

General Description

COOLING

1. General Description

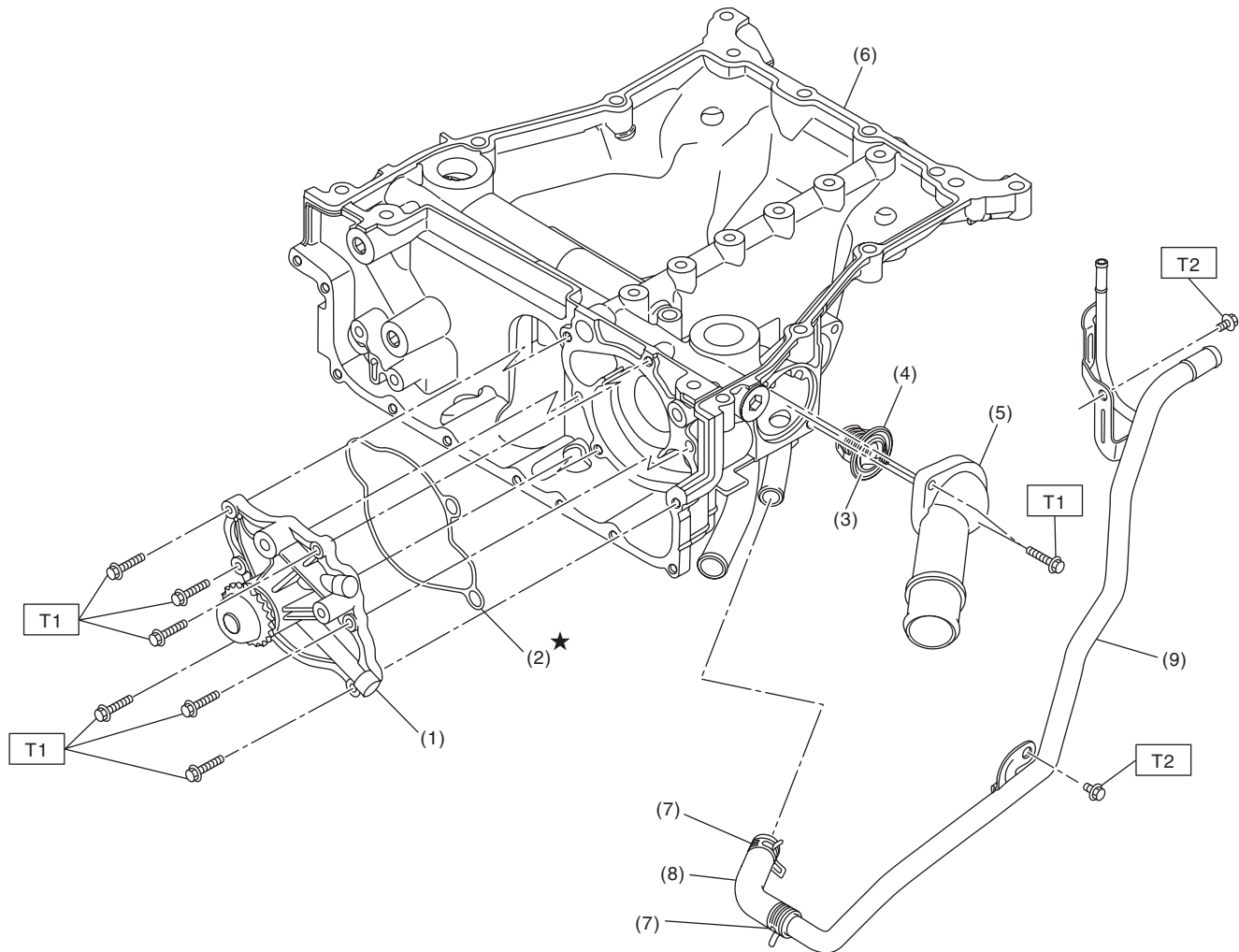
A: SPECIFICATION

Cooling system					Electric fan + Forced engine coolant circulation system		
Total engine coolant capacity				L (US qt, Imp qt)		6.5 (6.9, 5.7)	
Water pump	Type				Centrifugal impeller type		
	Discharge performance	Discharge rate			L (US gal, Imp gal)/min.		240 (63.4, 52.8)
		Pump speed — Discharge pressure			4,956 rpm — 140 kPa (14.0 mAq)		
		Engine coolant temperature			80°C (176°F)		
	Impeller diameter			mm (in)		66 (2.60)	
	Number of impeller blades			8			
	Pump sprocket outer diameter			mm (in)		60.60 (2.39)	
Thermostat	Type				Wax pellet type		
	Starting temperature to open				80 — 84°C (176 — 183°F)		
	Fully opens				95°C (203°F)		
	Valve lift			mm (in)		9.0 (0.354) or more	
	Valve bore			mm (in)		35 (1.38)	
Radiator fan	Motor input	Main fan		W		200	
		Sub fan		W		200	
	Fan diameter / Blade	Main fan				320 mm (12.6 in)/5	
		Sub fan				320 mm (12.6 in)/7	
Radiator	Type				Down flow, pressure type		
	Core dimensions	Width × Height × Thickness			mm (in)		689.8 × 349.2 × 16 (27.16 × 13.75 × 0.63)
	Pressure range in which cap valve is open	kPa (kg/cm ² , psi)	Positive pressure side	Standard	93 — 123 (0.95 — 1.25, 14 — 18)		
				Limit	83 (0.85, 12)		
			Negative pressure side	Standard	−1.0 — −4.9 (−0.01 — −0.05, −0.1 — −0.7)		
	Fins				Corrugated fin type		
Reservoir tank	Capacity				L (US qt, Imp qt)		0.45 (0.48, 0.40)

	Recommended materials	Item number	Alternative
Coolant	SUBARU SUPER COOLANT (Concentrated type)	—	—
	SUBARU SUPER COOLANT (Diluted type)	K0670Y0001	
Water for dilution	Distilled water	—	Soft water or tap water
Cooling system protective agent	Cooling system conditioner	SOA345001	—

B: COMPONENT

1. WATER PUMP AND WATER PIPE



CO-02862

- | | |
|----------------------|-----------------------|
| (1) Water pump ASSY | (6) Oil pan upper |
| (2) O-ring | (7) Clip |
| (3) Thermostat | (8) Hose |
| (4) Gasket | (9) Water return pipe |
| (5) Thermostat cover | |

Tightening torque: N·m (kgf-m, ft-lb)

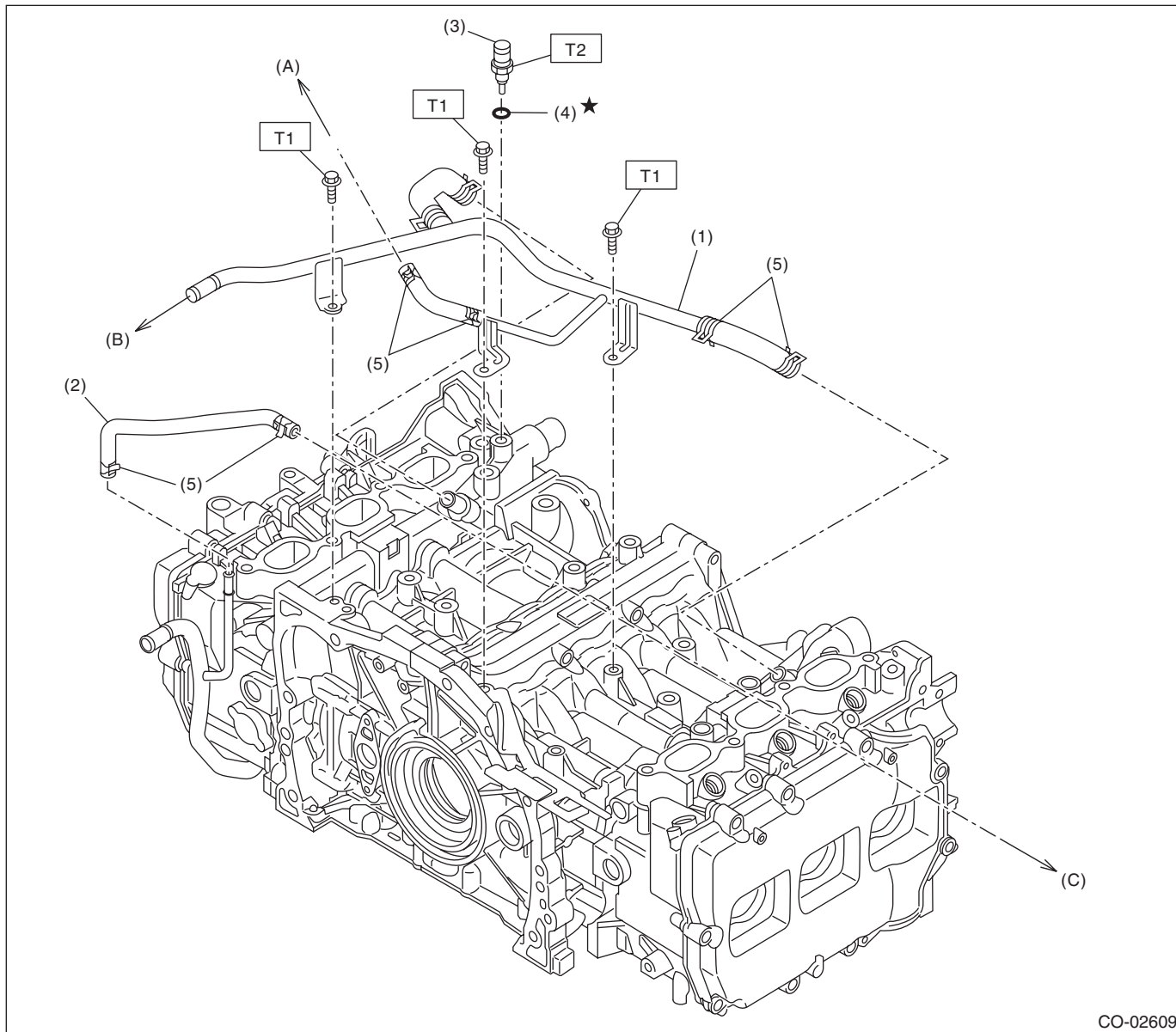
T1: 6.4 (0.7, 4.7)

T2: 16 (1.6, 11.8)

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2. ENGINE COOLANT TEMPERATURE SENSOR AND HEATER HOSE



CO-02609

(A) To the throttle body

(B) To the heater hose on body side

(C) To the throttle body

(1) Heater pipe

(2) Preheater hose

(3) Engine coolant temperature sensor

(4) Gasket

(5) Clip

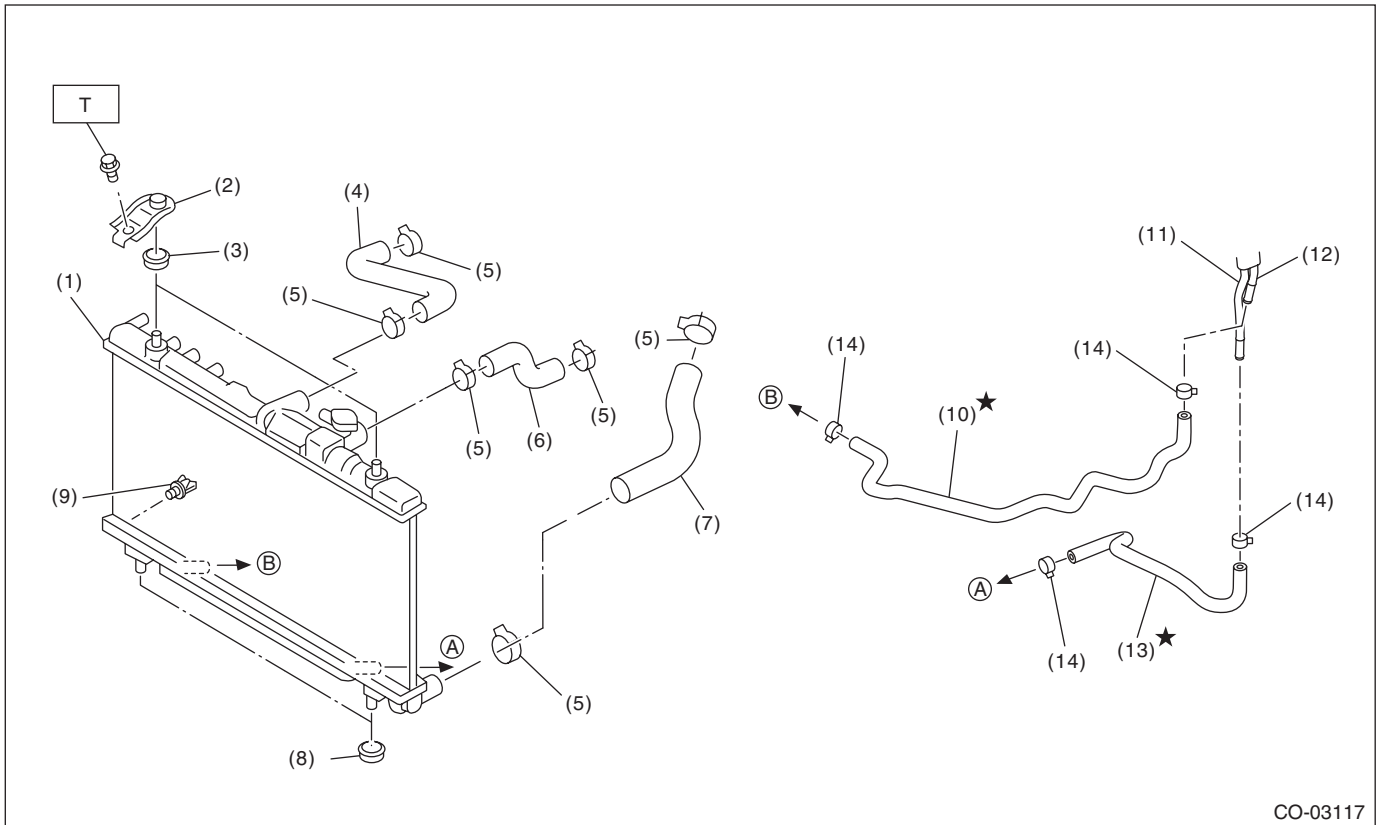
Tightening torque: N·m (kgf-m, ft-lb)

T1: 19 (1.9, 14.0)

T2: 22 (2.2, 16.2)

3. RADIATOR AND RADIATOR FAN

• Radiator



CO-03117

- | | | |
|----------------------------|------------------------------|-------------------------------|
| (1) Radiator | (7) Radiator outlet hose | (13) ATF radiator outlet hose |
| (2) Radiator upper bracket | (8) Radiator lower cushion | (14) Clip |
| (3) Radiator upper cushion | (9) Drain plug | |
| (4) Radiator inlet hose RH | (10) ATF radiator inlet hose | |
| (5) Clip | (11) ATF pipe B | |
| (6) Radiator inlet hose LH | (12) ATF pipe A | |

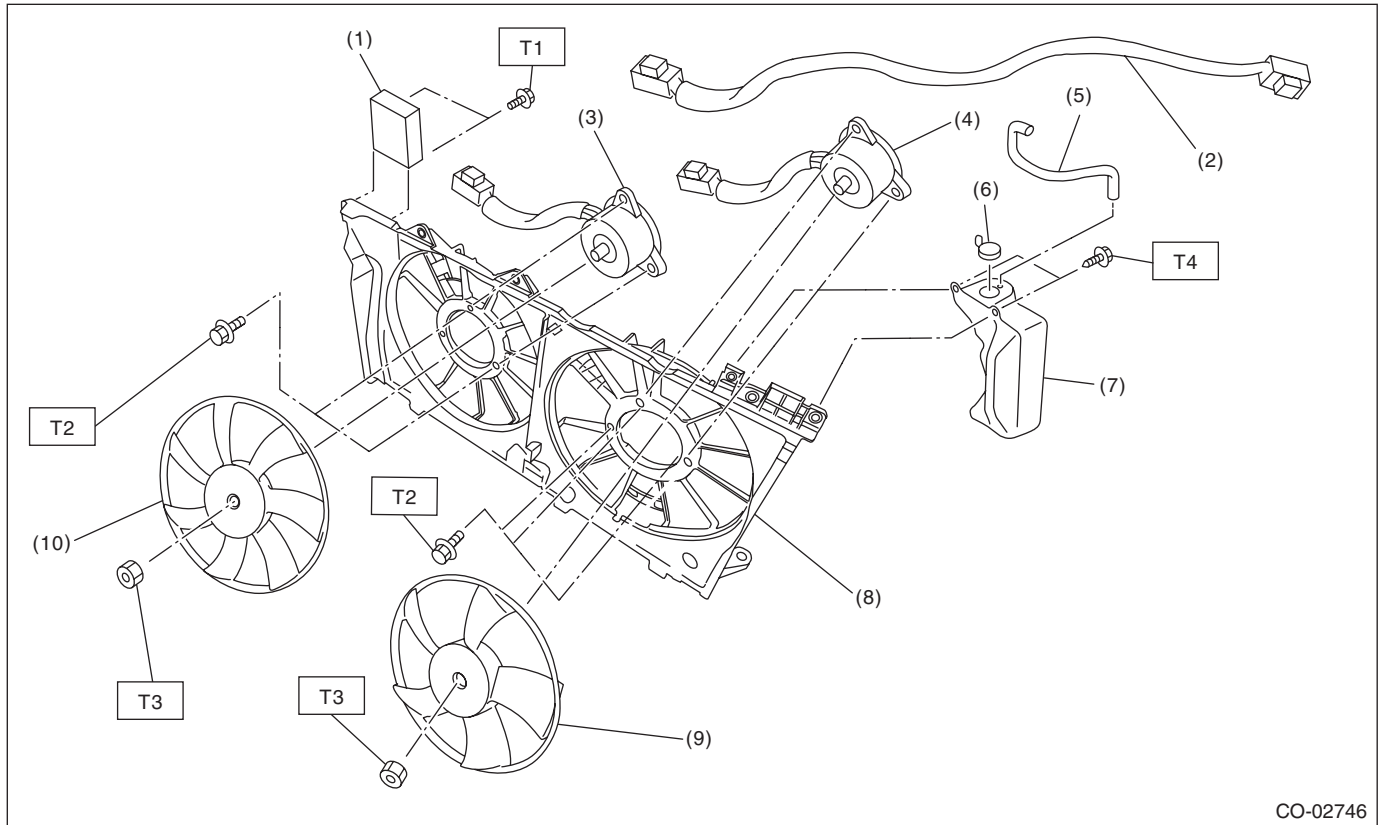
Tightening torque: N·m (kgf·m, ft·lb)

T: 12 (1.2, 8.9)

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• Radiator fan



- | | |
|-------------------------------|-------------------------|
| (1) Radiator fan control unit | (6) Reservoir tank cap |
| (2) Radiator fan harness | (7) Reservoir tank |
| (3) Radiator sub fan motor | (8) Radiator fan shroud |
| (4) Radiator main fan motor | (9) Radiator main fan |
| (5) Over flow hose | (10) Radiator sub fan |

Tightening torque: N·m (kgf-m, ft-lb)

T1: 2.6 (0.3, 1.9)

T2: 3.8 (0.4, 2.8)

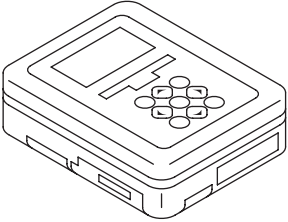
T3: 6.3 (0.6, 4.6)

T4: 7.5 (0.8, 5.5)

C: CAUTION

- Prior to starting work, pay special attention to the following:
 1. Always wear work clothes, a safety cap, protective shoes. Additionally, wear a helmet, protective goggles, etc. if necessary.
 2. Protect the vehicle using a seat cover, fender cover, etc.
 3. Prepare the service tools, clean cloth, containers to catch grease and oil, etc.
- Prepare a container and cloth to prevent scattering of engine coolant when performing work where engine coolant can be spilled. If the oil spills, wipe it off immediately to prevent from penetrating into floor or flowing out for environmental protection.
- Vehicle components are extremely hot immediately after driving. Be wary of receiving burns from heated parts.
- When performing a repair, identify the cause of trouble and avoid unnecessary removal, disassembly and replacement.
- Before disconnecting connectors of sensors or units, be sure to disconnect the ground cable from battery.
- Always use the jack-up point when the shop jacks or rigid racks are used to support the vehicle.
- Remove contamination including dirt and corrosion before removal, installation, disassembly or assembly.
- Keep the removed parts in order and protect them from dust and dirt.
- All removed parts, if to be reused, should be reinstalled in the original positions with attention to the correct directions, etc.
- Bolts, nuts and washers should be replaced with new parts as required.
- Be sure to tighten the fasteners including bolts and nuts to the specified torque.
- Follow all government and local regulations concerning disposal of refuse when disposing engine coolant.

D: PREPARATION TOOL**1. SPECIAL TOOL**

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
 ST1B022XU0	1B022XU0	SUBARU SELECT MONITOR III KIT	Used for troubleshooting the electrical system.

2. GENERAL TOOL

TOOL NAME	REMARKS
Circuit tester	Used for measuring resistance and voltage.
Radiator cap tester	Used for checking radiator and radiator cap.