
CHAPTER 5. COOLING SYSTEM

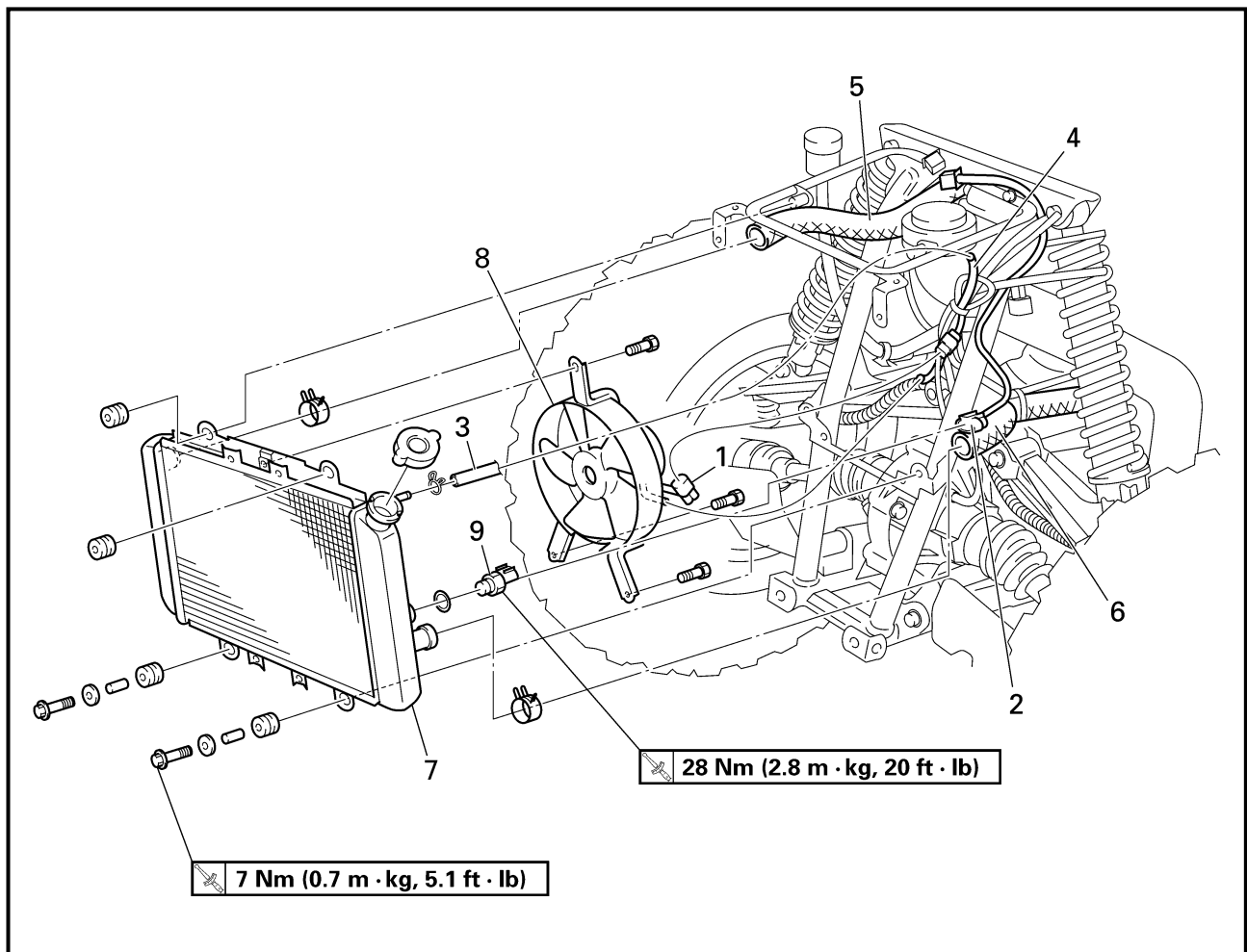
RADIATOR5-1
 RADIATOR INSPECTION5-3
 RADIATOR INSTALLATION5-4

THERMOSTAT5-5
 THERMOSTAT INSPECTION5-6
 THERMOSTAT INSTALLATION5-6

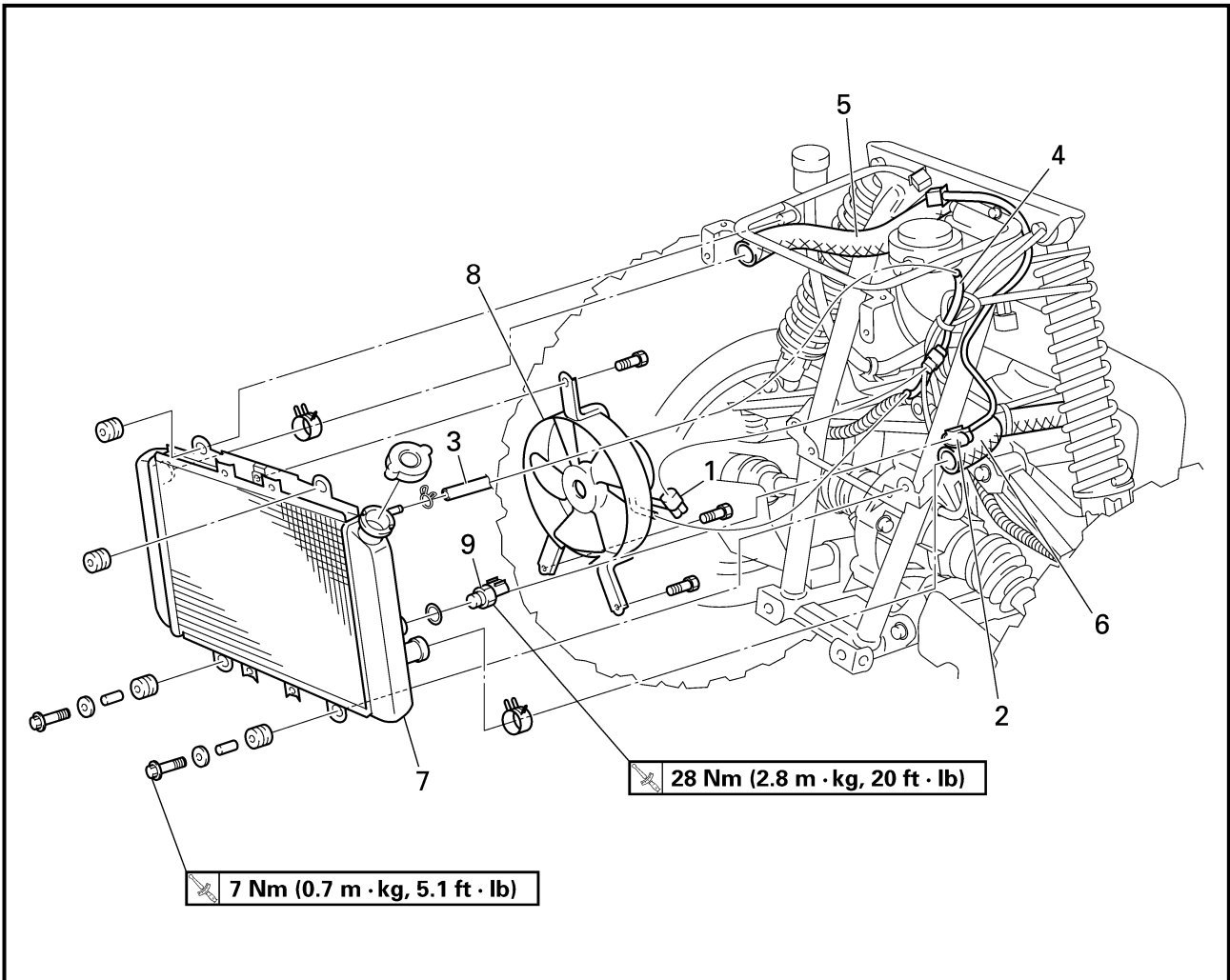
WATER PUMP5-7
 WATER PUMP DISASSEMBLY5-9
 WATER PUMP INSPECTION5-9
 WATER PUMP ASSEMBLY5-10

COOLING SYSTEM

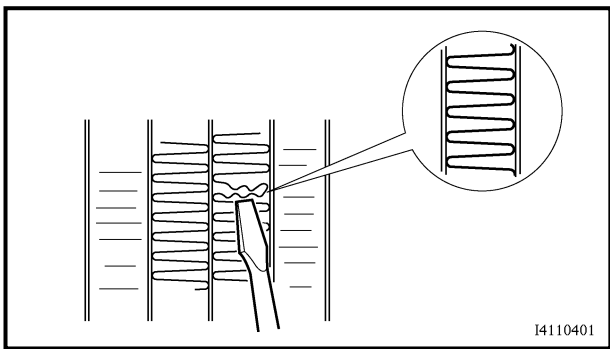
RADIATOR



Order	Job name/Part name	Q'ty	Remarks
	Radiator removal		Remove the parts in the order below.
	Seat and side panels		Refer to "SEAT AND SIDE PANELS" in CHAPTER 3.
	Front carrier, front bumper and front fender		Refer to "FRONT CARRIER, FRONT BUMPER AND FRONT FENDER" in CHAPTER 3.
	Left footrest board		Refer to "FOOTREST BOARDS" in CHAPTER 3.
	Coolant		Drain. Refer to "COOLANT REPLACEMENT" in CHAPTER 3.
1	Radiator fan coupler	1	Disconnect.
2	Thermo switch coupler	1	Disconnect.
3	Coolant reservoir hose	1	Disconnect.
4	Radiator fan breather hose	1	



Order	Job name/Part name	Q'ty	Remarks
5	Radiator inlet hose	1	Disconnect.
6	Radiator outlet hose	1	Disconnect.
7	Radiator	1	
8	Radiator fan	1	
9	Thermo switch	1	
			For installation, reverse the removal procedure.



RADIATOR INSPECTION

1. Inspect:

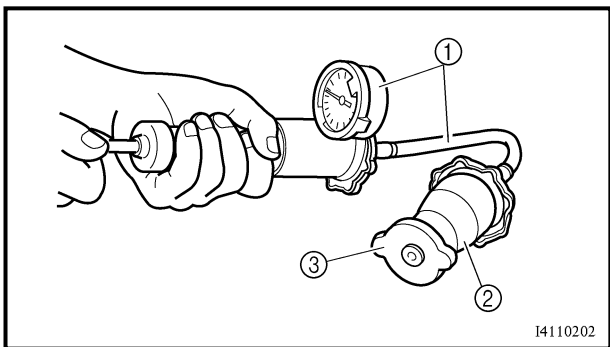
- Radiator fins
 - Obstruction → Clean.
 - Apply compressed air to the rear of the radiator.
 - Damage → Repair or replace.

NOTE:

 Straighten any flattened fins with a thin, flat-head screwdriver.

2. Inspect:

- Radiator hoses
 - Cracks/damage → Replace.



3. Measure:

- Radiator cap opening pressure
 - Below the specified pressure → Replace the radiator cap.



Radiator cap opening pressure:
 93.3 ~ 122.7 kPa
 (0.933 ~ 1.227 kg/cm²,
 13.53 ~ 17.79 psi)

Measurement steps:

- Install the radiator cap tester ① and adapter ② onto the radiator cap ③.



Radiator cap tester:
 P/N. YU-24460-01, 90890-01325
Adapter:
 P/N. YU-33984, 90890-01352

- Apply the specified pressure for ten seconds and make sure that there is no drop in pressure.

4. Check:

- Radiator fan
 - Damage → Replace.
 - Malfunction → Check and repair.
 - Refer to “COOLING SYSTEM” in CHAPTER 9.

**RADIATOR INSTALLATION****1.Fill:**

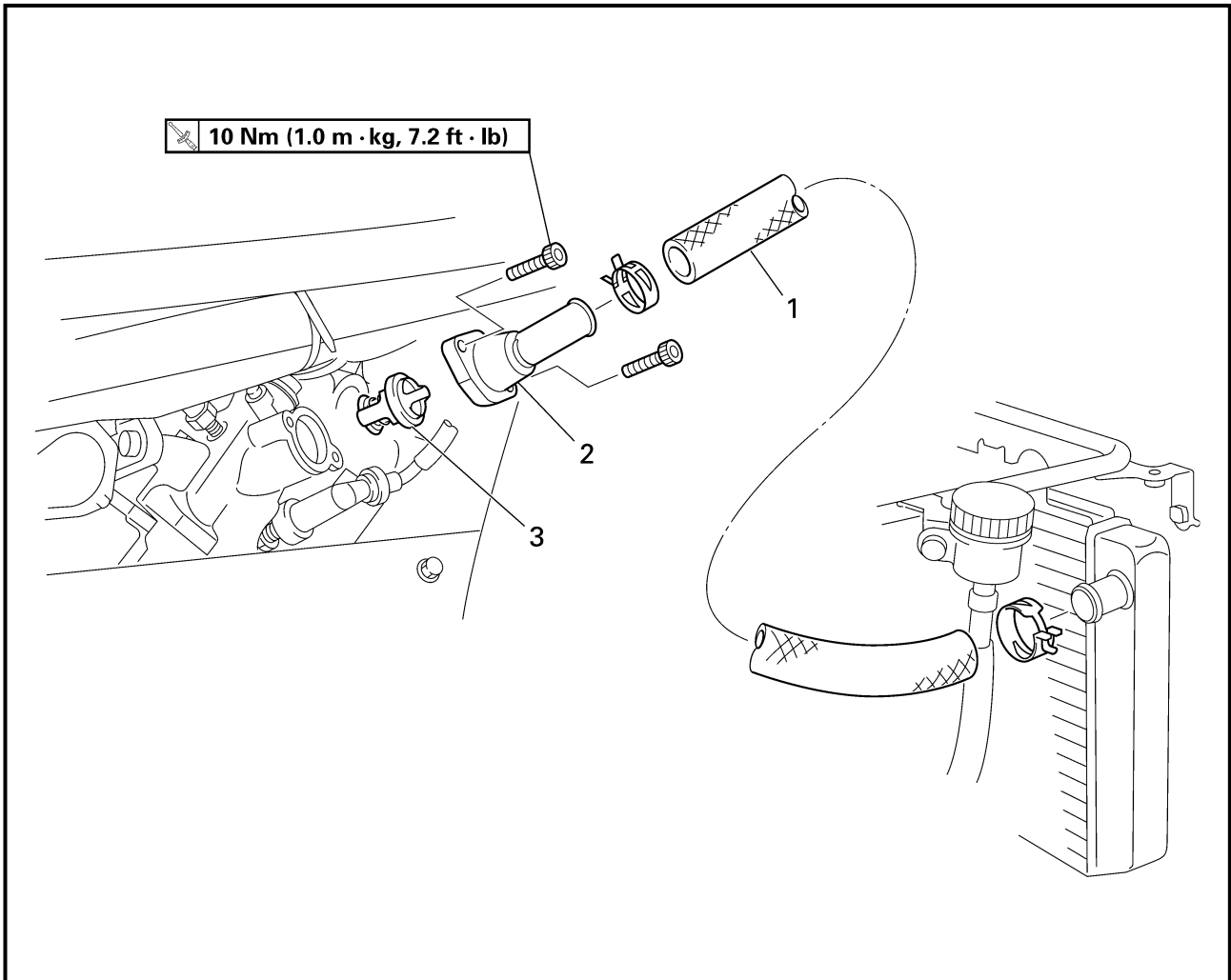
- Cooling system
(with the specified amount of the recommended coolant)
Refer to "COOLANT REPLACEMENT" in CHAPTER 3.

2.Check:

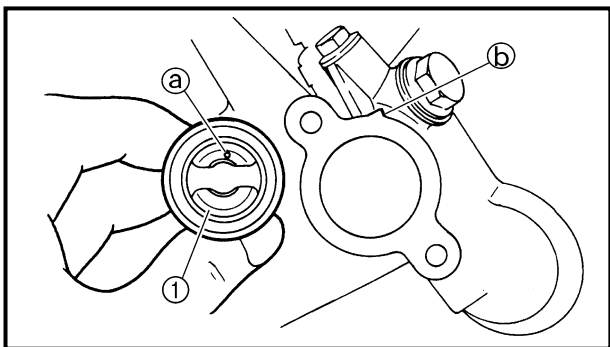
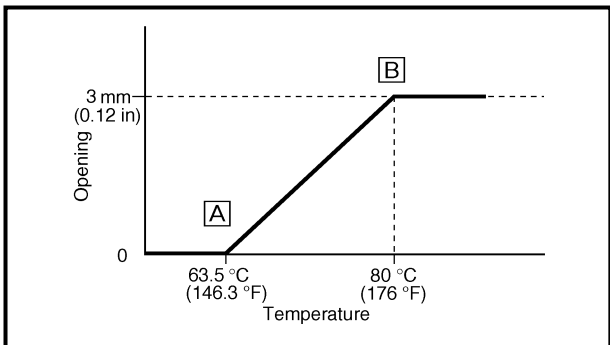
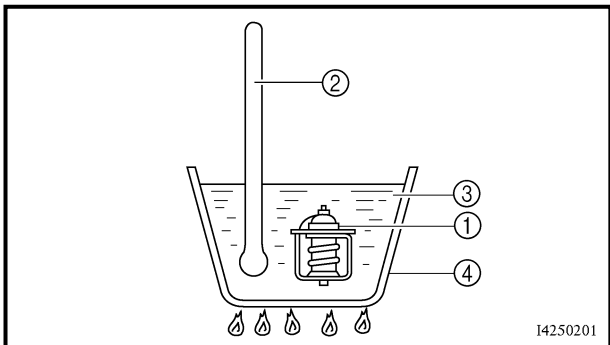
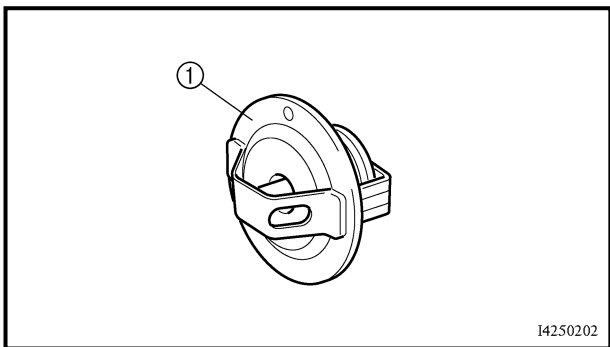
- Cooling system
Leaks → Repair or replace any faulty part.



THERMOSTAT



Order	Job name/Part name	Q'ty	Remarks
	Thermostat removal		Remove the parts in the order below.
	Seat and fuel tank side panel (right)		Refer to "SEAT AND SIDE PANELS" in CHAPTER 3.
	Coolant		Drain. Refer to "COOLANT REPLACEMENT" in CHAPTER 3.
1	Radiator inlet hose	1	
2	Thermostat cover	1	
3	Thermostat	1	
			For installation, reverse the removal procedure.



THERMOSTAT INSPECTION

1. Check:

- Thermostat ①
Does not open at 63.5 ~ 65.5 °C (146.3 ~ 149.9 °F) → Replace.

Checking steps:

- Suspend the thermostat in a container filled with water.
- Slowly heat the water.
- Place a thermometer in the water.
- While stirring the water, observe the thermostat and thermometer's indicated temperature.

- ① Thermostat
- ② Thermometer
- ③ Water
- ④ Container
- Ⓐ Fully closed
- Ⓑ Fully open

NOTE:

_____ If the accuracy of the thermostat is in doubt, replace it. A faulty thermostat could cause serious overheating or overcooling. _____

2. Inspect:

- Thermostat housing cover
- Thermostat housing
Cracks/damage → Replace.

THERMOSTAT INSTALLATION

1. Install:

- Thermostat ①
- Thermostat housing cover

NOTE:

_____ Install the thermostat with its breather hole Ⓐ toward the projection Ⓑ. _____

2. Fill:

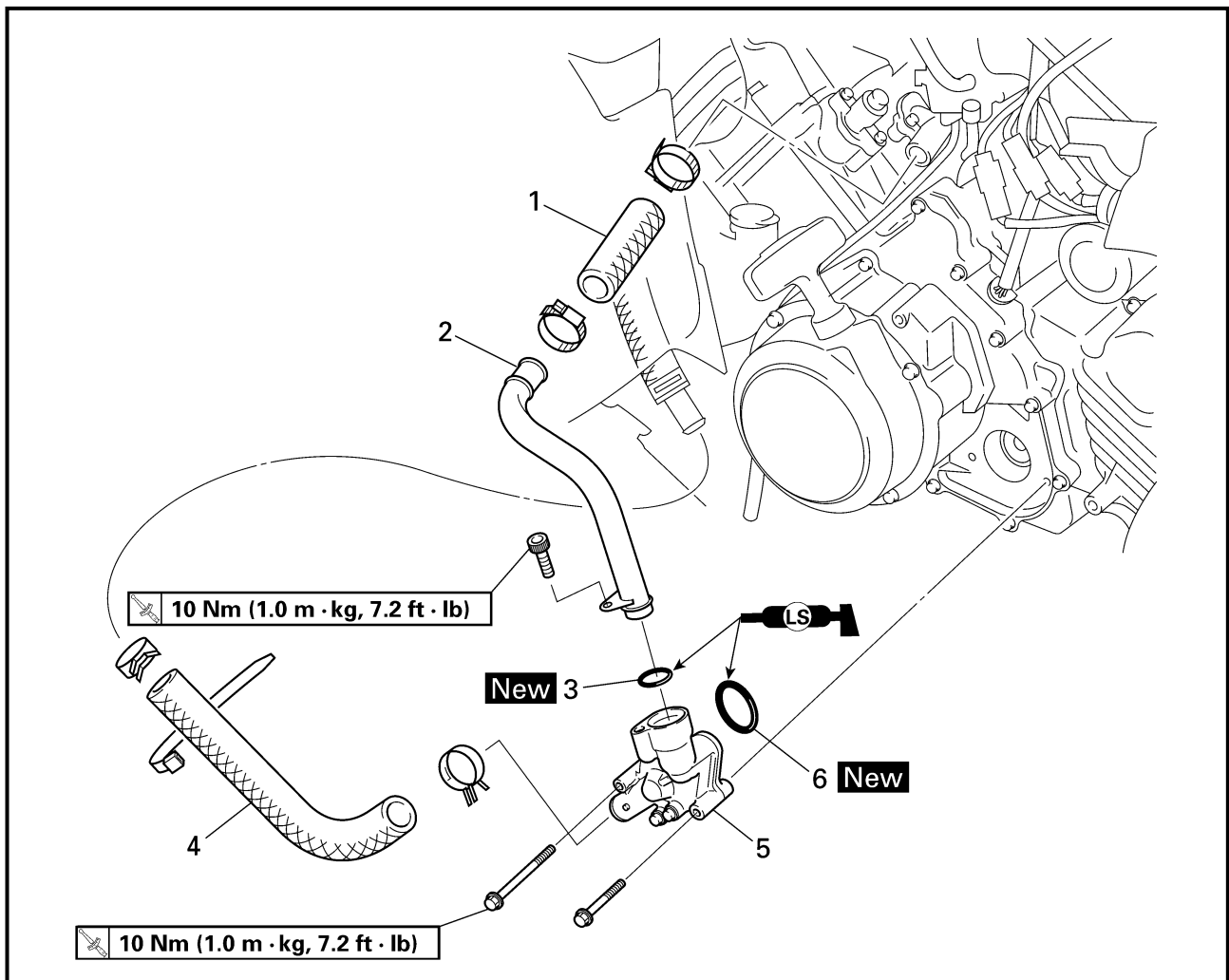
- Cooling system
(with the specified amount of the recommended coolant)
Refer to "COOLANT REPLACEMENT" in CHAPTER 3.

3. Check:

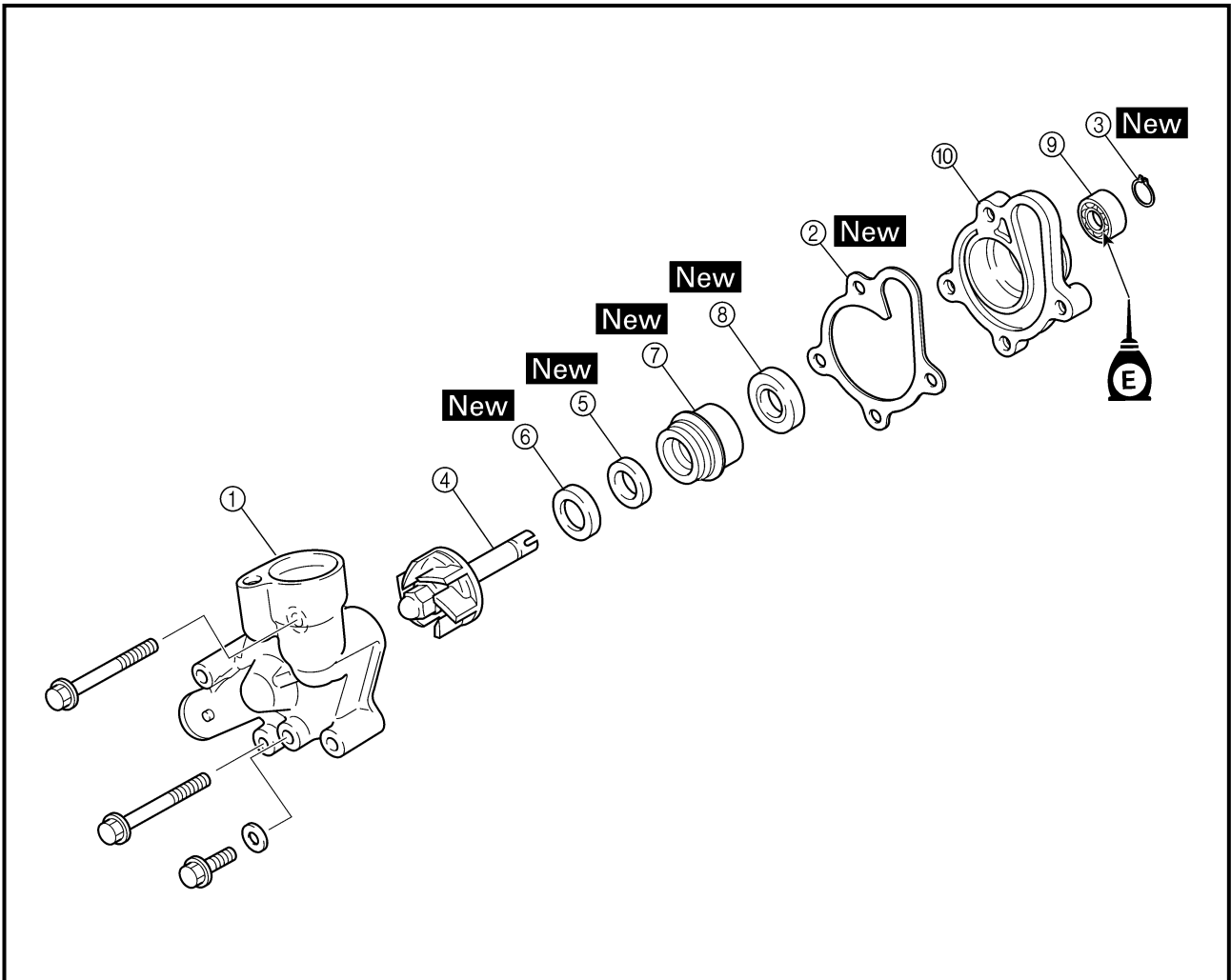
- Cooling system
Leak → Repair or replace any faulty part.



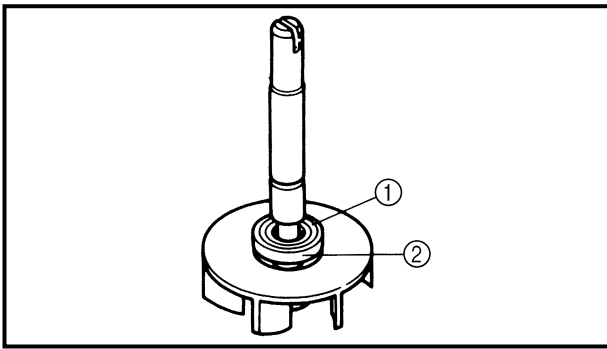
WATER PUMP



Order	Job name/Part name	Q'ty	Remarks
	Water pump removal		Remove the parts in the order below.
	Seat, fuel tank side panel (left) and engine side cover		Refer to "SEAT AND SIDE PANELS" in CHAPTER 3.
	Left footrest board		Refer to "FOOTREST BOARDS" in CHAPTER 3.
1	Water pump outlet hose	1	
2	Water pump outlet pipe	1	
3	O-ring	1	
4	Water pump inlet hose	1	
5	Water pump assembly	1	
6	O-ring	1	
			For installation, reverse the removal procedure.



Order	Job name/Part name	Q'ty	Remarks
	Water pump disassembly		Remove the parts in the order below.
①	Water pump housing cover	1	
②	Gasket	1	
③	Circlip	1	
④	Impeller	1	
⑤	Rubber damper holder	1	
⑥	Rubber damper	1	
⑦	Water pump seal	1	
⑧	Oil seal	1	
⑨	Bearing	1	
⑩	Water pump housing	1	
			For assembly, reverse the disassembly procedure.

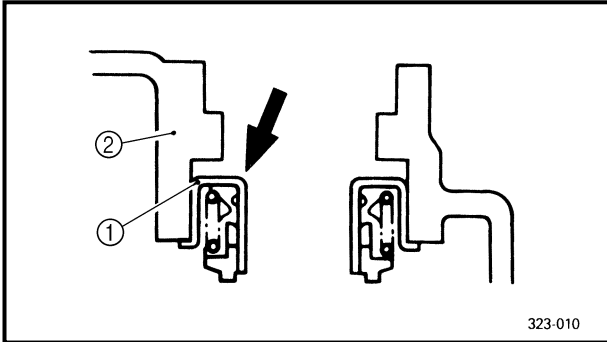


WATER PUMP DISASSEMBLY

1.Remove:

- Rubber damper holder ①
- Rubber damper ②
(from the impeller, with a thin, flathead screwdriver)

NOTE: _____
Do not scratch the impeller shaft.

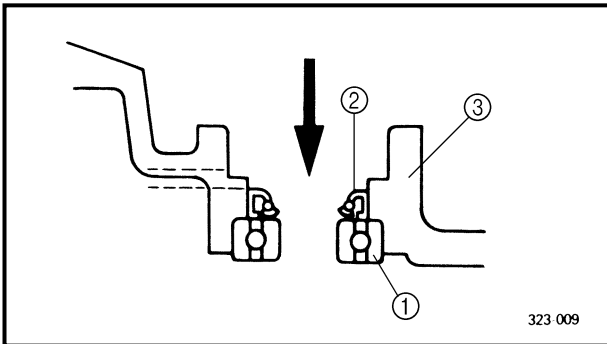


2.Remove:

- Water pump seal ①

NOTE: _____
Tap out the water pump seal from the inside of the water pump housing.

- ② Water pump housing

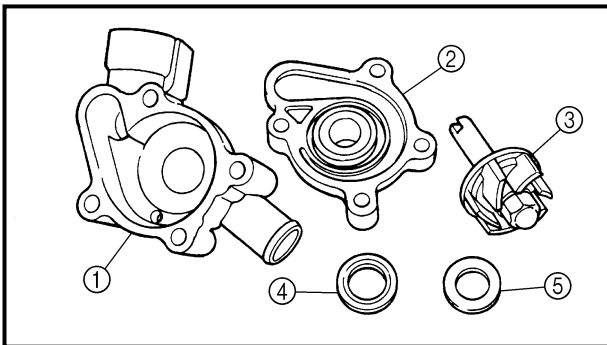


3.Remove:

- Oil seal ①
- Bearing ②

NOTE: _____
Tap out the bearing and oil seal from the outside of the water pump housing.

- ③ Water pump housing



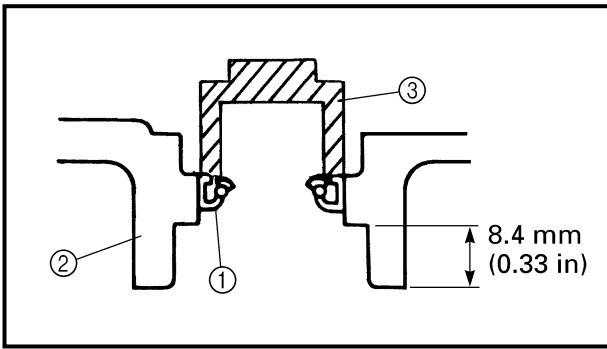
WATER PUMP INSPECTION

1.Inspect:

- Water pump housing cover ①
- Water pump housing ②
- Impeller ③
- Rubber damper ④
- Rubber damper holder ⑤
Cracks/damage/wear → Replace.

2.Inspect:

- Water pump seal
- Oil seal
- Water pump outlet pipe
Cracks/damage/wear → Replace.
- Bearing
Rough movement → Replace.



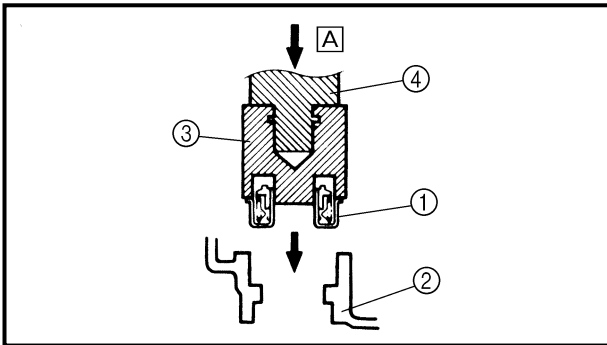
WATER PUMP ASSEMBLY

1. Install:

- Oil seal ① **New**
(into the water pump housing ②)

NOTE:

- Before installing the oil seal, apply tap water or coolant onto its outer surface.
- Install the oil seal with a socket ③ that matches its outside diameter.



2. Install:

- Water pump seal ① **New**
(into the water pump housing ②)

CAUTION:

Never lubricate the water pump seal surface with oil or grease.

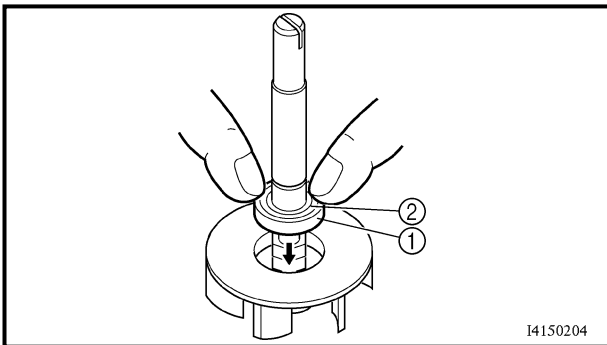
NOTE:

Install the water pump seal with the special tools.



Mechanical seal installer ③:
P/N. YM-33221, 90890-04078
Middle driven shaft bearing driver ④:
P/N. YM-04058-1, 90890-04058

A Push down.

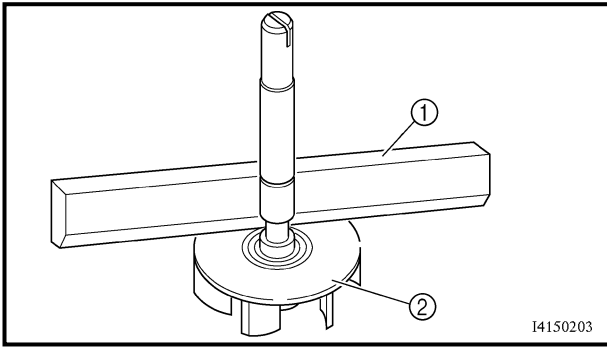


3. Install:

- Rubber damper ① **New**
- Rubber damper holder ② **New**

NOTE:

Before installing the rubber damper, apply tap water or coolant onto its outer surface.

**4.Measure:**

- Impeller shaft tilt
Out of specification → Repeat steps (3) and (4).

CAUTION:

Make sure that the rubber damper and rubber damper holder are flush with the impeller.



**Max. impeller shaft tilt:
0.15 mm (0.006 in)**

- ① Straightedge
- ② Impeller