

General Description

COOLING

1. General Description

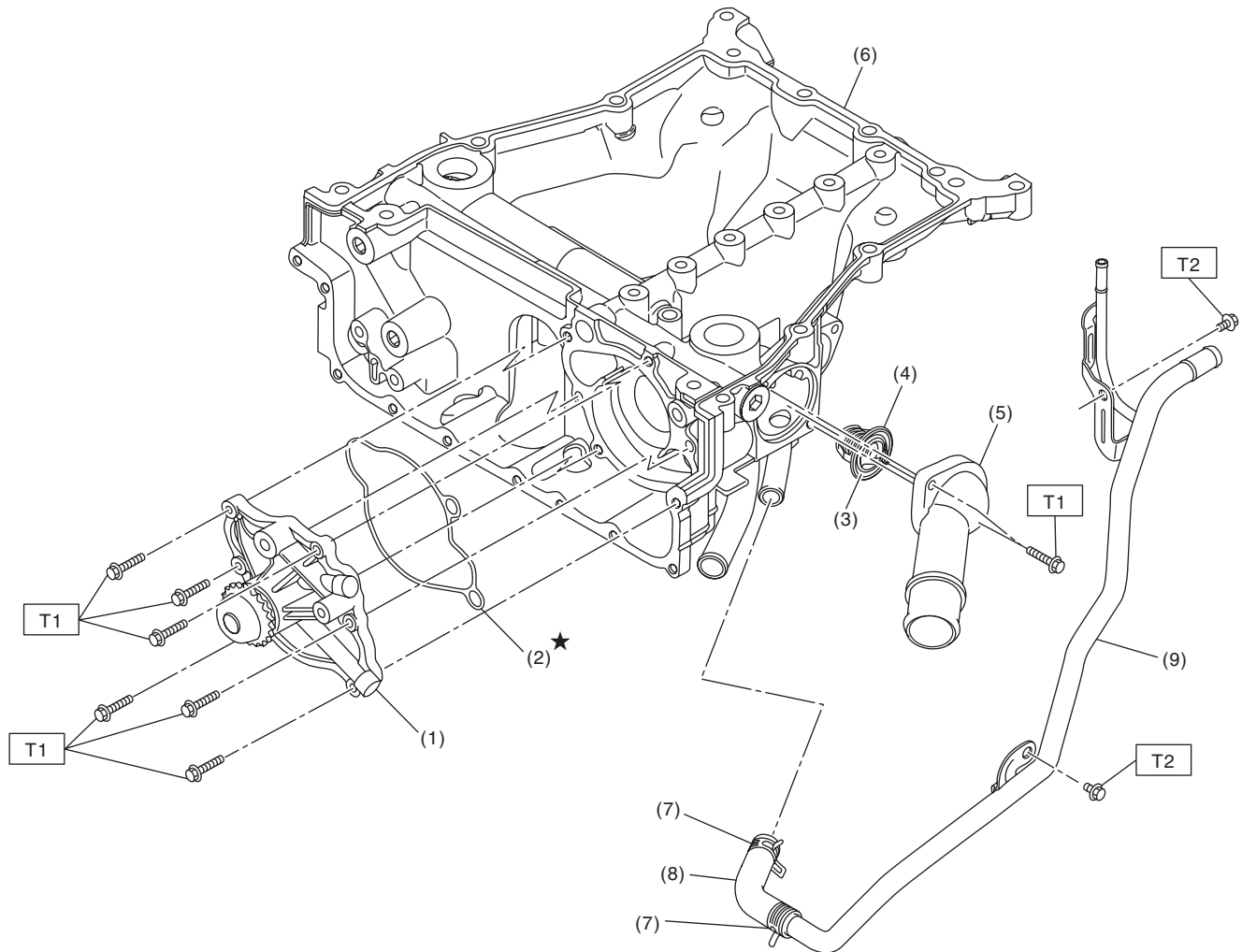
A: SPECIFICATION

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 opening size		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) Gasket | (7) Clip |
| (3) Thermostat | (8) Hose |
| (4) Gasket | (9) Water return pipe |
| (5) Thermostat cover | |

Tightening torque: N·m (kgf-m, ft-lb)

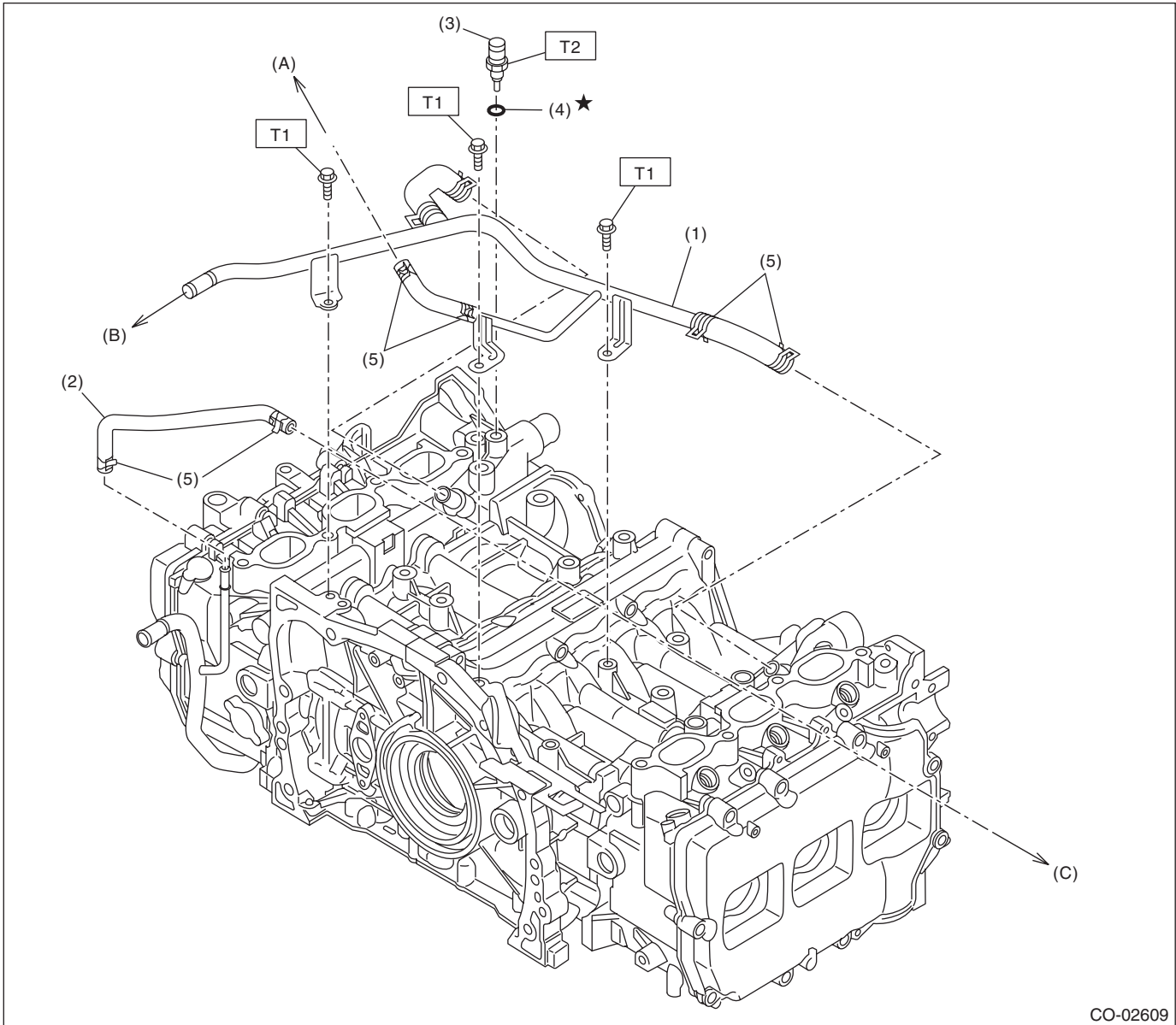
T1: 6.4 (0.7, 4.7)

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

(4) Gasket

(2) Preheater hose

(5) Clip

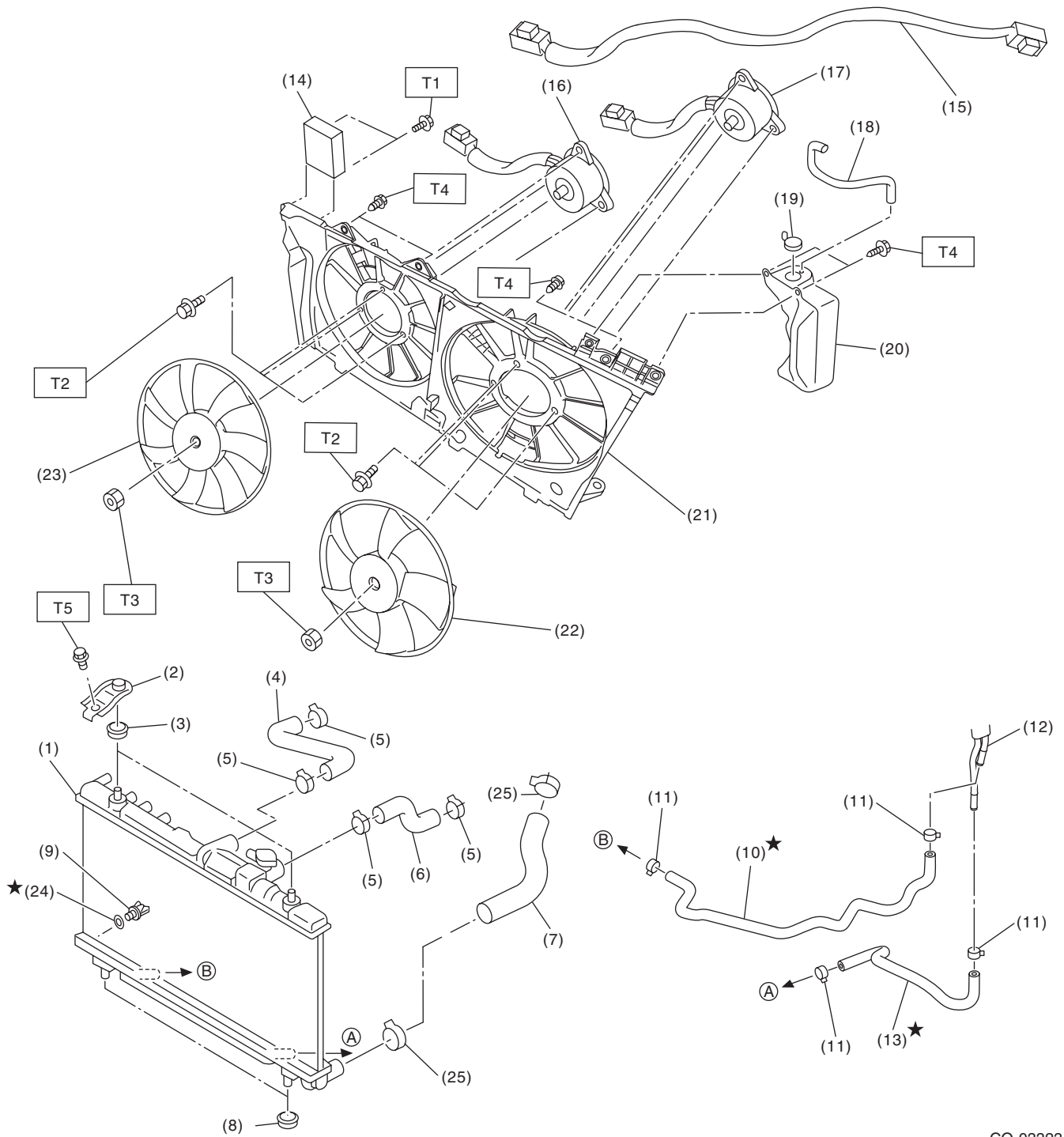
(3) Engine coolant temperature sensor

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



CO-03323

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- | | | |
|------------------------------|--------------------------------|-----------------------|
| (1) Radiator | (12) ATF pipe | (23) Radiator sub fan |
| (2) Radiator upper bracket | (13) ATF radiator outlet hose | (24) O-ring |
| (3) Radiator upper cushion | (14) Radiator fan control unit | (25) Clip |
| (4) Radiator inlet hose RH | (15) Radiator fan harness | |
| (5) Clip | (16) Radiator sub fan motor | |
| (6) Radiator inlet hose LH | (17) Radiator main fan motor | |
| (7) Radiator outlet hose | (18) Over flow hose | |
| (8) Radiator lower cushion | (19) Reservoir tank cap | |
| (9) Drain plug | (20) Reservoir tank | |
| (10) ATF radiator inlet hose | (21) Radiator fan shroud | |
| (11) ATF hose clip | (22) Radiator main fan | |

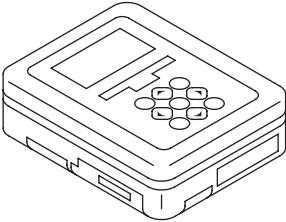
Tightening torque: N·m (kgf-m, ft-lb)**T1: 2.6 (0.3, 1.9)****T2: 3.8 (0.4, 2.8)****T3: 6.3 (0.6, 4.6)****T4: 7.5 (0.8, 5.5)****T5: 12 (1.2, 8.9)**

C: CAUTION

- Prior to starting work, pay special attention to the following:
 1. Always wear work clothes, a work cap, and 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.