

# General Description

## LUBRICATION

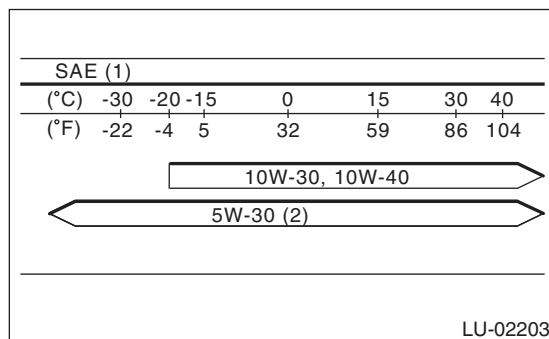
### 1. General Description

#### A: SPECIFICATION

Lubrication method		Forced lubrication	
Oil pump	Pump type	Trochoid type	
	Number of teeth	Inner rotor	7
		Outer rotor	8
	Outer rotor diameter × thickness	mm (in)	86 × 13 (3.39 × 0.51)
	Tip clearance between inner and outer rotors	mm (in)	0.04 — 0.14 (0.0016 — 0.0055)
	Side clearance between inner rotor and pump case	mm (in)	0.020 — 0.046 (0.0008 — 0.0018)
Case clearance between outer rotor and pump case	mm (in)	0.110 — 0.175 (0.0043 — 0.0069)	
Oil filter	Filter type	Full-flow filter type	
	Filtration area	cm <sup>2</sup> (sq in)	1,300 (201.5)
	By-pass valve opening pressure	kPa (kg/cm <sup>2</sup> , psi)	160 (1.63, 23.2)
	Outer diameter × width	mm (in)	80 × 75 (3.15 × 2.95)
	Installation screw specifications		M 20 × 1.5
Relief valve working pressure	kPa (kg/cm <sup>2</sup> , psi)	708 (7.2, 102.7)	
Oil pressure switch	Type	Immersed contact point type	
	Operating voltage — power consumption		12 V — 3.4 W or less
	Warning light operating pressure	kPa (kg/cm <sup>2</sup> , psi)	15 (0.15, 2.2)
	Proof pressure	kPa (kg/cm <sup>2</sup> , psi)	980 (10.0, 142) or more
Engine oil	Total capacity (Overhaul)	ℓ (US qt, Imp qt)	7.2 (7.6, 6.3)
	When replacing engine oil and oil filter	ℓ (US qt, Imp qt)	5.7 (6.0, 5.0)
	When replacing engine oil only	ℓ (US qt, Imp qt)	5.5 (5.8, 4.8)

#### Recommended oil:

Items having the API standard SL “Energy Conserving” logo  
 ILSAC standard GF-4 Star burst mark label  
 on the container



- (1) SAE viscosity No. and applicable temperature  
 (2) Recommended

#### CAUTION:

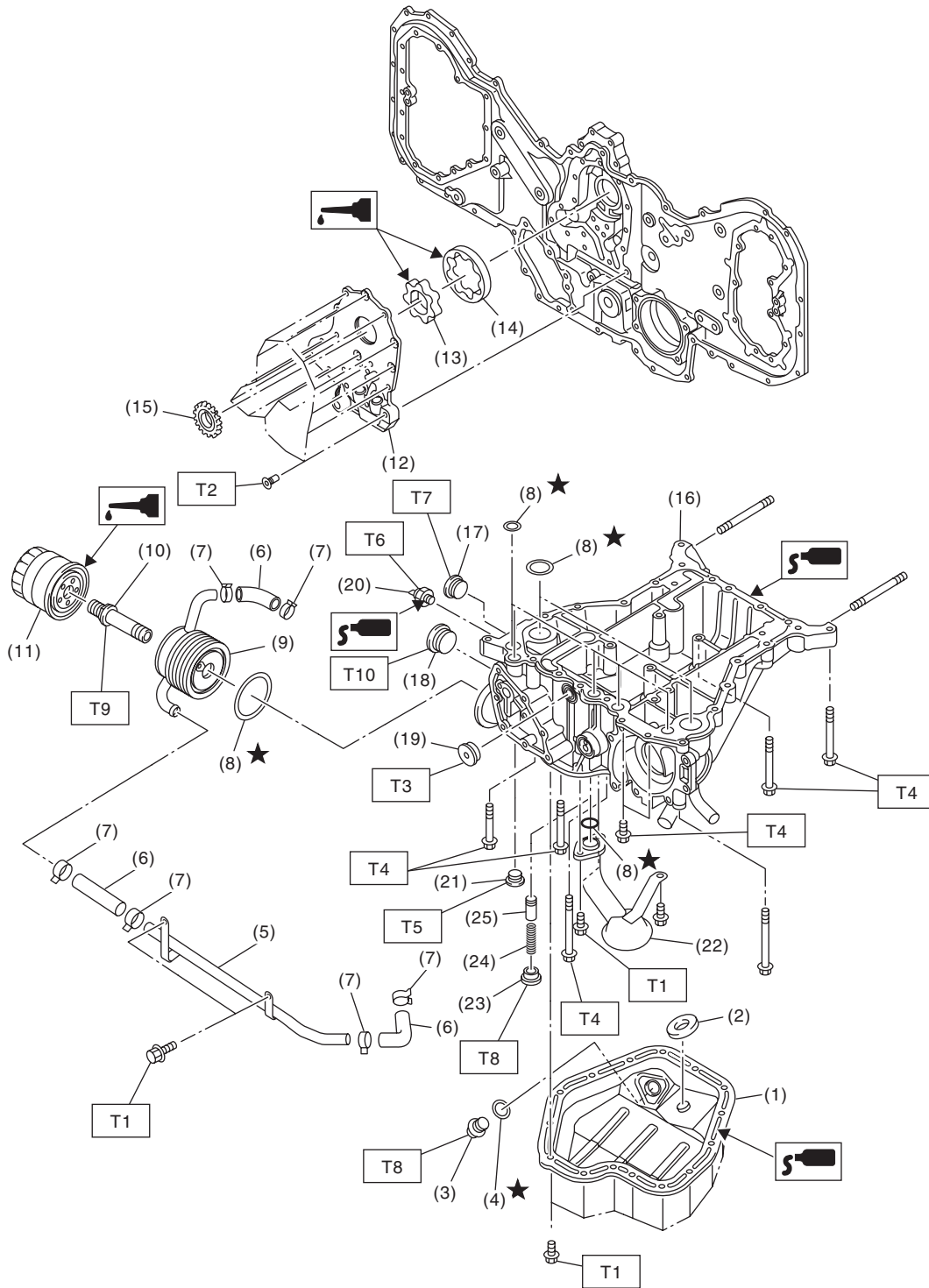
It is acceptable to fill an engine with oil of another brand when replacing the oil, but make sure to use an oil with an API standard and SAE viscosity number specified by Subaru.

#### NOTE:

If the vehicle is used in regions of high temperatures or in other severe environments, use oil with the viscosities shown below. API standard: SM or SL  
 SAE viscosity No.: 30, 40, 10W-50, 20W-40, 20W-50

The proper viscosity oil helps the engine maintain its ideal temperature, and cranking speed increased by reducing viscosity friction in hot condition.

## B: COMPONENT



LU-02097

# General Description

## LUBRICATION

- |  |  |
|--|--|
| <ul style="list-style-type: none"> <li>(1) Oil pan lower</li> <li>(2) Magnet</li> <li>(3) Drain plug</li> <li>(4) Gasket</li> <li>(5) Oil cooler pipe</li> <li>(6) Hose</li> <li>(7) Clamp</li> <li>(8) O-ring</li> <li>(9) Oil cooler</li> <li>(10) Oil cooler connector</li> <li>(11) Oil filter</li> <li>(12) Oil pump cover</li> <li>(13) Inner rotor</li> </ul> | <ul style="list-style-type: none"> <li>(14) Outer rotor</li> <li>(15) Crank sprocket</li> <li>(16) Oil pan upper</li> <li>(17) Plug</li> <li>(18) Plug</li> <li>(19) Plug</li> <li>(20) Oil pressure switch</li> <li>(21) Plug</li> <li>(22) Oil strainer</li> <li>(23) Plug</li> <li>(24) Relief valve spring</li> <li>(25) Relief valve</li> </ul> |
|--|--|

**Tightening torque: N·m (kgf·m, ft·lb)**

**T1: 6.4 (0.65, 4.7)**

**T2: <Ref. to LU(H6DO)-8, INSTALLATION, Oil Pump.>**

**T3: 16 (1.6, 12)**

**T4: 18 (1.8, 13)**

**T5: 23 (2.3, 17)**

**T6: 25 (2.5, 18.4)**

**T7: 37 (3.8, 27)**

**T8: 44 (4.5, 33)**

**T9: 54 (5.5, 40)**

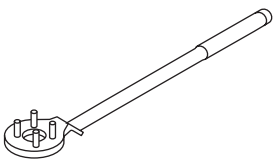
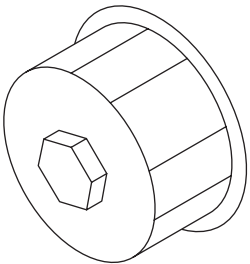
**T10: 90 (9.2, 66)**

## 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 battery.

## D: PREPARATION TOOL

### 1. SPECIAL TOOL

ILLUSTRATION	TOOL NUMBER	Description	REMARKS
 ST-499977100	499977100	CRANK PULLEY WRENCH	Used for stopping rotation of crank pulley when removing and tightening crank pulley bolt.
 ST-498547000	498547000	OIL FILTER WRENCH	Used for removing and installing oil filter.