

# GENERAL DESCRIPTION

## COOLING

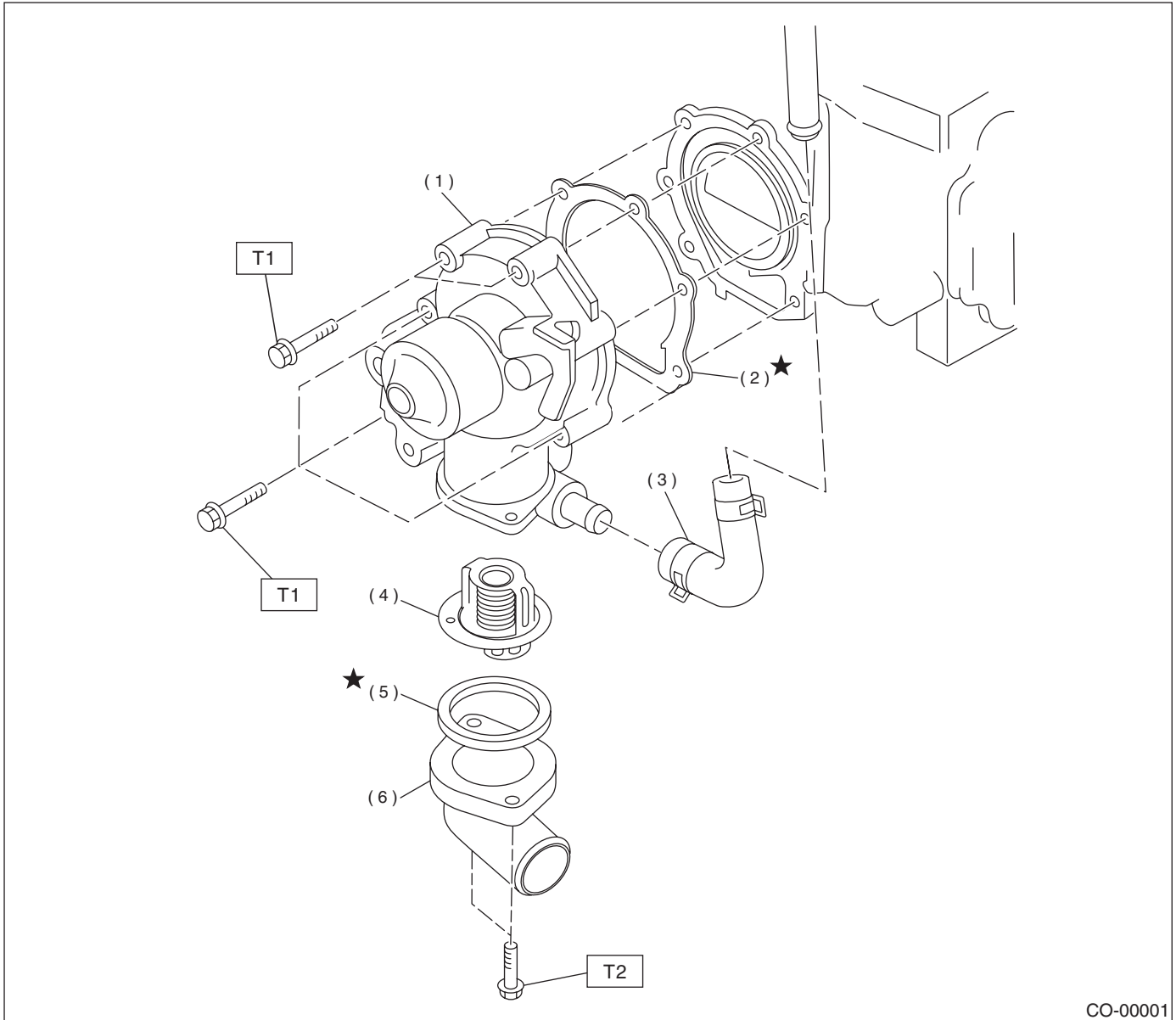
### 1. General Description

#### A: SPECIFICATIONS

Cooling system		Electric fan + Forced engine coolant circulation system	
Total engine coolant capacity		ℓ (US qt, Imp qt) MT: Approx. 6.8 (7.2, 6.0) AT: Approx. 6.7 (7.1, 5.9)	
Water pump	Type	Centrifugal impeller type	
	Discharge performance I	Discharge	18 ℓ (4.8 US gal, 4.0 Imp gal)/min.
		Pump speed—pressure leak	1,000 rpm — 7 kPa (0.7 mAq, 2.3 ftAq)
		Engine coolant temperature	80°C (176°F)
	Discharge performance II	Discharge	70 ℓ (18.5 US gal, 15.4 Imp gal)/min.
		Pump speed—pressure leak	3,000 rpm — 55 kPa (5.6 mAq, 18.4 ftAq)
		Engine coolant temperature	80°C (176°F)
	Discharge performance III	Discharge	153 ℓ (40.4 US gal, 33.7 Imp gal)/min.
		Pump speed—pressure leak	6,000 rpm — 217 kPa (22.1 mAq, 72.5 ftAq)
		Engine coolant temperature	80°C (176°F)
Impeller diameter		74 mm (2.91 in)	
Number of impeller vanes		8	
Pump pulley diameter		60 mm (2.36 in)	
Clearance between impeller and case	Standard	0.4 — 1.6 mm (0.016 — 0.063 in)	
Thermostat	Type	Wax pellet type	
	Starts to open	76 — 80°C (169 — 176°F)	
	Fully opened	91°C (196°F)	
	Valve lift	9.0 mm (0.354 in) or more	
	Valve opening bore	35 mm (1.38 in)	
Radiator fan	Motor	75 W (main fan) 75 W (sub fan)	
	Fan diameter × Blade	300 mm (11.81 in) × 5 (main fan) 300 mm (11.81 in) × 4 (sub fan)	
Radiator	Type	Down flow, pressure type	
	Core dimensions	691.5 × 340 × 16 mm (27.22 × 13.39 × 0.63 in)	
	Cap valve opening pressure	Above: 108±15 kPa (1.1±0.15 kg/cm <sup>2</sup> , 16±2 psi) Below: -1.0 to -4.9 kPa (-0.01 to -0.05 kg/cm <sup>2</sup> , -0.1 to -0.7 psi)	
	Fins	Corrugated fin type	
Reservoir tank	Capacity	0.5 ℓ (0.5 US qt, 0.4 Imp qt)	

**B: COMPONENT**

**1. WATER PUMP**



CO-00001

- (1) Water pump ASSY
- (2) Gasket
- (3) Heater by-pass hose
- (4) Thermostat

- (5) Gasket
- (6) Thermostat cover

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

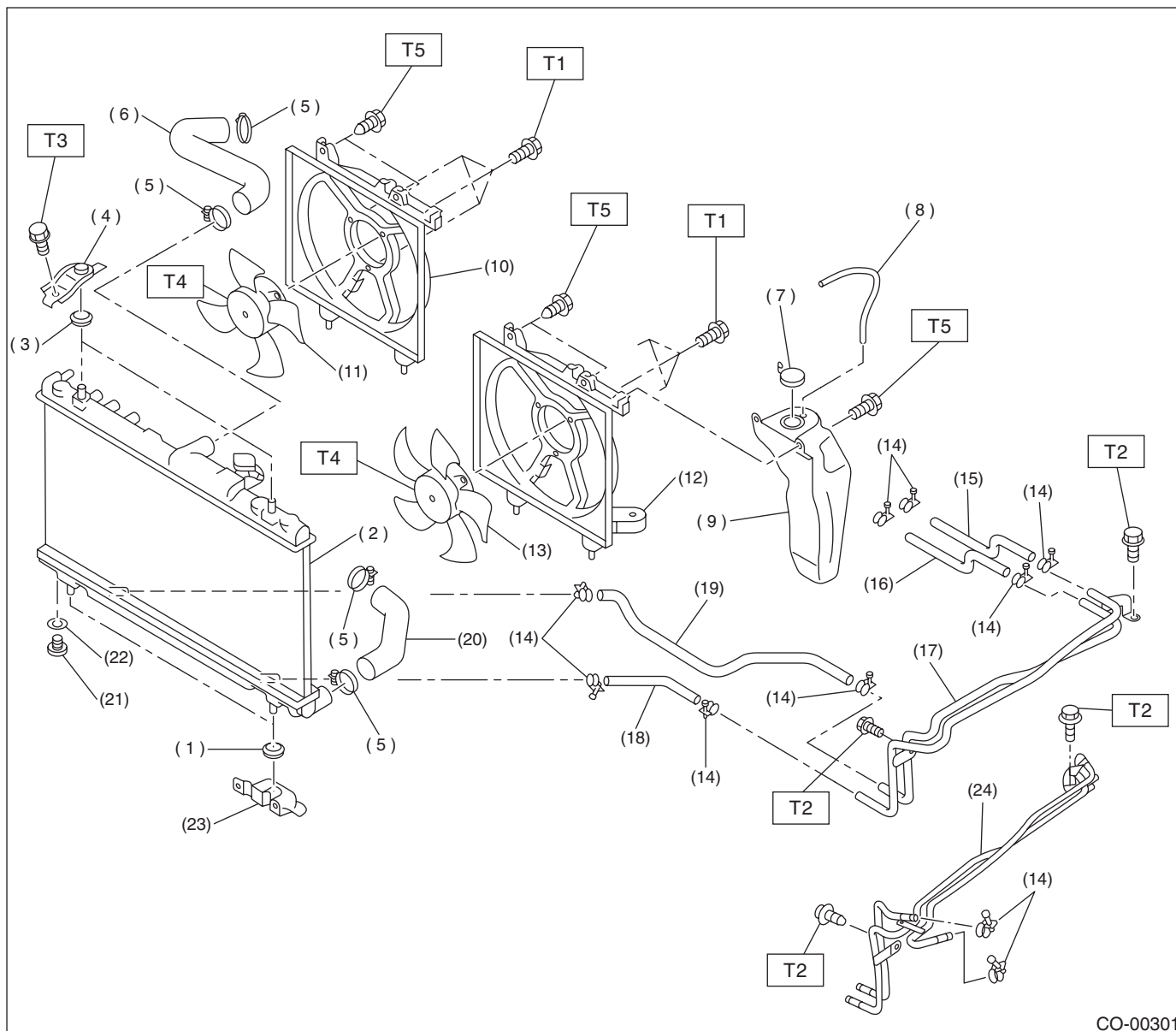
**T1: First 12 (1.2, 8.7)  
Second 12 (1.2, 8.7)**

**T2: 6.5 (0.66, 4.8)**

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### 2. RADIATOR AND RADIATOR FAN



CO-00301

- |  |  |                                  |
|--|--|----------------------------------|
| (1) Radiator lower cushion                   | (13) Radiator main fan and main fan motor ASSY | (22) O-ring                      |
| (2) Radiator                                 | (14) ATF hose clamp (AT vehicles only)         | (23) Radiator lower bracket      |
| (3) Radiator upper cushion                   | (15) ATF inlet hose (AT vehicles only)         | (24) ATF pipe (AT vehicles only) |
| (4) Radiator upper bracket                   | (16) ATF outlet hose (AT vehicles only)        |                                  |
| (5) Clamp                                    | (17) ATF pipe (AT vehicles only)               |                                  |
| (6) Radiator inlet hose                      | (18) ATF outlet hose B (AT vehicles only)      |                                  |
| (7) Engine coolant reservoir tank cap        | (19) ATF inlet hose B (AT vehicles only)       |                                  |
| (8) Overflow hose                            | (20) Radiator outlet hose                      |                                  |
| (9) Engine coolant reservoir tank            | (21) Radiator drain plug                       |                                  |
| (10) Sub fan shroud                          |  |                                  |
| (11) Radiator sub fan and sub fan motor ASSY |  |                                  |
| (12) Main fan shroud                         |  |                                  |

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

**T1: 4.4 (0.45, 3.3)**

**T2: 12 (1.2, 8.7)**

**T3: 18 (1.8, 13.0)**

**T4: 3.4 (0.35, 2.5)**

**T5: 4.9 (0.50, 3.6)**

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## C: CAUTION

- Wear working clothing, including a cap, protective goggles, and protective shoes during operation.
- Remove contamination including dirt and corrosion before removal, installation or disassembly.
- Keep the disassembled parts in order and protect them from dust or dirt.
- Before removal, installation or disassembly, be sure to clarify the failure. Avoid unnecessary removal, installation, disassembly, and replacement.

- Be careful not to burn your hands, because each part in the vehicle is hot after running.
- Be sure to tighten fasteners including bolts and nuts to the specified torque.
- Place shop jacks or safety stands at the specified points.
- Before disconnecting electrical connectors of sensors or units, be sure to disconnect ground cable from battery.

## D: PREPARATION TOOL

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
<p>ST-499977100</p>	499977100	CRANK PULLEY WRENCH	Used for fixing crankshaft pulley when loosening and tightening crankshaft pulley bolts.
<p>ST18231AA010</p>	18231AA010	CAMSHAFT SPROCKET WRENCH	<ul style="list-style-type: none"><li>• Used for removing and installing camshaft sprocket.</li><li>• Camshaft sprocket wrench (499207100) is also available.</li></ul>