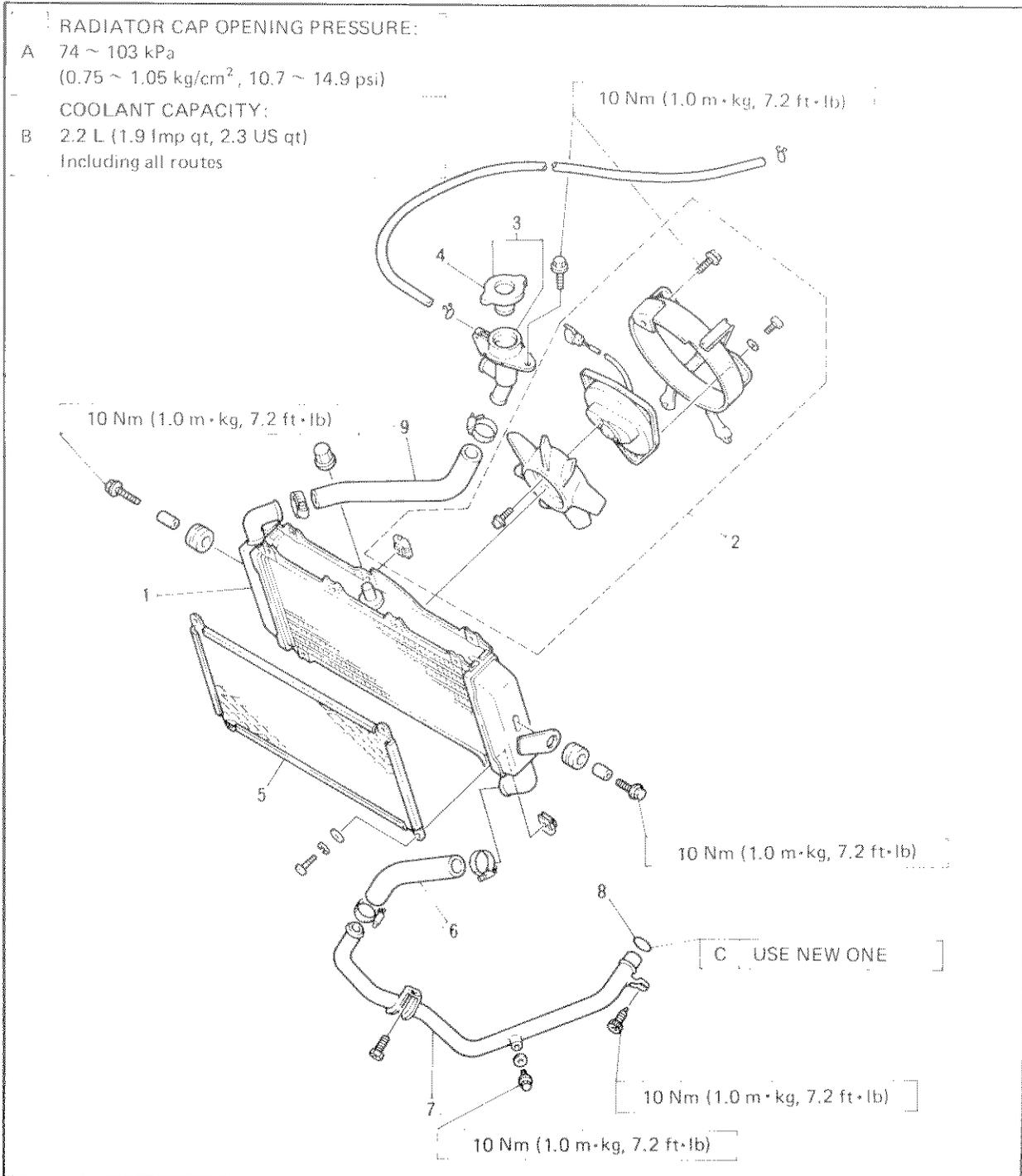




COOLING SYSTEM

RADIATOR

- ① Radiator assembly
- ② Fan motor assembly
- ③ Radiator cap assembly
- ④ Radiator cap
- ⑤ Radiator cover
- ⑥ Radiator hose (radiator – outlet)
- ⑦ Outlet pipe
- ⑧ O-ring
- ⑨ Radiator hose (radiator – inlet)



5



⚠ WARNING:

Do not remove the radiator cap 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, open the radiator cap by the following procedure:

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.

REMOVAL

1. Remove:

- Top cover
- Side cowlings

Refer to "COWLINGS/COVERS REMOVAL AND INSTALLATION" section in the CHAPTER 3.

2. Drain:

- Coolant

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

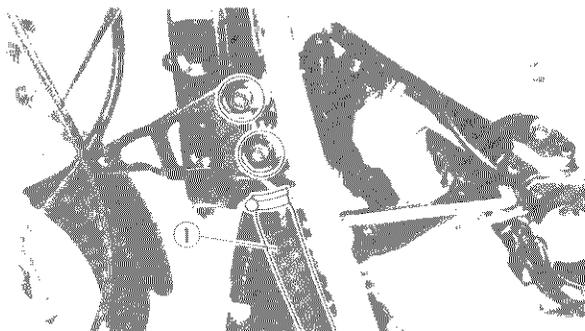
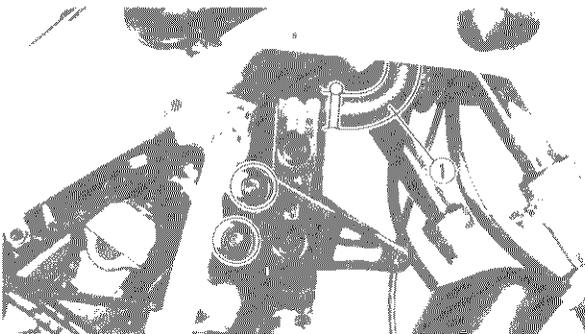
3. Remove:

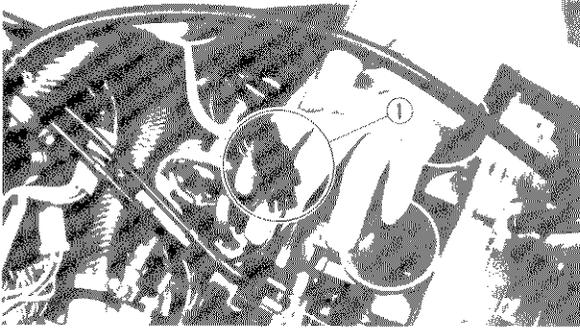
- Fuel tank
- Air filter case

Refer to "CARBURETOR — REMOVAL" section.

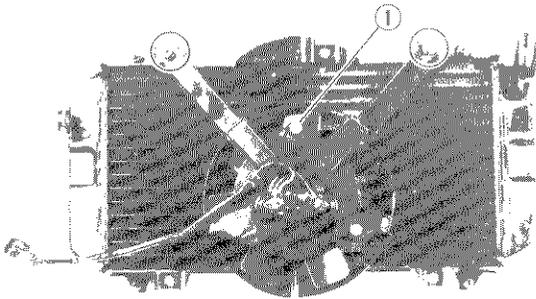
4. Disconnect:

- Fan motor lead
- Radiator hoses (1)

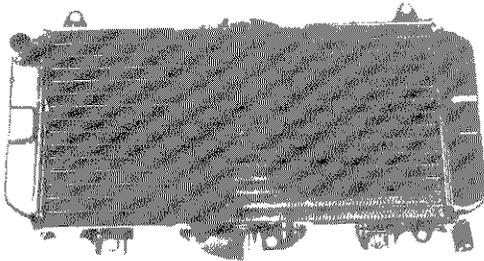




5. Remove:
- Radiator assembly ①



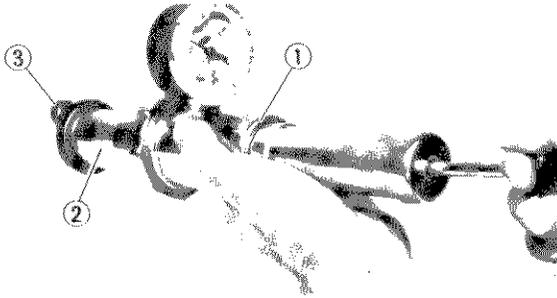
6. Remove:
- Fan motor assembly ①



INSPECTION

- Inspect:
 - Radiator core
 - Obstruction → Blow out with compressed air through rear of the radiator.
 - Flattened fin → Repair/replace.
- Inspect:
 - Radiator hoses
 - Radiator pipes
 - Cracks/Damage → Replace.
- Measure:
 - Radiator cap opening pressure
 - Radiator cap opens at pressure below the specified pressure → Replace.

Radiator cap opening pressure:
 74 ~ 103 kPa
 (0.74 ~ 1.03 kg/cm², 10 ~ 14 psi)

**Measurement steps:**

- Attach the cooling system tester ① and adapter ② to the radiator cap ③.

**Radiator cap tester:**

YU-24460-01,
90890-01325

Adapter:

YU-33984,
90890-01352

- 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:

- Radiator

**Bolts (radiator):**

10 Nm (1.0 m · kg, 7.2 ft · lb)

2. Fill:

- Cooling system

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

3. Inspect:

- Cooling system

Inspection steps:

- Connect radiator cap tester.
- Apply 1.0 kg/cm² (14 lb/in²) pressure.
- Measure pressure with gauge.
Decrease of pressure (leaks) → Repair as required.

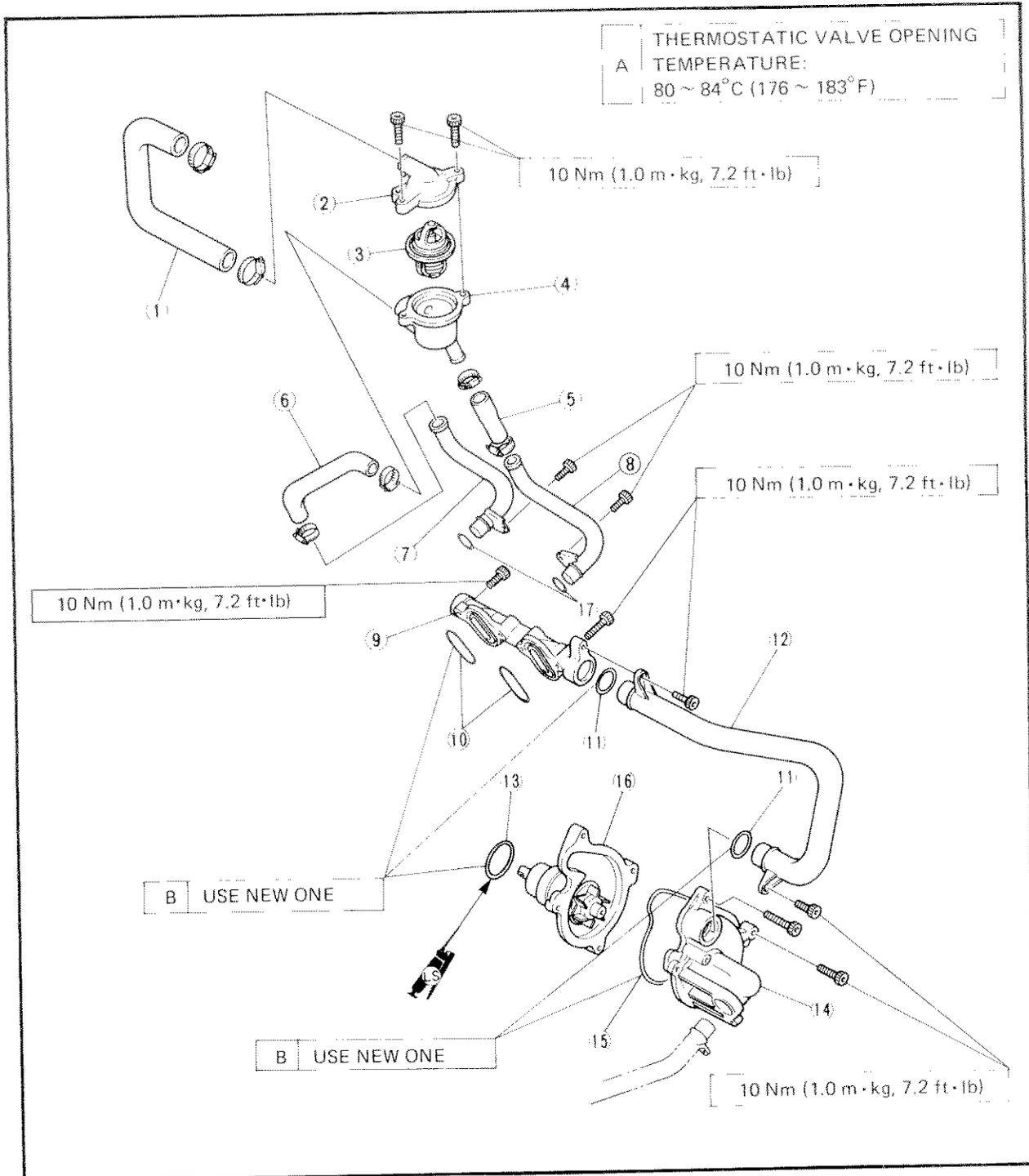
**Radiator cap tester:**

YU-24460-01,
90890-01325



THERMOSTATIC VALVE AND WATER PUMP

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



THERMOSTATIC VALVE

REMOVAL

1. Remove:

- Top cover
- Side cowlings

Refer to "COWLINGS/COVERS REMOVAL AND INSTALLATION" section in the CHAPTER 3.

2. Drain:

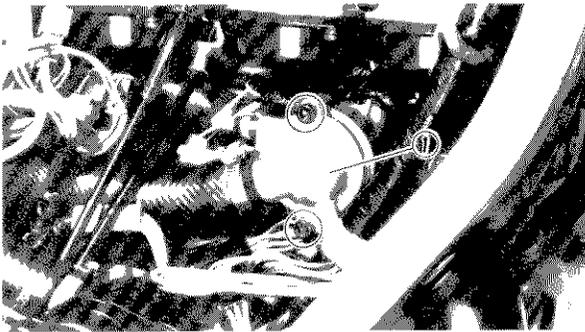
- Coolant

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

3. Remove:

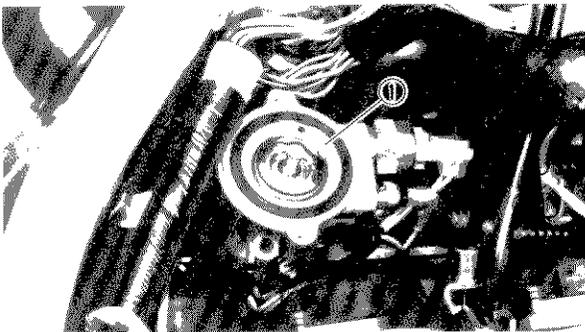
- Fuel tank
- Air filter case

Refer to "CARBURETER – REMOVAL" section.



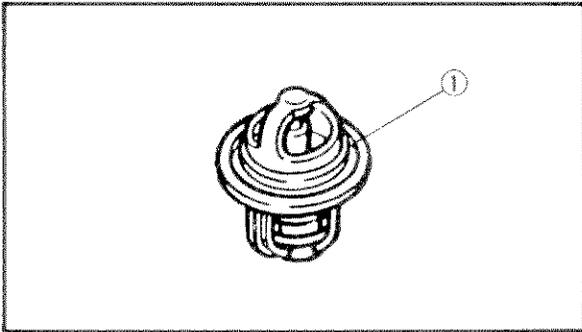
4. Remove:

- Thermostatic valve cover ①



5. Remove:

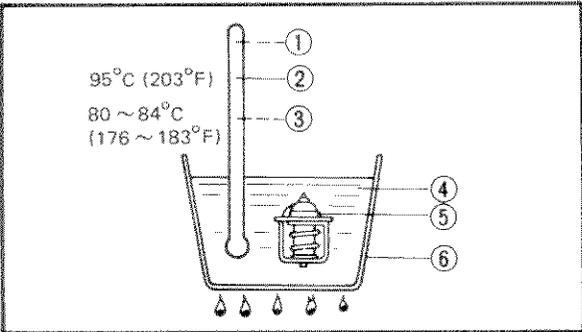
- Thermostatic valve ①



INSPECTION

1. Inspect:

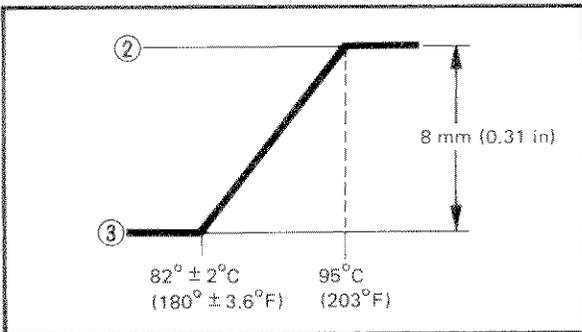
- Thermostatic valve ①
- Valve does not open at 80 ~ 84°C (176 ~ 183°F) → Replace.



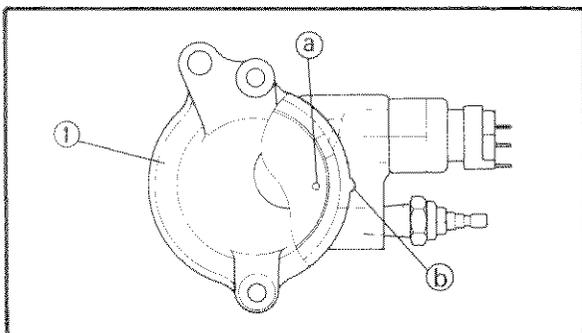
Inspection steps:

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

- ① Thermometer
- ② Full open
- ③ Opening sequence begins
- ④ Water
- ⑤ Thermostatic valve
- ⑥ Vessel
- A OPEN
- B CLOSE



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



INSTALLATION

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

1. Install:
- Thermostatic valve ①

NOTE: _____
 Align the hole (a) in thermostat with the projection (b) on the thermostat assembly.

2. Install:
- Thermostatic valve cover

	Bolts (thermostat valve cover): 10 Nm (1.0 m · kg, 7.2 ft · lb)
---	---

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



WATER PUMP

REMOVAL

1. Remove:

- Side cowlings

Refer to "COWLINGS/COVERS REMOVAL AND INSTALLATION" in the CHAPTER 3.

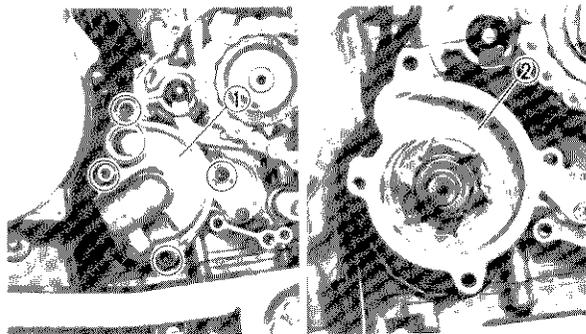
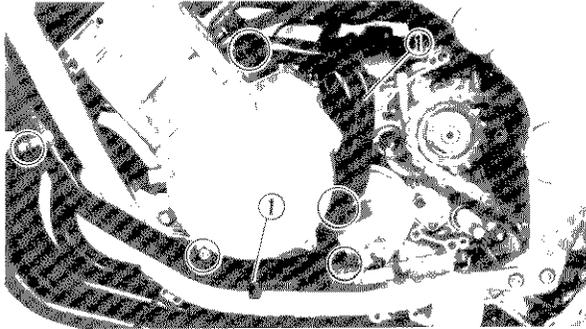
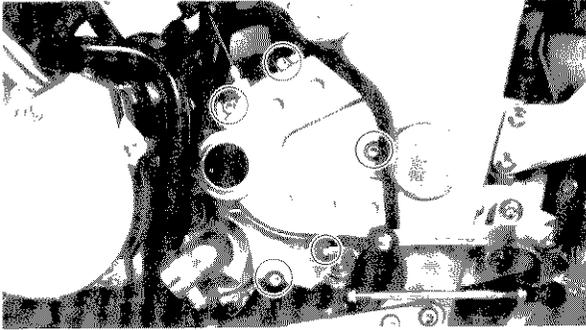
2. Drain:

- Coolant

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

3. Remove:

- Bolt (shift arm) ①
Pull out the shift arm.
- Crankcase cover (left) ②

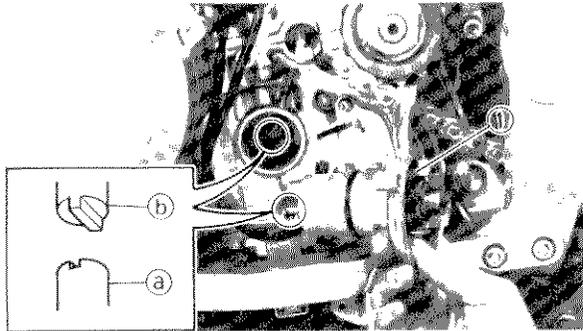
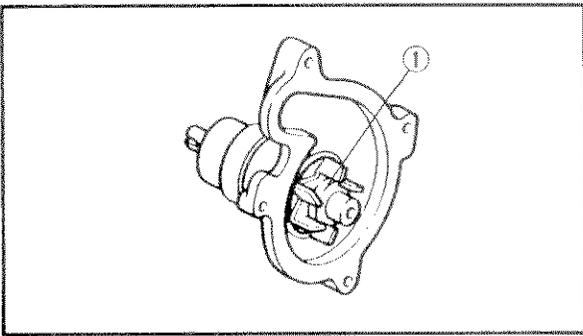


4. Remove:

- Radiator pipes ①

5. Remove:

- Water pump cover ①
- Water pump housing assembly ②



INSPECTION

1. Inspect:
 - Impeller ①
Cracks/Wear/Damage → Replace water housing pump assembly.
 - Oil seal
Wear/Damage → Replace water pump housing assembly.

INSTALLATION

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

1. Install:
 - Water pump housing ①

NOTE:

- Align the slot ① on the impeller shaft with the projection ② on the oil pump shaft.
- Apply the lithium soap base grease on the o-ring.

2. Install:
 - Water pump cover
 - Radiator pipes

	Bolts (radiator pipes): 10 Nm (1.0 m · kg, 7.2 ft · lb)
---	---

3. Install:
 - Crankcase cover (left)

	Bolt (water pump cover): 10 Nm (1.0 m · kg, 7.2 ft · lb)
	Bolts (crankcase cover): 10 Nm (1.0 m · kg, 7.2 ft · lb)

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