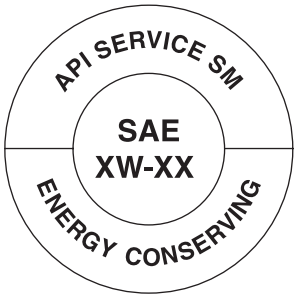
1. General Description

A: SPECIFICATION

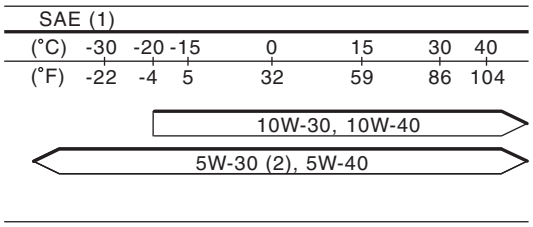
Lubrication method					Forced lubrication
Oil pump	Pump type				Trochoid type
	Number of teeth	Inner rotor			7
		Outer rotor			8
	Outer rotor diameter × thickness			mm (in)	76 × 30.2 (2.99 × 1.19)
	Performance (Oil temperature 80°C (176°F))	600 rpm	Discharge pressure	kPa (kgf/cm^2, psi)	98 (1.0, 14)
			Discharge rate	L (US qt, Imp qt)/min.	5.0 (5.3, 4.4) or more
		6,000 rpm	Discharge pressure	kPa (kgf/cm^2, psi)	392 (4.0, 57)
			Discharge rate	L (US qt, Imp qt)/min.	82.8 (87.5, 72.9) or more
Oil filter	Filter type				Full-flow filter type
	Filtration area			cm^2 (sq in)	1,300 (201.5)
	By-pass valve opening pressure			kPa (kgf/cm^2, psi)	160 (1.63, 23.2)
	Outer diameter × width			mm (in)	80 × 75 (3.15 × 2.95)
	Installation screw specifications				M 20 × 1.5
Oil pressure switch	Type				Immersed contact point type
	Operating voltage — power consumption				12 V — 3.4 W or less
	Warning light operating pressure			kPa (kgf/cm^2, psi)	14.7 (0.15, 2.1)
	Proof pressure			kPa (kgf/cm^2, psi)	980 (10.0, 142) or more
Engine oil	Total capacity (at overhaul)			L (US qt, Imp qt)	7.8 (8.2, 6.9)
	When replacing engine oil and oil filter			L (US qt, Imp qt)	6.5 (6.9, 5.7)
	When replacing engine oil only			L (US qt, Imp qt)	6.3 (6.7, 5.5)

Recommended oil:

CAUTION:
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.

<table>
<tr><td>Engine oil standard</td><td> 

RM-00076
Those with the API standard SM “Energy Conserving” or SN “Resource Conserving” logo.
or
 

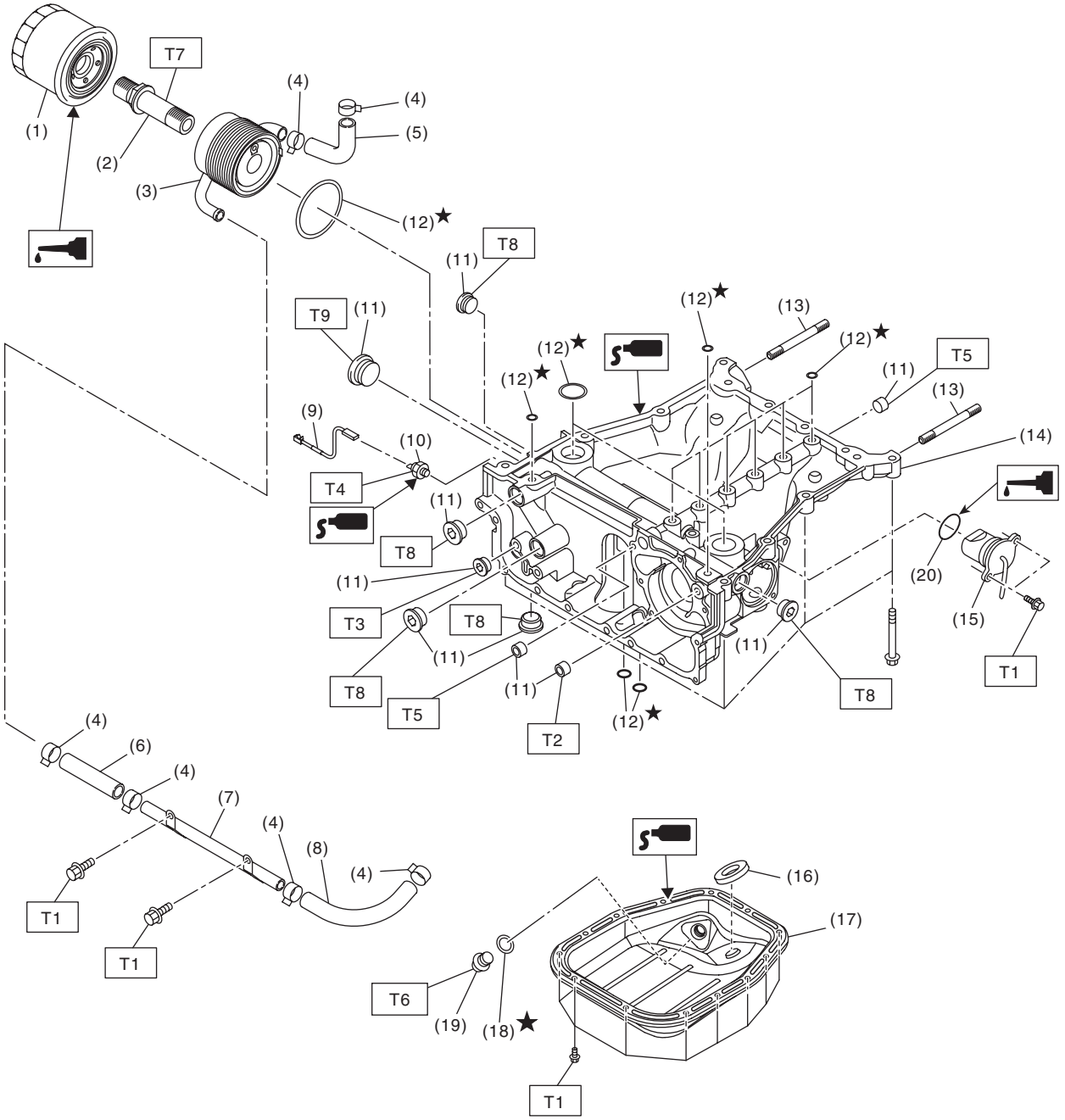
RM-00002
Those with the ILSAC standard GF-4 or GF-5 “starburst mark” displayed on top of the container.</td></tr>
<tr><td>SAE viscosity No.</td><td> 

LU-03021
(1) SAE viscosity No. and applicable temperature
(2) Recommended</td></tr>
</table>

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 UPPER, OIL COOLER, AND OIL FILTER

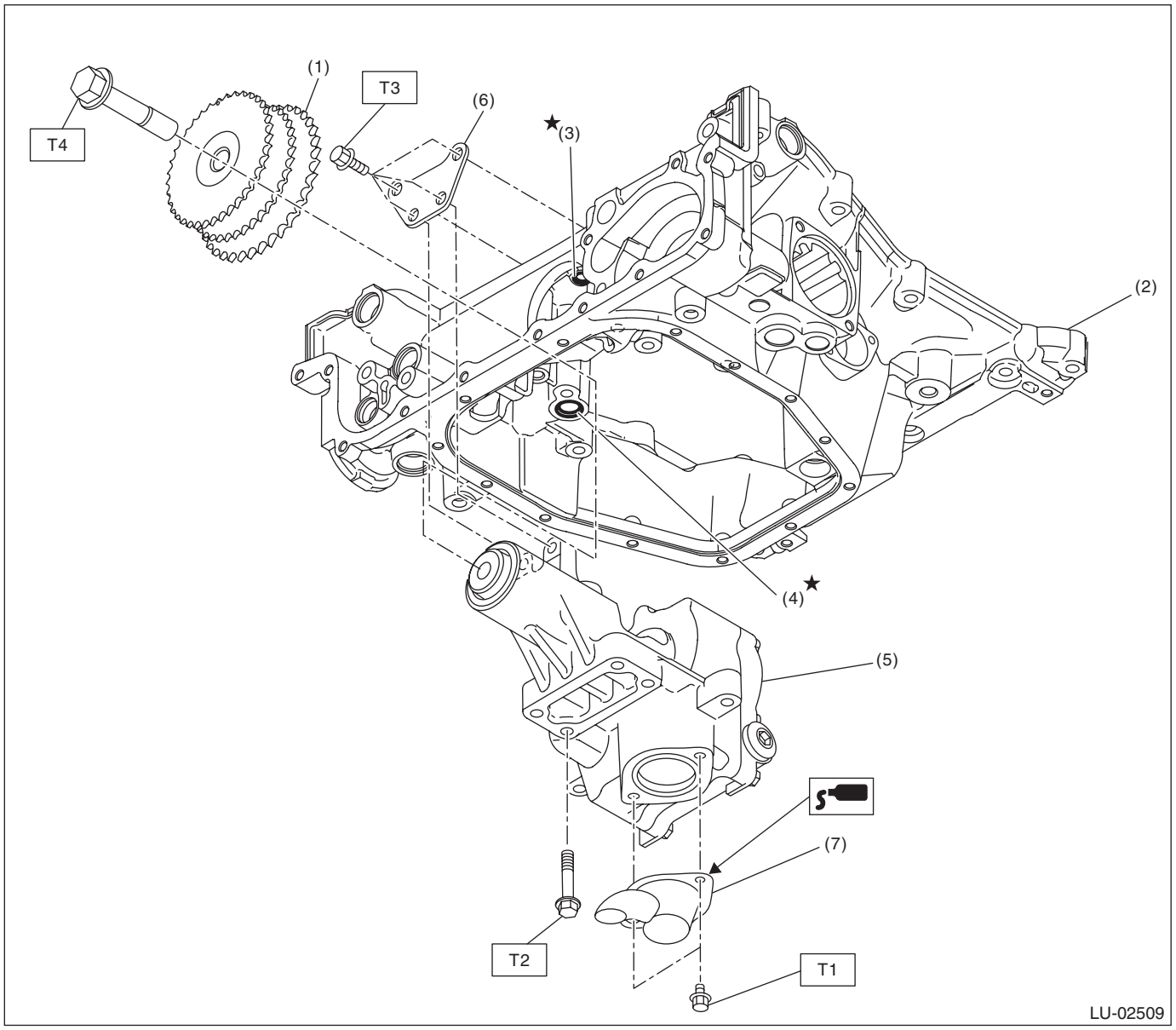


LU-02804

(1) Oil filter
(2) Oil cooler connector
(3) Oil cooler
(4) Clamp
(5) Water hose
(6) Water hose
(7) Engine oil cooler water pipe
(8) Water hose
(9) Oil pressure switch harness
(10) Oil pressure switch
(11) Plug
(12) O-ring
(13) Stud bolt
(14) Oil pan upper
(15) Oil level switch
(16) Oil pan magnet
(17) Oil pan lower
(18) Gasket
(19) Drain plug
(20) O-ring

Tightening torque: N·m (kgf-m, ft-lb)
T1: 6.4 (0.7, 4.7)
T2: 17 (1.7, 12.5)
T3: 23 (2.3, 17.0)
T4: 25 (2.5, 18.4)
T5: 34 (3.5, 25.1)
T6: 44 (4.5, 32.5)
T7: 54 (5.5, 39.8)
T8: 60 (6.1, 44.3)
T9: 90 (9.2, 66.4)

2. OIL PUMP



(1) Idler sprocket
(2) Oil pan upper
(3) O-ring
(4) O-ring
(5) Oil pump
(6) Stiffener
(7) Strainer

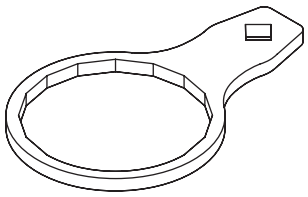
Tightening torque: N·m (kgf-m, ft-lb)
T1: 6.4 (0.7, 4.7)
T2: 13 (1.3, 9.6)
T3: 24 (2.4, 17.7)
T4: 120 (12.2, 88.5)

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
 ST18332AA020	18332AA020	OIL FILTER WRENCH	Used for removing and installing oil filter.

2. GENERAL TOOL

TOOL NAME	REMARKS
Circuit tester	Used for measuring resistance and voltage.