

General Description

STARTING/CHARGING SYSTEMS

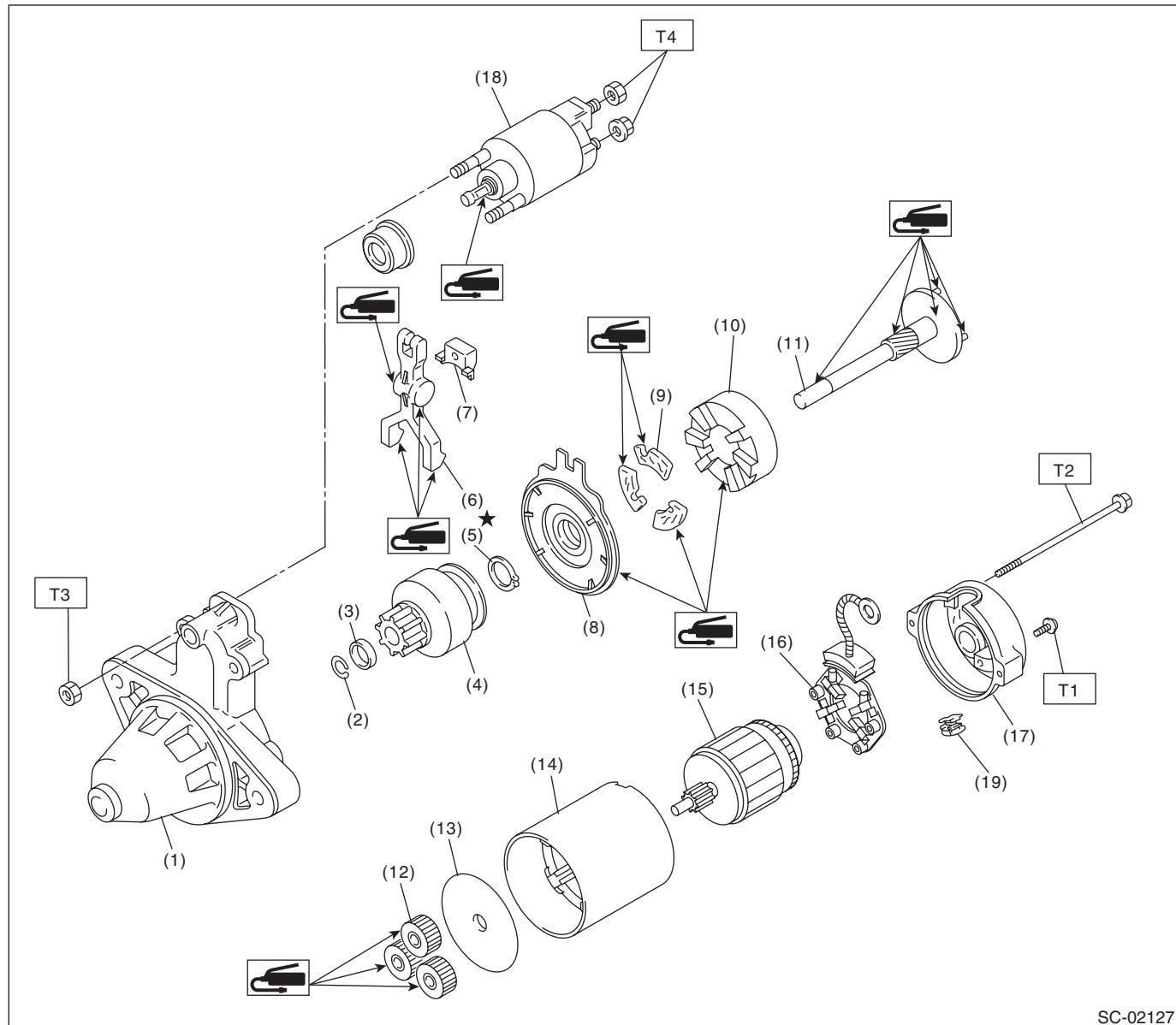
1. General Description

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
	Load characteristics	90 A or less
		Rotating speed
		1,550 rpm or more
		Voltage
	Lock characteristics	8 V
		Current
		370 A
Generator	Torque	12.8 N·m (1.31 kgf-m, 9.4 ft-lb) or more
	Rotating speed	800 rpm or more
	Voltage	3 V
		Current
		750 A or less
	Torque	19.0 N·m (1.9 kgf-m, 14.0 ft-lb) or more
	Type	Rotating-field three-phase type, voltage regulator built-in type, with load response control system
	Model	A003TJ2091
	Manufacturer	MITSUBISHI ELECTRIC
Battery	Voltage and output	12 V — 130 A
	Polarity on ground side	Negative
	Direction of rotation	Clockwise (when observed from pulley side)
	Stator coil connection	3-phase 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



- (1) Starter housing
- (2) Snap ring
- (3) Stopper
- (4) Overrunning clutch
- (5) Snap ring
- (6) Shift lever
- (7) Starter seal
- (8) Shock absorber bearing
- (9) Shock absorber

- (10) Internal gear
- (11) Shaft
- (12) Planetary gear
- (13) Starter plate
- (14) Yoke
- (15) Armature
- (16) Brush holder ASSY
- (17) Starter cover
- (18) Magnet switch ASSY

Tightening torque:N·m (kgf·m, ft·lb)

T1: 1.4 (0.1, 1.0)

T2: 6 (0.6, 4.4)

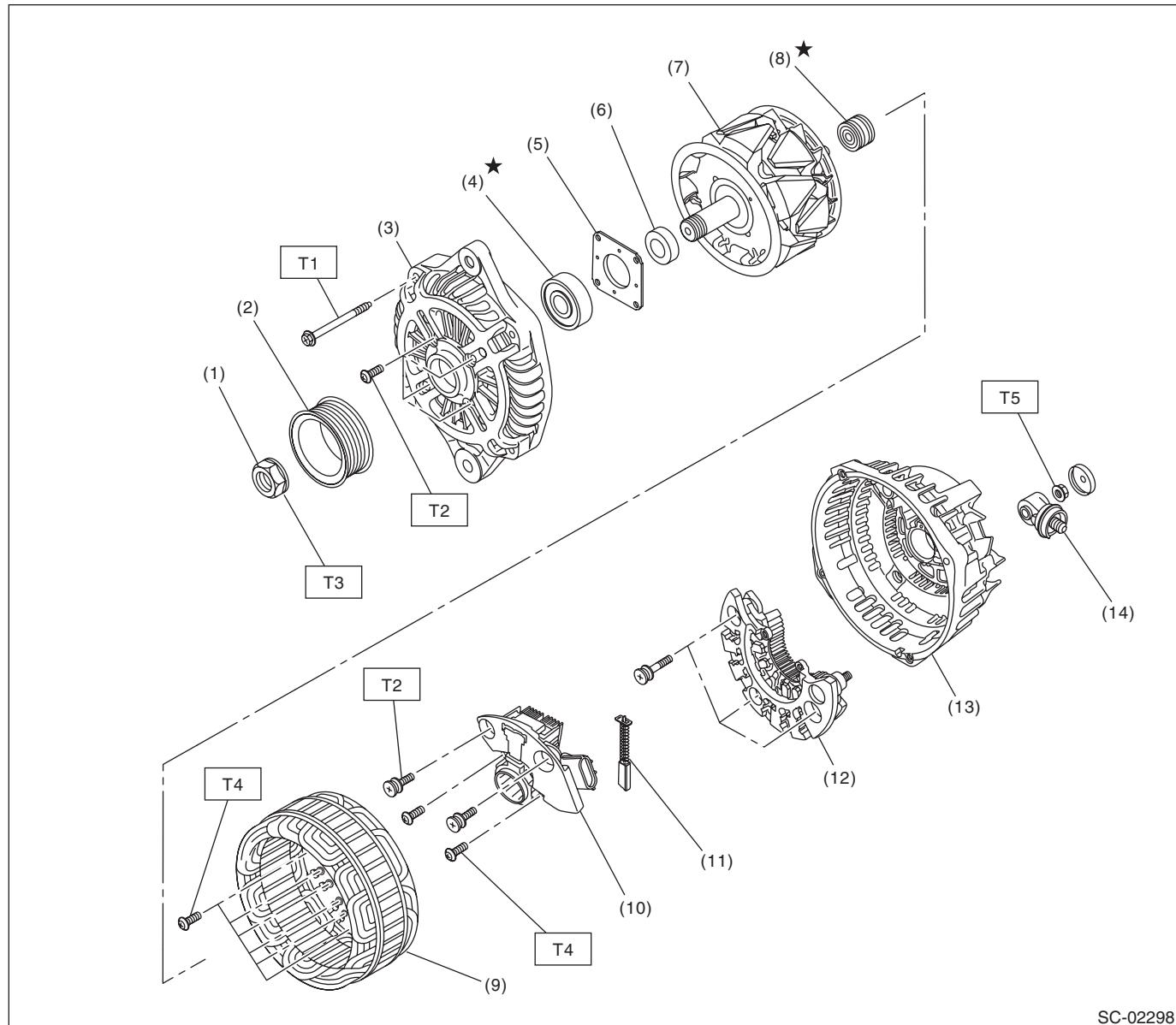
T3: 7.5 (0.8, 5.5)

T4: 10 (1.0, 7.4)

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2. GENERATOR



SC-02298

(1) Pulley nut	(8) Bearing
(2) Pulley	(9) Stator coil
(3) Front cover	(10) IC regulator
(4) Ball bearing	(11) Brush
(5) Bearing retainer	(12) Rectifier
(6) Spacer	(13) Rear cover
(7) Rotor	(14) Terminal B

Tightening torque:N·m (kgf·m, ft-lb)

T1: 4.4 (0.4, 3.2)

T2: 3.9 (0.4, 2.9)

T3: 117.5 (12.0, 86.7)

T4: 2 (0.2, 1.5)

T5: 8.9 (0.9, 6.6)

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.