

# GENERAL DESCRIPTION

Cooling

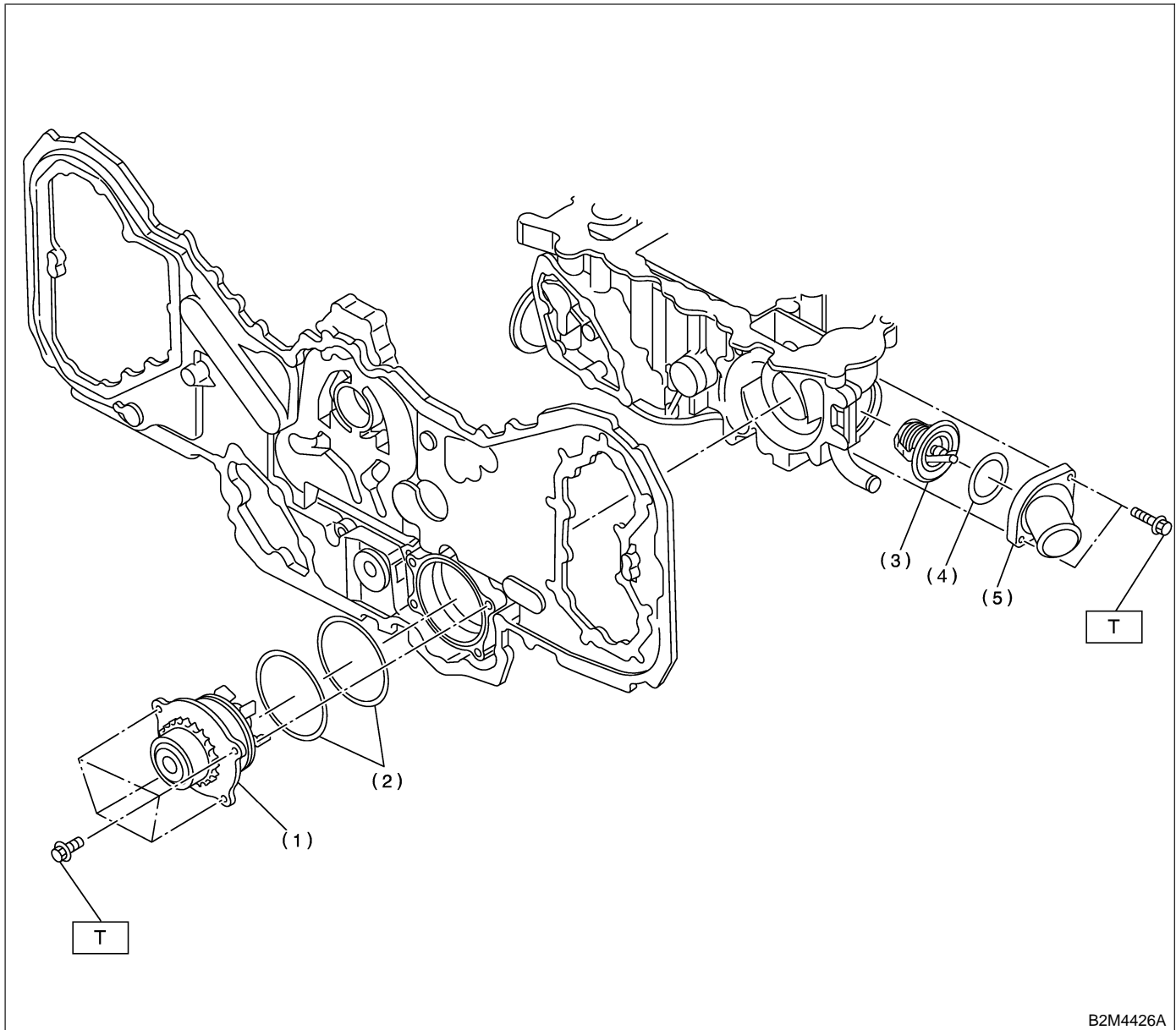
## 1. General Description S146001

### A: SPECIFICATIONS S146001E49

Cooling system		Electric fan + Forced engine coolant circulation system	
Total engine coolant capacity		ℓ (US qt, Imp qt)	
Water pump	Type	Centrifugal impeller type	
	Discharge performance I	Discharge	20 ℓ (5.3 US gal, 4.4 Imp gal)/min.
		Pump speed—total engine coolant head	760 rpm — 0.3 mAq (1.0 ftAq)
		Engine coolant temperature	85°C (185°F)
	Discharge performance II	Discharge	100 ℓ (26.4 US gal, 22.0 Imp gal)/min.
		Pump speed—total engine coolant head	3,000 rpm — 5.0 mAq (16.4 ftAq)
		Engine coolant temperature	85°C (185°F)
	Discharge performance III	Discharge	200 ℓ (52.8 US gal, 44.0 Imp gal)/min.
		Pump speed—total engine coolant head	6,000 rpm — 23.0 mAq (75.5 ftAq)
		Engine coolant temperature	85°C (185°F)
	Impeller diameter		76 mm (2.99 in)
	Number of impeller vanes		8
	Pump pulley diameter		60 mm (2.36 in)
Clearance between impeller and case	Standard	0.5 — 0.7 mm (0.020 — 0.028 in)	
	Limit	1.0 mm (0.039 in)	
“Thrust” runout of impeller end		0.5 mm (0.020 in)	
Thermostat	Type	Wax pellet type	
	Start to open	76 — 80°C (169 — 176°F)	
	Fully open	91°C (196°F)	
	Valve lift	9.0 mm (0.354 in) or more	
	Valve bore	35 mm (1.38 in)	
Radiator fan	Motor	120 W (main fan) 120 W (sub fan)	
	Fan diameter × Blade	320 mm (12.60 in) × 5 (main fan) 320 mm (12.60 in) × 7 (sub fan)	
Radiator	Type	Down flow, pressure type	
	Core dimensions	699 × 349 × t27 mm (27.52 × 13.74 × t1.06 in)	
	Pressure range in which cap valve is open	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	0.45 ℓ (0.5 US qt, 0.4 Imp qt)	

## B: COMPONENT S146001A05

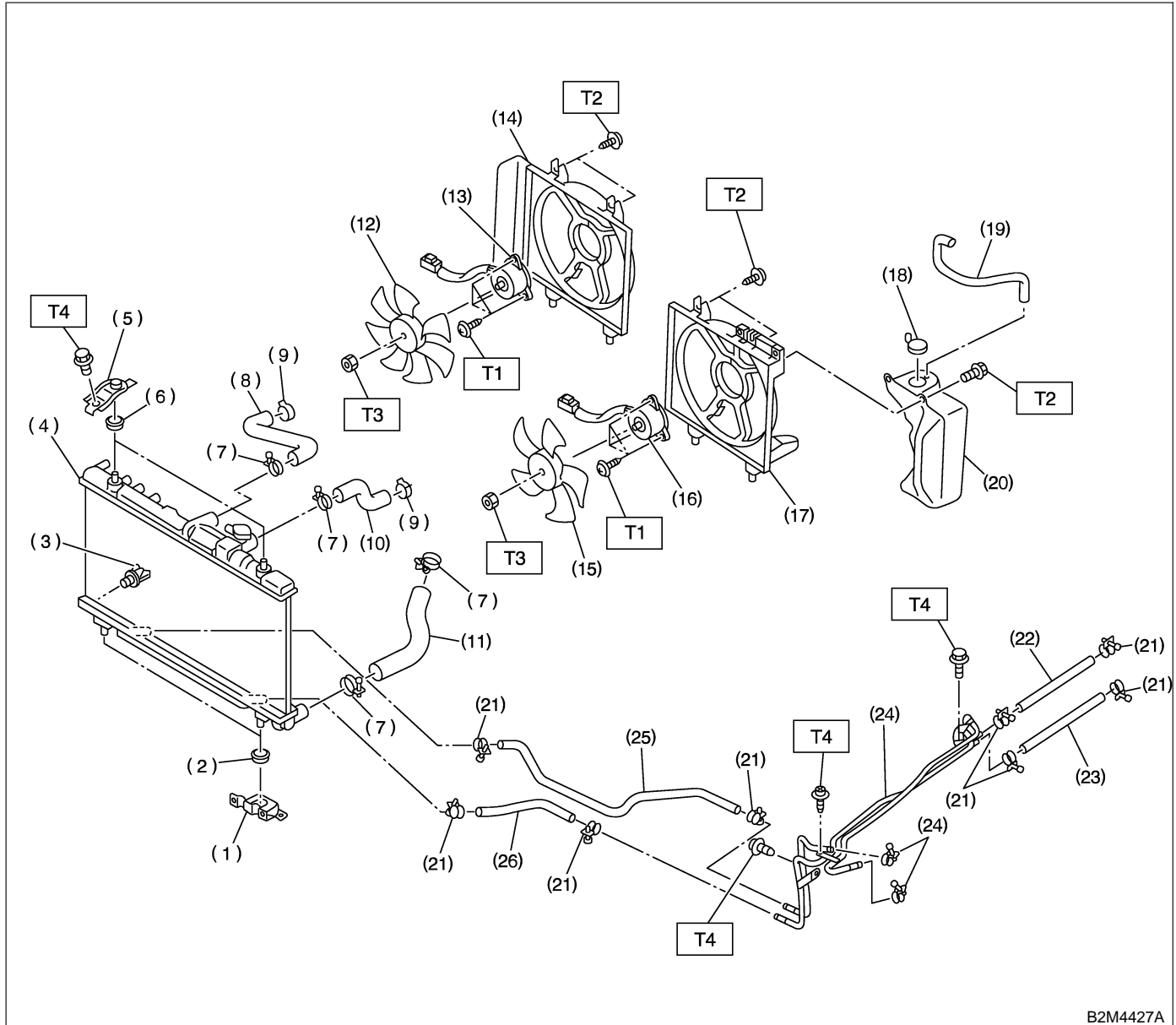
### 1. WATER PUMP S146001A0501



B2M4426A

- |                     |                      |
|---------------------|----------------------|
| (1) Water pump ASSY | (4) Gasket           |
| (2) O-ring          | (5) Thermostat cover |
| (3) Thermostat      |                      |

**Tightening torque: N·m (kgf·m, ft·lb)**  
**T: 6.4 (0.65, 4.7)**

2. RADIATOR AND RADIATOR FAN S146001A0502

B2M4427A

- |                            |                                        |                        |
|----------------------------|----------------------------------------|------------------------|
| (1) Radiator lower bracket | (13) Radiator sub fan motor            | (24) ATF pipe          |
| (2) Radiator lower cushion | (14) Sub fan shroud                    | (25) ATF inlet hose B  |
| (3) Drain cock             | (15) Radiator main fan                 | (26) ATF outlet hose B |
| (4) Radiator               | (16) Radiator main fan motor           |                        |
| (5) Radiator upper bracket | (17) Main fan shroud                   |                        |
| (6) Radiator upper cushion | (18) Engine coolant reservoir tank cap |                        |
| (7) Clamp                  | (19) Over flow hose                    |                        |
| (8) Radiator inlet hose    | (20) Engine coolant reservoir tank     |                        |
| (9) Clamp                  | (21) ATF hose clamp                    |                        |
| (10) Reservoir hose        | (22) ATF inlet hose A                  |                        |
| (11) Radiator outlet hose  | (23) ATF outlet hose A                 |                        |
| (12) Radiator sub fan      |                                        |                        |

**Tightening torque: N·m (kgf·m, ft·lb)****T1: 4.4 (0.45, 3.3)****T2: 4.9 (0.50, 3.6)****T3: 7.5 (0.76, 5.5)****T4: 12 (1.2, 8.7)**

# GENERAL DESCRIPTION

Cooling

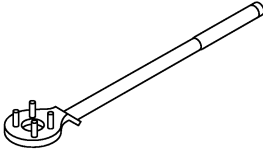
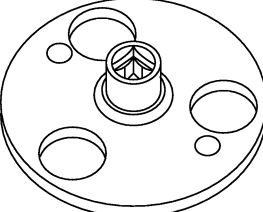
## C: CAUTION S146001A03

- 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 negative terminal from battery.

## D: PREPARATION TOOL S146001A17

### 1. SPECIAL TOOLS S146001A1701

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
 <p style="text-align: right;">B2M3870</p>	499977100	CRANK PULLEY WRENCH	Used for stopping crankshaft pulley when loosening and tightening crankshaft pulley bolts.
 <p style="text-align: right;">B2M3995</p>	18231AA000	CAMSHAFT SPROCKET WRENCH	Used for removing and installing camshaft sprocket.

### 2. GENERAL PURPOSE TOOLS S146001A1702

TOOL NAME	REMARKS
Radiator cap tester	Used for measuring pressure.