

# General Description

## STARTING/CHARGING SYSTEMS

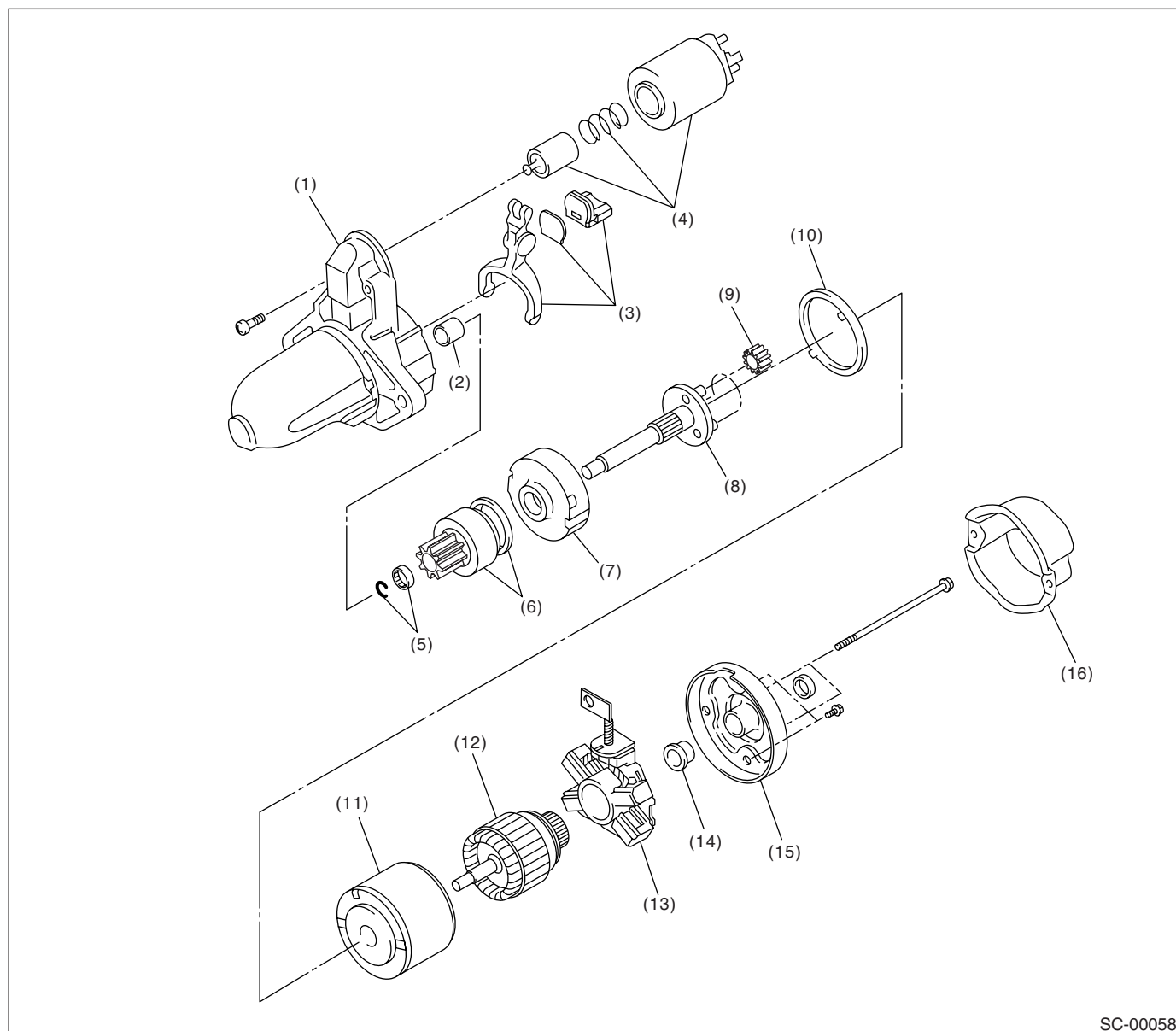
### 1. General Description

#### A: SPECIFICATION

Item			Specification	
Vehicle model			MT	AT
Starter	Type		Reduction type	
	Model		M000T30471	M000T20171
	Manufacturer		Mitsubishi Electric	
	Voltage and output		12 V — 1.0 kW	12 V — 1.4 kW
	Revolving direction		Counterclockwise (when observed from pinion)	
	Number of pinion teeth		8	9
	No-load characteristics	Voltage	11 V	
		Current	95 A or less	90 A or less
		Rotating speed	More than 2,500 rpm	More than 2,000 rpm
	Load characteristics	Voltage	7.5 V	7.7 V
		Current	300 A	400 A
		Torque	8.84 N·m (0.90 kgf-m, 6.5 ft-lb) or more	16.7 N·m (1.70 kgf-m, 12.3 ft-lb) or more
		Rotating speed	More than 870 rpm	More than 710 rpm
	Lock characteristics	Voltage	4 V	3.5 V
		Current	680 A or less	960 A or less
		Torque	17 N·m (1.73 kgf-m, 12.5 ft-lb) or more	31.0 N·m (3.16 kgf-m, 22.9 ft-lb) or more
Generator	Type		Rotating-field three-phase type, voltage regulator built-in type, with load response control system	
	Model	Non-turbo	A2TG0391	
		Turbo	A3TG0491	
	Manufacturer		Mitsubishi Electric	
	Voltage and output	Non-turbo	12 V — 90 A	
		Turbo	12 V — 110 A	
	Polarity on ground side		Negative	
	Revolving direction		Clockwise (when observed from pulley side)	
	Armature connection		3-phase Y-type	
	Output current	Non-turbo	More than 1,500 rpm — 40 A More than 2,500 rpm — 74 A More than 5,000 rpm — 84 A	
		Turbo	More than 1,500 rpm — 50 A More than 2,500 rpm — 91 A More than 5,000 rpm — 105 A	
	Regulated voltage		14.1 — 14.8 V [20 °C (68 °F)]	
Battery	Voltage and capacity		12V-48AH (55D23L)	12V-52AH (75D23L)

### B: COMPONENT

#### 1. STARTER



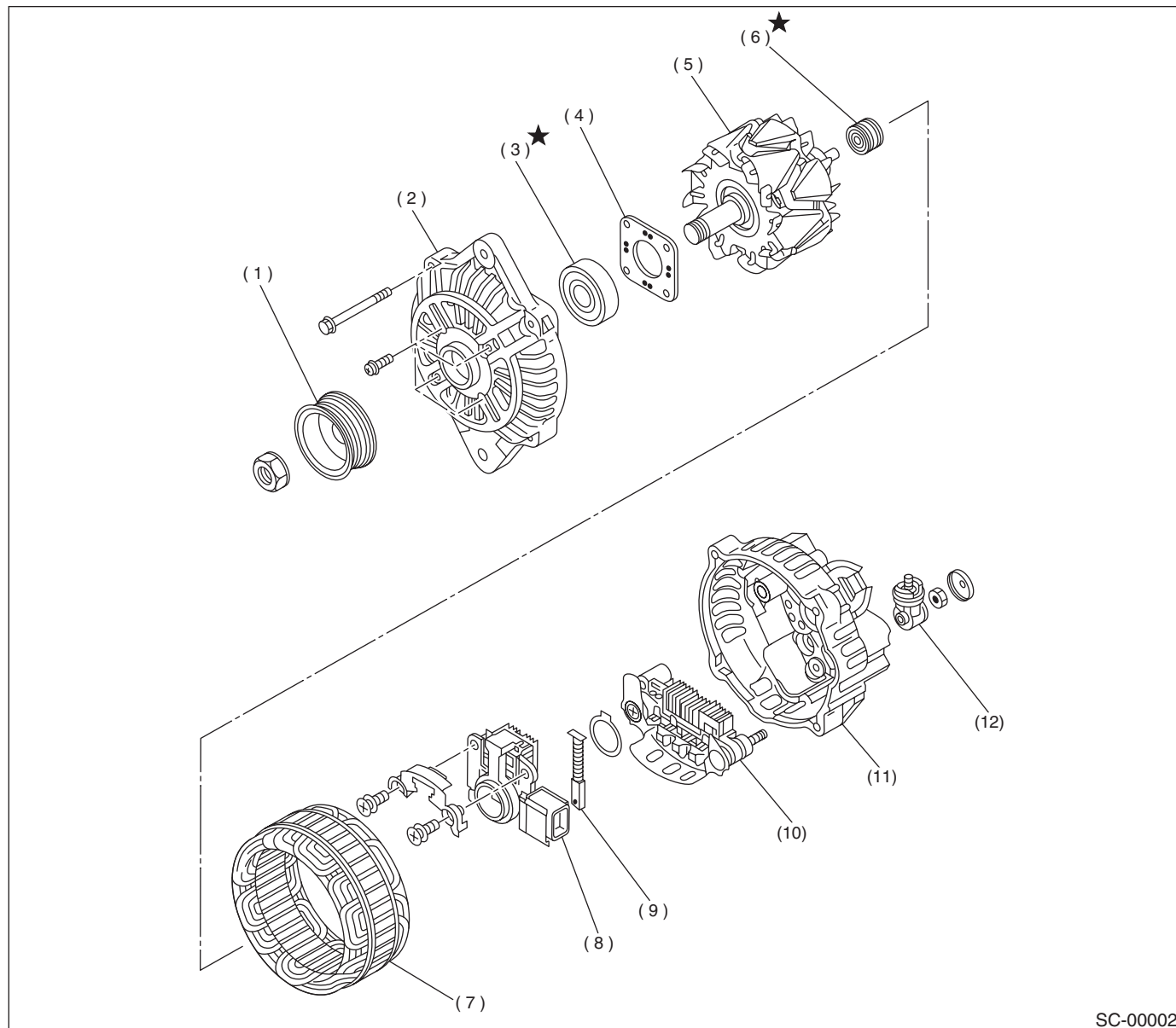
SC-00058

- |                        |                        |                        |
|------------------------|------------------------|------------------------|
| (1) Front bracket      | (7) Internal gear ASSY | (12) Armature          |
| (2) Sleeve bearing     | (8) Shaft ASSY         | (13) Brush holder ASSY |
| (3) Lever set          | (9) Gear ASSY          | (14) Sleeve bearing    |
| (4) Switch ASSY        | (10) Packing           | (15) Rear cover        |
| (5) Stopper set        | (11) Yoke ASSY         | (16) Rear cover set    |
| (6) Overrunning clutch |                        |                        |

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### 2. GENERATOR



SC-00002

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

### C: CAUTION

- Wear work 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 and 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 on the vehicle is hot after running.
- 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 battery.