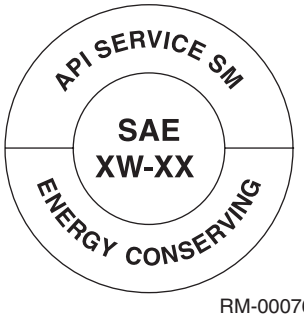
1. General Description

A: SPECIFICATION

Lubrication method					Forced lubrication
Oil pump	Pump type				Trochoid type
	Number of teeth	Inner rotor			11
		Outer rotor			12
	Outer rotor diameter × thickness			mm (in)	77 × 12 (3.03 × 0.47)
	Performance (Oil temperature 120°C (248°F))	600 rpm	Discharge pressure	kPa (kgf/cm^2, psi)	30 (0.3, 4.3)
			Discharge rate	L (US qt, Imp qt)/min.	6.0 (6.3, 5.3) or more
		6,000 rpm	Discharge pressure	kPa (kgf/cm^2, psi)	260 (2.7, 37.7)
			Discharge rate	L (US qt, Imp qt)/min.	47 (49.7, 41.4) or more
	Relief valve working pressure (2-step relief)	1st opening pressure		kPa (kgf/cm^2, psi)	150 (1.5, 21.7)
		Main opening pressure		kPa (kgf/cm^2, psi)	570 (5.8, 82.6)
Oil filter	Filter type				Full-flow filter type
	Filtration area cm^2 (sq in)		Outer diameter: 68 mm (2.68 in) (Black)		1,300 (202)
			Outer diameter: 67.4 mm (2.65 in) (Blue)		867 (134.3)
	By-pass valve opening pressure			kPa (kgf/cm^2, psi)	160 (1.6, 23.2)
	Outer diameter × width mm (in)		Outer diameter: 68 mm (2.68 in) (Black)		68 × 85 (2.68 × 3.35)
			Outer diameter: 67.4 mm (2.65 in) (Blue)		67.4 × 87.1 (2.65 × 3.43)
	Installation screw specifications				M 20 × 1.5
Oil pressure switch	Type				Immersed contact point type
	Operating voltage				12 V
	Warning light operating pressure			kPa (kgf/cm^2, psi)	14.7 (0.1, 2.1)
	Proof pressure			kPa (kgf/cm^2, psi)	981 (10, 142.2) or more
Engine oil	Total capacity (at overhaul)			L (US qt, Imp qt)	5.7 (6.0, 5.0)
	When replacing engine oil and oil filter			L (US qt, Imp qt)	4.8 (5.1, 4.2)
	When replacing engine oil only			L (US qt, Imp qt)	4.6 (4.9, 4.0)

Specified oil:

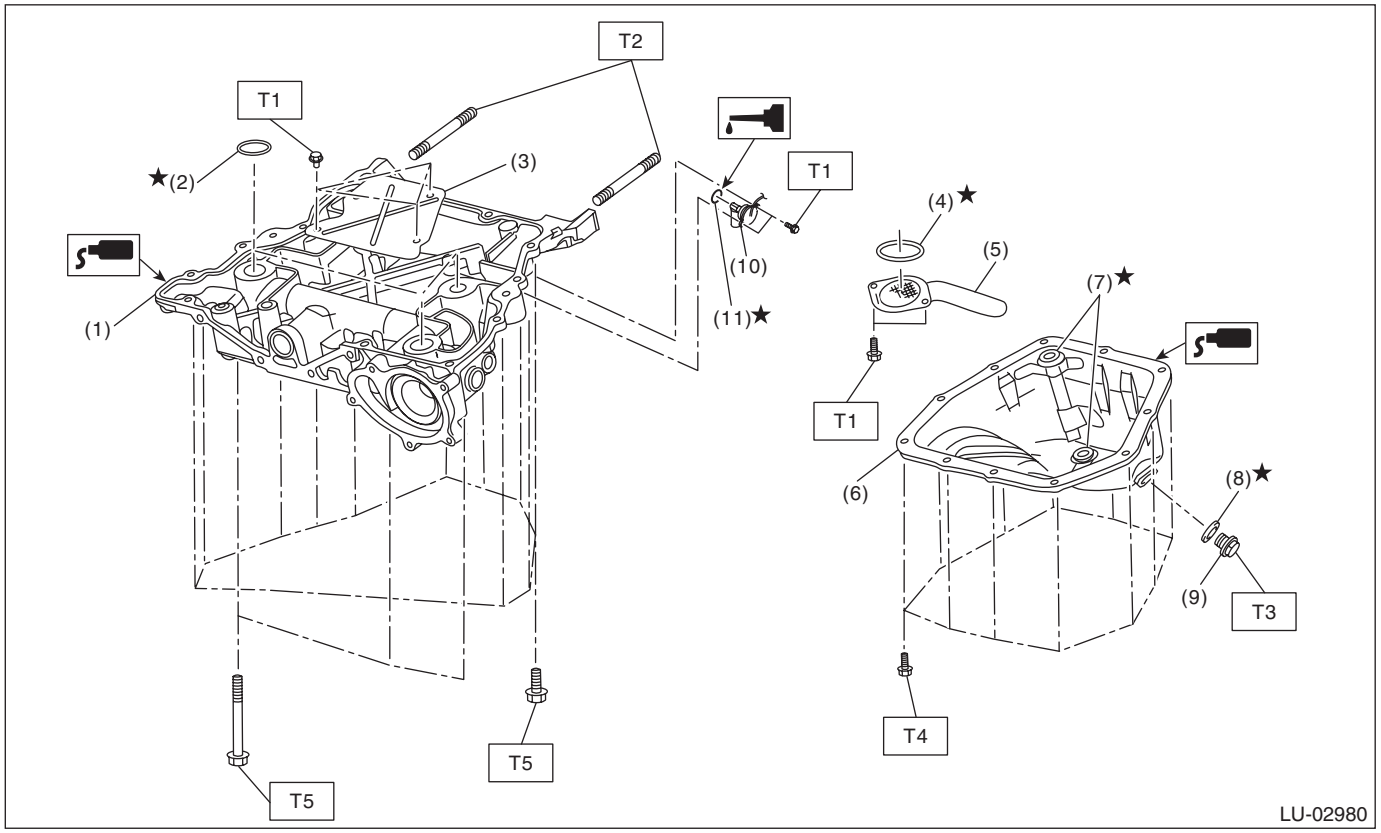
CAUTION:
- **Use 0W-20 (synthetic oil).**
- **It is acceptable to fill an engine with oil of another brand when replacing the oil, but make sure to use the following engine oil specified by Subaru.**

Engine oil standard		SAE viscosity No.
 RM-00076 Those with the API standard SM "Energy Conserving" or SN "Resource Conserving" logo.	or	 RM-00002 Those with the ILSAC standard GF-4 or GF-5 "starburst mark" displayed on top of the container.	0W-20 (synthetic oil)

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

B: COMPONENT

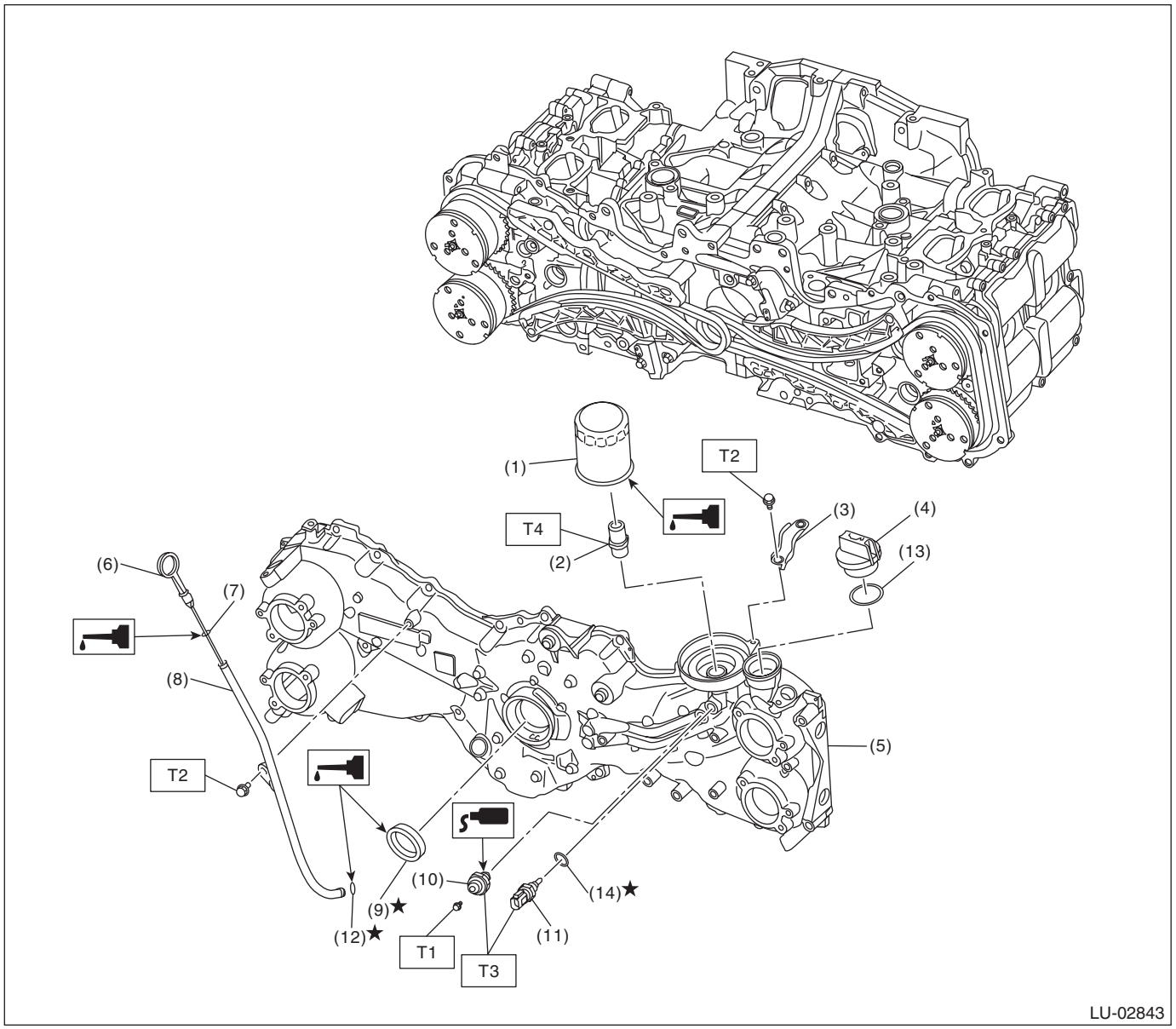
1. OIL PAN AND STRAINER



(1) Oil pan upper
(2) O-ring
(3) Baffle plate
(4) O-ring
(5) Oil strainer
(6) Oil pan
(7) Oil pan seal ring
(8) Drain plug gasket
(9) Drain plug
(10) Oil level switch
(11) O-ring

Tightening torque: N·m (kgf-m, ft-lb)
T1: 6.4 (0.7, 4.7)
T2: 10 (1.0, 7.4)
T3: 41.7 (4.3, 30.8)
T4: <Ref. to LU(H4DO)-16, OIL PAN, INSTALLATION, Oil Pan and Strainer.>
T5: <Ref. to LU(H4DO)-18, OIL PAN UPPER, INSTALLATION, Oil Pan and Strainer.>

2. OIL FILTER AND OIL LEVEL GAUGE



(1) Oil filter
(2) Oil pump union
(3) Generator cord stay
(4) Oil filler cap
(5) Chain cover
(6) Oil level gauge
(7) O-ring
(8) Oil level gauge guide
(9) Front oil seal
(10) Oil pressure switch
(11) Engine oil temperature sensor
(12) O-ring
(13) O-ring
(14) Gasket

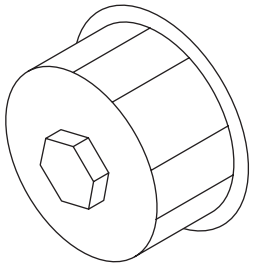
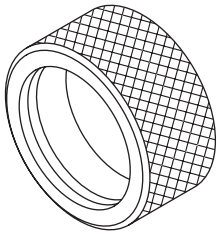
Tightening torque: N·m (kgf-m, ft-lb)
T1: 1.5 (0.2, 1.1)
T2: 6.4 (0.7, 4.7)
T3: 18 (1.8, 13.3)
T4: 45 (4.6, 33.2)

C: CAUTION

- Prior to starting work, pay special attention to the following:
  1. Always wear work clothes, a safety cap, protective shoes. Additionally, wear a helmet, protective goggles, etc. if necessary.
  2. Protect the vehicle using a seat cover, fender cover, etc.
  3. Prepare the service tools, clean cloth, containers to catch grease and oil, etc.
- Prepare a container and cloth when performing work which oil possibly spills. If oil spills, wipe it off immediately to prevent from penetrating into floor or flowing out for environmental protection.
- Vehicle components are extremely hot immediately after driving. Be wary of receiving burns from heated parts.
- When performing a repair, identify the cause of trouble and avoid unnecessary removal, disassembly and replacement.
- Before disconnecting connectors of sensors or units, be sure to disconnect the ground cable from battery.
- Always use the jack-up point when the shop jacks or rigid racks are used to support the vehicle.
- Remove contamination including dirt and corrosion before removal, installation, disassembly or assembly.
- Keep the removed parts in order and protect them from dust and dirt.
- All removed parts, if to be reused, should be reinstalled in the original positions with attention to the correct directions, etc.
- Bolts, nuts and washers should be replaced with new parts as required.
- Be sure to tighten the fasteners including bolts and nuts to the specified torque.
- If the engine oil is spilt over exhaust pipe or the under cover, wipe it off with cloth to avoid emitting smoke or causing a fire.
- Follow all government and local regulations concerning disposal of refuse when disposing of oil.

D: PREPARATION TOOL

1. SPECIAL TOOL

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
 ST18332AA000	18332AA000	OIL FILTER WRENCH	Used for removing and installing oil filter (Black). (outer diameter: 68 mm (2.68 in))
 ST-398437700	398437700	OIL SEAL INSTALLER	Used for installing the front oil seal.

2. GENERAL TOOL

TOOL NAME	REMARKS
Oil filter wrench (65/67 mm 14 Flutes)	Used for removing and installing oil filter (Blue). (outer diameter: 67.4 mm (2.65 in))
Circuit tester	Used for measuring resistance and voltage.