1. General Description

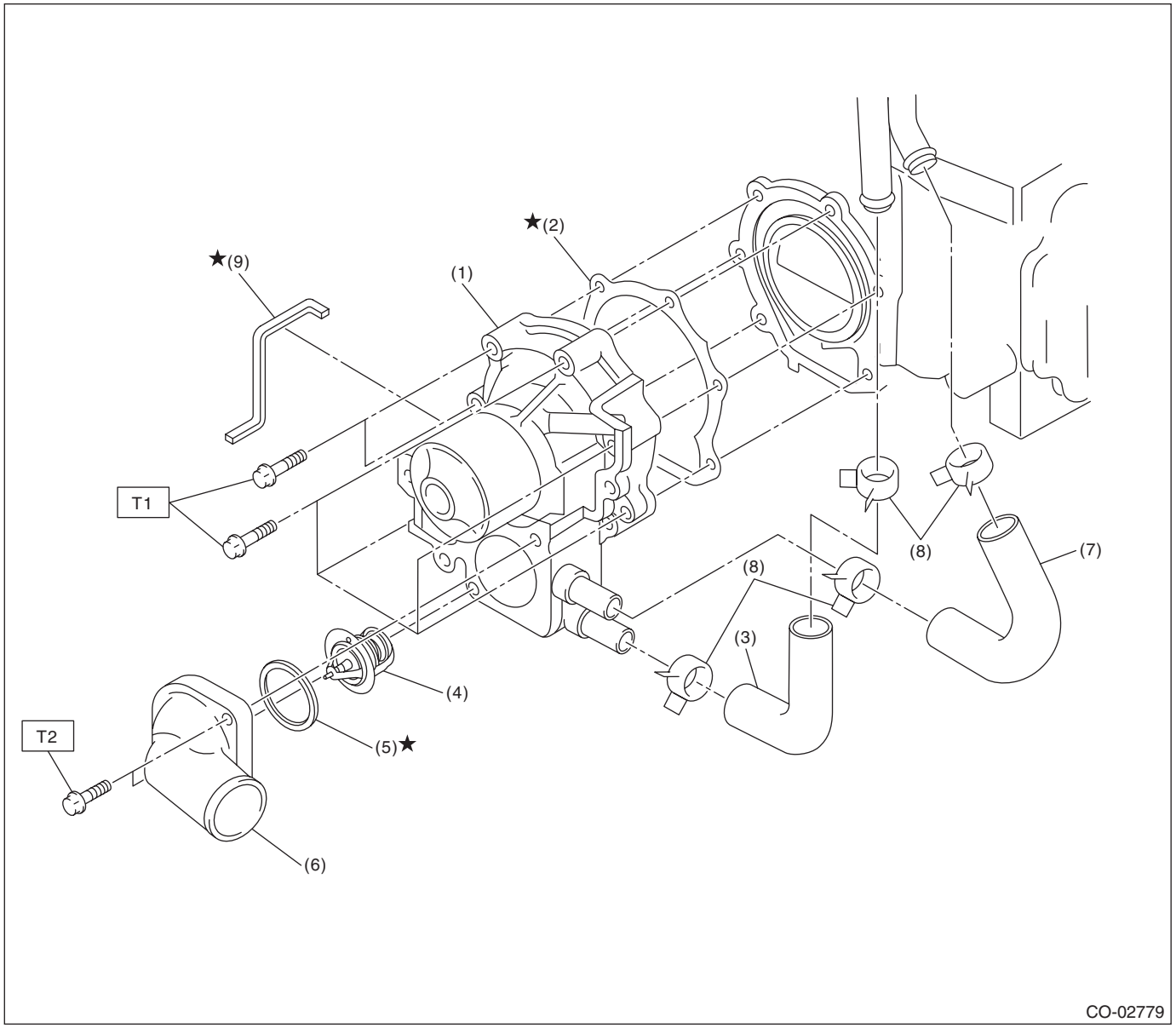
A: SPECIFICATION

Cooling system					Electric fan + Forced engine coolant circulation system
Total engine coolant capacity				L (US qt, Imp qt)	Approx. 7.7 (8.2, 6.8)
Water pump	Type				Centrifugal impeller type
	Discharge performance	Discharge rate		L (US gal, Imp gal)/min	200 (52.8, 44.0)
		Pump speed — Discharge pressure			6,000 rpm — 225.4 kPa (23.0 mAq)
		Engine coolant temperature			80°C (176°F)
	Impeller diameter			mm (in)	76 (2.99)
	Number of impeller vanes				8
	Pump pulley diameter			mm (in)	60 (2.36)
	Clearance between impeller and pump case			mm (in) / Standard	0.5 — 1.5 (0.020 — 0.059)
Thermostat	Type				Wax pellet type
	Starting temperature to open				76 — 80°C (169 — 176°F)
	Fully opens				91°C (196°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	120
		Sub fan		W	120
	Fan diameter / Blade	Main fan			318.5 mm (12.54 in)/9
		Sub fan			318.5 mm (12.54 in)/11
Radiator	Type				Down flow
	Core dimensions	Width × Height × Thickness		mm (in)	687.4 × 340 × 16 (27.06 × 13.39 × 0.63)
	Pressure range in which cap valve is open	Coolant filler tank side 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)
		Radiator side kPa (kg/cm^2, psi)	Positive pressure side only	Standard	122 — 152 (1.24 — 1.55, 18 — 22)
				Limit	112 (1.14, 16)
	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

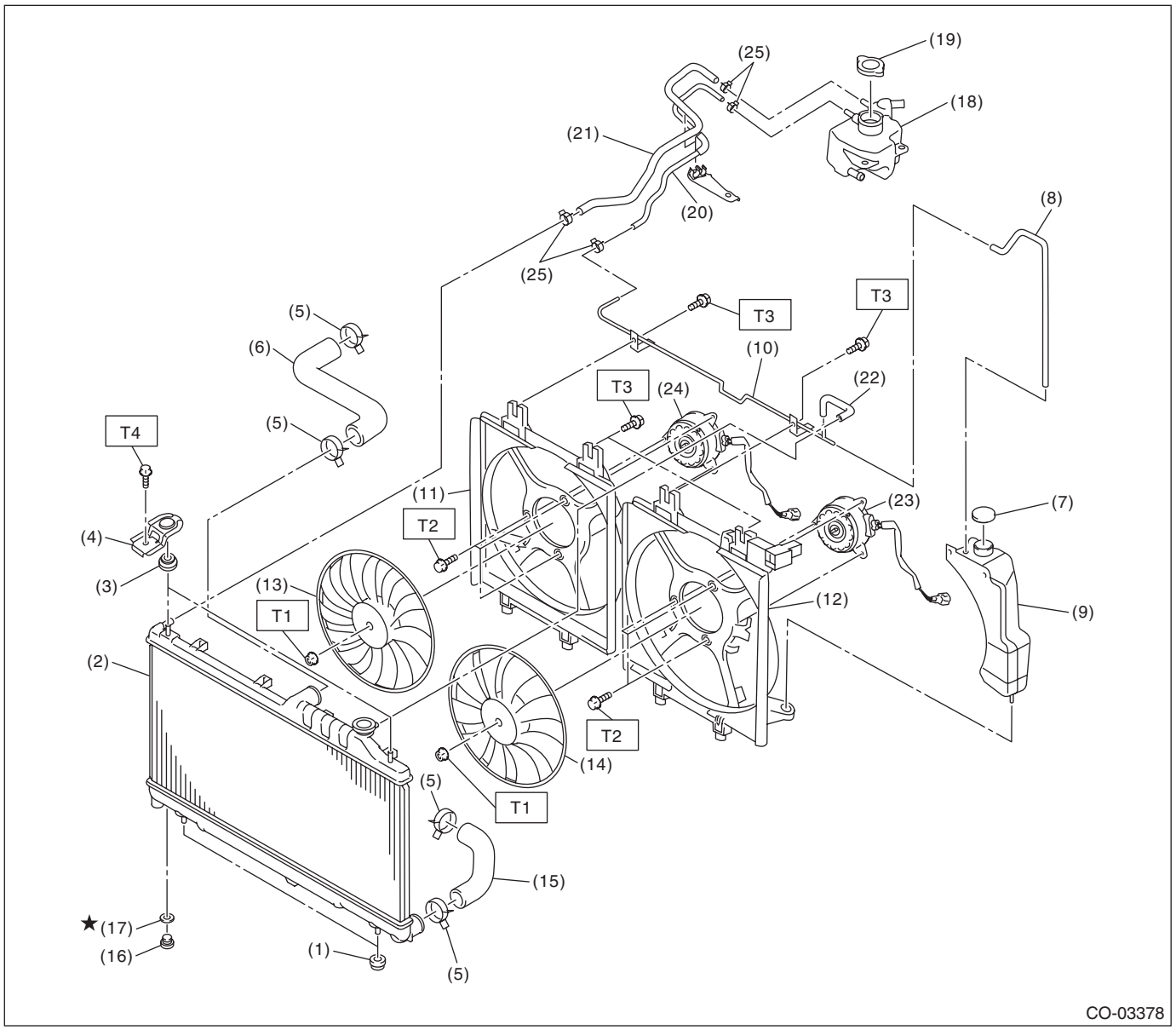
1. WATER PUMP



(1) Water pump ASSY
(2) Gasket
(3) Heater by-pass hose
(4) Thermostat
(5) Gasket
(6) Thermostat cover
(7) Coolant filler by-pass hose
(8) Clip
(9) Water pump sealing

Tightening torque: N·m (kgf-m, ft-lb)
T1: First 12 (1.2, 8.9)
Second 12 (1.2, 8.9)
T2: 12 (1.2, 8.9)

2. RADIATOR AND RADIATOR FAN



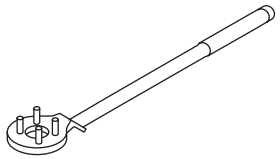
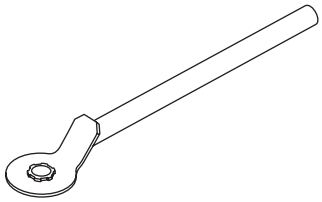
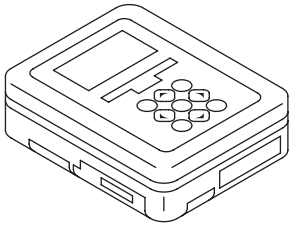
(1)	Radiator lower cushion	(12)	Radiator main fan shroud	(22)	Over flow hose B
(2)	Radiator	(13)	Radiator sub fan	(23)	Main fan motor
(3)	Radiator upper cushion	(14)	Radiator main fan	(24)	Sub fan motor
(4)	Radiator upper bracket	(15)	Radiator outlet hose	(25)	Clip
(5)	Clip	(16)	Radiator drain plug		
(6)	Radiator inlet hose	(17)	O-ring	***Tightening torque: N·m (kgf-m, ft-lb)***	
(7)	Engine coolant reservoir tank cap	(18)	Engine coolant filler tank	***T1:***	***3.4 (0.3, 2.5)***
(8)	Over flow hose A	(19)	Radiator cap (coolant filler tank cap)	***T2:***	***4.41 (0.45, 3.25)***
(9)	Engine coolant reservoir tank	(20)	Engine coolant hose A	***T3:***	***7.5 (0.8, 5.5)***
(10)	Over flow pipe	(21)	Engine coolant hose B	***T4:***	***12 (1.2, 8.9)***
(11)	Radiator sub fan shroud				

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
 ST-499977100	499977100	CRANK PULLEY WRENCH	Used for removing and installing the crank pulley.
 ST-499977500	499977500	CAM SPROCKET WRENCH	Used for removing and installing intake cam sprocket and exhaust cam sprocket.
 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.