

General Description

STARTING/CHARGING SYSTEMS

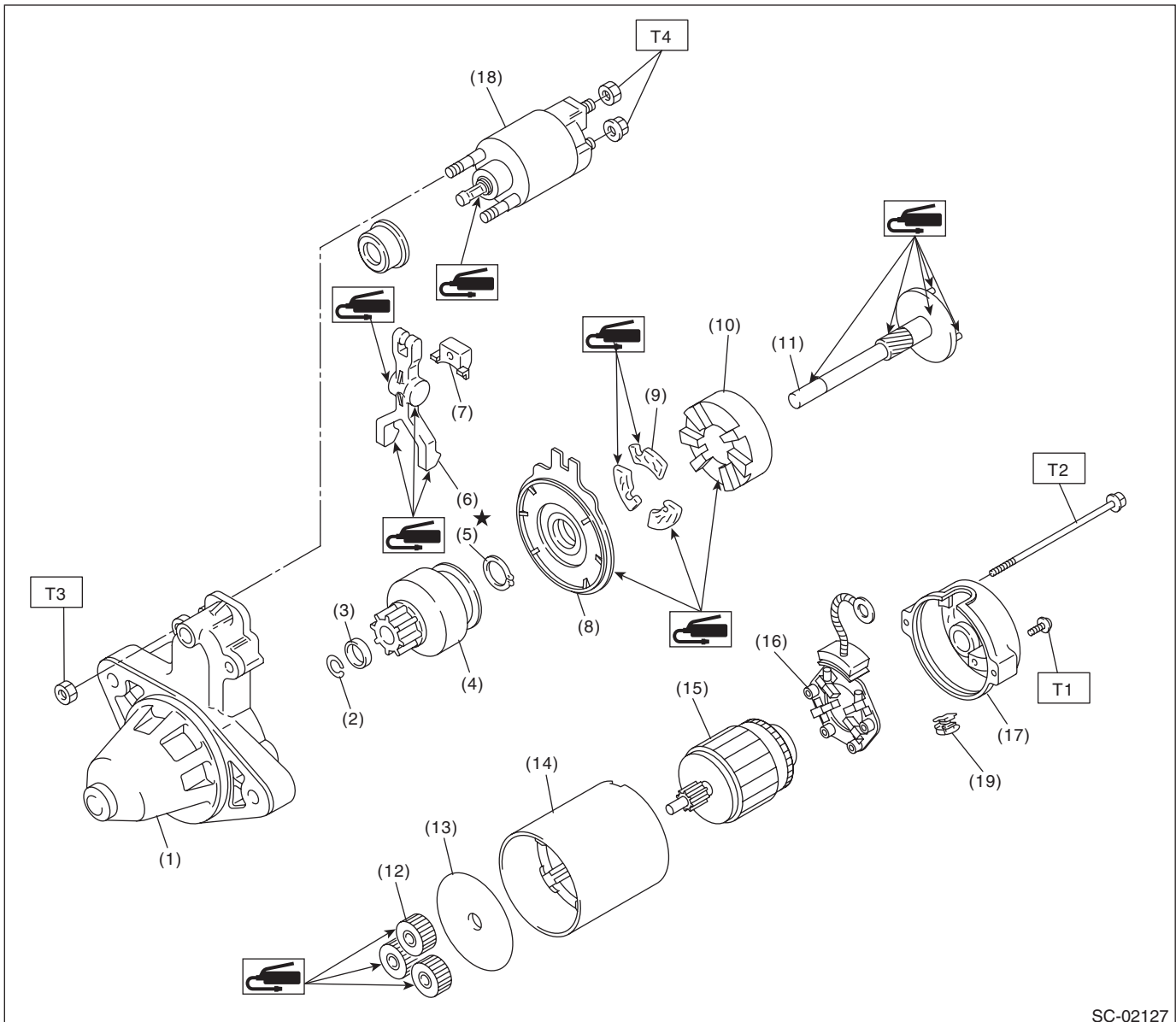
1. General Description

A: SPECIFICATION

Item			Specification
Vehicle model			AT
Starter	Type		Reduction type
	Model		428000-5250
	Manufacturer		DENSO
	Voltage and output		12 V — 1.6 kW
	Direction of rotation		Counterclockwise (when observed from pinion)
	Number of pinion teeth		9
	No-load characteristics	Voltage	11 V
		Current	90 A or less
		Rotating speed	More than 1,550 rpm
	Load characteristics	Voltage	8 V
		Current	370 A
		Torque	12.8 N·m (1.31 kgf-m, 9.4 ft-lb) or more
		Rotating speed	More than 800 rpm
	Lock characteristics	Voltage	3 V
		Current	750 A or less
		Torque	19.0 N·m (1.94 kgf-m, 14.0 ft-lb) or more
Generator	Type		Rotating-field three-phase type, voltage regulator built-in type, with load response control system
	Model		A003TJ2091
	Manufacturer		MITSUBISHI ELECTRIC
	Voltage and output		12V — 130A
	Polarity on ground side		Negative
	Direction of rotation		Clockwise (when observed from pulley side)
	Armature connection		Delta connection
	Output current		1,500 rpm — 55 A or more 2,500 rpm — 108 A or more 5,000 rpm — 127 A or more
	Regulated voltage		14.1 — 14.8 V [20°C (68°F)]
Battery	Type and capacity		12 V — 52 AH (75D23L)

B: COMPONENT

1. STARTER



SC-02127

- | | | |
|----------------------------|-------------------------|-----------------|
| (1) Starter housing | (10) Internal gear | (19) Drain duct |
| (2) Snap ring | (11) Shaft | |
| (3) Stopper | (12) Planetary gear | |
| (4) Overrunning clutch | (13) Starter plate | |
| (5) Snap ring | (14) Yoke | |
| (6) Shift lever | (15) Armature | |
| (7) Starter seal | (16) Brush holder ASSY | |
| (8) Shock absorber bearing | (17) Starter cover | |
| (9) Shock absorber | (18) Magnet switch ASSY | |

Tightening torque: N·m (kgf-m, ft-lb)

T1: 1.4 (0.14, 1.03)

T2: 6 (0.6, 4.4)

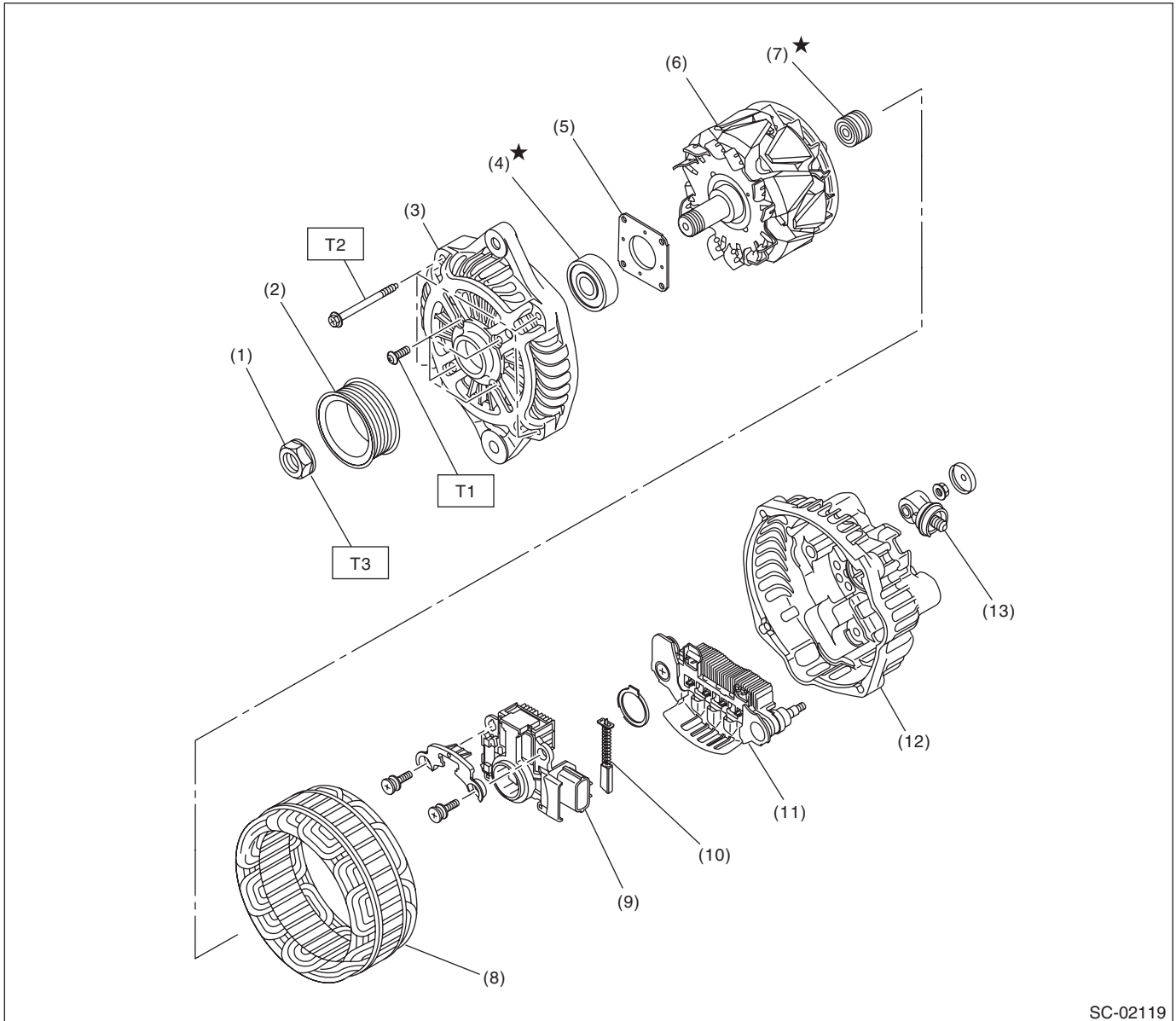
T3: 7.5 (0.8, 5.5)

T4: 10 (1.0, 7.4)

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2. GENERATOR



SC-02119

- | | |
|----------------------|-----------------------------|
| (1) Pulley nut | (8) Stator coil |
| (2) Pulley | (9) IC regulator with brush |
| (3) Front cover | (10) Brush |
| (4) Ball bearing | (11) Rectifier |
| (5) Bearing retainer | (12) Rear cover |
| (6) Rotor | (13) Terminals |
| (7) Bearing | |

Tightening torque: N·m (kgf-m, ft-lb)

T1: 3.9 (0.4, 2.9)

T2: 4.6 (0.47, 3.4)

T3: 103 (10.5, 76)

C: CAUTION

- Wear appropriate work clothing, including a cap, protective goggles and protective shoes when performing any work.
- Remove contamination including dirt and corrosion before removal, installation or disassembly.
- Keep the disassembled parts in order and protect them from dust and dirt.
- Before removal, installation or disassembly, be sure to clarify the failure. Avoid unnecessary removal, installation, disassembly and replacement.
- Vehicle components are extremely hot after driving. Be wary of receiving burns from heated parts.
- Be sure to tighten fasteners including bolts and nuts to the specified torque.
- Place shop jacks or rigid racks at the specified points.
- Before disconnecting connectors of sensors or units, be sure to disconnect the ground cable from the battery.