
## 5. Remove:

- Pilot screw



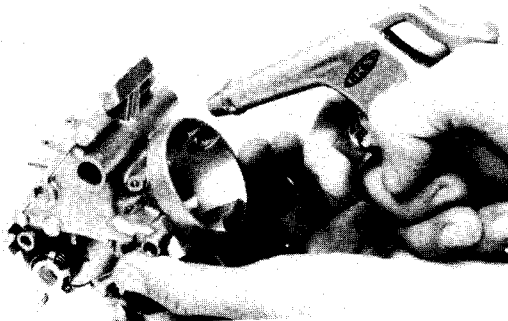
## 6. Remove:

- Float chamber cover
- Gasket
- Float pin ①
- Float ②
- Valve seat screw ③
- Valve seat assembly ④



## 7. Remove:

- Main jet ①
- Holder (Main jet) ②
- Washer ③
- Pilot jet ④
- Needle jet ⑤
- Pilot air jet ⑥



## INSPECTION

## 1. Inspect:

- Carburetor body
- Float chamber
- Fuel passage

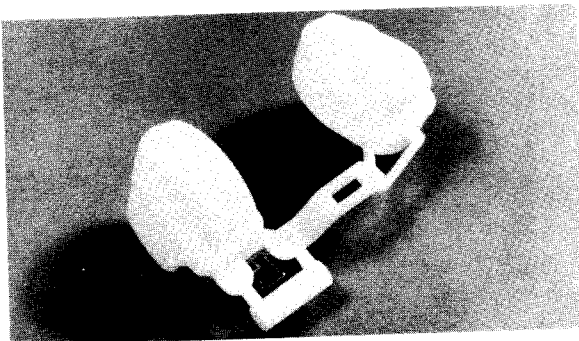
Contamination → Clean as indicated.

**Carburetor cleaning steps:**

- Wash carburetor in petroleum based solvent (Do not use any caustic carburetor cleaning solution.)
- Blow out all passages and jets with a pressed air.

## 2. Inspect:

- Floats
- Damage → Replace.



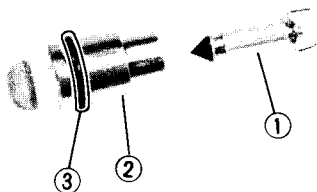




## 3. Inspect:

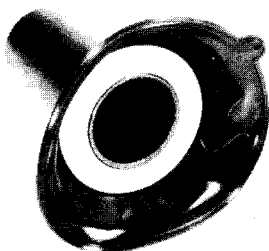
- Float needle valve ①
- Valve seat ②
- O-ring ③

Damage/Wear/Contamination → Replace as a set.



## 4. Inspect:

- Throttle valve  
Scratches → Replace.
- Rubber diaphragm  
Tears → Replace.

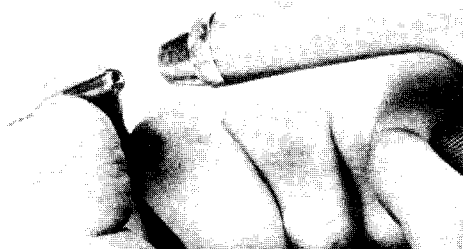
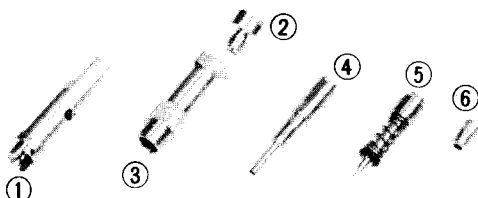


## 5. Inspect:

- Needle jet ①
- Main jet ②
- Holder ③
- Pilot jet ④
- Pilot adjust screw ⑤
- Pilot air jet ⑥

Bends/Wear/Damage → Replace.

Contamination → Blow out jets with a compressed air.

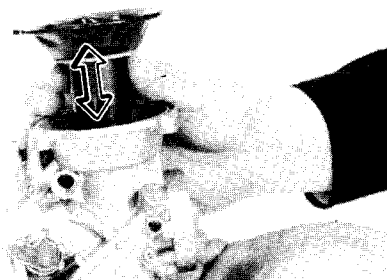


## 6. Check:

- Free movement

Insert the throttle valve into the carburetor body, and check for free movement.

Stick → Replace.

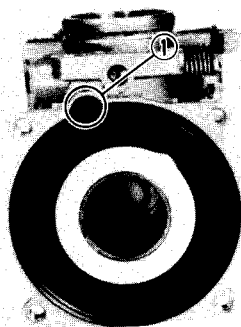


**ASSEMBLY**

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.

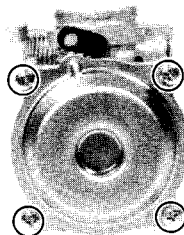
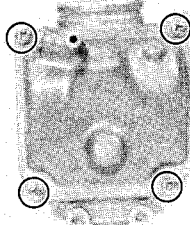


## 1. Install:

- Piton valve assembly

**NOTE:**

Note position of tab ① on diaphragm. This tab must be placed in the cavity of the carburetor body during reassembly.



## 2. Install:

- Float chamber cover
- Vacuum chamber cover



**Screw (Float Chamber Cover):**  
2 Nm (0.2 m•kg, 1.4 ft•lb)

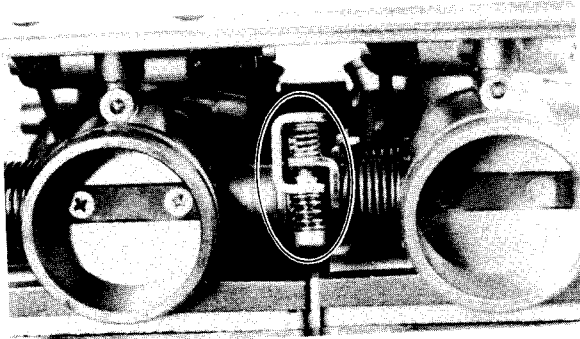
**Screw (Vacuum Chamber Cover):**  
3 Nm (0.3 m•kg, 2.2 ft•lb)

## 3. Connect:

- Throttle shaft

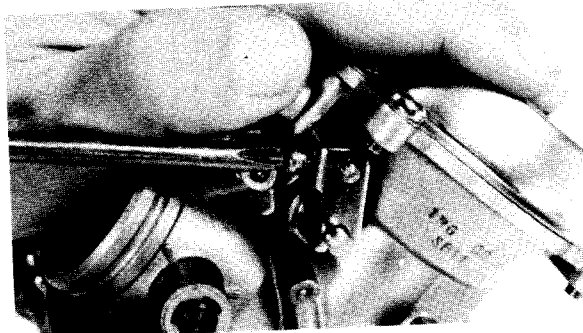
**⚠ CAUTION:**

Throttle valves must be fully closed.



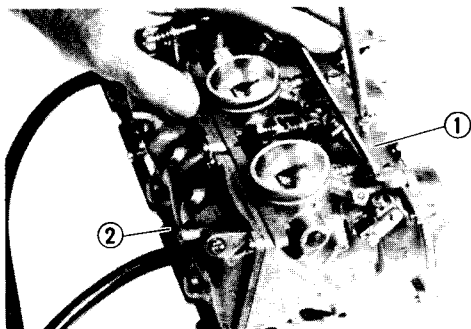
## 4. Install:

- Starter lever shaft



**Screw (Starter Lever Shaft):**  
3 Nm (0.3 m•kg, 2.2 ft•lb)

Apply LOCTITE®.

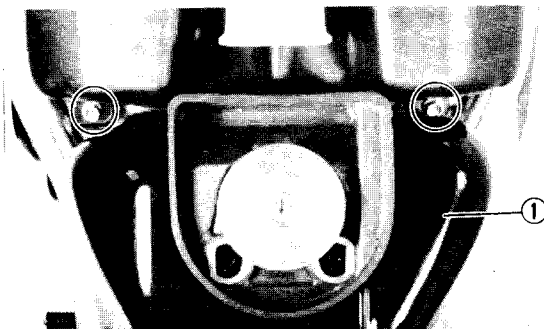


## 5. Installer:

- Upper bracket ①
- Lower bracket ②

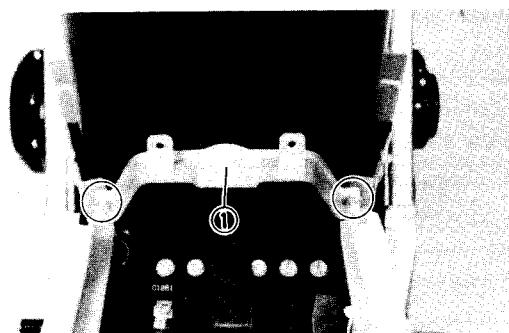
**Screw (Upper Bracket):****3 Nm (0.3 m·kg, 2.2 ft·lb)****Screw (Lower Bracket):****5 Nm (0.5 m·kg, 3.6 ft·lb)****INSTALLATION**

Reverse the "REMOVAL" procedure.  
Note the following points.



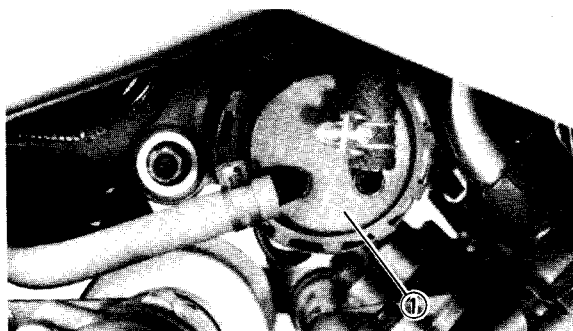
## 1. Install:

- Fuel tank ①

**Bolts (Fuel Tank):****14 Nm (1.4 m·kg, 10.2 ft·lb)**

## 2. Install:

- Fuel tank bracket ①

**Bolts (Fuel Tank Bracket):****10 Nm (1.0 m·kg, 7.2 ft·lb)**

## 3. Install:

- Fuel pump ①

**Bolt (Fuel Pump):****8 Nm (0.8 m·kg, 5.6 ft·lb)**



## ADJUSTMENT

### NOTE:

Before adjusting the fuel level, the float height should be adjusted.

### CAUTION:

The pilot screw settings are adjusted for maximum performance at the factory. An attempt to change these settings will decrease engine performance.

### Fuel Level Adjustment

#### 1. Measure:

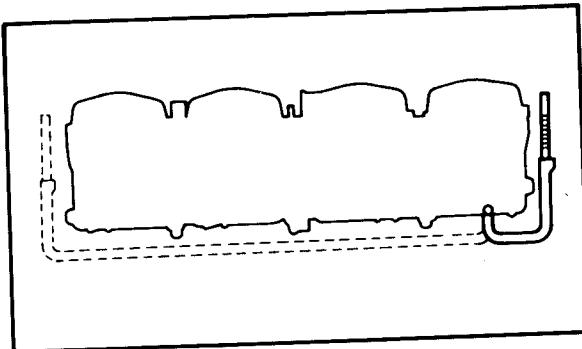
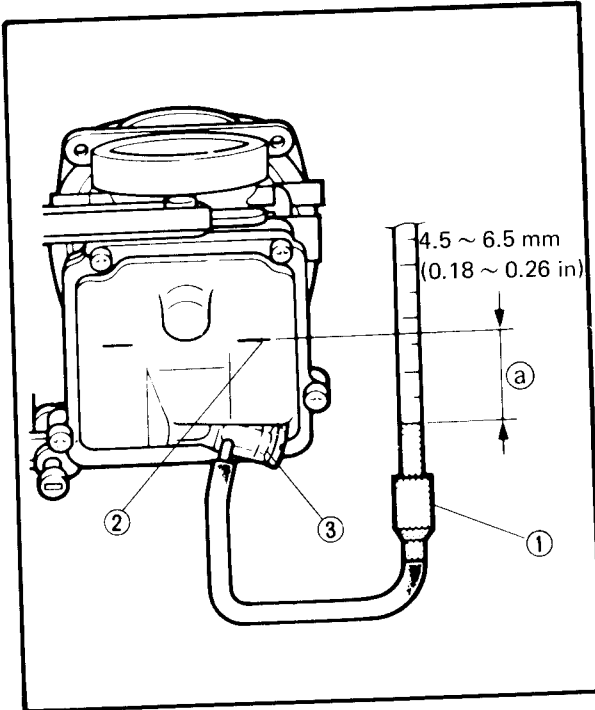
- Fuel level (a)

Out of specification → Adjust it by the following adjustment steps.



#### Fuel Level (a) :

4.5 ~ 6.5 mm (0.18 ~ 0.26 in)  
Below the float chamber line.

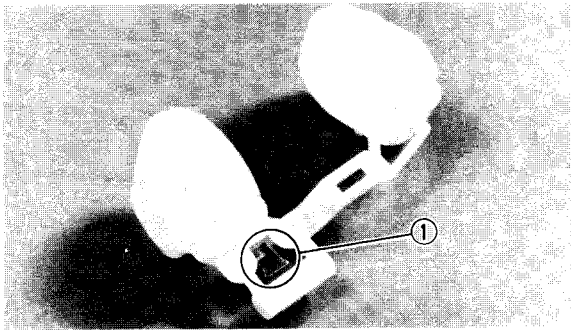


#### Fuel level measurement steps:

- Place the motorcycle on the level place.
- Connect the Fuel Level Gauge (YM-013) to the carburetor ①.
- Place the Gauge vertically next to the float chamber line ②.
- Loosen the drain screw ③.
- Warm up the engine, then shut it off after a few minutes.
- Measure the fuel level. It should be within the specified range.

### NOTE:

Fuel level readings of both side of carburetor line should be equal.



2. Adjust:

- Fuel level

**Fuel level adjustment steps:**

- Remove the carburetor assembly.  
Refer to "REMOVAL" section.
- Remove the float, valve seat and the needle valve.
- Inspect the valve seat and the needle valve.  
If either is worn, replace as a set.
- If both are fine, adjust the float height by bending the float tang ①.
- Recheck the fuel level.



## CHASSIS

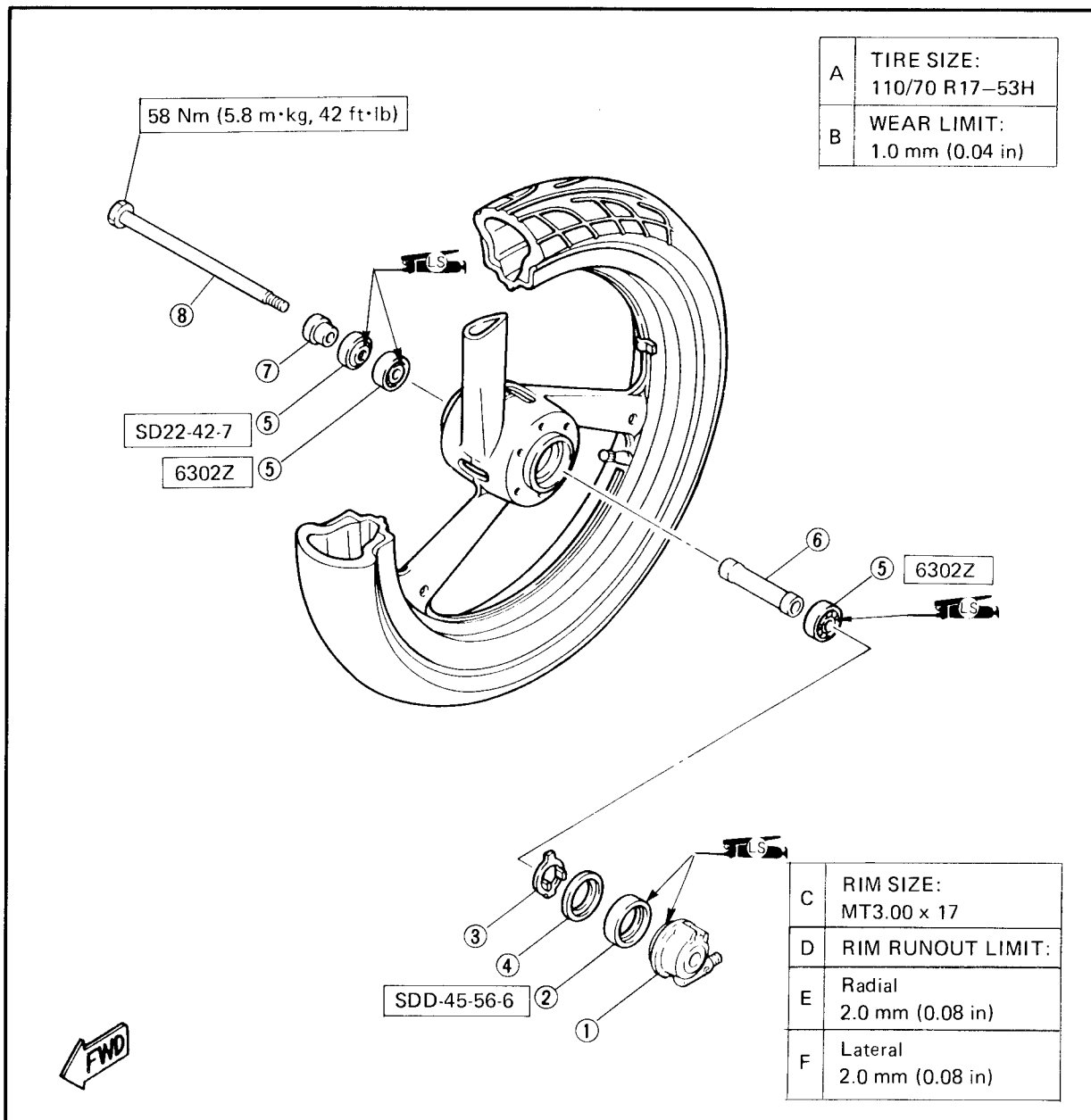
## FRONT WHEEL

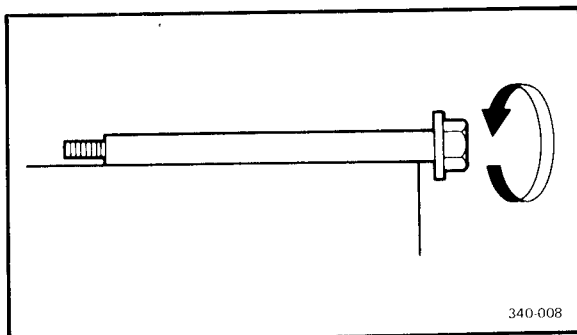
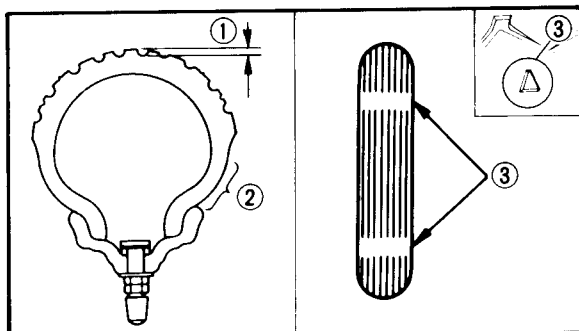
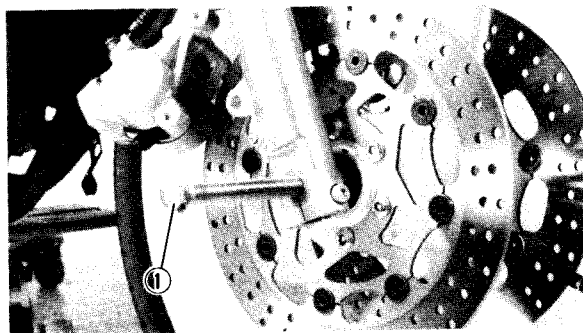
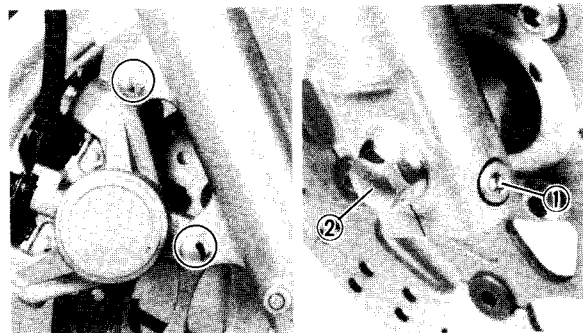
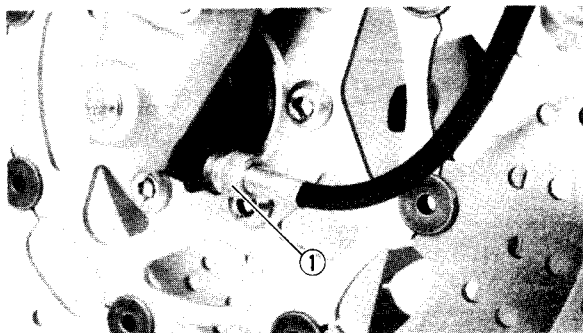
- ① Gear unit assembly      ⑤ Bearing
- ② Oil seal                ⑥ Spacer
- ③ Meter clutch          ⑦ Collar
- ④ Clutch retainer        ⑧ Wheel axle

## TIRE AIR PRESSURE (COLD):

Cold tire pressure	Front	Rear
Up to 90 kg (198 lb) load*	200 kPa (2.0 kg/cm <sup>2</sup> , 28 psi)	230 kPa (2.3 kg/cm <sup>2</sup> , 32 psi)
90 kg (198 lb) ~ Maximum load*	200 kPa (2.0 kg/cm <sup>2</sup> , 28 psi)	250 kPa (2.5 kg/cm <sup>2</sup> , 36 psi)
High speed riding	200 kPa (2.0 kg/cm <sup>2</sup> , 28 psi)	250 kPa (2.5 kg/cm <sup>2</sup> , 36 psi)

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





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## REMOVAL

1. Place the motorcycle on a level place.

**⚠ WARNING:**

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

2. Remove:
  - Speedometer cable (1)
3. Remove:
  - Brake calipers (Right/Left)
4. Loosen:
  - Pinch bolt (Front axle) (1)
  - Axle (Front) (2)
5. Elevate the front wheel by placing a suitable stand under the engine.

6. Remove:
  - Axle (1)
  - Wheel (Front)
  - Speedometer gear unit

## NOTE:

Do not squeeze the brake lever while the wheel is off the motorcycle.

## INSPECTION

1. Inspect:
  - Tire

Tire tread shows crosswise lines (minimum tread depth)/Cracks → Replace.



**Minimum Tire Tread Depth:**  
1.0 mm (0.04 in)

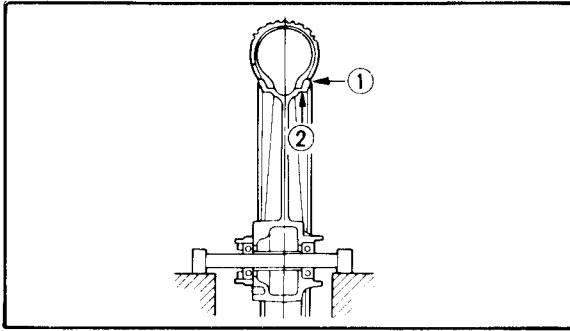
- (1) Tread depth (2) Side wall (3) Wear indicator

2. Inspect:
  - Front axle

Bends → Replace.  
Roll the axle on a flat surface.

**⚠ WARNING:**

Do not attempt to straighten a dent axle.



## 3. Inspect:

- Wheel

Cracks/Bends/Warpage → Replace.

## 4. Measure:

- Wheel runout

Over specified limit → Replace.

**Rim Runout Limits:**

Radial ① : 2.0 mm (0.08 in)

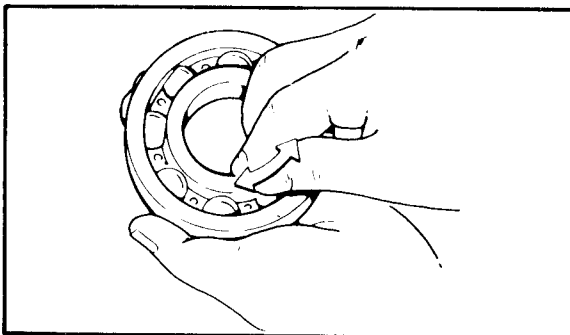
Lateral ② : 2.0 mm (0.08 in)

**⚠ WARNING:**

- After mounting a tire, ride conservatively to allow proper tire to rim seating. Failure to do so may cause an accident resulting in motorcycle damage and possible operator injury.
- After a tire repair or replacement, be sure to torque tighten the valve stem locknut ① to specification.

**Valve-stem Locknut:**

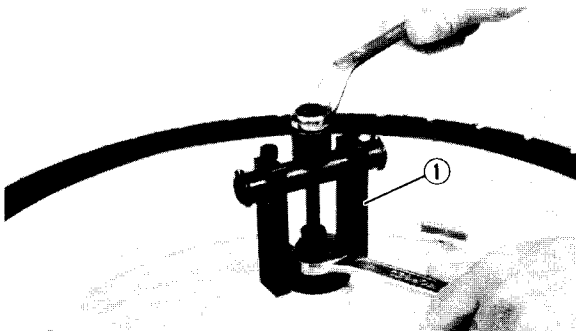
1.5 Nm (0.15 m · kg, 1.1 ft · lb)



## 5. Inspect:

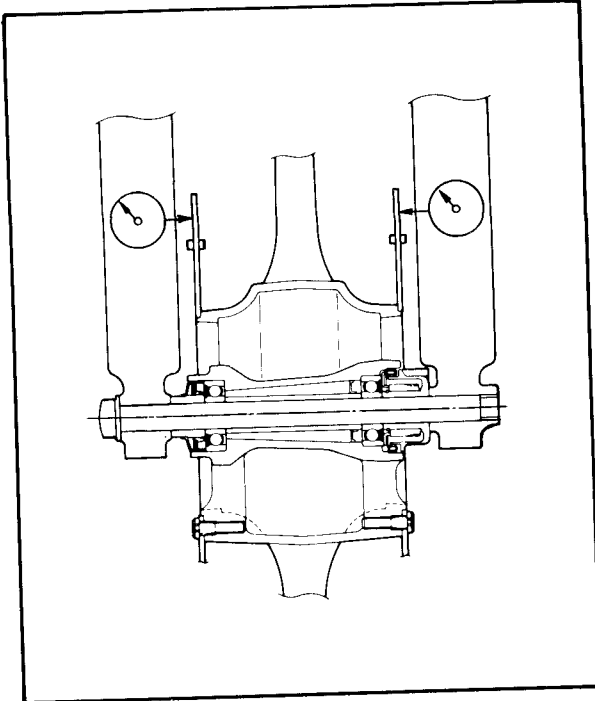
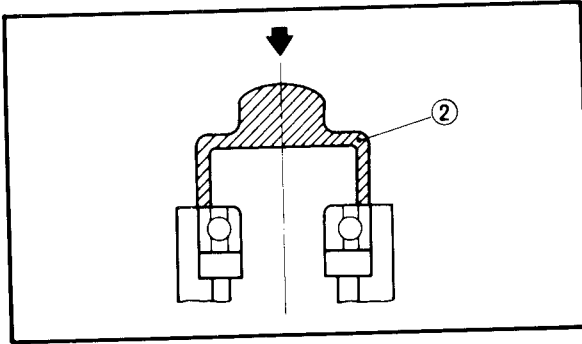
- Wheel bearings

Bearings allow play in the wheel hub or wheel turns roughly → Replace.

**Wheel bearing replacement steps:**

- Clean the outside of the wheel hub.
- Remove the bearing using a general bearing puller ①.
- Install the new bearing by reversing the previous steps.



**NOTE:**

Use a socket ② that matches the outside diameter of the race of the bearing.

**CAUTION:**

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

## 6. Inspect:

- Brake disc

Wear/Over specified limit → Replace.



**Maximum Deflection:**  
(Front and Rear):

0.5 mm (0.02 in)

**Minimum Disc Thickness**

Front:

3.5 mm (0.14 in)

**INSTALLATION**

When installing the front wheel, reverse the removal procedure. Note the following points.

## 1. Lubricate:

- Bearings
- Oil seals



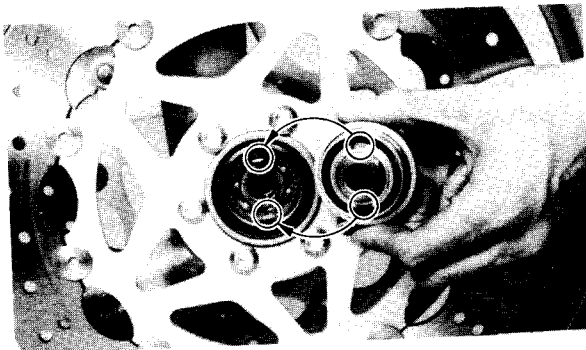
**Lithium – Soap Base Grease**

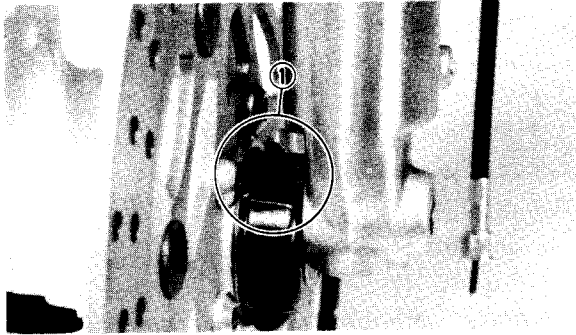
## 2. Install:

- Speedometer gear unit

**NOTE:**

Be sure that the two projections inside the wheel hub mesh with the two slots in the gear unit assembly.





## 3. Install:

- Front wheel

**NOTE:**

Be sure that the projecting portion (torque stopper) ① of the gear unit housing is positioned correctly.

## 4. Tighten:

- Front axle
- Pinch bolt (Front axle)
- Brake calipers (Right/Left)
- Speedometer cable

**Front Axle:**

58 Nm (5.8 m·kg, 42 ft·lb)

**Pinch Bolt (Front Axle):**

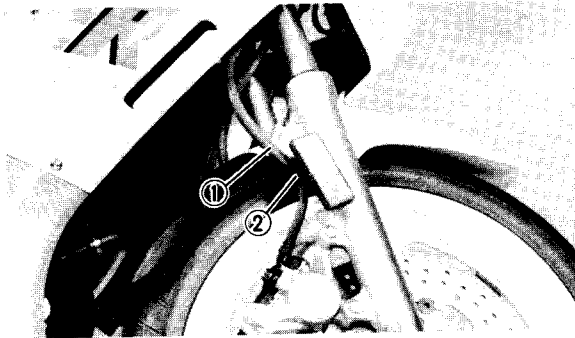
20 Nm (2.0 m·kg, 14 ft·lb)

**Bolts (Brake Caliper):**

35 Nm (3.5 m·kg, 25 ft·lb)

**WARNING:**

Make sure that the brake hoses are routed properly.



① Brake hose

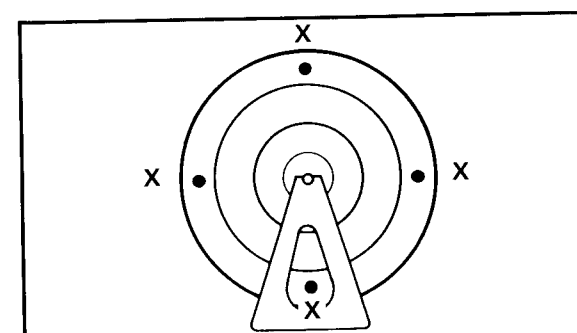
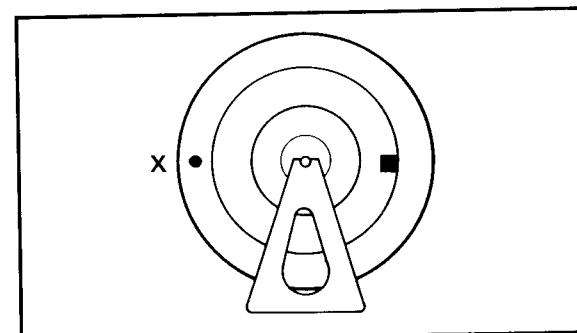
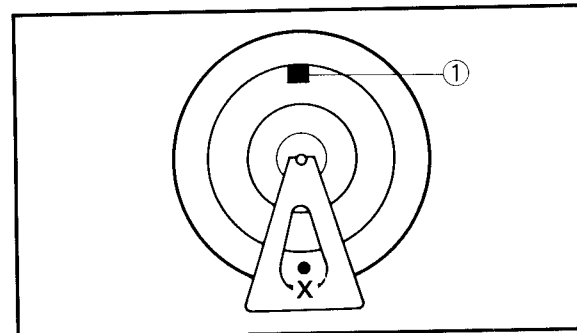
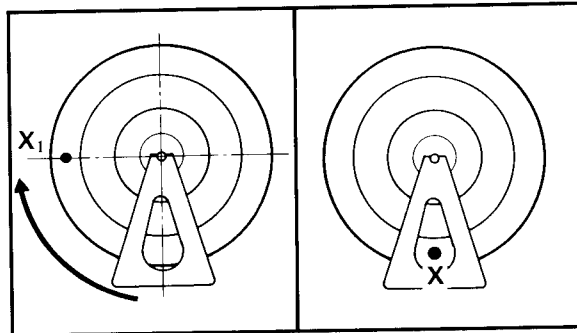
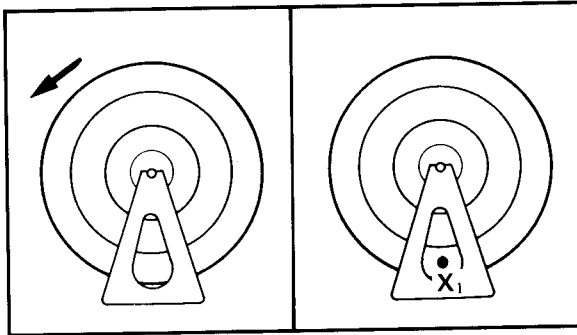
② Brake hose holder

**STATIC WHEEL BALANCE ADJUSTMENT****NOTE:**

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

## 1. Remove:

- Balancing weight



2. Set the wheel on a suitable stand.

3. Find:

- Heavy spot

**Procedure:**

- Spin the wheel and wait for it to rest.
- Put an "X<sub>1</sub>" mark on the wheel bottom spot.
- Turn the wheel so that the "X<sub>1</sub>" mark is 90° up.
- Let the wheel fall and wait for it to rest. Put an "X<sub>2</sub>" mark on the wheel bottom spot.
- Repeat the above b., c., and d. several times until these marks come to the same spot.
- This spot is the heavy spot "X".

4. Adjust:

- Wheel balance

**Adjusting steps:**

- Install a balancing weight ① on the spoke 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:

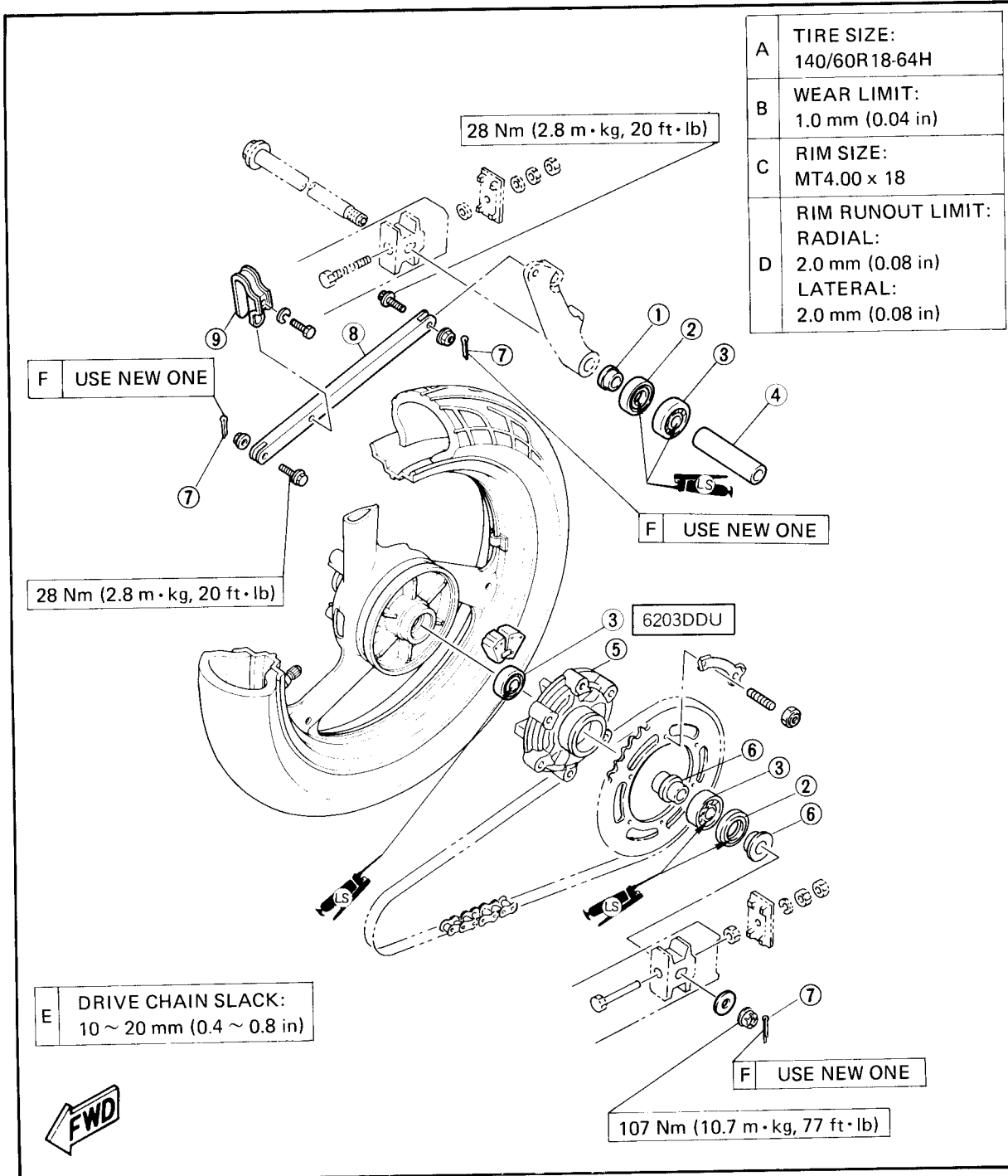
- Wheel balance

**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 wheel balance.

# REAR WHEEL

- ① Collar
- ② Oil seal
- ③ Bearing
- ④ Spacer
- ⑤ Clutch hub
- ⑥ Collar
- ⑦ Cotter pin
- ⑧ Tension bar
- ⑨ Brake hose holder





## REMOVAL

1. Place the motorcycle on a level place.

### WARNING:

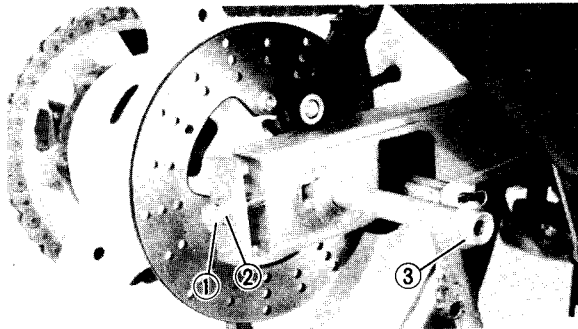
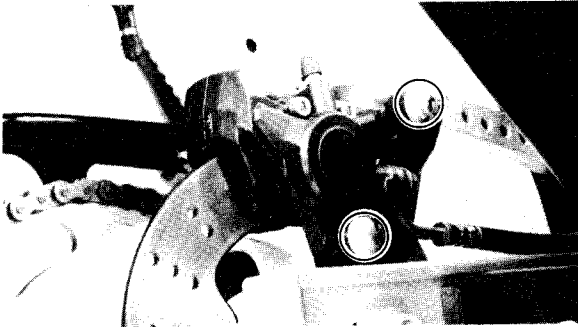
Securely support the motorcycle so there is no danger of it falling over.

2. Elevate the rear wheel by placing a suitable stand under the swing arm.

3. Remove:
  - Brake caliper

### NOTE:

Do not depress the brake pedal while the caliper is off the disc.



4. Loosen:
  - Lock nut ①
  - Adjuster ②
5. Remove:
  - Cotter pin
  - Axle nut
  - Axle ③
  - Rear wheel

## INSPECTION

1. Inspect:
  - Tire
  - Rear axle
  - Wheel
  - Wheel bearings
  - Brake disc

Refer to the "FRONT WHEEL – INSPECTION".

2. Measure:
  - Wheel runout

Refer to the "FRONT WHEEL – INSPECTION".



## INSTALLATION

When installing the rear wheel, reverse the removal procedure. Note the following points.

### 1. Lubricate:

- Bearings
- Oil seals
- Spacer
- Collar



**Lithium – Soap Base Grease**

### 2. Adjust:

- Drive chain slack



**Drive Chain Slack:**  
10 ~ 20 mm (0.4 ~ 0.8 in)

Refer to the "DRIVE CHAIN ADJUSTMENT" section in the CHAPTER 3.

### 3. Tighten:

- Nut (Rear axle)
- Brake caliper



**Nut (Rear Axle):**  
107 Nm (10.7 m · kg, 77 ft · lb)  
**Bolts (Brake Caliper):**  
35 Nm (3.5 m · kg, 25 ft · lb)

### NOTE:

Do not loosen the axle nut after torque tightening.

## STATIC WHEEL BALANCE ADJUSTMENT

### NOTE:

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

### 1. Adjust:

- Wheel balance

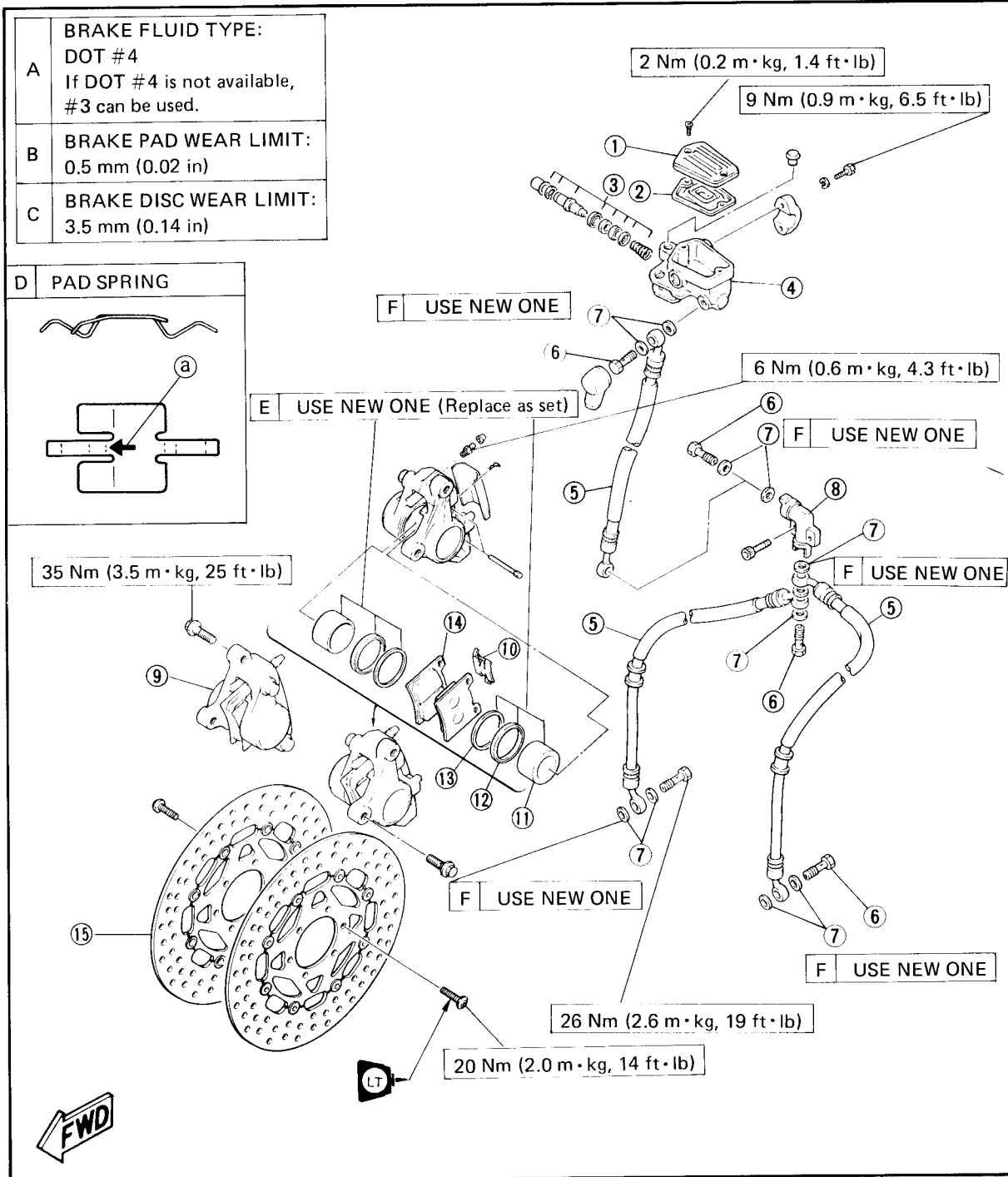
Refer to the "FRONT WHEEL – STATIC WHEEL BALANCE ADJUSTMENT" section in the CHAPTER 7.



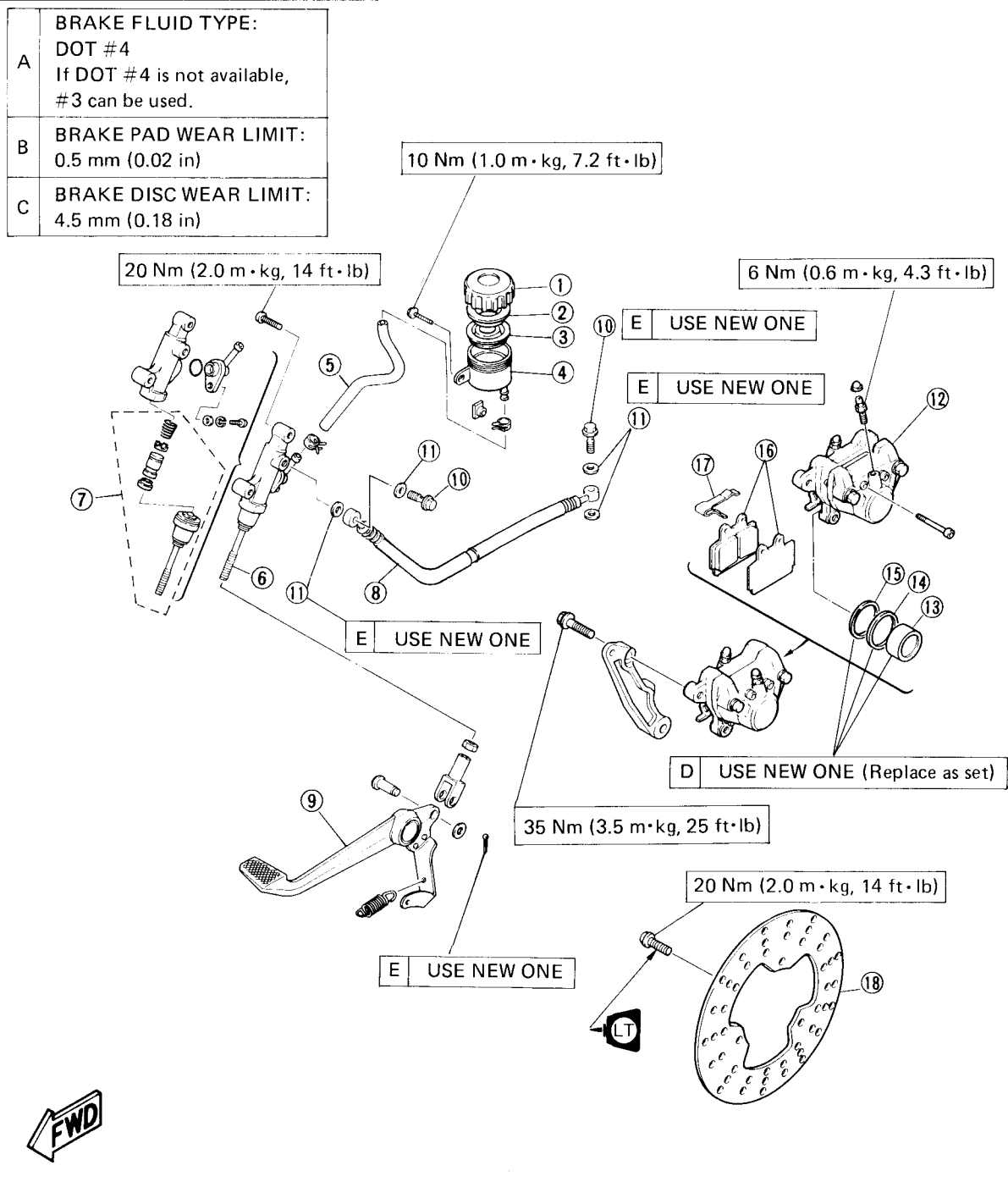
## FRONT AND REAR BRAKE

- |                       |                 |
|-----------------------|-----------------|
| ① Master cylinder cap | ⑨ Brake caliper |
| ② Rubber seal         | ⑩ Pad spring    |
| ③ Master cylinder kit | ⑪ Piston        |
| ④ Master cylinder     | ⑫ Piston seal   |
| ⑤ Brake hose          | ⑬ Dust seal     |
| ⑥ Union bolt          | ⑭ Brake pad     |
| ⑦ Copper washer       | ⑮ Brake disc    |
| ⑧ Joint               |                 |

**D** The arrow mark **a** on the pad spring must pointing the disc rotating direction.



- |                       |                 |
|-----------------------|-----------------|
| ① Reservoir tank cap  | ⑩ Union bolt    |
| ② Bush                | ⑪ Copper washer |
| ③ Diaphragm           | ⑫ Brake caliper |
| ④ Reservoir tank      | ⑬ Piston        |
| ⑤ Reservoir hose      | ⑭ Piston seal   |
| ⑥ Master cylinder     | ⑮ Dust seal     |
| ⑦ Master cylinder kit | ⑯ Brake pad     |
| ⑧ Brake hose          | ⑰ Pad spring    |
| ⑨ Brake pedal         | ⑱ Brake disc    |





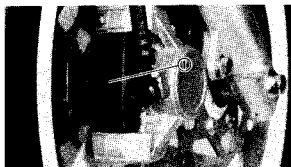
**CAUTION:**

Disc brake components rarely require disassembly. Do not disassemble components unless absolutely necessary. If any hydraulic connection in the system is opened, the entire system should be disassembled, drained, cleaned and then properly filled and bled upon reassembly. Do not use solvents on brake internal components.

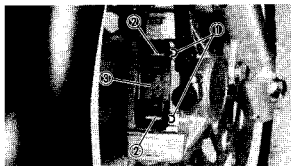
Solvents will cause seals to swell and distort. Use only clean brake fluid for cleaning. Use care with brake fluid. Brake fluid is injurious to eyes and will damage painted surfaces and plastic parts.

**BRAKE PAD REPLACEMENT****NOTE:**

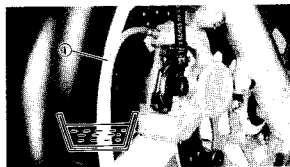
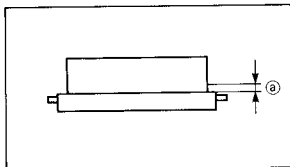
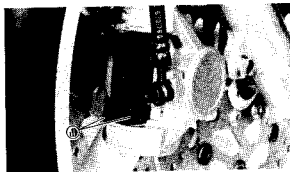
It is not necessary to disassemble the brake caliper and brake hose to replace the brake pads.

**Front Brake****1. Remove:**

- Cover ①

**2. Remove:**

- Retaining clips ①
- Retaining pins ②
- Pad spring ③



## 3. Remove:

- Brake pads ①

## 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.
- Replace the pad shim if the pad replacement is required for the rear brake.

## NOTE:

Replace the pads as a set if either is found to be worn to the wear limit ①.

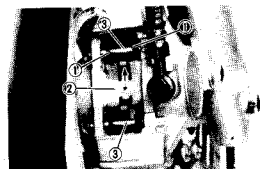


**Wear Limit:**  
0.5 mm (0.02 in)

4. Connect a suitable hose ① tightly to the caliper bleed screw. Then, place other end of this hose into an open container.
5. Loosen the caliper bleed screw and push the piston into the caliper by your finger.
6. Tighten:
  - Caliper bleed screw



**Caliper Bleed Screw:**  
6 Nm (0.6 m·kg, 4.3 ft·lb)



## 7. Install:

- Brake pad (New) ①
- Pad spring (New) ②
- Retaining pins ③
- Retaining clips



### 8. Inspect:

- Brake fluid level

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

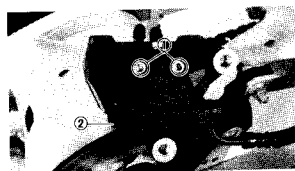
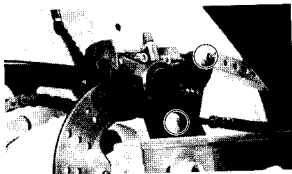
① "LOWER" level line

### 9. Check:

- Brake lever operation

A softy or spongy filling → Bleed brake system.

Refer to the "AIR BLEEDING" section in the CHAPTER 3.



### Rear Brake

#### 1. Remove:

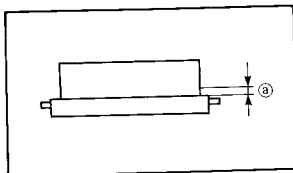
- Bolts (Brake caliper)

#### 2. Remove:

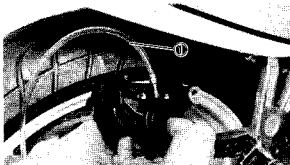
- Retaining bolts ①
- Brake pads ②
- Pad spring

### NOTE:

Replace the pads as a set if either is found to be worn to the wear limit ③.



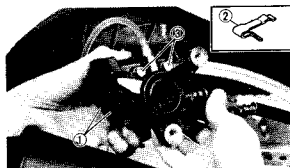
**Wear Limit:**  
0.5 mm (0.02 in)



4. Connect a suitable hose ① tightly to the caliper bleed screw. Then, place other end of this hose into an open container.
5. Loosen the caliper bleed screw and push the pistons into the caliper by your finger.
6. Tighten:
  - Caliper bleed screw



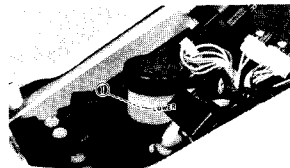
**Caliper Bleed Screw:**  
6 Nm (0.6 m · kg, 4.3 ft · lb)



7. Install:
  - Brake pad (New) ①
  - Pad spring (New) ②
8. Install:
  - Retaining bolt ③



**Retaining Bolts:**  
18 Nm (1.8 m · kg, 13 ft · lb)



9. Inspect:
  - Brake fluid level

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

① "LOWER" level line

10. Check:
  - Brake pedal operation

A softy or spongy filling → Bleed brake system.

Refer to the "AIR BLEEDING" section in the CHAPTER 3.



## CALIPER DISASSEMBLY

### NOTE:

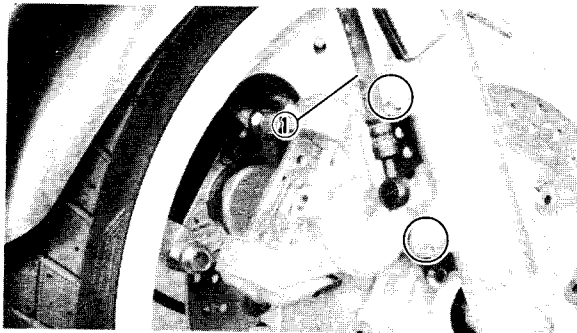
Before disassembling the front brake caliper or rear brake caliper, drain the brake system of its brake fluid.

### Front Brake

#### 1. Remove:

- Cover
- Retaining clips
- Retaining pins
- Pad spring

Refer to the "BRAKE PAD REPLACEMENT" section.



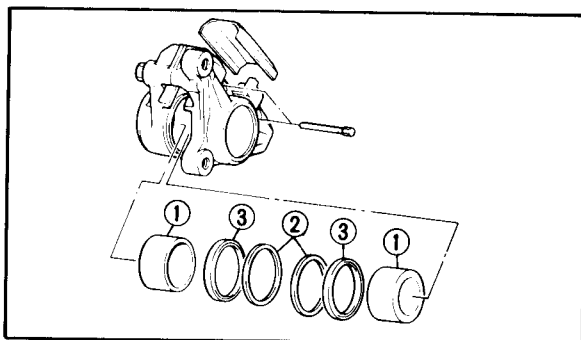
#### 2. Remove:

- Brake hose ①

Place the open hose end into a container and pump the old fluid out carefully.

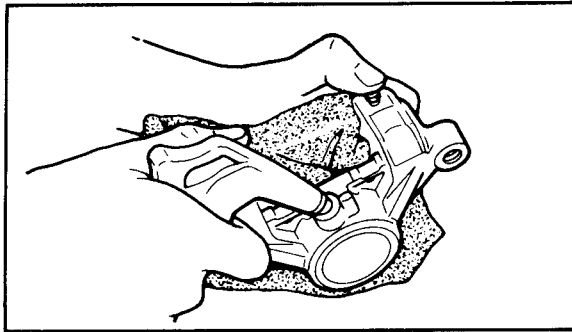
#### 3. Remove:

- Caliper body



#### 4. Remove:

- Pistons ①
- Dust seals ②
- Piston seals ③

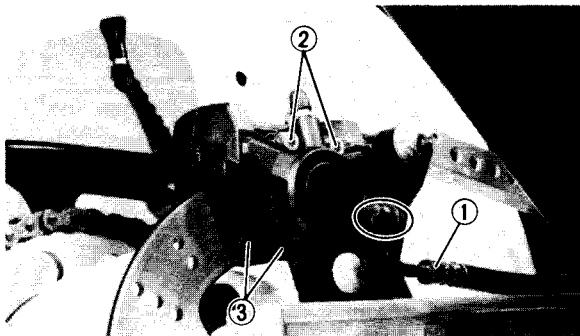


## Remove steps:

- Blow compressed air into the tube joint opening to force out the piston from the caliper body.

## ⚠ WARNING:

- Never try to pry out the piston.
- Cover the piston with a rag. Use care so that piston does not cause injury as it is expelled from the cylinder.



## Rear Brake

### 1. Remove:

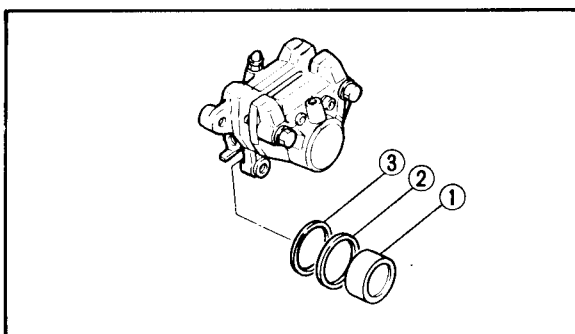
- Brake hose ①

Place the open hose end into a container and pump the old fluid out carefully.

### 2. Remove:

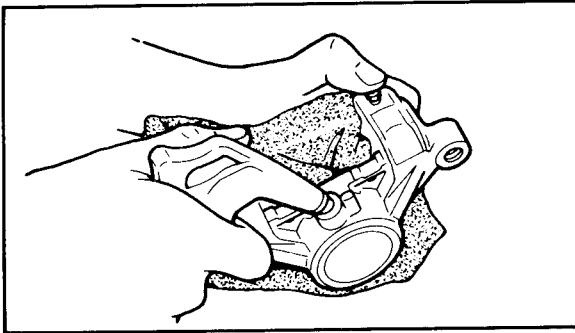
- Retaining bolts ②
- Brake pads ③
- Pad spring

Refer to the "BRAKE PAD REPLACEMENT" section.



### 3. Remove:

- Piston ①
- Piston seal ②
- Dust seal ③

**Removal steps:**

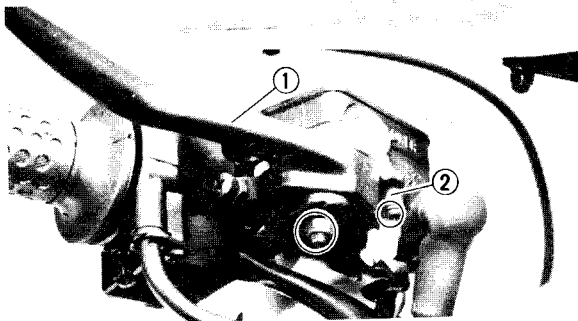
- Blow compressed air into the tube joint opening to force out the piston from the caliper body.

**⚠ WARNING:**

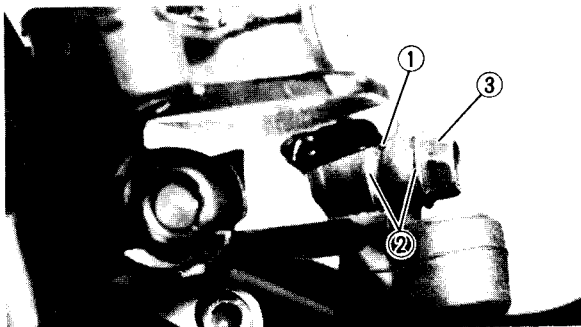
- Never try to pry out the piston.
- Cover the piston with a rag. Use care so that piston does not cause injury as it is expelled from the cylinder.

**MASTER CYLINDER DISASSEMBLY****NOTE:**

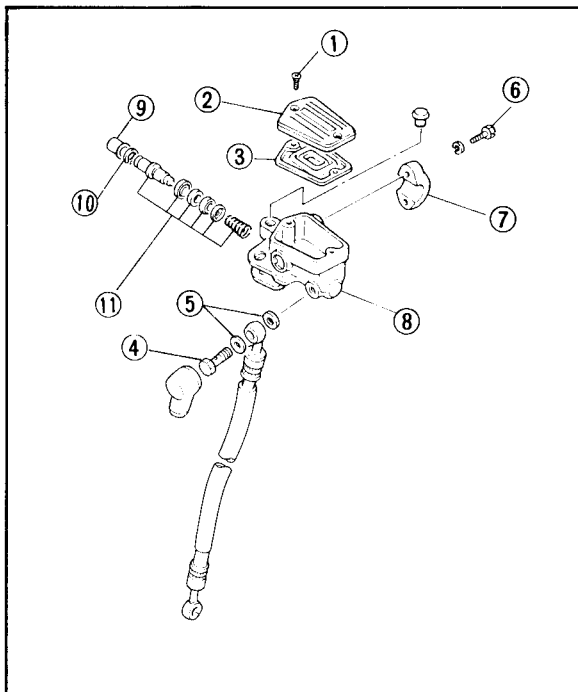
Before disassembling the front or rear brake master cylinders, drain the brake system of the brake fluid.

**Front Brake****1. Remove:**

- Brake lever ①
- Brake switch ②

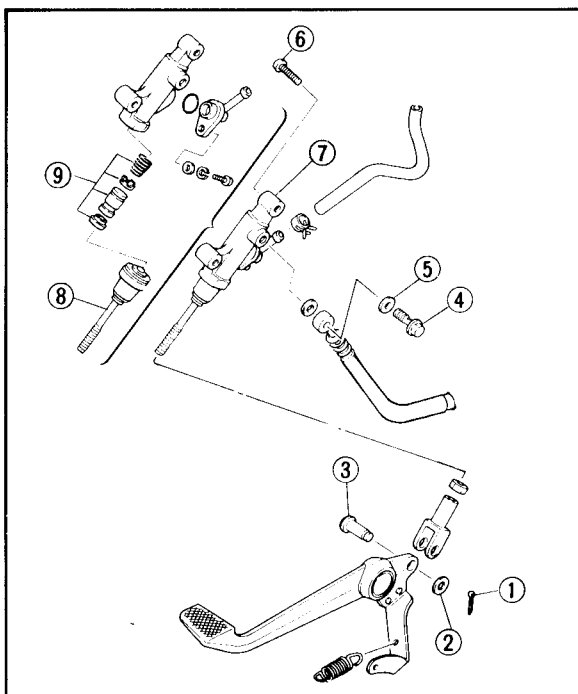
**2. Remove:**

- Union bolt ①
- Copper washer ②
- Brake hose ③



## 3. Remove:

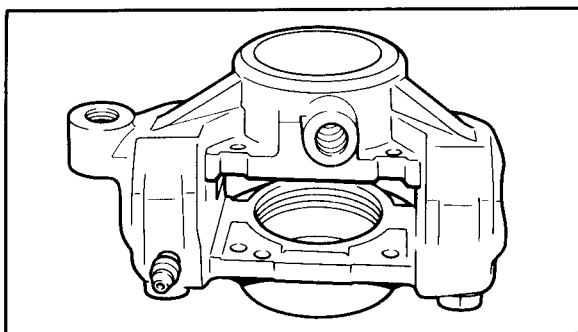
- Screw (Master cylinder cap) ①
- Master cylinder cap ②
- Rubber seal ③
- Union bolt ④
- Copper washer ⑤
- Bolt (Master cylinder bracket) ⑥
- Master cylinder bracket ⑦
- Master cylinder ⑧
- Dust boot ⑨
- Circlip ⑩
- Master cylinder kit ⑪



## Rear Brake

### 1. Remove:

- Cotter pin ①
- Plain washer ②
- Shaft ③
- Union bolt ④
- Copper washer ⑤
- Bolt (Master cylinder) ⑥
- Master cylinder ⑦
- Adjusting rod ⑧
- Master cylinder kit ⑨

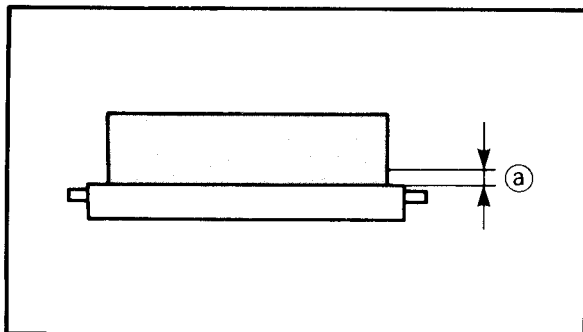


## INSPECTION AND REPAIR

### 1. Inspect:

- Caliper piston  
Rust/Wear → Replace.
- Caliper cylinder body  
Wear/Scratches → Replace.





### 2. Measure:

- Brake pad thickness ①

Out of specification → Replace.



**Pad Wear Limit:**  
0.5 mm (0.02 in)

### NOTE:

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

### 3. Inspect:

- Brake hose

Cracks/Damage → Replace.



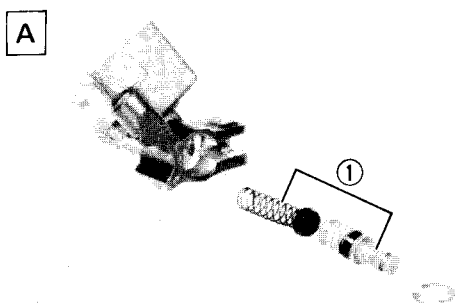
### 4. Inspect:

- Master cylinder body

Scratches/Wear → Replace.

### NOTE:

Clean all passages with new brake fluid.



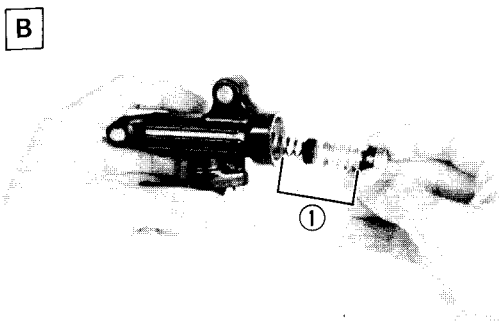
### 5. Inspect:

- Master cylinder kit ①

Scratches/Wear → Replace.

**A** Front brake

**B** Rear brake





## ASSEMBLY

## ⚠ WARNING:

- All internal parts should be cleaned in new brake fluid only.
- Internal parts should be lubricated with brake fluid when installed.

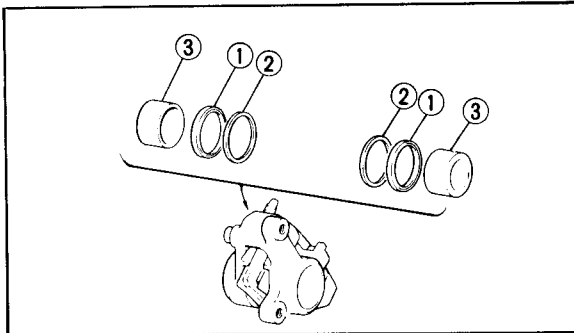


Brake Fluid:

DOT # 4

If DOT #4 is not available,  
#3 can be used.

- Replace the piston seals whenever a caliper is disassembled.



## Front Brake

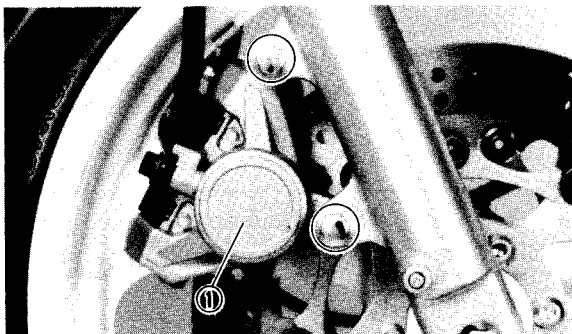
## 1. Install:

- Piston seals ①
- Dust seals ②
- Pistons ③

## 2. Install:

- Brake pad
- Pad spring
- Retaining bolt
- Retaining clip

Refer to the "BRAKE PAD REPLACEMENT" section.



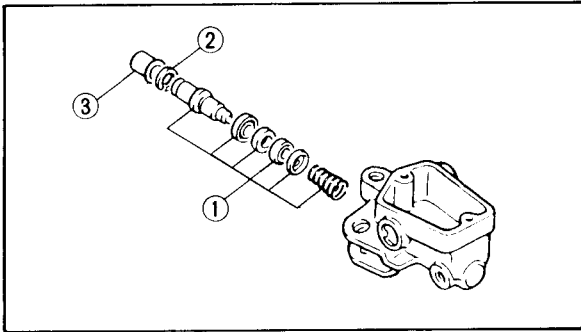
## 3. Install:

- Brake caliper ①



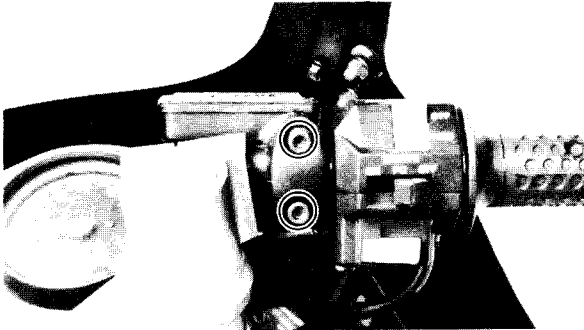
Bolts (Brake Caliper):

35 Nm (3.5 m · kg, 25 ft · lb)



## 4. Install:

- Master cylinder kit ①
- Circlip ②
- Dust boot ③



## 5. Install:

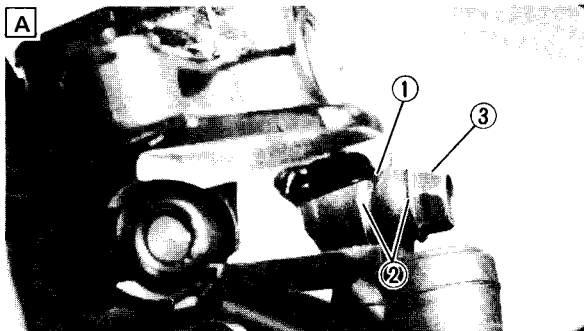
- Master cylinder

## NOTE:

Tighten first the upper bolt, then the lower bolt.



**Bolts (Master Cylinder Bracket):**  
9 Nm (0.9 m · kg, 6.5 ft · lb)

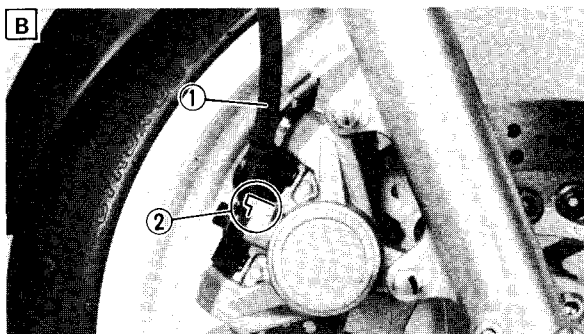


## 6. Install:

- Brake hose ①
- Copper washers ②
- Union bolts ③



**Union Bolts:**  
26 Nm (2.6 m · kg, 19 ft · lb)

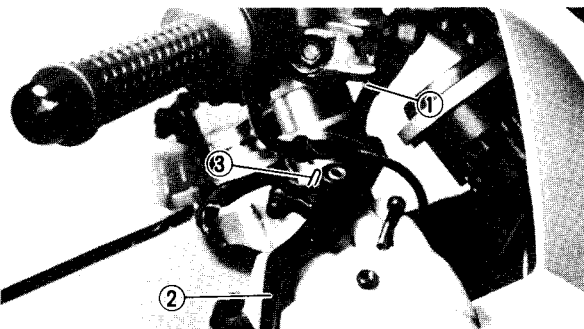


## ⚠ CAUTION:

When installing the brake hose to the caliper, lightly touch the brake pipe ① with the projection ② on the caliper.

## ⚠ WARNING:

Always use new copper washers.



## 7. Install:

- Brake switch ①
- Brake lever ②
- Spring ③

## NOTE:

Apply lithium soap base grease to pivot shaft of brake lever.



## 8. Fill:

- Brake fluid



### Recommended Brake Fluid:

DOT # 4

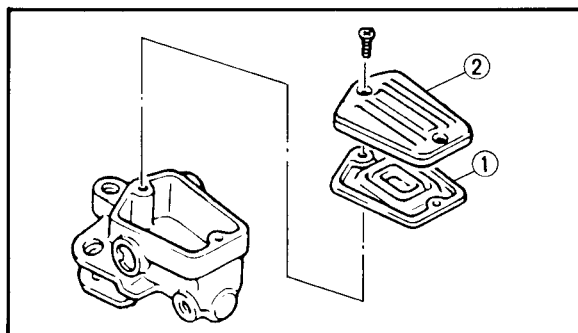
If DOT # 4 is not available,  
# 3 can be used.

### ⚠ CAUTION:

Brake fluid may erode painted surfaces or plastic parts. Always clean up spilled fluid immediately.

### ⚠ WARNING:

- Use only the designated quality brake fluid. otherwise, the rubber seals may deteriorate, causing leakage and poor brake performance.
- Refill with the same type of brake fluid; mixing fluids may result in a harmful chemical reaction and lead to poor performance.
- Be careful that water does not enter the master cylinder when refilling. Water will significantly lower the boiling point of the fluid and may result in vapor lock.



## 9. Install:

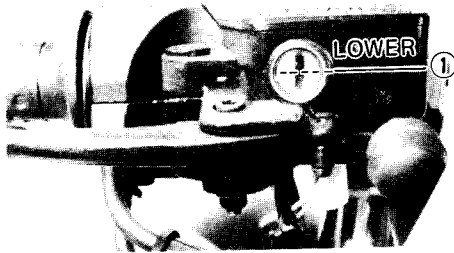
- Rubber seal ①
- Master cylinder cap ②



Screws (Master Cylinder Cap):  
2 Nm (0.2 m · kg, 1.4 ft · lb)

## 10. Air bleed:

- Brake system  
Refer to the "AIR BLEEDING" section  
in the CHAPTER 3.



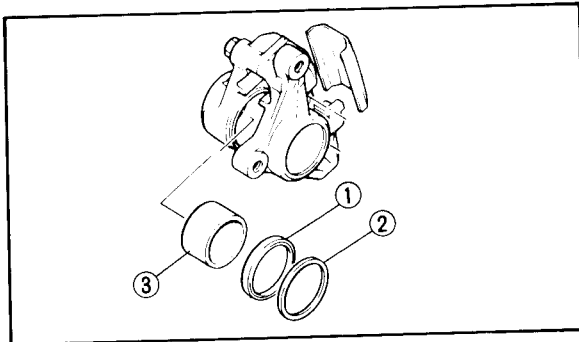
### 11. Inspect:

- Brake fluid level

Fluid level is under "LOWER" level line

① → Replenish.

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



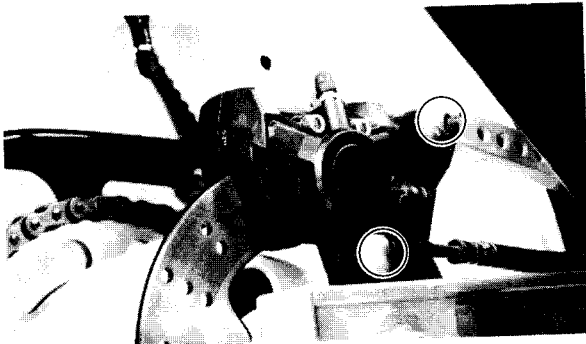
### Rear Brake

#### 1. Install:

- Piston seal ①
- Dust seal ②
- Piston ③

#### 2. Install:

- Brake caliper

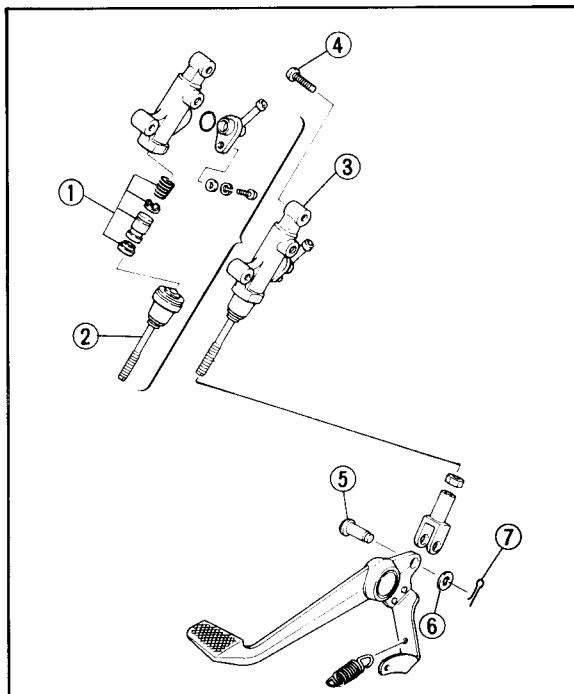


**Bolts (Brake Caliper):**  
35 Nm (3.5 m · kg, 25 ft · lb)

#### 3. Install:

- Brake pad
- Pad spring
- Retaining bolt

Refer to the "BRAKE PAD REPLACEMENT" section.



## 4. Install:

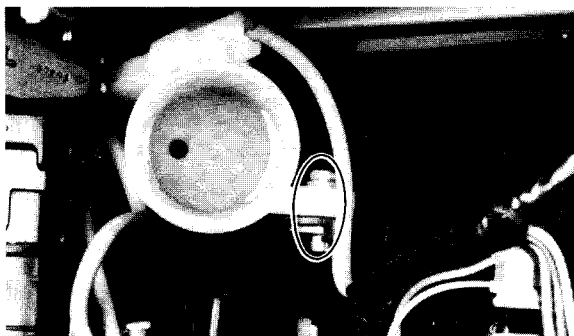
- Master cylinder kit ①
- Adjusting rod ②
- Master cylinder ③
- Bolt (Master Cylinder) ④
- Shaft ⑤
- Plain washer ⑥
- Cotter pin ⑦



**Bolt (Master Cylinder):**  
20 Nm (2.0 m·kg, 14 ft·lb)

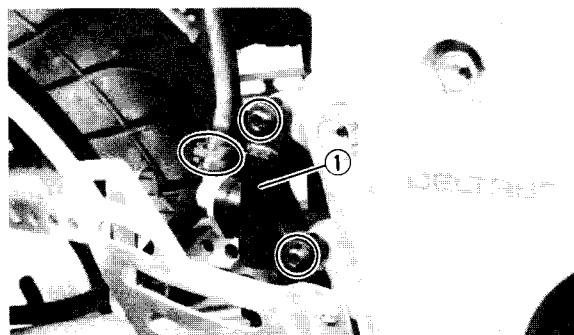
## ⚠ WARNING:

Always use new cotter pin.



## 5. Install:

- Reservoir tank

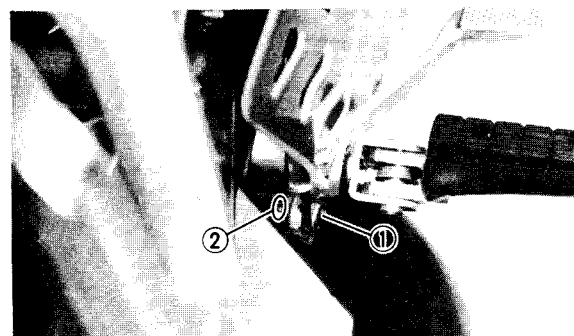


## 6. Install:

- Master cylinder assembly ①



**Bolts (Master Cylinder Assembly):**  
35 Nm (3.5 m·kg, 25 ft·lb)



## 7. Install:

- Pin ①
- Plain washer
- Cotter pin ②

## ⚠ WARNING:

Always use new cotter pin.



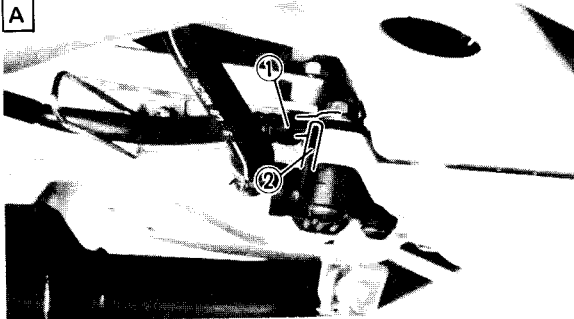
### 8. Install:

- Brake hose
- Copper washers
- Union bolts



**Union Bolts:**  
26 Nm (2.6 m · kg, 19 ft · lb)

**A**



**A** Master cylinder

**B** Brake caliper

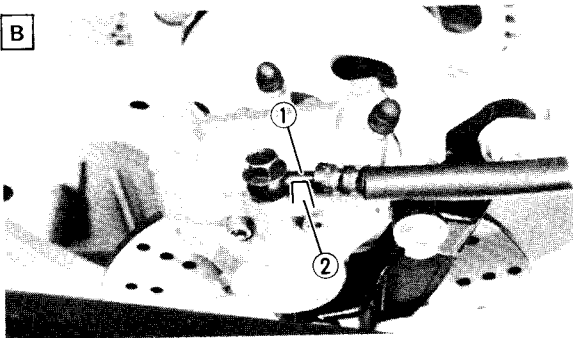
### ⚠ CAUTION:

When installing the brake hose , lightly touch the brake pipe ① with the projections ② on the caliper and master cylinder.

### ⚠ WARNING:

Always use new copper washers.

**B**



### 9. Fill:

- Brake fluid



**Recommended Brake Fluid:**  
DOT #4  
If DOT #4 is not available,  
DOT #3 can be used.

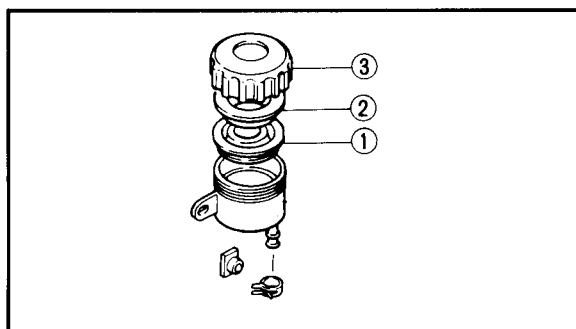
### ⚠ CAUTION:

Brake fluid may erode painted surfaces or plastic parts. Always clean up spilled fluid immediately.



**⚠ WARNING:**

- Use only the designated quality brake fluid: otherwise, the rubber seals may deteriorate, causing leakage and poor brake performance.
- Refill with the same type of brake fluid; mixing fluids may result in a harmful chemical reaction and lead to poor performance.
- Be careful that water does not enter the master cylinder when refilling. Water will significantly lower the boiling point of the fluid and may result in vapor lock.

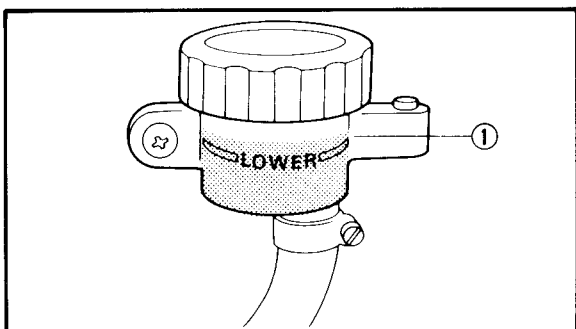


10. Install:

- Diaphragm ①
- Bush ②
- Reservoir tank cap ③

11. Air bleed:

- Brake system  
Refer to the "AIR BLEEDING" section in the CHAPTER 3.



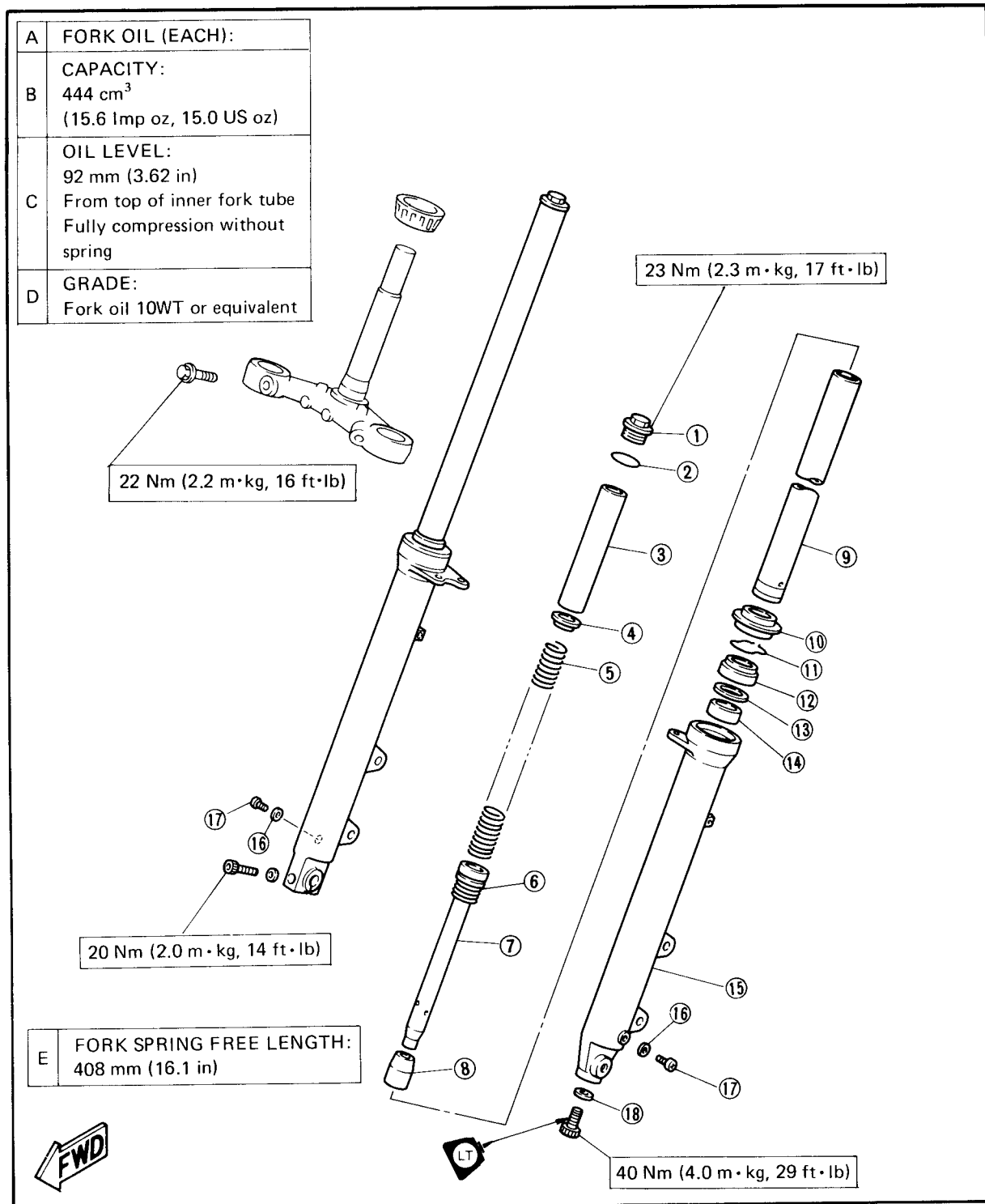
12. Inspect:

- Brake fluid level  
Fluid level is under "LOWER" level line ①  
→ Replenish.  
Refer to the "BRAKE FLUID INSPECTION" section in the CHAPTER 3.



# FRONT FORK

- |                  |                  |                 |
|------------------|------------------|-----------------|
| ① Cap bolt       | ⑦ Damper rod     | ⑬ Seal spacer   |
| ② O-ring         | ⑧ Oil lock piece | ⑭ Guide bushing |
| ③ Collar         | ⑨ Inner tube     | ⑮ Outer tube    |
| ④ Spring seat    | ⑩ Dust seal      | ⑯ Gasket        |
| ⑤ Fork spring    | ⑪ Retaining clip | ⑰ Drain screw   |
| ⑥ Rebound spring | ⑫ Oil seal       | ⑱ Gasket        |



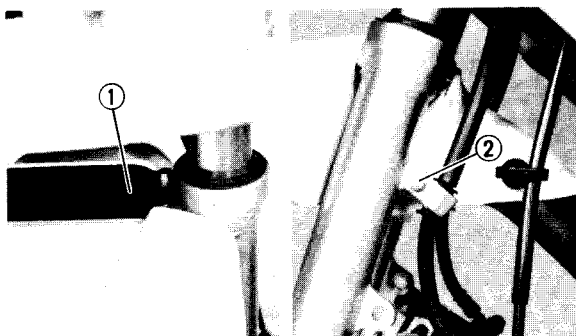


## REMOVAL

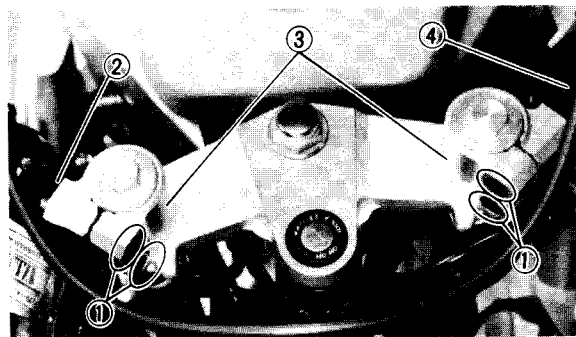
**⚠ WARNING:**

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

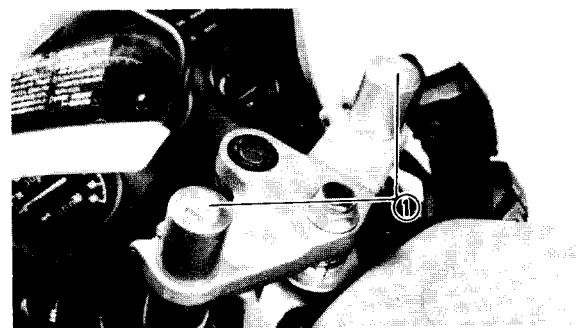
1. Elevate the front wheel by placing a suitable stand under the engine.
2. Remove:
  - Front wheel  
Refer to the "FRONT WHEEL – REMOVAL" section.



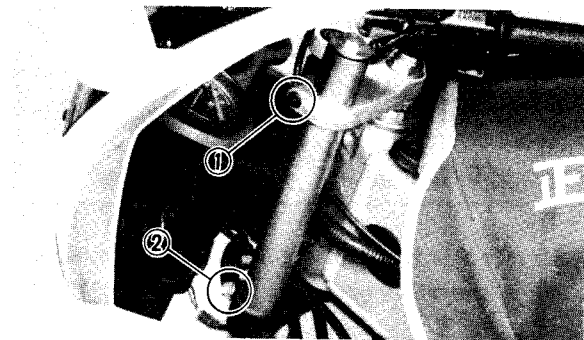
3. Remove:
  - Front brake caliper
  - Front fender ①
  - Bolts (Brake hose clamp) ②



4. Loosen:
  - Bolts (Handlebar bosses) ①
5. Remove:
  - Handlebar (Right) ②
  - Handlebar bosses (Left and right) ③ with handlebar (Left) ④



6. Loosen:
  - Cap bolts ①

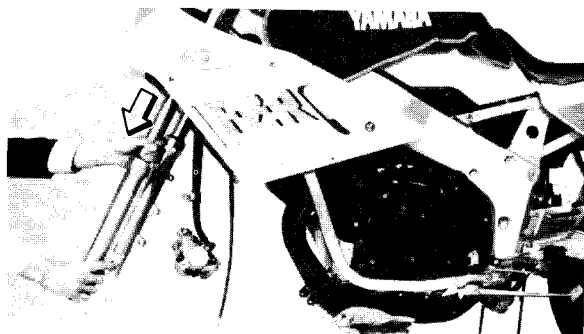


### 7. Loosen:

- Pinch bolt (Handlebar crown) ①
- Pinch bolt (Steering stem) ②

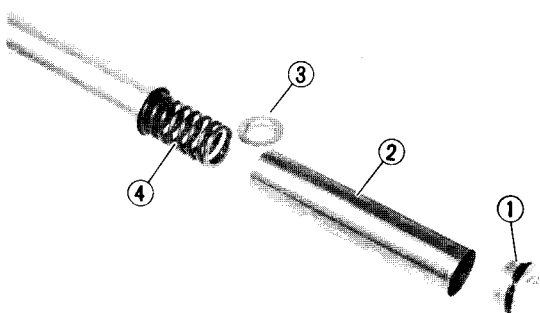
### ⚠ WARNING:

Support the fork before loosening the pinch bolts.



### 8. Remove:

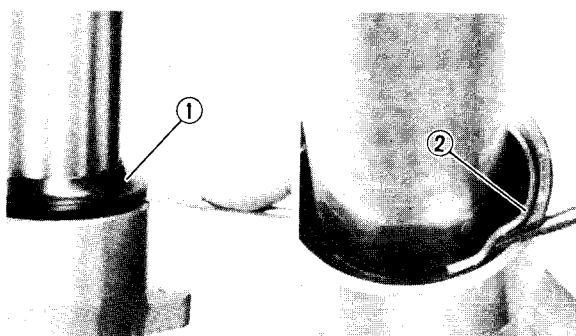
- Front fork



### DISASSEMBLY

#### 1. Remove:

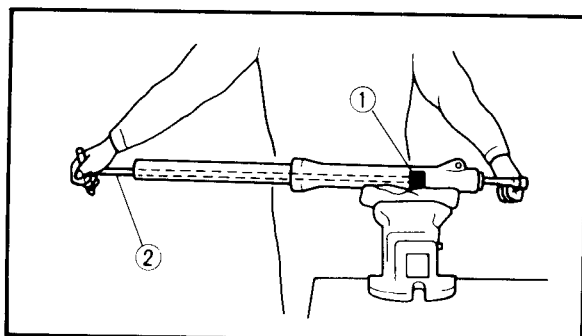
- Cap bolt ①
  - Collar ②
  - Spring seat ③
  - Fork spring ④
- Drain the fork oil



#### 2. Remove:

- Dust seal ①
- Retaining clip ②

Use a thin flat screwdriver, and be careful not to scratch the inner fork tube.



#### 3. Remove:

- Bolt (Damper rod)
- Use the Damper Rod Holder ① and T-Handle ② to lock the damper rod.



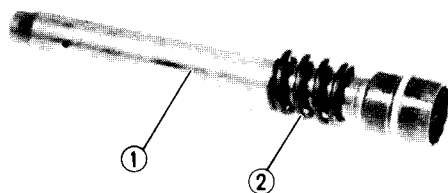
**Damper Rod Holder:**  
P/N YM-01300-1

**T-Handle:**  
P/N YM-01326



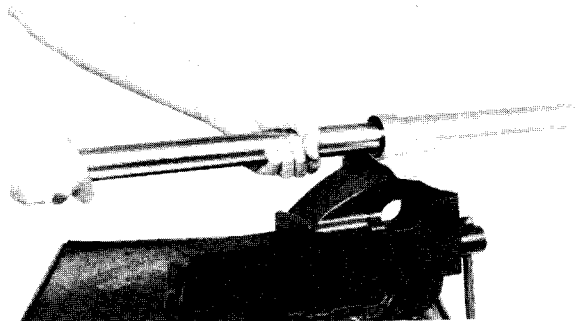
## 4. Remove:

- Damper rod ①
- Rebound spring ②



## 5. Remove:

- Inner tube



### Inner tube removal steps:

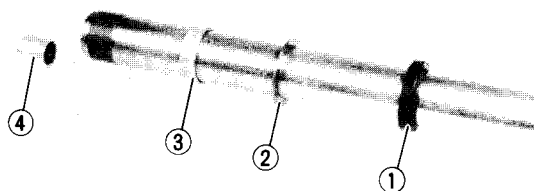
- Hold fork leg horizontally.
- Clamp the caliper mounting boss of the outer tube securely in a vise with soft jaws.
- Pull out the inner tube from the outer tube by forcefully, but carefully, with drawing the inner tube.

### NOTE:

- Excessive force will damage the oil seal and/or the bushes. Damaged oil seal and bushing must be replaced.
- Avoid bottoming the inner tube in the outer tube during the above procedure, as the oil lock piece will be damaged.

## 6. Remove:

- Oil seal ①
- Seal spacer ②
- Guide bushing ③
- Oil lock piece ④



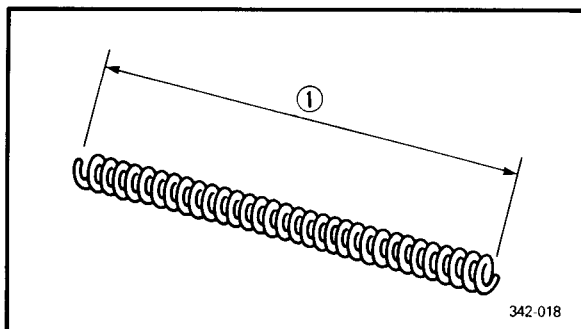
## INSPECTION

### 1. Inspect:

- Inner tube
- Scratches/Bends → Replace.

### ⚠ WARNING:

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



## 2. Inspect:

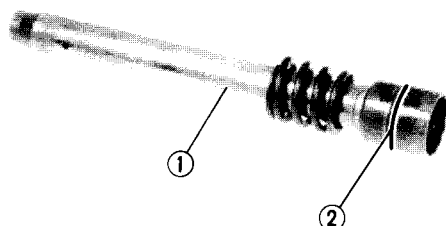
- Outer tube  
Scratches/Bends/Damage → Replace.

## 3. Measure:

- Fork spring  
Over specified limit → Replace.



**Fork Spring Free Length (Limit) ① :**  
**408 mm (16.1 in)**



## 4. Inspect:

- Damper rod ①
- Ring ②  
Wear/Damage → Replace.  
Contamination → Blow out all oil passages with compressed air.
- Oil lock piece
- O-ring (Cap bolt)  
Damage → Replace.

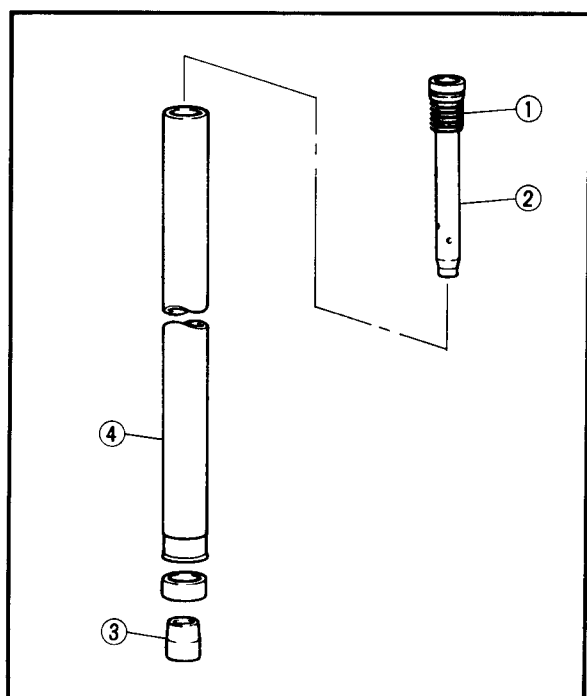
## ASSEMBLY

Before assembling, clean and inspect all parts and replace when necessary.

### NOTE:

In front fork assembly, be sure to use following new parts. Do not reuse them.

- Slide bushing
- Guide bushing
- Oil seal
- Dust seal

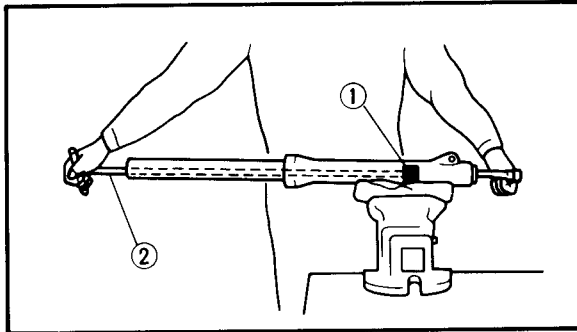


## 1. Install:

- Rebound spring ①
- Damper rod ②

Allow the rod to slide slowly down the tube until it protrudes from the bottom.

- Oil lock piece ③  
Fit oil lock piece over damper rod sticking out of the inner tube.
- Inner tube ④  
Into the outer tube.



## 2. Tighten:

- Bolt (Damper rod)

Use the Damper Rod Holder ① and T-Handle ② to lock the damper rod.

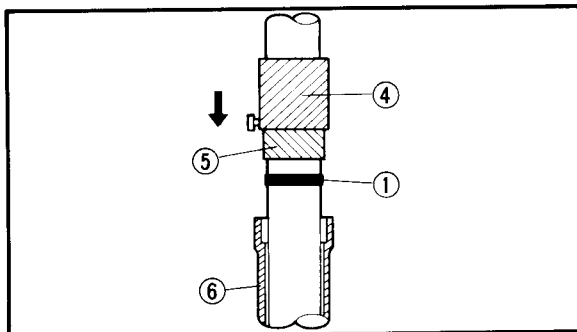


**Damper Rod Holder:**  
P/N YM-01300-1

**T-Handle:**  
P/N YM-01326



**Bolt (Damper Rod):**  
40 Nm (4.0 m·kg, 29 ft·lb)  
Apply LOCTITE®



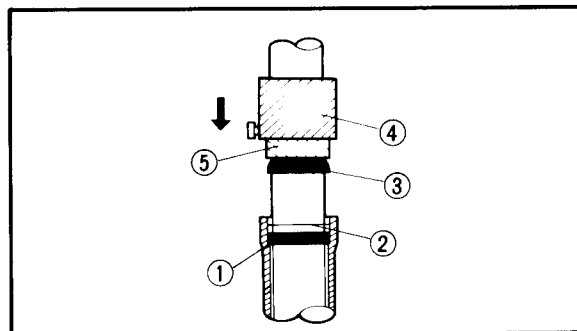
## 3. Install:

- Guide bushing ① (New)  
Into the outer tube ⑥ .
- Seal spacer ②  
On the top of guide bushing ① .
- Oil seal ③  
Use the Fork Seal Driver Weight ④ and Adapter ⑤ .



**Fork Seal Driver Weight:**  
P/N YM-33963

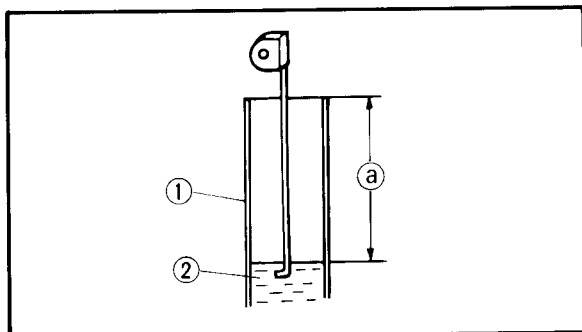
**Fork Seal Driver Adapter:**  
P/N YM-01372



- Retaining clip
- Dust seal

## 4. Fill:

- Front fork



Each Fork:

444 cm<sup>3</sup>

(15.6 Imp oz, 15.0 US oz)

Fork Oil 10WT or equivalent

After filling, slowly pump the fork up and down to distribute oil.

Oil Level (a) :

92 mm (3.62 in)

From the top of inner fork tube fully compressed without spring.

① Inner tube

② Fork oil

5. Install:

- Fork spring

With the smaller pitch side up.

- Spring seat

- Collar

- Cap bolt

Temporarily tighten the cap bolt.



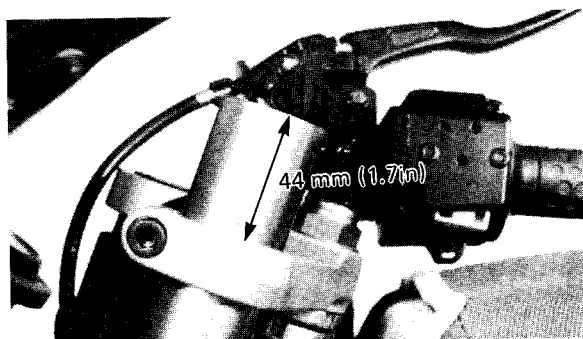
Cap Bolt:

23 Nm (2.3 m·kg, 17 ft·lb)

## INSTALLATION

Reverse the removal procedure.

Note the following point.



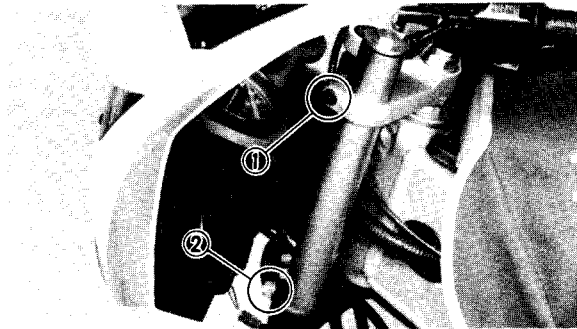
1. Install:

- Front fork

Temporary tighten the pinch bolts.

### NOTE:

Hold the inner tube with its top 44 mm (1.7 in) above the top of the handlebar crown.



## 2. Tighten:

- Pinch bolt (Handlebar crown) ①
- Pinch bolt (Steering stem) ②

**Pinch Bolt (Handlebar Crown):**

26 Nm (2.6 m·kg, 19 ft·lb)

**Pinch Bolt (Steering Stem):**

22 Nm (2.2 m·kg, 16 ft·lb)

## 3. Install:

- Handlebar boss

**NOTE:**

Insert the pin on the spacer into the corresponding hole on the handlebar.

**Bolts (Handlebar Boss):**

23 Nm (2.3 m·kg, 17 ft·lb)

## 4. Install:

- Front fender

**Bolt (Front Fender):**

7 Nm (0.7 m·kg, 5.1 ft·lb)

## 5. Install:

- Front wheel

Refer to the "FRONT WHEEL – INSTALLATION" section.

**Front Axle:**

58 Nm (5.8 m·kg, 42 ft·lb)

**Bolts (Brake Caliper):**

35 Nm (3.5 m·kg, 25 ft·lb)

**Pinch Bolt (Front Fork):**

20 Nm (2.0 m·kg, 14 ft·lb)

**⚠ WARNING:**

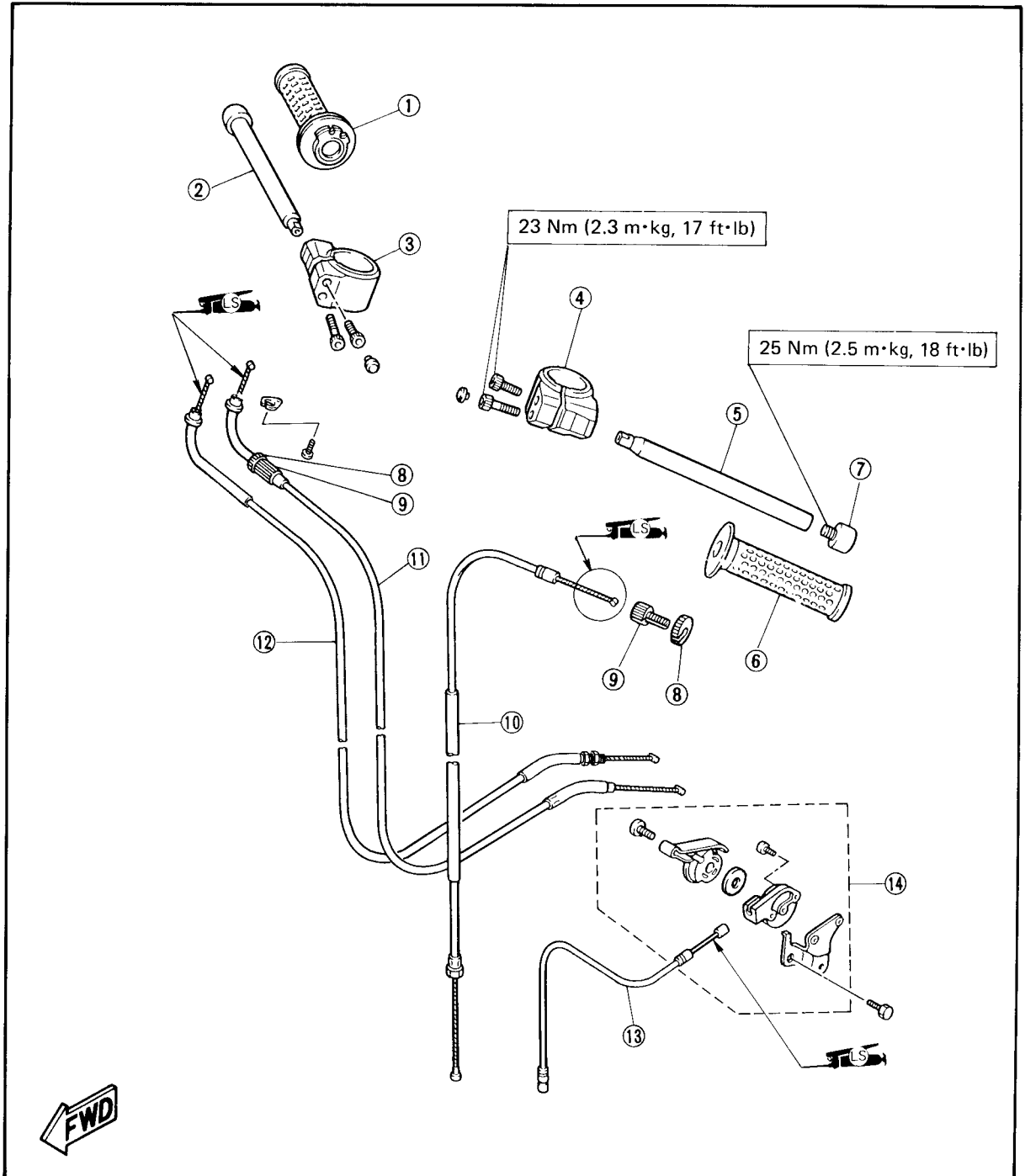
Make sure that the brake hoses are routed properly.



## STEERING HEAD AND HANDLEBAR

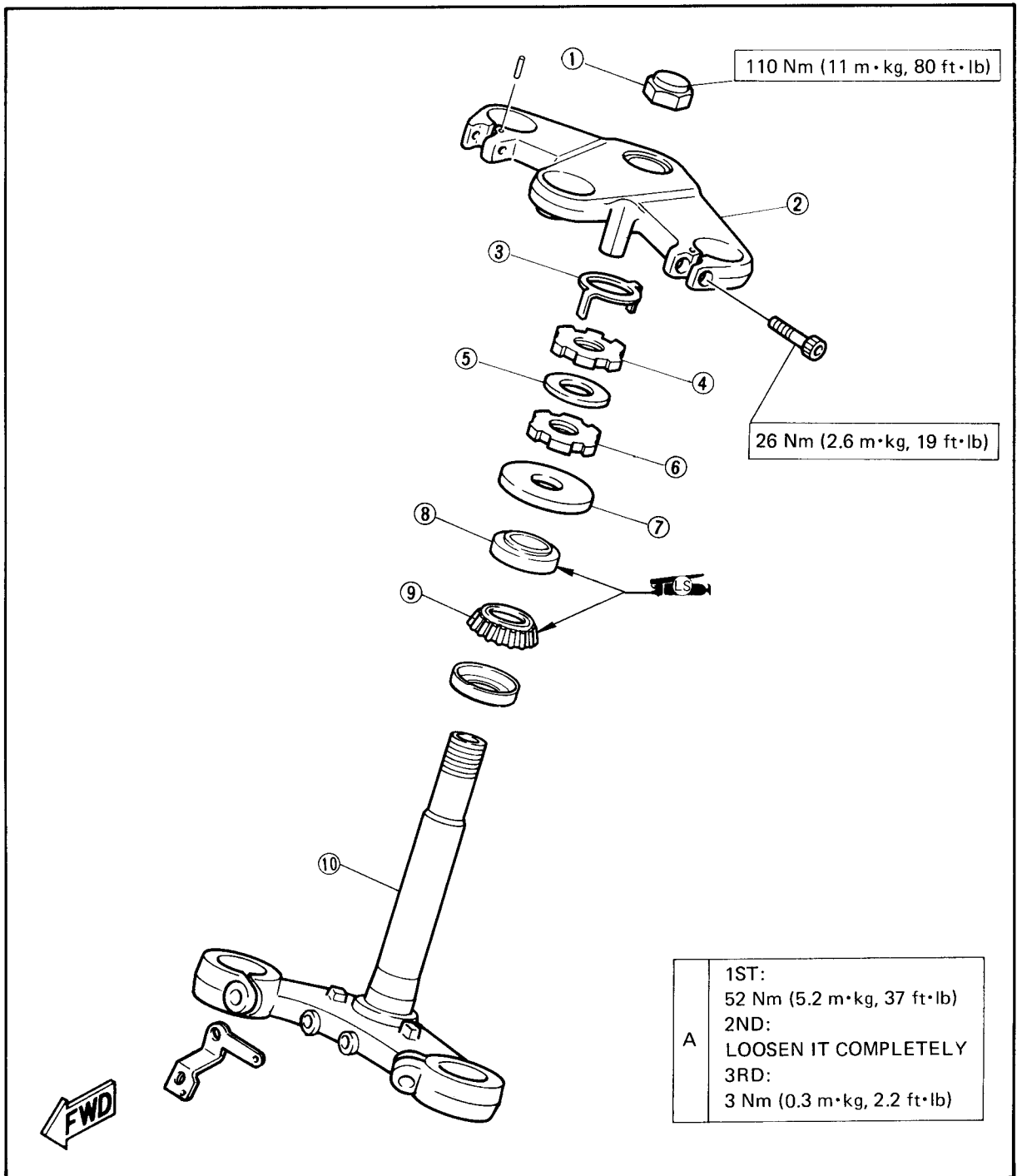
## Handlebar

- |                          |                          |
|--------------------------|--------------------------|
| ① Throttle guide tube    | ⑧ Locknut                |
| ② Handlebar (Right)      | ⑨ Adjuster               |
| ③ Handlebar boss (Right) | ⑩ Clutch cable           |
| ④ Handlebar boss (Left)  | ⑪ Throttle cable 1       |
| ⑤ Handlebar (Left)       | ⑫ Throttle cable 2       |
| ⑥ Grip rubber            | ⑬ Starter cable          |
| ⑦ Handlebar grip end     | ⑭ Starter lever assembly |



**Steering Head**

- |                     |                    |
|---------------------|--------------------|
| ① Steering stem nut | ⑥ Ring nut (Lower) |
| ② Handle crown      | ⑦ Bearing cover    |
| ③ Lock washer       | ⑧ Bearing (Upper)  |
| ④ Ring nut (Upper)  | ⑨ Bearing (Lower)  |
| ⑤ Washer            | ⑩ Steering stem    |



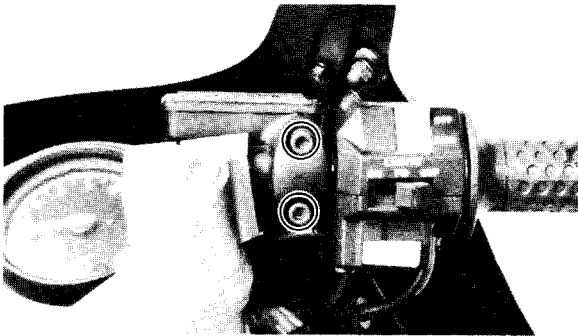


## REMOVAL

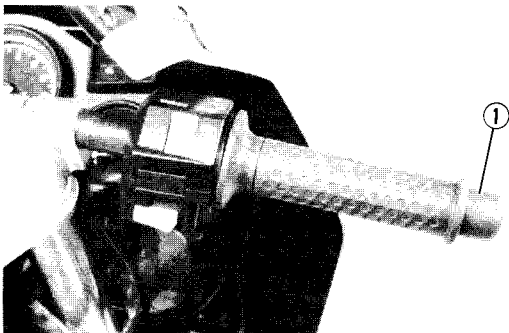
**⚠ WARNING:**

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

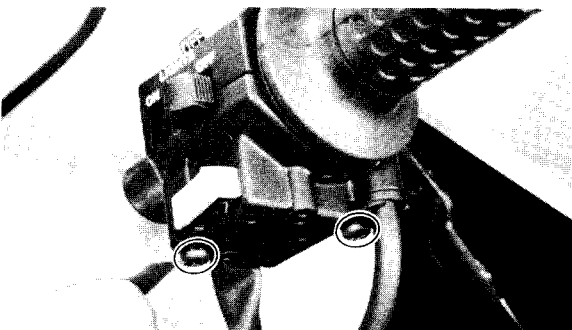
1. Elevate the front wheel by placing a suitable stand under the engine.
2. Remove:
  - Front wheel  
Refer to the "FRONT WHEEL – REMOVAL" section.



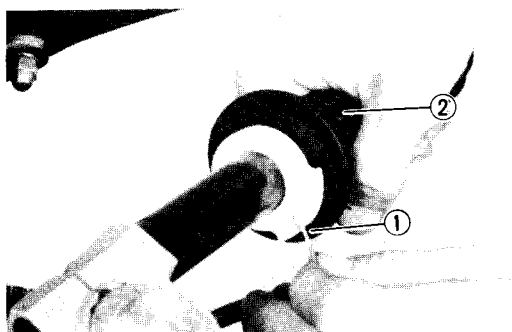
3. Remove:
  - Bracket (Master cylinder)



4. Remove:
  - Handlebar grip end (Right) ①

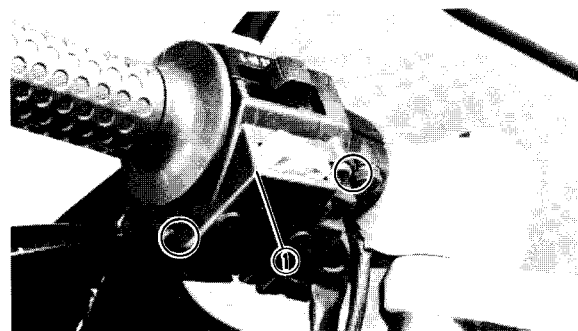


5. Remove:
  - Handlebar switch (Right)



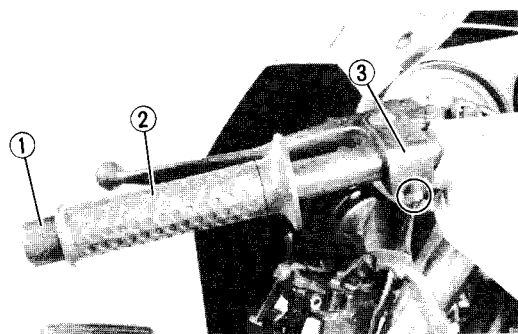
6. Remove:

- Throttle cable (1)
- Handlebar grip (Right) (2)



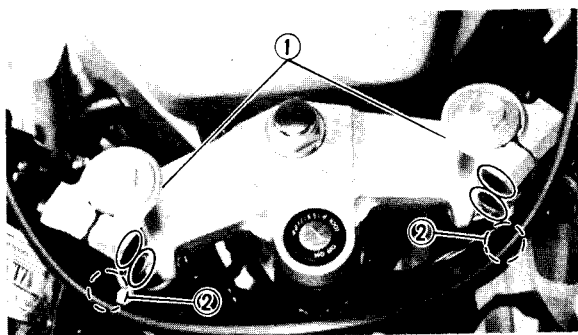
7. Remove:

- Handlebar switch (Left) (1)



8. Remove:

- Handlebar grip end (Left) (1)
- Handlebar grip (Left) (2)
- Clutch lever holder (3)



9. Remove:

- Handlebar (Right)
- Handlebar bosses (Left and right) (1) with handlebar (Left).

10. Loosen:

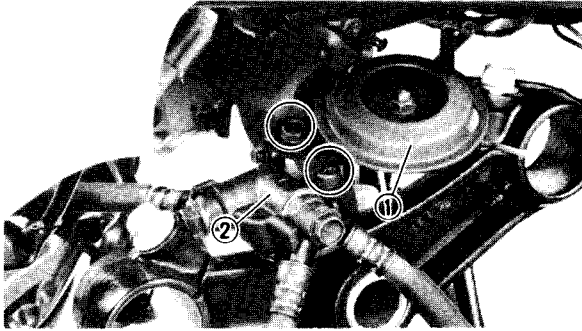
- Pinch bolt (Handlebar crown) (2)

11. Remove:

- Lower cowlings (Left and right)
  - Center cowlings (Left and right)
- Refer to the "COWLING REMOVAL AND INSTALLATION – REMOVAL" section in the CHAPTER 3.

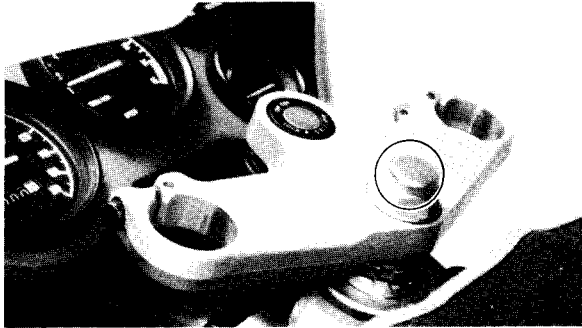
12. Remove:

- Front forks (Left and right)
- Refer to the "FRONT FORK – REMOVAL" section.



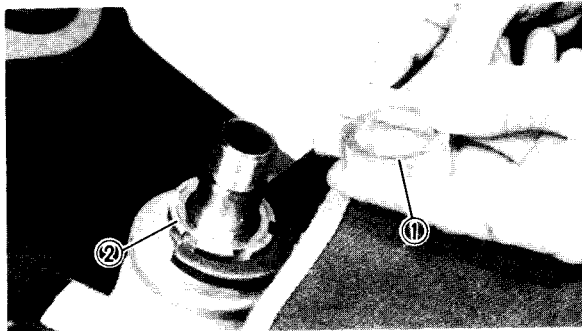
13. Remove:

- Horn ①
- Joint (Brake hose) ②



14. Remove:

- Handlebar crown

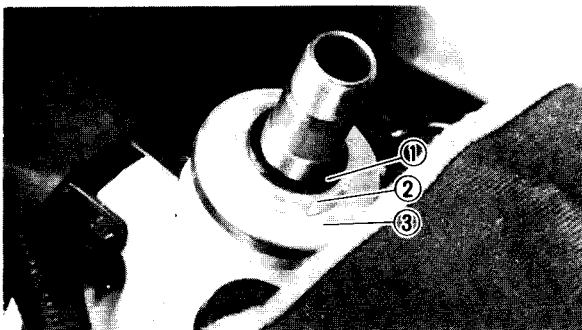


15. Remove:

- Lock washer ①
  - Ring nut (Upper) ②
- Use Ring Nut Wrench



Ring Nut Wrench:  
P/N YU-33975

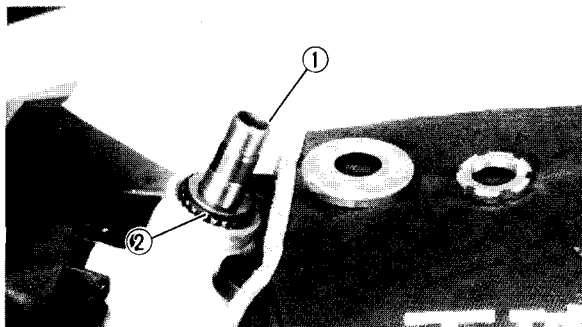


16. Remove:

- Washer ①
- Ring nut (Lower) ②
- Bearing cover ③

**⚠ WARNING:**

Support the steering shaft so that it may not fall down.

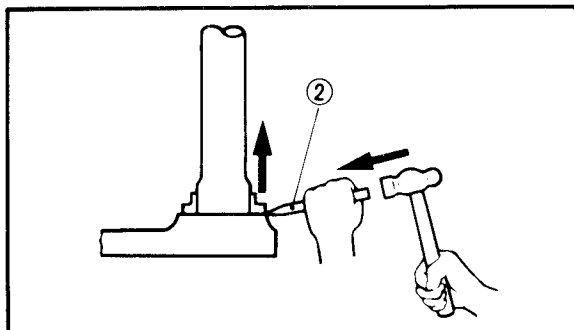
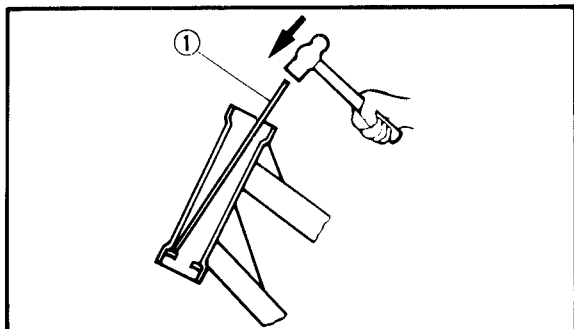


17. Remove:

- Steering stem ①
- Bearing (Upper) ②
- Bearing (Lower)

**INSPECTION**

1. Wash the bearing in a solvent.
2. Inspect:
  - Bearings
  - Bearing racePitting/Damage → Replace.

**Bearing race replacement steps:**

- Remove the bearing races using long rod ① and the hammer as shown.
- Remove the bearing race on the steering stem using the floor chisel ② and the hammer as shown.
- Install the new dust seal and races.

**NOTE:**

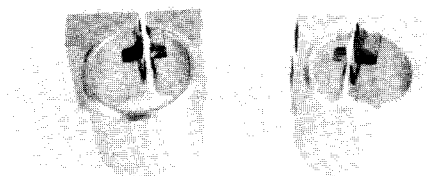
Always replace bearings and races as a set.

**3. Inspect:**

- Handlebars
- Bents/Damage → Replace.

**4. Inspect:**

- Handlebar bosses
- Cracks/Damage → Replace.





## INSTALLATION

Reverse the removal procedure.

Note the following points.

1. Lubricate:
  - Bearings (Upper/Lower)
  - Bearing races



**Lithium-Soap Base**

2. Install:

- Bearing (Lower) ①
- Bearing cover ②
- Steering stem ③

### ⚠ CAUTION:

Hold the steering stem until it is secured.

- Bearing (Upper) ③
  - Bearing cover ④
  - Ring nut (Lower) ⑤
3. Tighten:
    - Ring nuts (Lower/Upper)

### Ring nuts tightening steps:

#### NOTE:

Set the Torque Wrench to the Ring Nut Wrench so that they form a right angle.

- Install the ring nut (Lower) ⑤ .

#### NOTE:

The tapered side of ring nut must face downward.

- Tighten the ring nut ⑤ using the Ring Nut Wrench.



**Ring Nut Wrench:**  
P/N YU-33975



**Ring Nut ⑤ (Initial Tightening):**  
52 Nm (5.2 m·kg, 37 ft·lb)

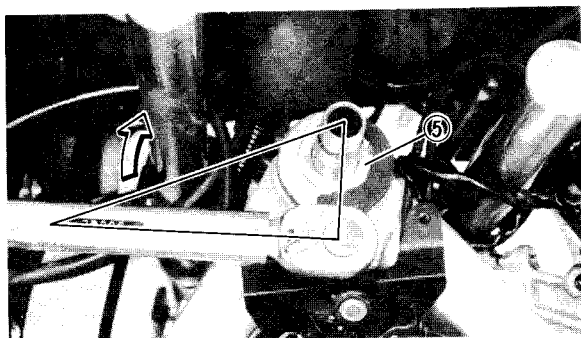
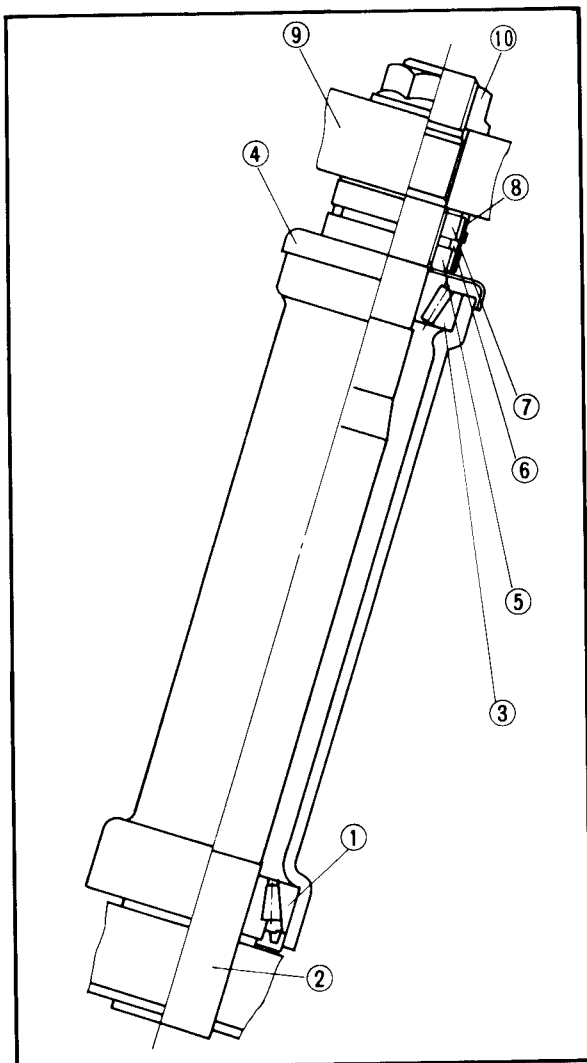
- LOOSEN THE RING NUT ⑤ COMPLETELY and retighten it to specification.

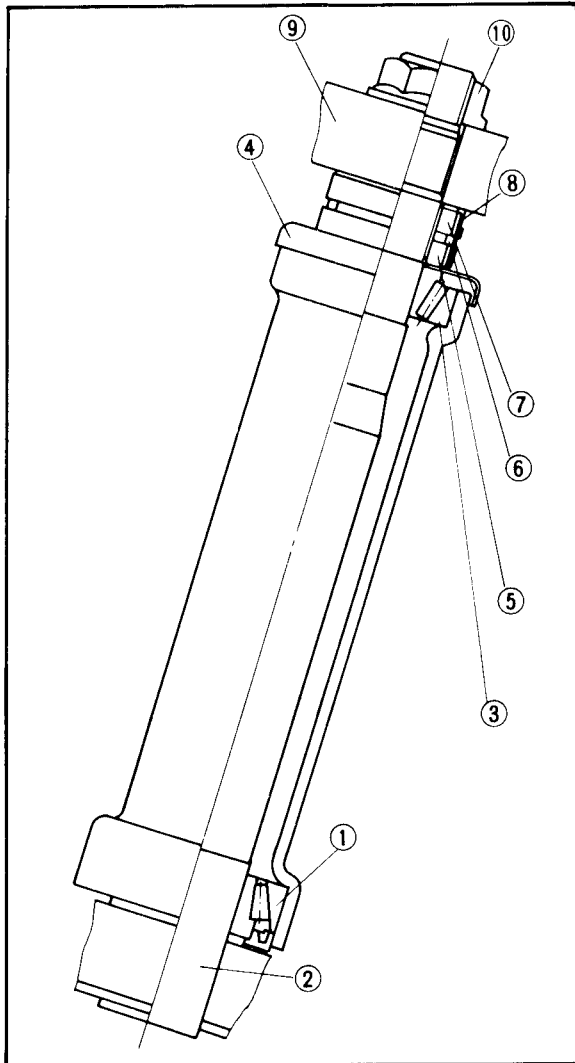
### ⚠ WARNING:

Do not over-tightening.



**Ring Nut ⑤ (Final Tightening):**  
3 Nm (0.3 m·kg, 2.2 ft·lb)





- Check the steering stem by turning it lock to lock. If there is any binding, remove the steering stem assembly and inspect the steering bearings ①, ③.
- Install the washer ⑥.
- Install the ring nut (Upper) ⑦.

**NOTE:**

The tapered side of ring nut must face downward.

- FINGER TIGHTEN THE RING NUT ⑦, then align the slots of both ring nuts. If not aligned, hold the lower ring nut ⑤ and tighten the other until they are aligned.
- Install the lock washer ⑧.

**NOTE:**

Make sure the lock washer tab is placed in the slots.

- Install the handle crown ⑨, and tighten the steering stem nut ⑩ to specification.

**Nut (Steering Stem):**

110 Nm (11.0 m·kg, 80 ft·lb)

**4. Install:**

- Brake hose joint

**Brake (Brake Hose Joint):**

10 Nm (1.0 m·kg, 7.2 ft·lb)

**5. Install:**

- Front fork (Left and right)  
Refer to the "FRONT FORK – INSTALLATION" section.

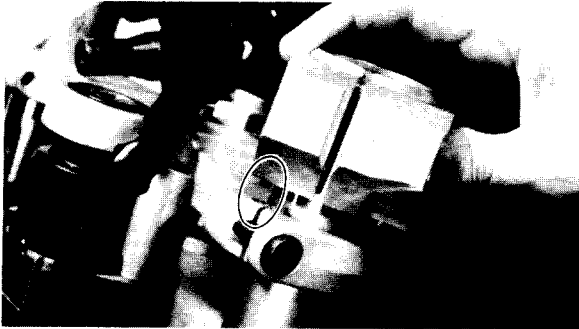
**Pinch Bolt (Handlebar Crown):**

26 Nm (2.6 m·kg, 19 ft·lb)

**Pinch Bolt (Steering Stem):**

22 Nm (2.2 m·kg, 16 ft·lb)





8. Install:

- Handlebar bosses

**NOTE:**

Insert the pin on the handlebar bosses into the corresponding hole on the handlebar crown.

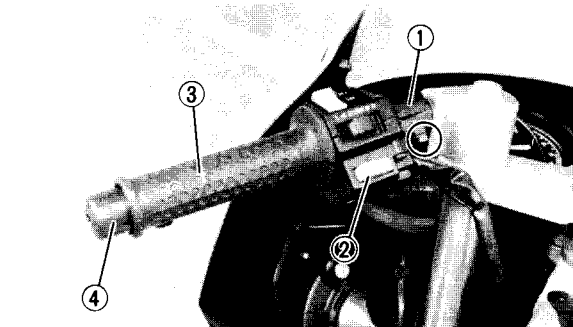


9. Install:

- Handlebars

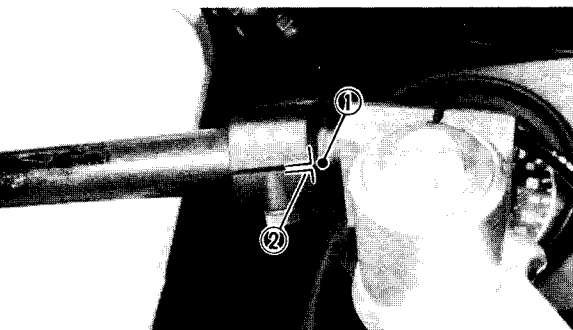


**Pinch Bolts (Handlebar):**  
23 Nm (2.3 m·kg, 17 ft·lb)



10. Install:

- Clutch lever holder ①
- Handlebar switch (Left) ②
- Handlebar grip (Left) ③
- Handlebar grip end (Left) ④



**Handlebar (Left) installation steps:**

- Install the lever holder with the punched mark ① on the handlebar aligning with the slit in the lever holder ②.

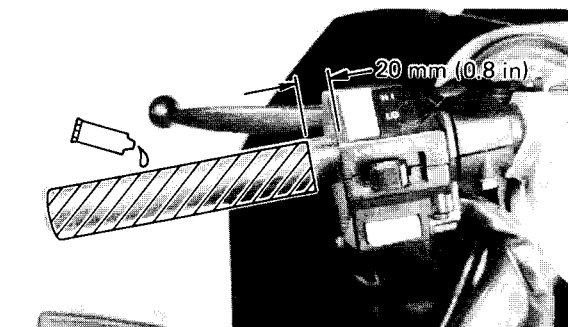


**Bolt (Lever Holder):**  
10 Nm (1.0 m·kg, 7.2 ft·lb)

- Install the handlebar switch (Left)
- Apply align coat of an adhesive for rubber to the handlebar end, as shown.  
a) 20 mm (0.8 in)
- Fit the handlebar grip fully over the handlebar end.

**⚠ WARNING:**

Leave the handlebar intact until the adhesive becomes dry enough to make the grip and handlebar stuck securely.





- Install the handlebar grip end (Left).



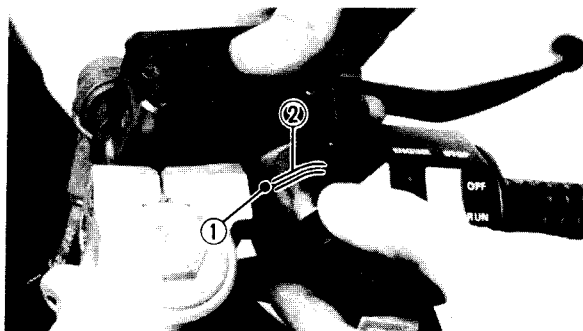
**Handlebar Grip End:**  
25 Nm (2.5 m·kg, 18 ft·lb)

11. Install:

- Handlebar grip (Right)
- Throttle cable
- Handlebar switch (Right)

**NOTE:**

Before installing the handlebar grip (Right), apply a light coat of lithium soap base grease onto the handlebar end.



12. Install:

- Front brake master cylinder

**NOTE:**

Install the master cylinder with the punched mark ① on the handlebar aligning with the master cylinder end ②.



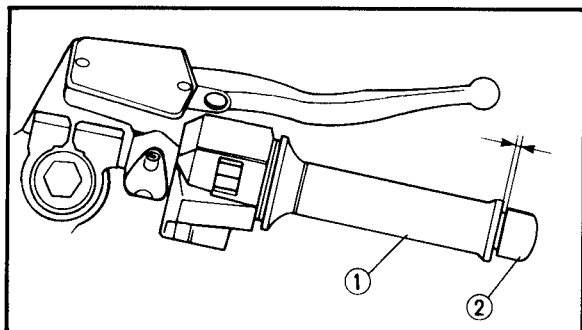
**Bolts (Master Cylinder Bracket):**  
9 Nm (0.9 m·kg, 6.5 ft·lb)

13. Install:

- Handlebar grip end (Right) ①

**⚠ WARNING:**

Provide a clearance of 1 mm (0.04 in) between the handlebar grip ② and the handlebar grip end ①. Otherwise, the grip may not move.



**Handlebar Grip End:**  
25 Nm (2.5 m·kg, 18 ft·lb)



## 14. Install:

- Front fender



**Bolt (Front Fender):**  
7 Nm (0.7 m·kg, 5.1 ft·lb)

## 15. Install:

- Front wheel

Refer to the "FRONT WHEEL – INSTALLATION" section.



**Wheel Axle:**  
58 Nm (5.8 m·kg, 42 ft·lb)  
**Bolt (Brake Caliper):**  
35 Nm (3.5 m·kg, 25 ft·lb)  
**Pinch Bolt (Front Fork):**  
20 Nm (2.0 m·kg, 14 ft·lb)

## 16. Install:

- Clutch cable

**NOTE:**

Apply a light coat of lithium soap base grease onto the clutch cable end.

## 17. Adjust

- Clutch cable free play

Refer to the "CLUTCH ADJUSTMENT" section in the CHAPTER 3.



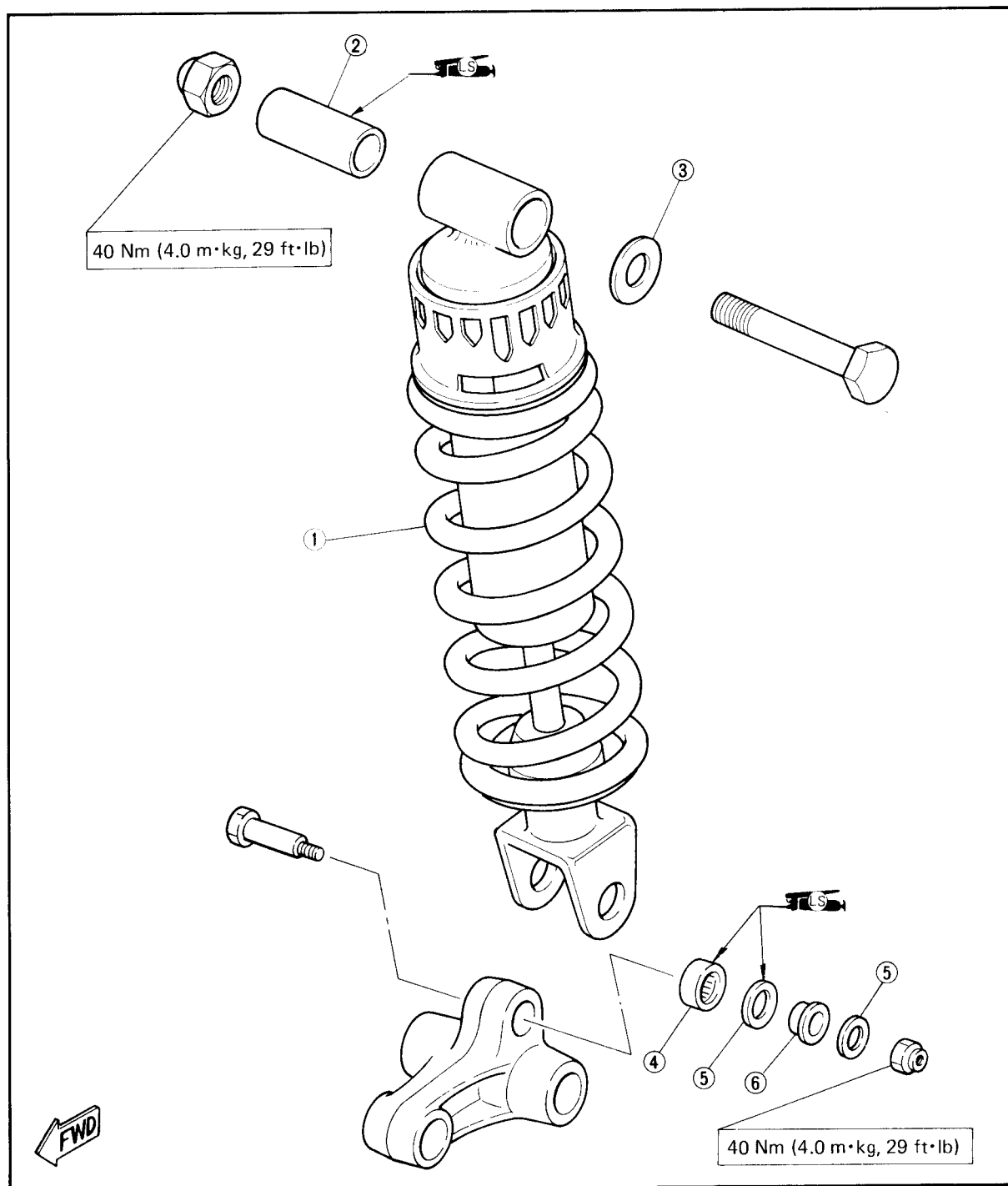
**Free Play:**  
2 ~ 3 mm (0.08 ~ 0.12 in)  
At The Lever Pivot.



## REAR SHOCK ABSORBER AND SWINGARM

### Rear Shock Absorber

- ① Shock absorber
- ② Collar
- ③ Washer
- ④ Collar
- ⑤ Oil seal
- ⑥ Bearing

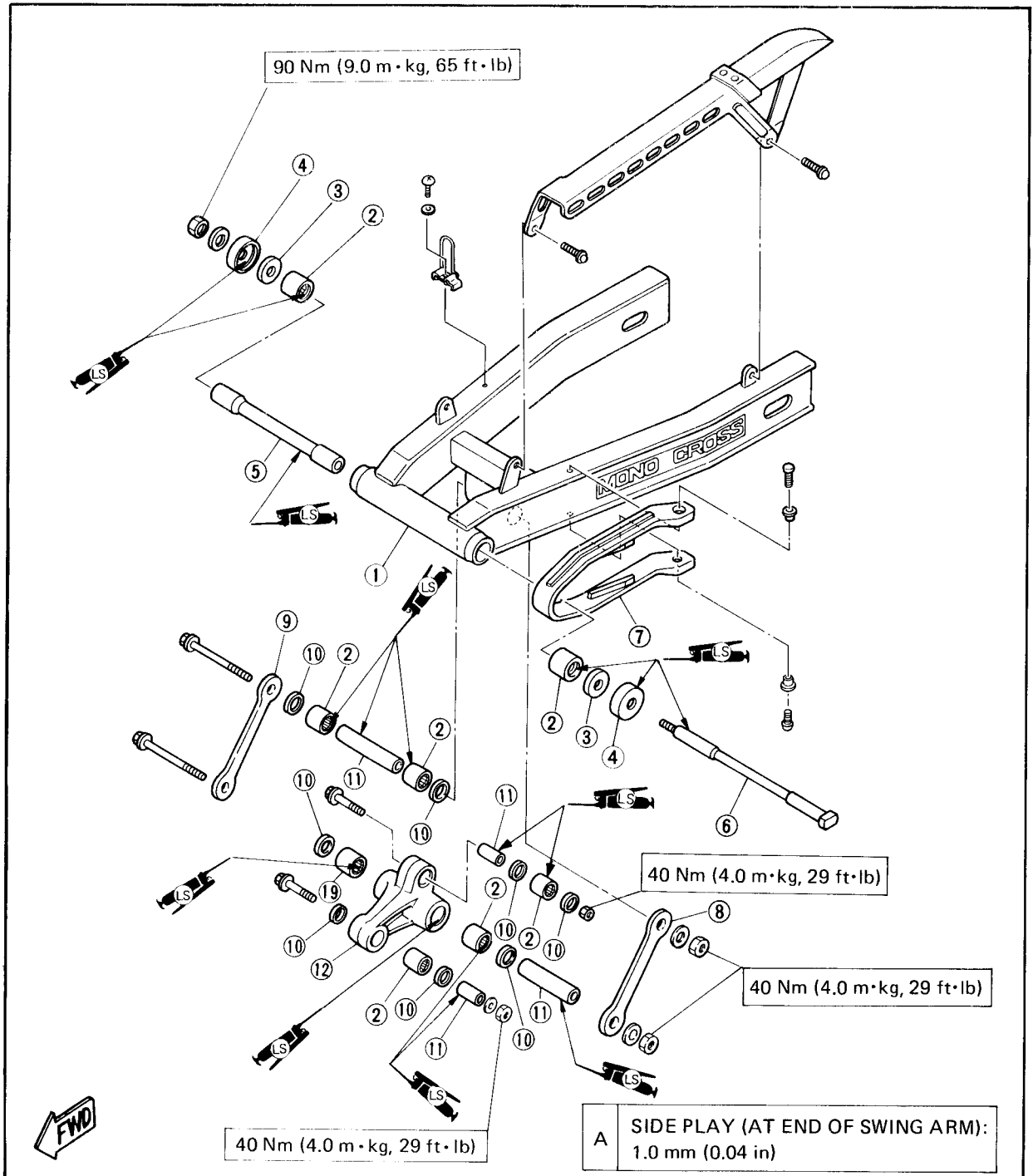


## Swingarm

- |                 |               |
|-----------------|---------------|
| ① Swingarm      | ⑦ Guard seal  |
| ② Bearing       | ⑧ Arm (Left)  |
| ③ Thrust washer | ⑨ Arm (Right) |
| ④ Thrust cover  | ⑩ Oil seal    |
| ⑤ Bush          | ⑪ Collar      |
| ⑥ Pivot shaft   | ⑫ Relay arm   |

### NOTE:

Coat the bearings, bushings, thrust covers, oil seals, and collars with a liberal amount of light weight lithium-soap base grease before installing. After installing, thoroughly wipe off excess grease.

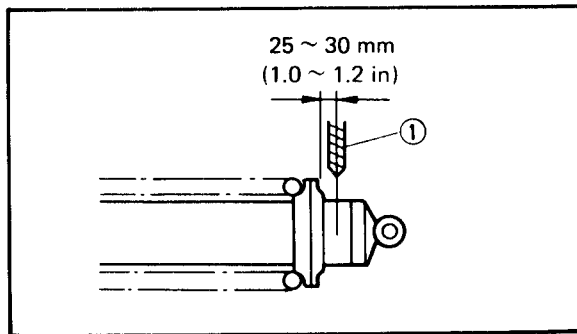


## HANDLING NOTES

### **⚠ WARNING:**

This shock absorber contains highly compressed nitrogen gas. Read and understand the following information before handling the shock absorber. The manufacturer cannot be held responsible for property damage or personal injury that may result from improper handling.

1. Do not tamper or attempt to open the cylinder assembly.
2. Do not subject shock absorber to an open flame or other high heat. This may cause the unit to explode due to excessive gas pressure.
3. Do not deform or damage the cylinder in any way. Cylinder damage will result in poor damping performance.



## DISPOSAL NOTES

### **Shock absorber disposal steps:**

Gas pressure must be released before disposing the shock absorber. To do so, drill ① a 2 ~ 3 mm (0.08 ~ 0.12 in) hole through the cylinder wall at a point 25 ~ 30 mm (1.0 ~ 1.2 in) under the spring seat.

### **⚠ CAUTION:**

Wear eye protection to prevent eye damage from escaping gas and/or metal chips.

## REMOVAL

### **Rear Shock Absorber**

1. Place the motorcycle on a level place.

### **⚠ WARNING:**

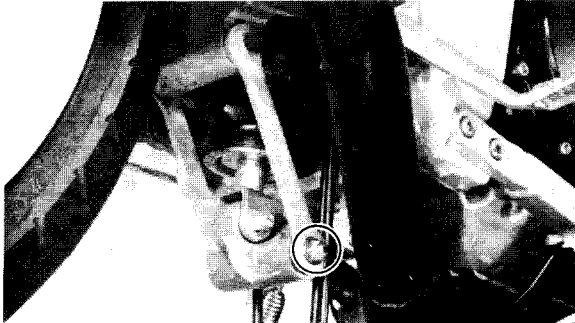
Securely support the motorcycle so there is no danger of it falling over.



## 2. Remove:

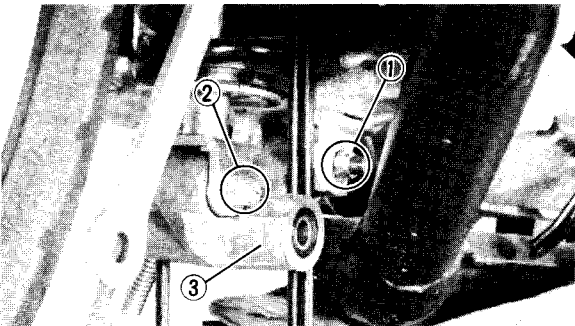
- Lower cowlings (Left and right)

Refer to the "COWLING REMOVAL AND INSTALLATION – REMOVAL" section in the CHAPTER 3.



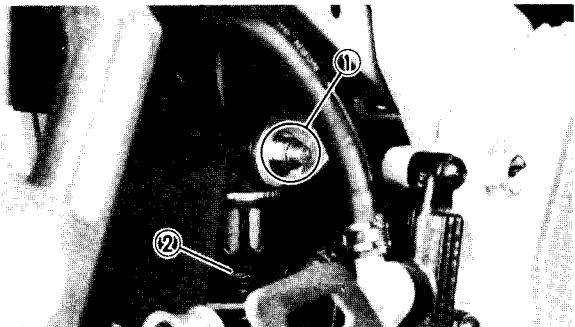
## 3. Remove:

- Bolt (Arms – Bottom)



## 4. Remove:

- Bolt (Swingarm) ①
- Bolt (Rear shock absorber – Bottom) ②
- Relay arm ③



## 5. Remove:

- Bolt (Rear shock absorber – Top) ①
- Rear shock absorber ②

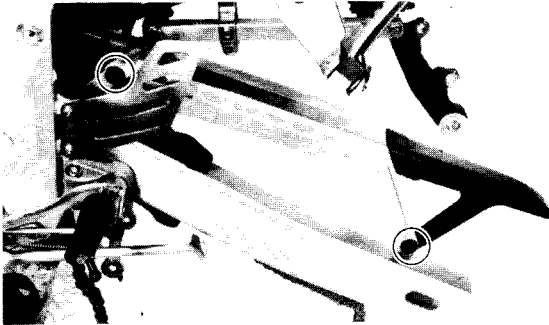
## Swingarm

### ⚠ WARNING:

Securely support the motorcycle so there is no danger of it falling down.

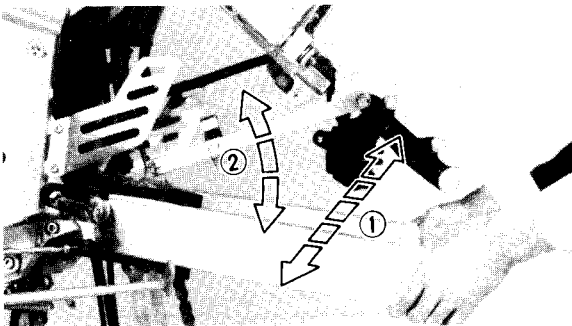
## 1. Remove:

- Rear wheel  
Refer to the "REAR WHEEL — REMOVAL" section.
- Rear shock absorber



## 2. Remove:

- Chain case



## 3. Check:

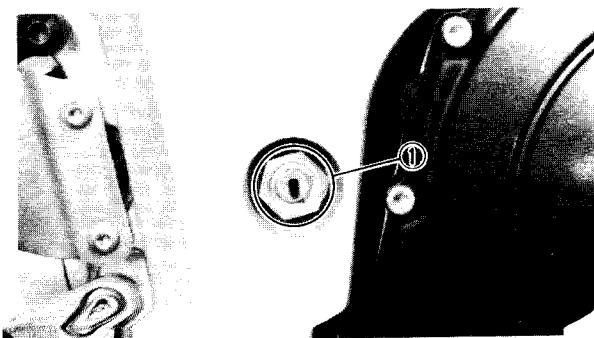
- Swingarm (Side play) ①  
Side play → Replace the bearings and collar.  
Move the swingarm from side to side.  
There should be no noticeable side play.



**Side Play (At End of Swingarm):**  
1.0 mm (0.04 in)

## 4. Check:

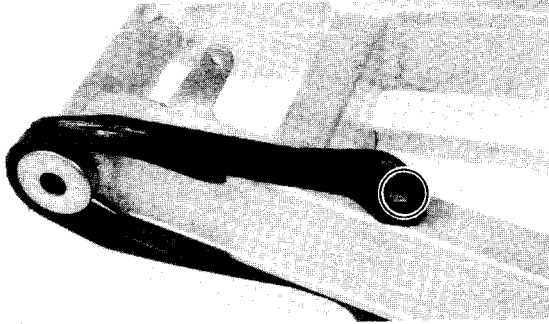
- Swingarm (Vertical movement) ②  
Tightness/Binding/Rough spots → Replace the bearings.  
Move the swingarm up and down.



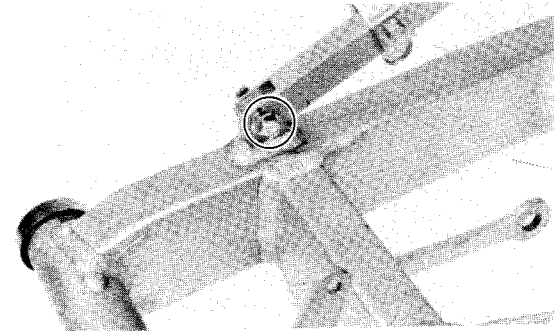
## 5. Remove:

- Nut (Pivot shaft) ①
- Swingarm

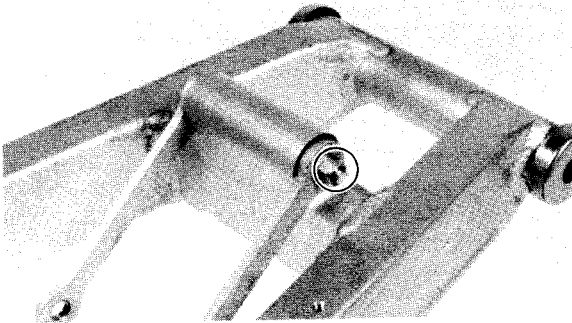




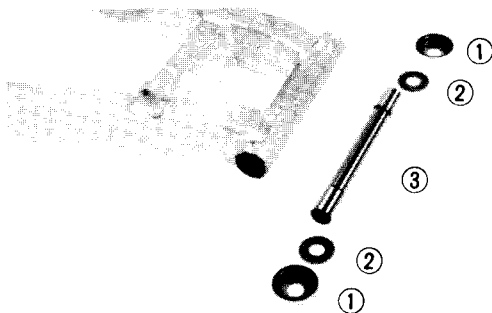
6. Remove:
- Guard seal



7. Remove:
- Tension bar



8. Remove:
- Arms (Left and right)

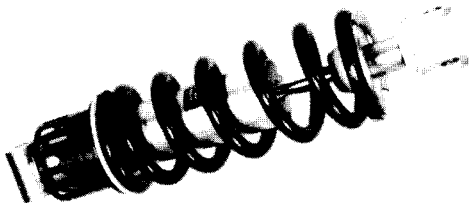


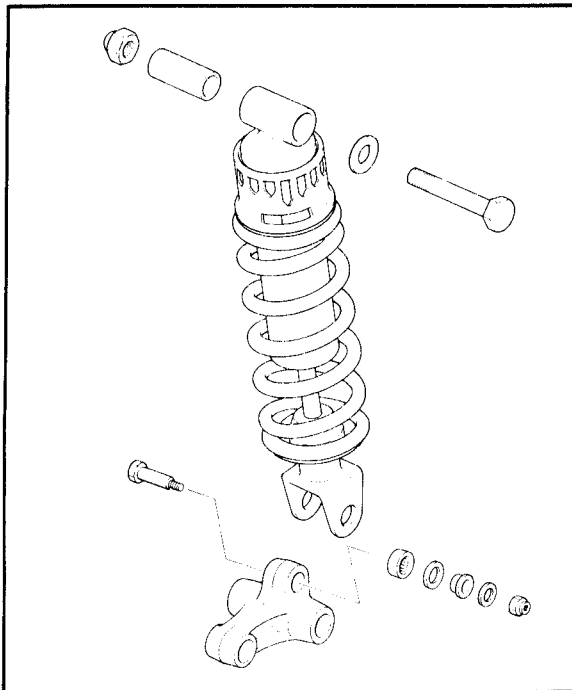
9. Remove:
- Thrust covers ①
  - Thrust washer ②
  - Bush ③

## INSPECTION

### Rear shock absorber

1. Inspect:
- Rear shock absorber
  - Oil leaks/Damage → Replace.

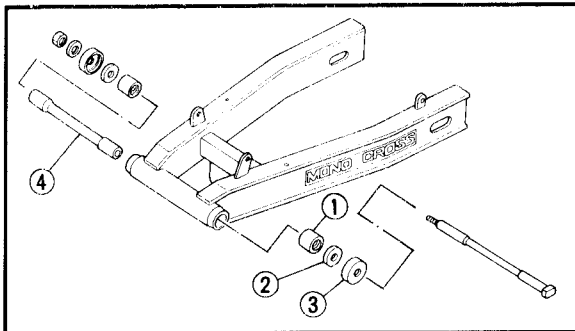




### 2. Inspect:

- Bushings
- Bearing
- Dust seals

Wear/Damage → Replace.



### Swingarm

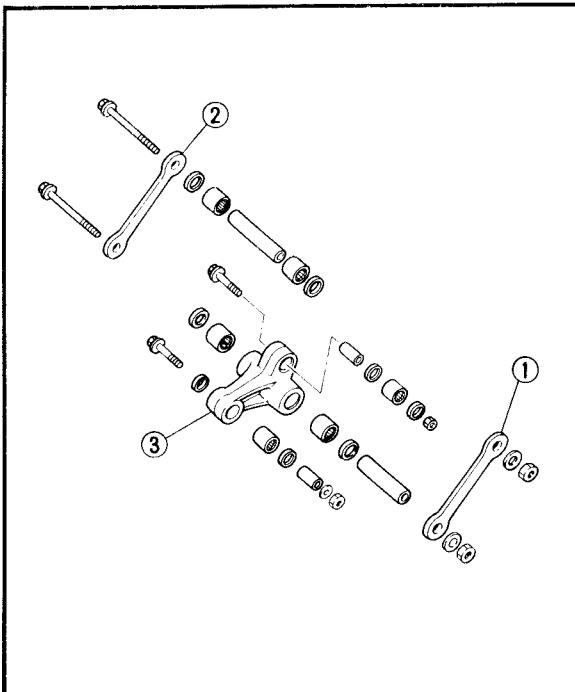
1. Wash the bearings in a solvent.

### 2. Inspect:

- Bearings (Race/Rollers) ①  
Pitting/Damage → Replace.
- Trust washers ②
- Trust covers ③  
Damage → Replace.
- Collar ④
- Pivot shaft  
Damage → Replace.

### 3. Inspect:

- Arm (Left) ①
- Arm (Right) ②
- Relay arm ③  
Damage → Replace.
- Bearings  
Pitting/Damage → Replace.
- Oil seals
- Collars  
Damage → Replace.





### INSTALLATION

Reverse the removal procedure.

Note the following points.

#### 1. Lubricate:

- Bearings
- Oil seals
- Collars



**Lithium-Soap Base Grease**

### Swingarm

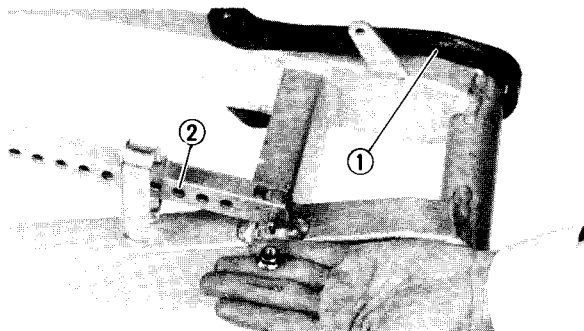
#### 1. Install:

- Guard seal ①
- Tension bar ②



**Screw (Guard Seal):**  
8 Nm (0.8 m·kg, 5.8 ft·lb)

**Bolt (Tension Bar):**  
15 Nm (1.5 m·kg, 11 ft·lb)

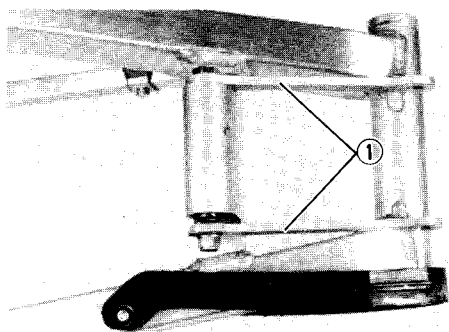


#### 2. Install:

- Arms (Left and right) ①



**Bolt (Arm):**  
40 Nm (4.0 m·kg, 29 ft·lb)

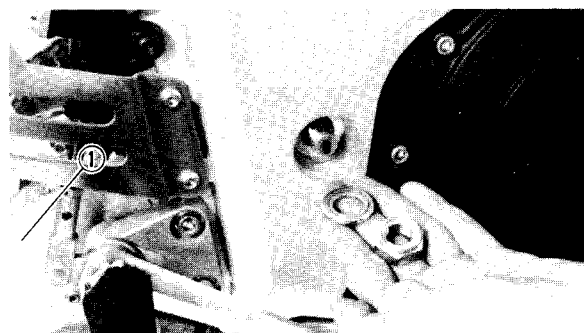


#### 3. Install:

- Swing arm ①



**Pivot Shaft (Swingarm):**  
90 Nm (9.0 m·kg, 65 ft·lb)



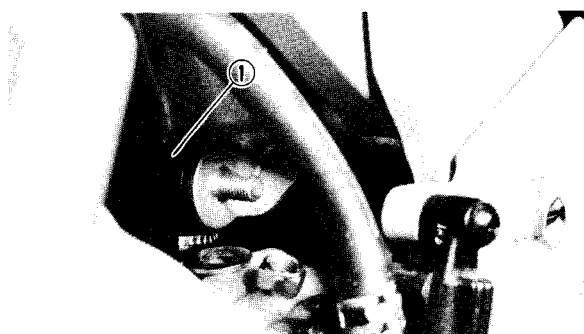
### Rear Shock Absorber

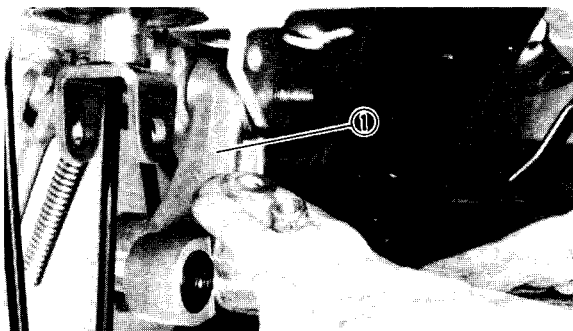
#### 1. Install:

- Rear shock absorber ①



**Rear Shock Absorber:**  
**Upper:**  
40 Nm (4.0 m·kg, 29 ft·lb)

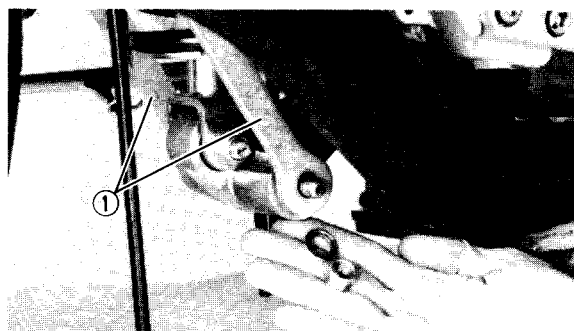
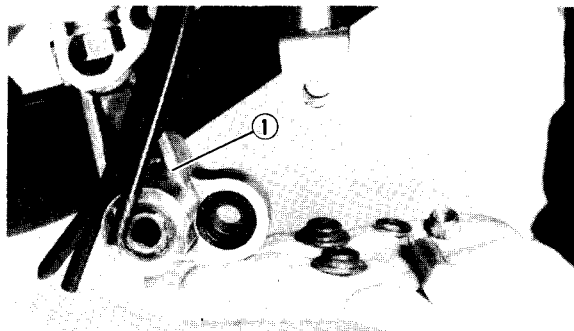




2. Install:
- Relay arm ①



**Rear Arm – Frame:**  
40 Nm (4.0 m·kg, 29 ft·lb)  
**Relay Arm – Rear Shock Absorber:**  
40 Nm (4.0 m·kg, 29 ft·lb)



3. Install:
- Arms (Left and right) ①



**Relay Arm – Arms:**  
40 Nm (4.0 m·kg, 29 ft·lb)

4. Install:
- Rear wheel  
Refer to the "REAR WHEEL – INSTALLATION" section.



**Nut (Rear Axle):**  
107 Nm (10.7 m·kg, 77 ft·lb)  
**Bolts (Brake Caliper):**  
35 Nm (3.5 m·kg, 25 ft·lb)

5. Adjust:
- Drive chain slack  
Refer to the "DRIVE CHAIN SLACK ADJUSTMENT" section in the CHAPTER 3.



**Drive Chain Slack:**  
10 ~ 20 mm (0.4 ~ 0.8 in)



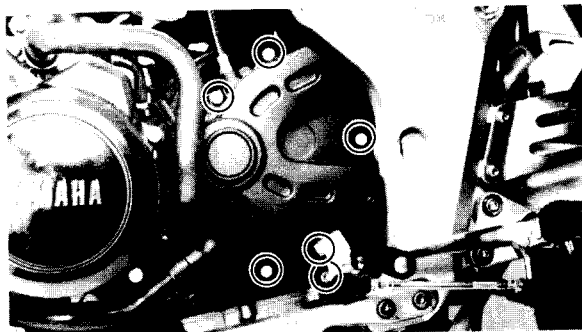
## DRIVE CHAIN AND SPROCKET

### REMOVAL

1. Place the motorcycle vertically on a level place.

#### ⚠ WARNING:

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



2. Remove:

- Shift arm
- Crankcase cover (Left)
- Nut (Drive sprocket)
- Lock washer
- Drive sprocket

Refer to the "ENGINE — REMOVAL" section in the CHAPTER 4.

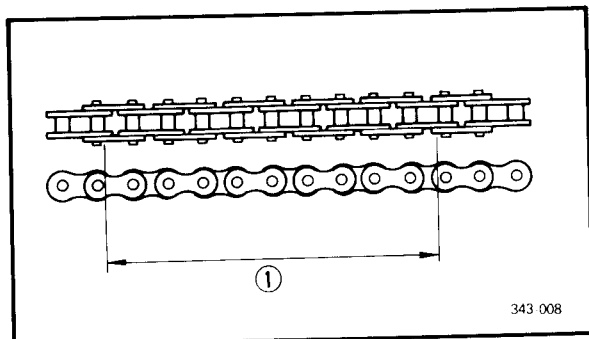
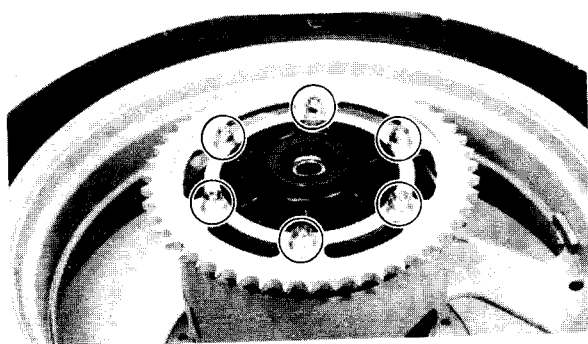
3. Remove:

- Rear wheel
- Swingarm
- Drive chain

Refer to the "REAR WHEEL — REMOVAL" and REAR SHOCK ABSORBER AND SWINGARM — REMOVAL".

4. Remove:

- Driven sprocket



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### INSPECTION AND CLEANING

1. Measure:

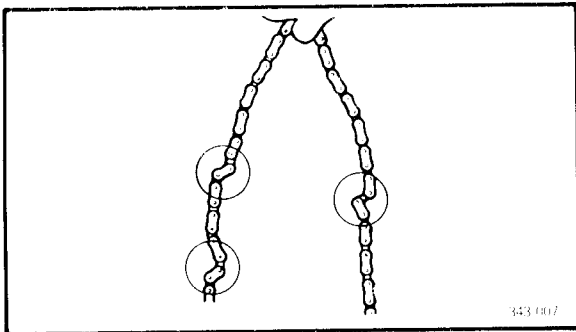
- Drive chain wear ①

Length of 10 links.

Over specified limit → Replace the drive chain, drive sprocket and driven sprocket as a set.

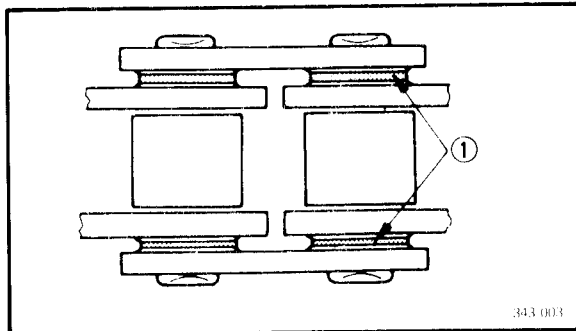


**Drive Chain Wear Limit (10 Links):**  
**150.1 mm (5.91 in)**



### 2. Check:

- Drive chain stiffness  
Clean and oil the chain and hold as illustrated.  
Stiff → Replace drive chain.



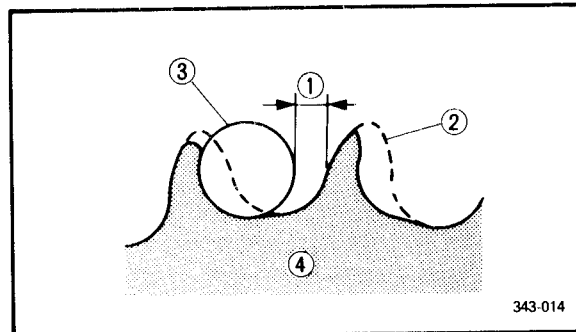
### 3. Clean:

- Drive chain

**Drive Chain Cleaner:**  
Kerosene

### ⚠ CAUTION:

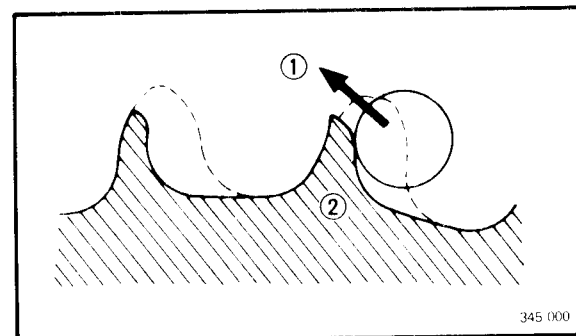
Do not use steam cleaning, high-pressure washes, and certain solvent of O-ring ① damage may occur.



### 4. Inspect:

- Drive sprocket  
More than 1/4 teeth ① wear → Replace sprocket.

- ② Correct
- ③ Roller
- ④ Sprocket



### 5. Inspect:

- Drive sprocket  
Bent teeth ② → Replace sprocket.

- ① Slip off

## INSTALLATION

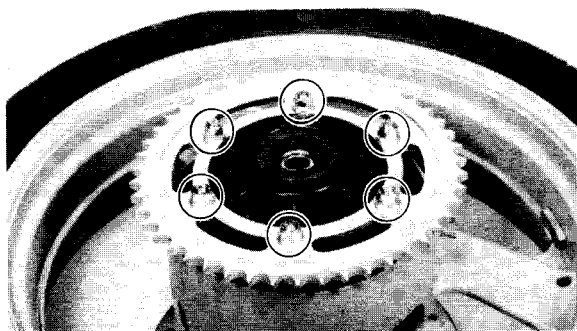
Reverse the removal procedure.  
Note the following points.

### 1. Install:

- Driven sprocket



**Nuts (Driven Sprocket):**  
32 Nm (3.2 m · kg, 23 ft · lb)





### 2. Lubricate:

- Bearings
- Oil seals
- Collars



**Lithium-Soap Base Grease**

### 3. Install:

- Drive chain
- Swingarm
- Rear wheel

Refer to the "REAR SHOCK ABSORBER AND SWINGARM – INSTALLATION" and "REAR – WHEEL – INSTALLATION".

### 4. Install:

- Drive sprocket
- Lock washer (New)
- Nut (Drive sprocket)



**Nut (Drive Sprocket):**  
70 Nm (7.0 m·kg, 50 ft·lb)

### 5. Install:

- Crankcase cover (Left)
- Shift arm



**Bolts (Crankcase Cover – Left):**  
10 Nm (1.0 m·kg, 7.2 ft·lb)

**Bolt (Shift Arm):**  
10 Nm (1.0 m·kg, 7.2 ft·lb)

### 6. Adjust:

- Drive chain slack

Refer to the "DRIVE CHAIN SLACK ADJUSTMENT" section in the CHAPTER 3.



**Drive Chain Slack:**  
10 ~ 20 mm (0.4 ~ 0.8 in)

### ⚠ CAUTION:

Too small chain slack will overload the engine and other vital parts; keep the slack within the specified limits.

### ⚠ WARNING:

Always use a new cotter pin on the axle nut.