

General Description

COOLING

1. General Description

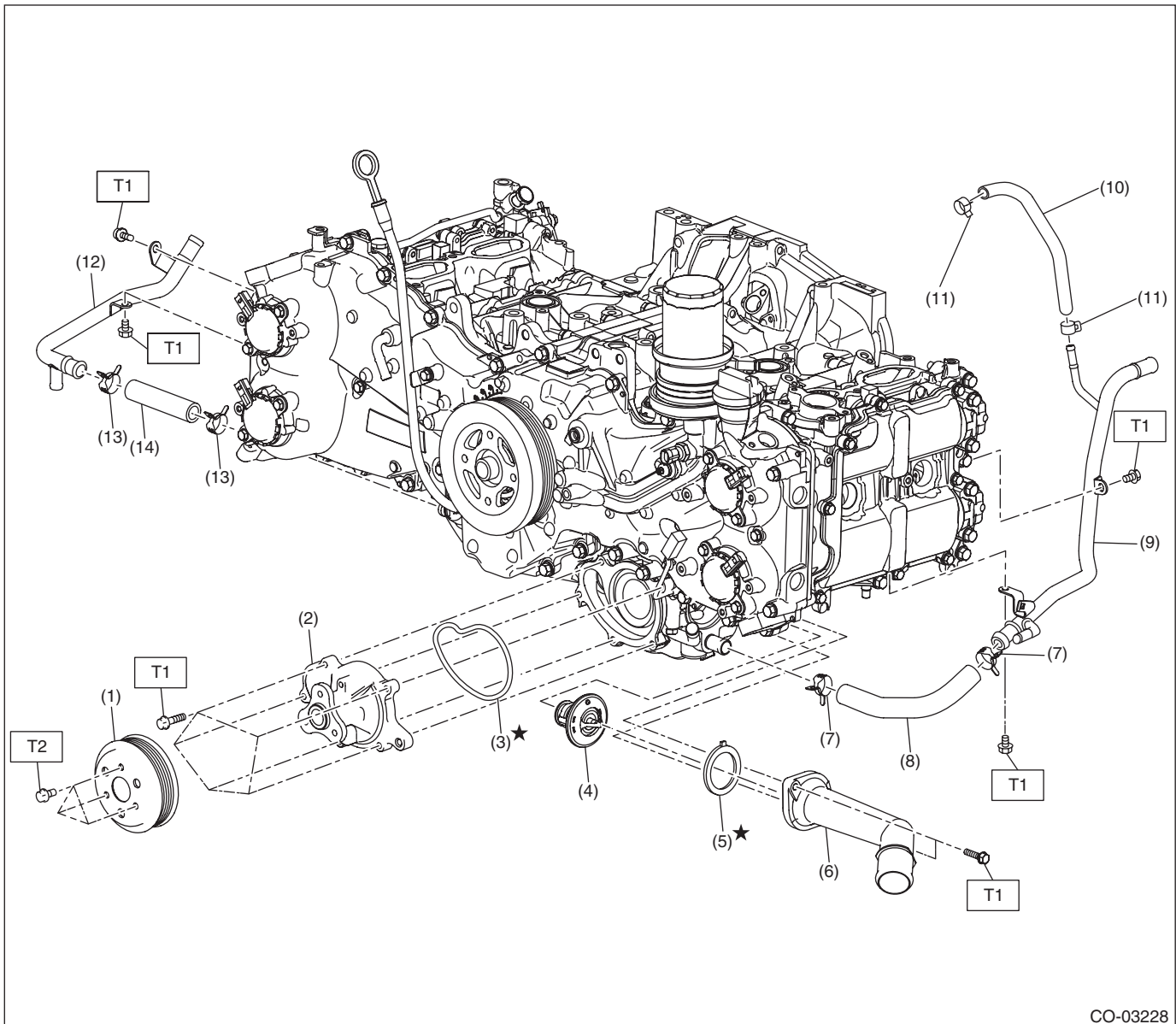
A: SPECIFICATION

| | | | | | | | | |
|-------------------------------|---|---------------------------------|--------------------------------|------------------------------|---|--|--|--|
| Cooling system | | | | | Electric fan + Forced engine coolant circulation system | | | |
| Total engine coolant capacity | | | | | L (US qt, Imp qt) | | Approx. 8.9 (9.4, 7.8) | |
| Water pump | Type | | | | Centrifugal impeller type | | | |
| | Discharge performance | Discharge rate | | L (US gal, Imp gal)/min | | 248 (65.5, 54.6) | | |
| | | Pump speed — Discharge pressure | | 8,580 rpm — 88 kPa (9.2 mAq) | | | | |
| | | Engine coolant temperature | | 80°C (176°F) | | | | |
| | Impeller diameter | | mm (in) | | 56 (2.2) | | | |
| | Number of impeller vanes | | | | 7 | | | |
| | Pump pulley diameter | | mm (in) | | 100 (3.9) | | | |
| Thermostat | Type | | | | Wax pellet type | | | |
| | Starting temperature to open | | | | 86 — 90°C (187 — 194°F) | | | |
| | Fully opens | | | | 95°C (203°F) | | | |
| | Valve lift | | mm (in) | | 8.0 (0.315) or more | | | |
| | Valve opening size | | mm (in) | | 32 (1.26) | | | |
| 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, pressure type | | | |
| | Core dimensions | | Width × Height × Thickness | | mm (in) | | 691.3 × 340 × 27 (27.06 × 13.39 × 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 to −4.9 or less (−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



- (1) Water pump pulley
- (2) Water pump ASSY
- (3) Gasket
- (4) Thermostat
- (5) Gasket
- (6) Thermostat cover

- (7) Clip
- (8) Water pipe hose LH
- (9) Water pipe LH
- (10) Preheater hose
- (11) Clip
- (12) Water pipe RH

- (13) Clip
- (14) Water pipe hose RH

Tightening torque: N·m (kgf-m, ft-lb)

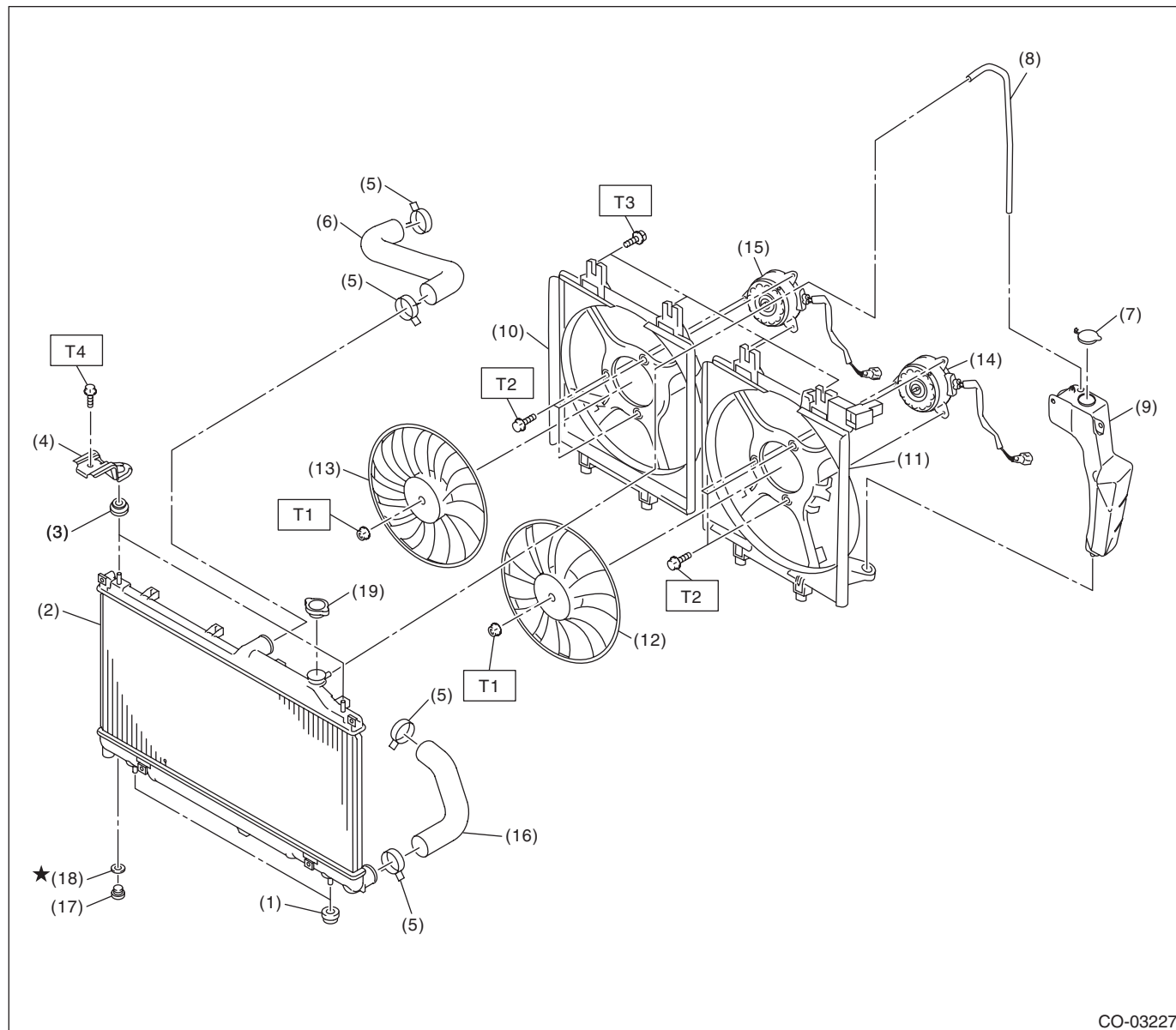
T1: 6.4 (0.7, 4.7)

T2: 14 (1.4, 10.3)

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2. RADIATOR AND RADIATOR FAN



CO-03227

- | | |
|---------------------------------------|-------------------------------|
| (1) Radiator lower cushion | (10) Radiator sub fan shroud |
| (2) Radiator | (11) Radiator main fan shroud |
| (3) Radiator upper cushion | (12) Radiator main fan |
| (4) Radiator upper bracket | (13) Radiator sub fan |
| (5) Clip | (14) Main fan motor |
| (6) Radiator inlet hose | (15) Sub fan motor |
| (7) Engine coolant reservoir tank cap | (16) Radiator outlet hose |
| (8) Over flow hose | (17) Radiator drain plug |
| (9) Engine coolant reservoir tank | (18) O-ring |

- (19) Radiator cap

Tightening torque: N·m (kgf-m, ft-lb)

T1: 3.4 (0.3, 2.5)

T2: 4.41 (0.45, 3.25)

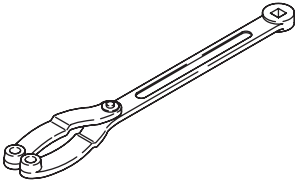
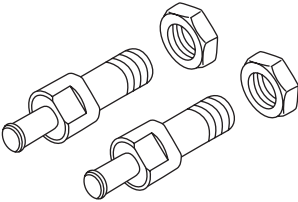
T3: 7.5 (0.8, 5.5)

T4: 12 (1.2, 8.9)

C: CAUTION

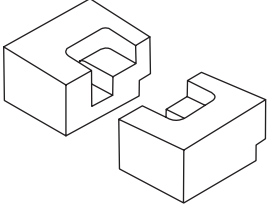
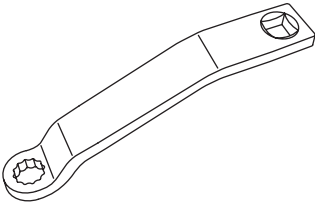
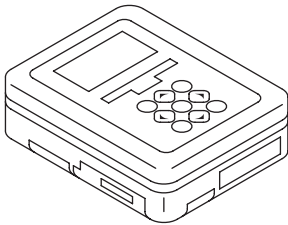
- Prior to starting work, pay special attention to the following:
 1. Always wear work clothes, a work cap, and protective shoes. Additionally, wear a helmet, protective goggles, etc. if necessary.
 2. Protect the vehicle using a seat cover, fender cover, etc.
 3. Prepare the service tools, clean cloth, 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 |
|---|-------------|-----------------------|---|
|  ST18355AA000 | 18355AA000 | PULLEY WRENCH | Used for removing and installing water pump pulley. |
|  ST18334AA030 | 18334AA030 | PULLEY WRENCH PIN SET | Used for removing and installing water pump pulley. |

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| ILLUSTRATION | TOOL NUMBER | DESCRIPTION | REMARKS |
|---|-------------|----------------------------------|---|
|  <p style="text-align: center;">ST18632AA020</p> | 18632AA020 | STAND ASSY | Used for removing and installing the water pipe assembly. |
|  <p style="text-align: center;">ST73099SG000</p> | 73099SG000 | SPECIAL TOOL CONDENSER | Used for installing the radiator. |
|  <p style="text-align: center;">ST1B022XU0</p> | 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. |