

GENERAL DESCRIPTION

LUBRICATION

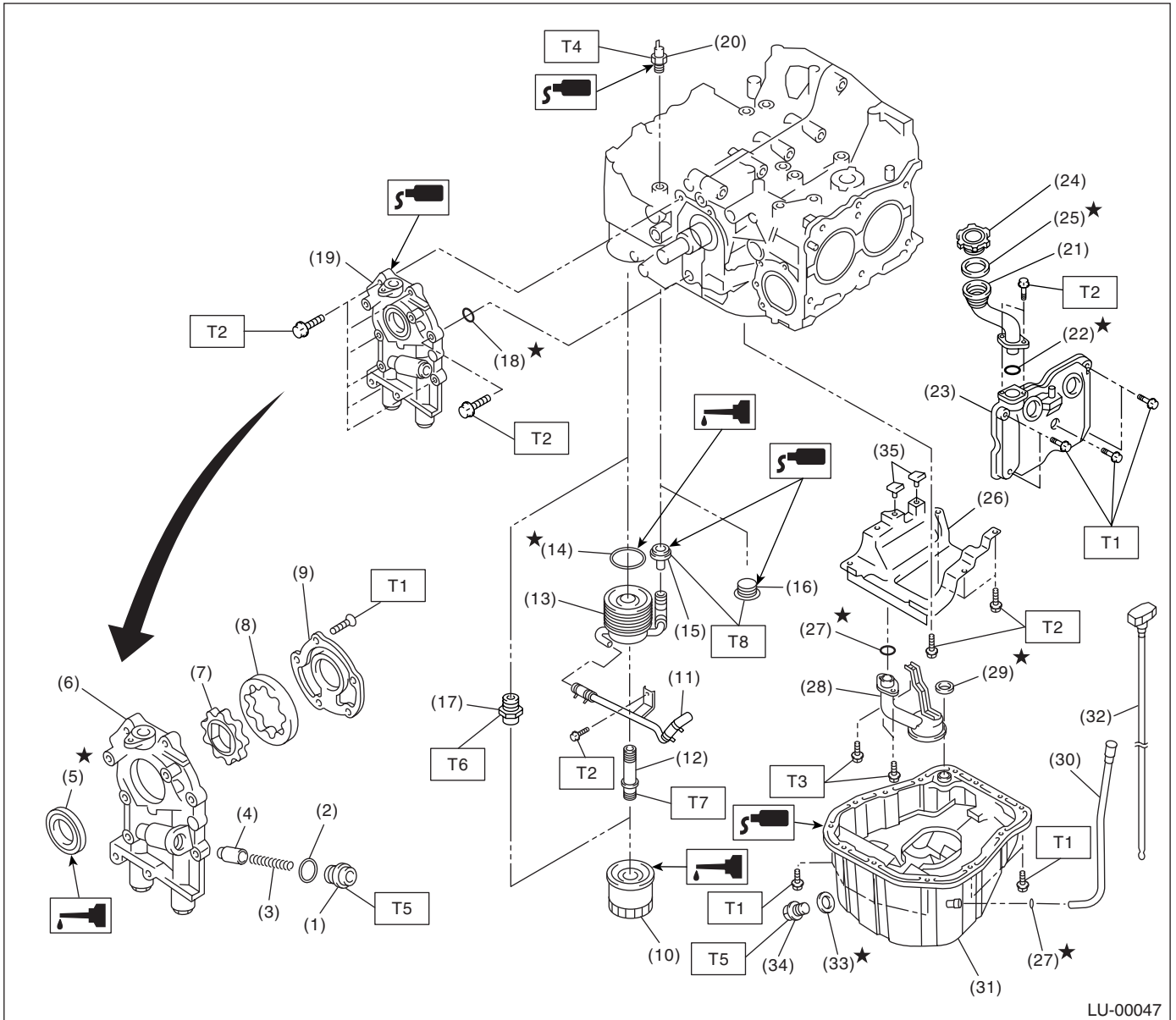
1. General Description

A: SPECIFICATIONS

Lubrication method				Forced lubrication		
Oil pump	Pump type			Trochoid type		
	Number of teeth		Inner rotor	9		
			Outer rotor	10		
	Outer rotor diameter × thickness		Non-turbo model	78 × 7 mm (3.07 × 0.28 in)		
			Turbo model	78 × 10 mm (3.07 × 0.39 in)		
	Tip clearance between inner and outer rotor			STANDARD	0.04 — 0.14 mm (0.0016 — 0.0055 in)	
				LIMIT	0.18 mm (0.0071 in)	
	Side clearance between inner rotor and pump case			STANDARD	0.02 — 0.07 mm (0.0008 — 0.0028 in)	
				LIMIT	0.12 mm (0.0047 in)	
	Case clearance between outer rotor and pump case			STANDARD	0.10 — 0.175 mm (0.0039 — 0.0069 in)	
				LIMIT	0.20 mm (0.0079 in)	
	Capacity at 80°C (176°F)	Non-turbo model	600 rpm	Discharge pressure	98 kPa (1.0 kg/cm ² , 14 psi)	
				Discharge quantity	3.2 ℓ (3.4 US qt, 2.8 Imp qt)/min.	
			5,000 rpm	Discharge pressure	294 kPa (3.0 kg/cm ² , 43 psi)	
				Discharge quantity	32.6 ℓ (34.4 US qt, 28.7 Imp qt)/min.	
Turbo model		600 rpm	Discharge pressure	98 kPa (1.0 kg/cm ² , 14 psi)		
			Discharge quantity	4.6 ℓ (4.9 US qt, 4.0 Imp qt)/min.		
		5,000 rpm	Discharge pressure	294 kPa (3.0 kg/cm ² , 43 psi)		
			Discharge quantity	47.0 ℓ (49.7 US qt, 41.4 Imp qt)/min.		
Relief valve operation pressure		Non-turbo model	490 kPa (5.0 kg/cm ² , 71 psi)			
		Turbo model	588 kPa (6.0 kg/cm ² , 85 psi)			
Oil filter	Type			Full-flow filter type		
	Filtration area		Non-turbo	760 cm ² (118 sq in)		
			Turbo	800 cm ² (124 sq in)		
	By-pass valve opening pressure		Non-turbo	157 kPa (1.60 kg/cm ² , 22.8 psi)		
			Turbo	160 kPa (1.63 kg/cm ² , 23.2 psi)		
	Outer diameter × width		Non-turbo	80 × 70 mm (3.15 × 2.76 in)		
Turbo			68 × 65 mm (2.68 × 2.56 in)			
Oil filter to engine thread size			M 20 × 1.5			
Oil pressure switch	Type			Immersed contact point type		
	Working voltage — wattage			12 V — 3.4 W or less		
	Warning light activation pressure			14.7 kPa (0.15 kg/cm ² , 2.1 psi)		
	Proof pressure			More than 981 kPa (10 kg/cm ² , 142 psi)		
Oil capacity (at replacement)				4.0 ℓ (4.2 US qt, 3.5 Imp qt)		

B: COMPONENT

1. NON-TURBO MODEL



LU-00047

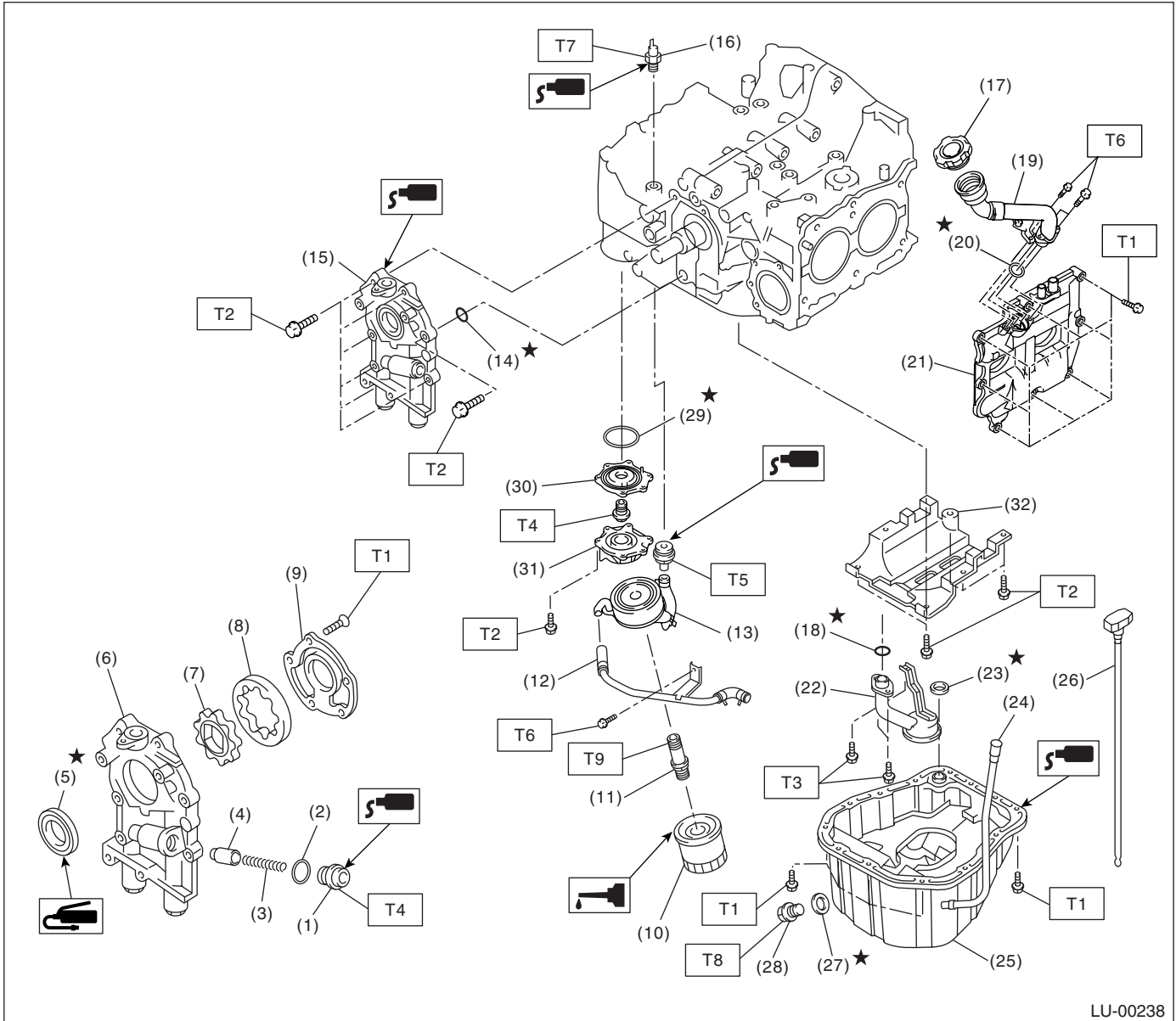
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(1) Plug	(17) Oil filter connector (MT models)	(33) Metal gasket
(2) Gasket	(18) O-ring	(34) Drain plug
(3) Relief valve spring	(19) Oil pump ASSY	(35) Seal
(4) Relief valve	(20) Oil pressure switch	
(5) Oil seal	(21) Oil filler duct	
(6) Oil pump case	(22) O-ring	
(7) Inner rotor	(23) Locker cover	
(8) Outer rotor	(24) Oil filler cap	
(9) Oil pump cover	(25) O-ring	
(10) Oil filter	(26) Baffle plate	
(11) Oil cooler pipe and hose ASSY	(27) O-ring	
(12) Connector (AT models)	(28) Oil strainer	
(13) Oil cooler (AT models)	(29) Gasket	
(14) O-ring (AT models)	(30) Oil level gauge guide	
(15) Nipple (AT models)	(31) Oil pan	
(16) Plug (MT models)	(32) Oil level gauge	

Tightening torque: N·m (kgf·m, ft·lb)**T1: 5 (0.5, 3.6)****T2: 6.4 (0.65, 4.7)****T3: 10 (1.0, 7.2)****T4: 25 (2.5, 18.1)****T5: 44 (4.5, 32.5)****T6: 45 (4.6, 33.2)****T7: 54 (5.5, 40)****T8: 69 (7.0, 50.9)**

2. TURBO MODEL



LU-00238

- | | |
|---------------------------|----------------------------|
| (1) Plug | (16) Oil pressure switch |
| (2) Gasket | (17) Oil filler cap |
| (3) Relief valve spring | (18) O-ring |
| (4) Relief valve | (19) Oil filler duct |
| (5) Oil seal | (20) O-ring |
| (6) Oil pump case | (21) Rocker cover |
| (7) Inner rotor | (22) Oil strainer |
| (8) Outer rotor | (23) Gasket |
| (9) Oil pump cover | (24) Oil level gauge guide |
| (10) Oil filter | (25) Oil pan |
| (11) Oil cooler connector | (26) Oil level gauge |
| (12) Water by-pass pipe | (27) Metal gasket |
| (13) Oil cooler | (28) Drain plug |
| (14) O-ring | (29) O-ring |
| (15) Oil pump ASSY | (30) Adapter (1) |

- | |
|-------------------|
| (30) Adapter (2) |
| (32) Baffle plate |

Tightening torque: N-m (kgf-m, ft-lb)

- T1: 5 (0.5, 3.6)**
T2: 6.4 (0.65, 4.7)
T3: 10 (1.0, 7.2)
T4: 45 (4.6, 33.2)
T5: 70 (7.1, 51.6)
T6: 6.4 (0.65, 4.7)
T7: 25 (2.5, 18.1)
T8: 44 (4.5, 32.5)
T9: 54 (5.5, 40)

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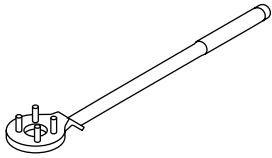
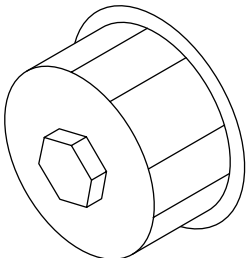
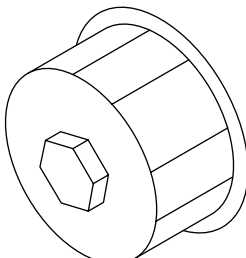
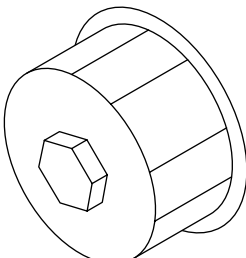
C: CAUTION

- 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 the ground cable from battery.

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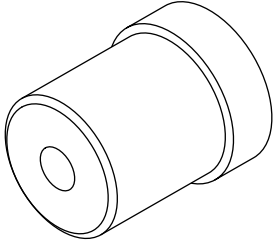
LUBRICATION

D: PREPARATION TOOL

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
 <p style="text-align: center;">ST-499977100</p>	499977100	CRANK PULLEY WRENCH	Used for stopping rotation of crank pulley when loosening and tightening crank pulley bolt.
 <p style="text-align: center;">ST-498547000</p>	498547000	OIL FILTER WRENCH	Used for removing and installing oil filter. (Outer diameter: 80 mm (3.15 in))
 <p style="text-align: center;">ST18332AA000</p>	18332AA000	OIL FILTER WRENCH	Used for removing and installing oil filter. (Outer diameter: 68 mm (2.68 in))
 <p style="text-align: center;">ST18332AA010</p>	18332AA010	OIL FILTER WRENCH	Used for removing and installing oil filter. (Outer diameter: 65 mm (2.56 in))

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ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
 <p data-bbox="342 541 475 562">ST-499587100</p>	499587100	OIL SEAL INSTALLER	Used for installing oil pump oil seal.