

General Description

LUBRICATION

1. General Description

A: SPECIFICATION

Lubrication method		Forced lubrication
Oil pump	Pump type	Trochoid type
	Number of teeth	Inner rotor
		Outer rotor
	Outer rotor diameter × thickness	mm (in)
	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 ² (sq in)
	By-pass valve opening pressure	kPa (kg/cm ² , psi)
	Outer diameter × width	mm (in)
	Installation screw specifications	M 20 × 1.5
Relief valve working pressure		kPa (kg/cm ² , psi)
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 ² , psi)
	Proof pressure	kPa (kg/cm ² , psi)
Engine oil	Capacity (at overhaul)	ℓ (US qt, Imp qt)
	When replacing engine oil and oil filter	ℓ (US qt, Imp qt)
	When replacing engine oil only	ℓ (US qt, Imp qt)

Recommended oil:

Those with an API standard SM "Energy Conserving" logo.

ILSAC standard GF-4 "Star burst mark" label on the container

SAE (1)						
(°C)	-30	-20	-15	0	15	30 40
(°F)	-22	-4	5	32	59	86 104
10W-30, 10W-40						
5W-30 (2)						

LU-02203

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

CAUTION:

When replenishing oil, it does not matter if the oil to be added is a different brand from that in the engine; however, use oil having the API standard and SAE viscosity No. designated by SUBARU.

NOTE:

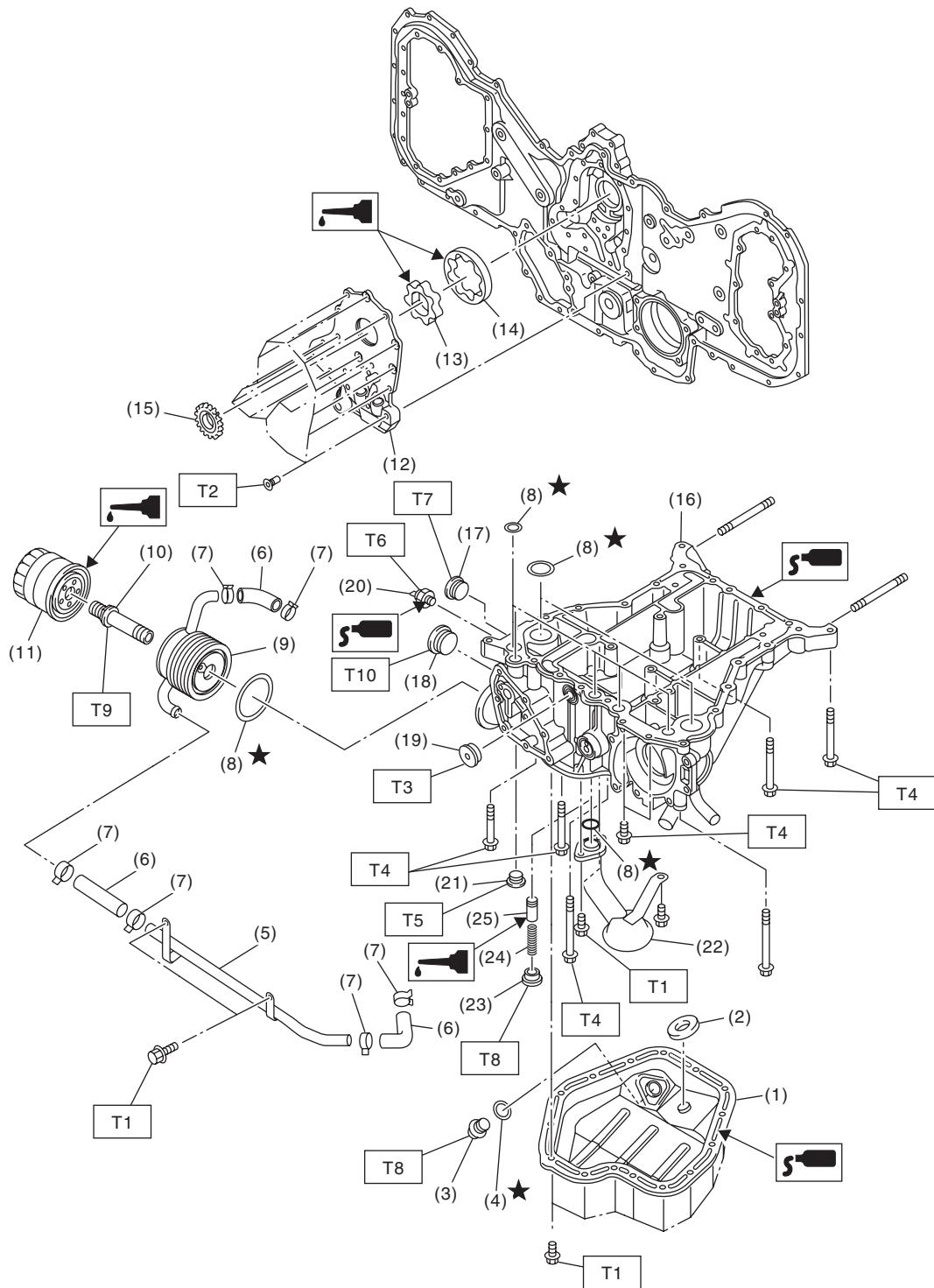
If the vehicle is used in areas with very high temperatures or for other heavy duty applications, the following viscosity oils must be used: API standard: SM or SL

SAE viscosity No.: 30, 40, 10W-50, 20W-40, 20W-50

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B: COMPONENT



LU-02282

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(1) Oil pan lower	(14) Outer rotor
(2) Magnet	(15) Crank sprocket
(3) Drain plug	(16) Oil pan upper
(4) Gasket	(17) Plug
(5) Oil cooler pipe	(18) Plug
(6) Hose	(19) Plug
(7) Clamp	(20) Oil pressure switch
(8) O-ring	(21) Plug
(9) Oil cooler	(22) Oil strainer
(10) Oil cooler connector	(23) Plug
(11) Oil filter	(24) Relief valve spring
(12) Oil pump cover	(25) Relief valve
(13) Inner rotor	

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)

T7: 37 (3.8, 27)

T8: 44 (4.5, 33)

T9: 54 (5.5, 40)

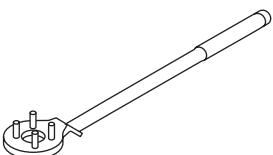
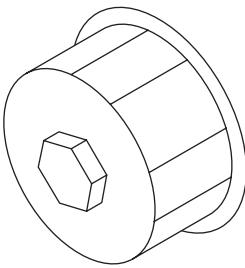
T10: 90 (9.2, 66)

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 the 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.