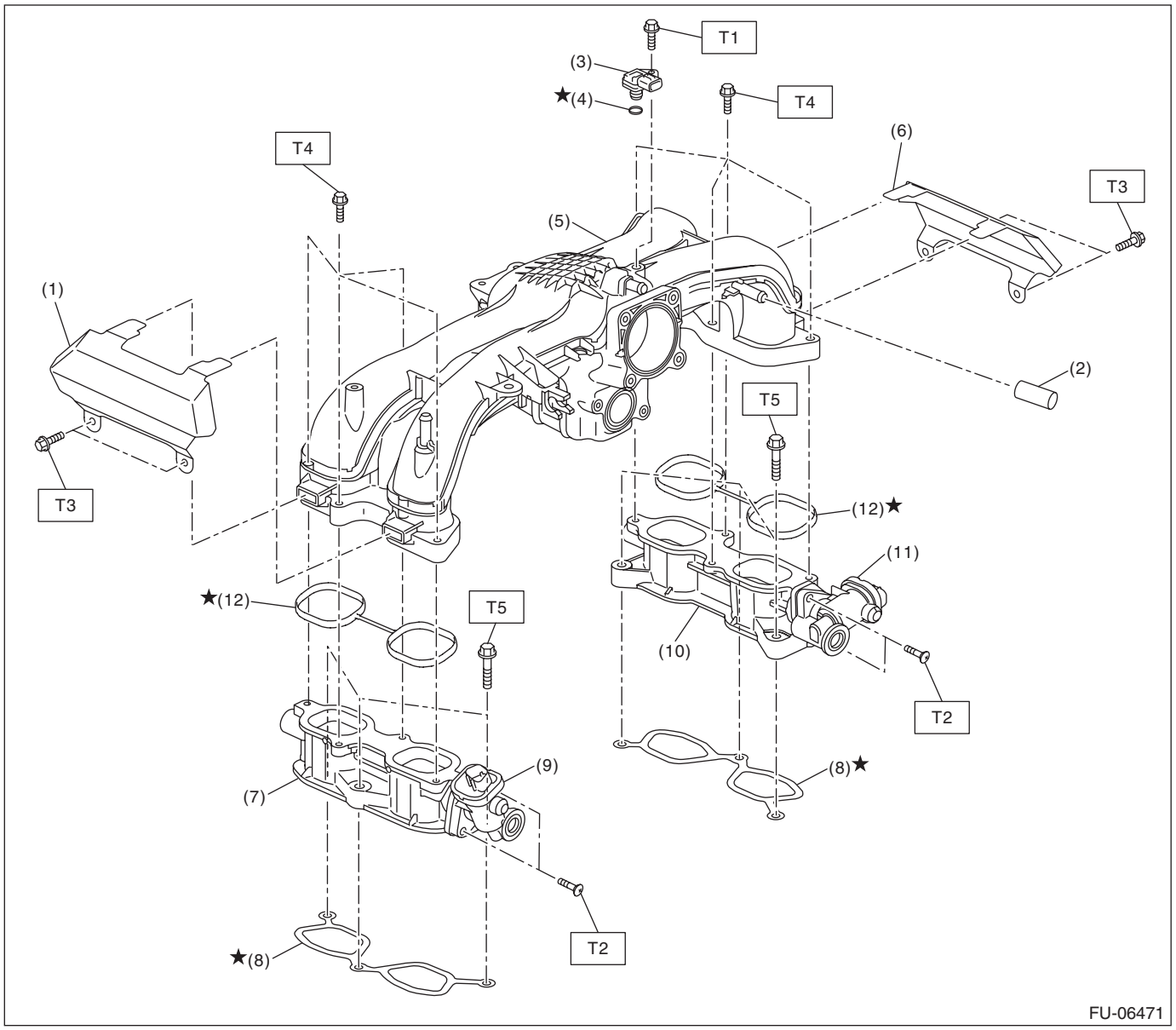
1. General Description

A: SPECIFICATION

Fuel tank	Capacity	Except for XV model	55 L (14.5 US gal, 12.1 Imp gal)
		XV model	60 L (15.9 US gal, 13.2 Imp gal)
	Location		Under rear seat
Fuel pump	Type		Impeller
	Shutoff discharge pressure		677 kPa (6.9 kgf/cm^2, 98.2 psi) or less
	Discharge rate		85 L (22.5 US gal, 18.7 Imp gal)/h or more [12 V at 300 kPa (3.06 kgf/cm^2, 43.5 psi)]
Fuel filter			In-tank type

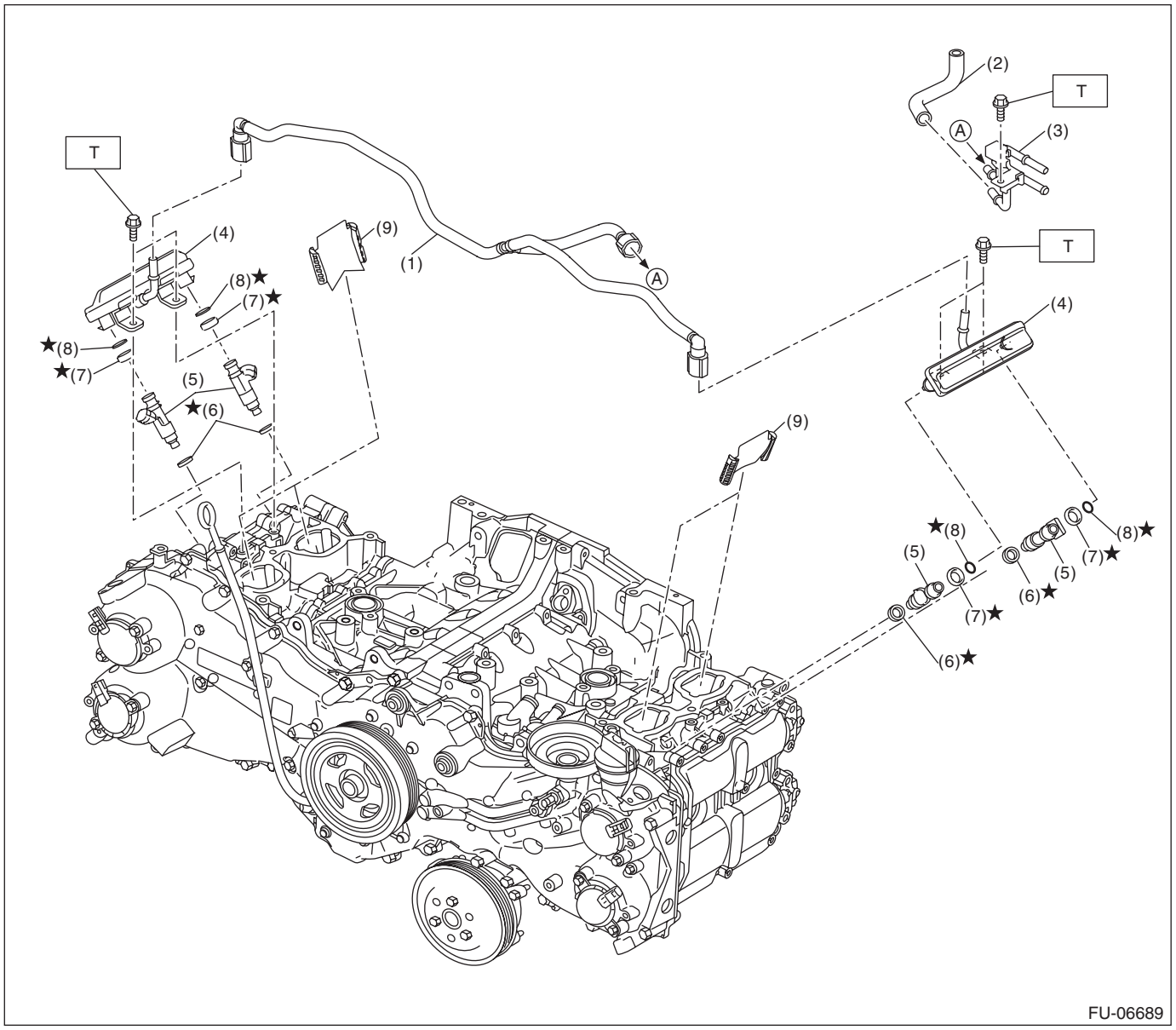
B: COMPONENT

1. INTAKE MANIFOLD 1



(1)	Intake manifold protector LH	(7)	Tumble generator valve LH	***Tightening torque: N·m (kgf-m, ft-lb)***
(2)	Cap	(8)	Gasket	***T1: 3.4 (0.3, 2.5)***
(3)	Manifold absolute pressure sensor	(9)	Tumble generator valve actuator LH	***T2: 6 (0.6, 4.4)***
(4)	O-ring	(10)	Tumble generator valve RH	***T3: 6.4 (0.7, 4.7)***
(5)	Intake manifold	(11)	Tumble generator valve actuator RH	***T4: 8.3 (0.8, 6.1)***
(6)	Intake manifold protector RH	(12)	Gasket	***T5: 25 (2.5, 18.4)***

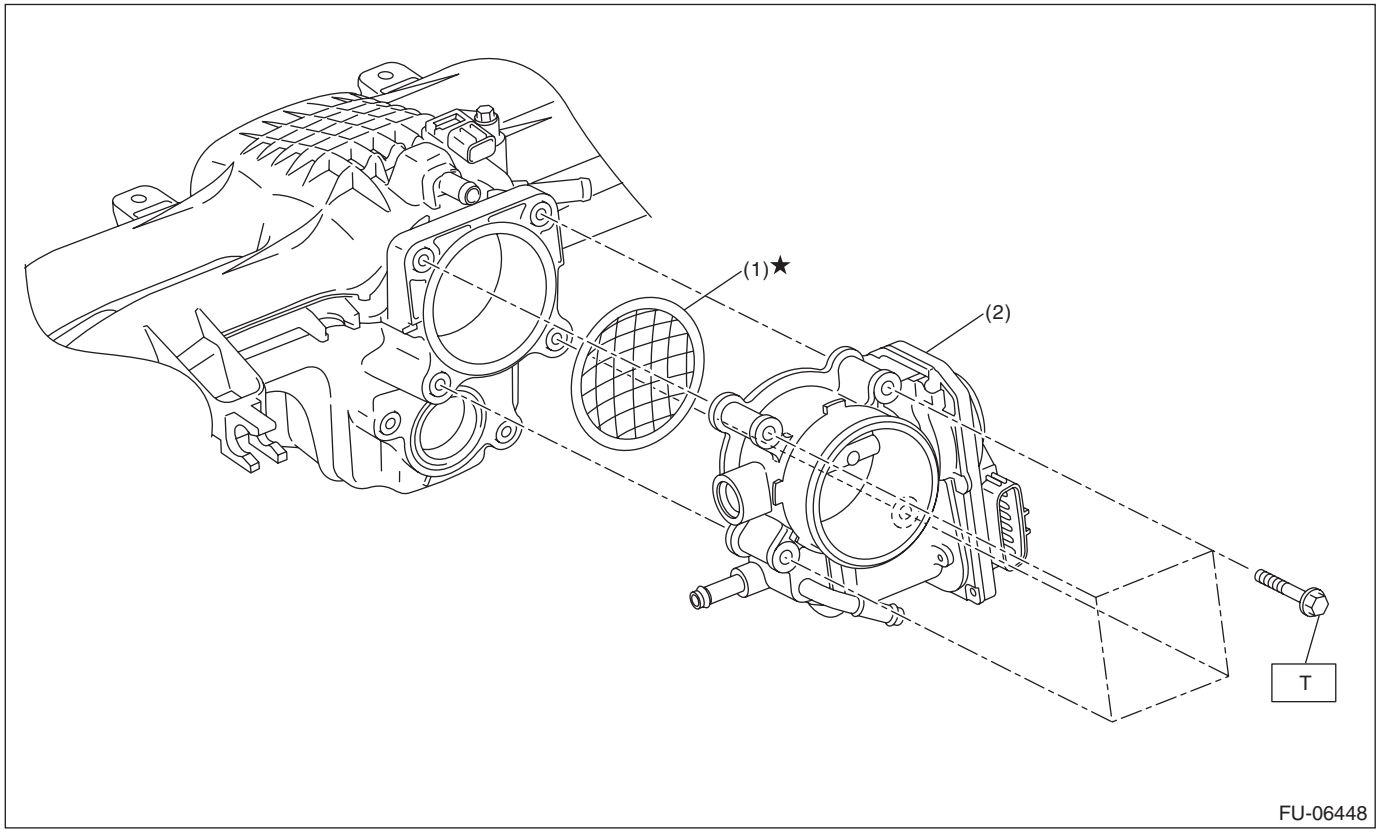
2. INTAKE MANIFOLD 2



(1) Fuel delivery pipe
(2) Vacuum hose
(3) Fuel pipe A
(4) Fuel pipe B
(5) Fuel injector
(6) Seal ring
(7) Rubber
(8) O-ring
(9) Cylinder head plate

Tightening torque: N·m (kgf-m, ft-lb)
T: 6.4 (0.7, 4.7)

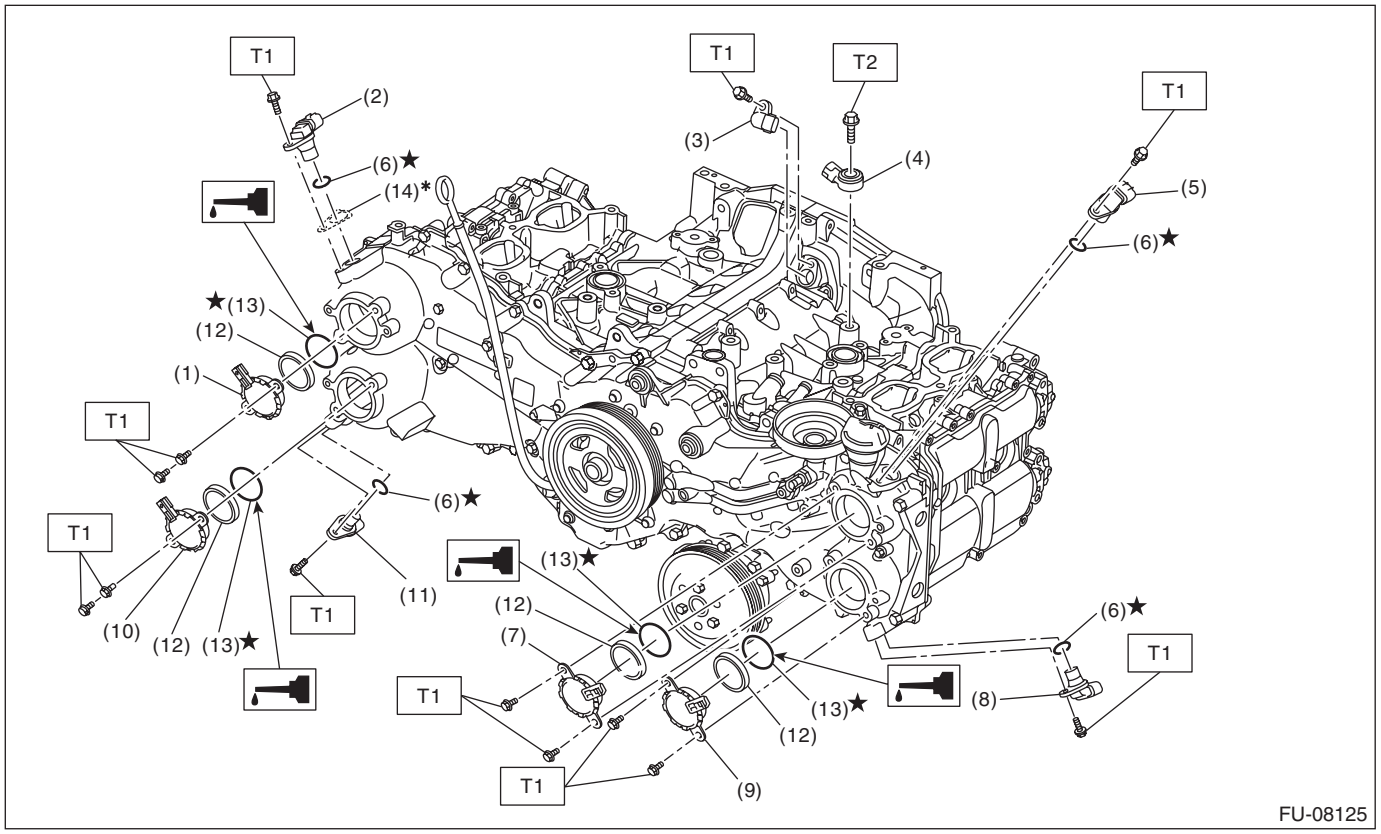
3. THROTTLE BODY



(1) Gasket
(2) Throttle body

Tightening torque: N·m (kgf-m, ft-lb)
T: 8 (0.8, 5.9)

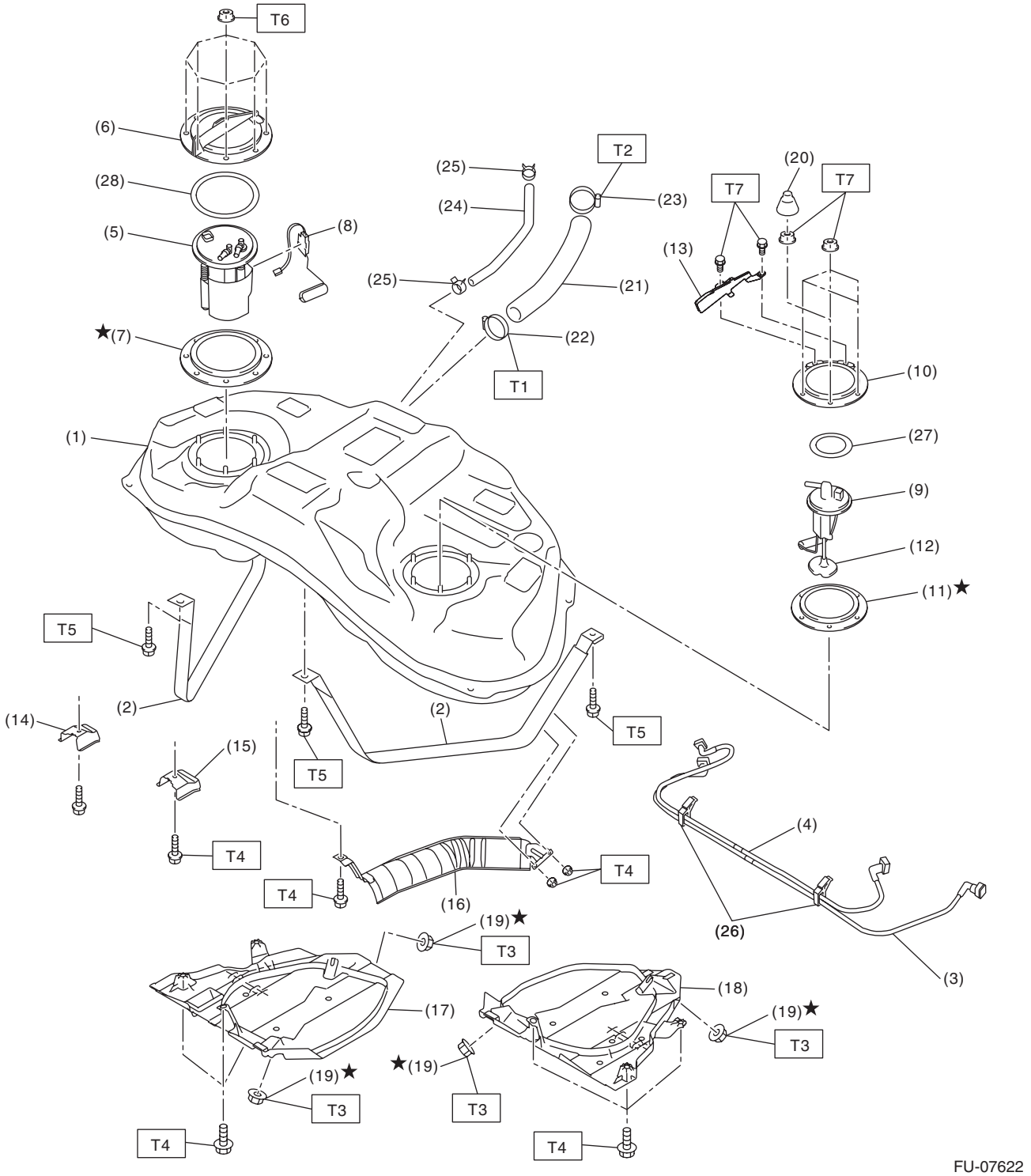
4. CRANKSHAFT POSITION, CAMSHAFT POSITION AND KNOCK SENSORS



(1)	Intake oil control solenoid RH	(7)	Intake oil control solenoid LH	(13)	O-ring
(2)	Intake camshaft position sensor RH	(8)	Exhaust camshaft position sensor LH	(14)	Spacer
(3)	Crankshaft position sensor	(9)	Exhaust oil control solenoid LH		
(4)	Knock sensor	(10)	Exhaust oil control solenoid RH	***Tightening torque: N·m (kgf-m, ft-lb)***	
(5)	Intake camshaft position sensor LH	(11)	Exhaust camshaft position sensor RH	***T1:***	***6.4 (0.7, 4.7)***
(6)	O-ring	(12)	Back-up ring	***T2:***	***24 (2.4, 17.7)***

* Use one or no spacer to adjust the gap.

5. FUEL TANK

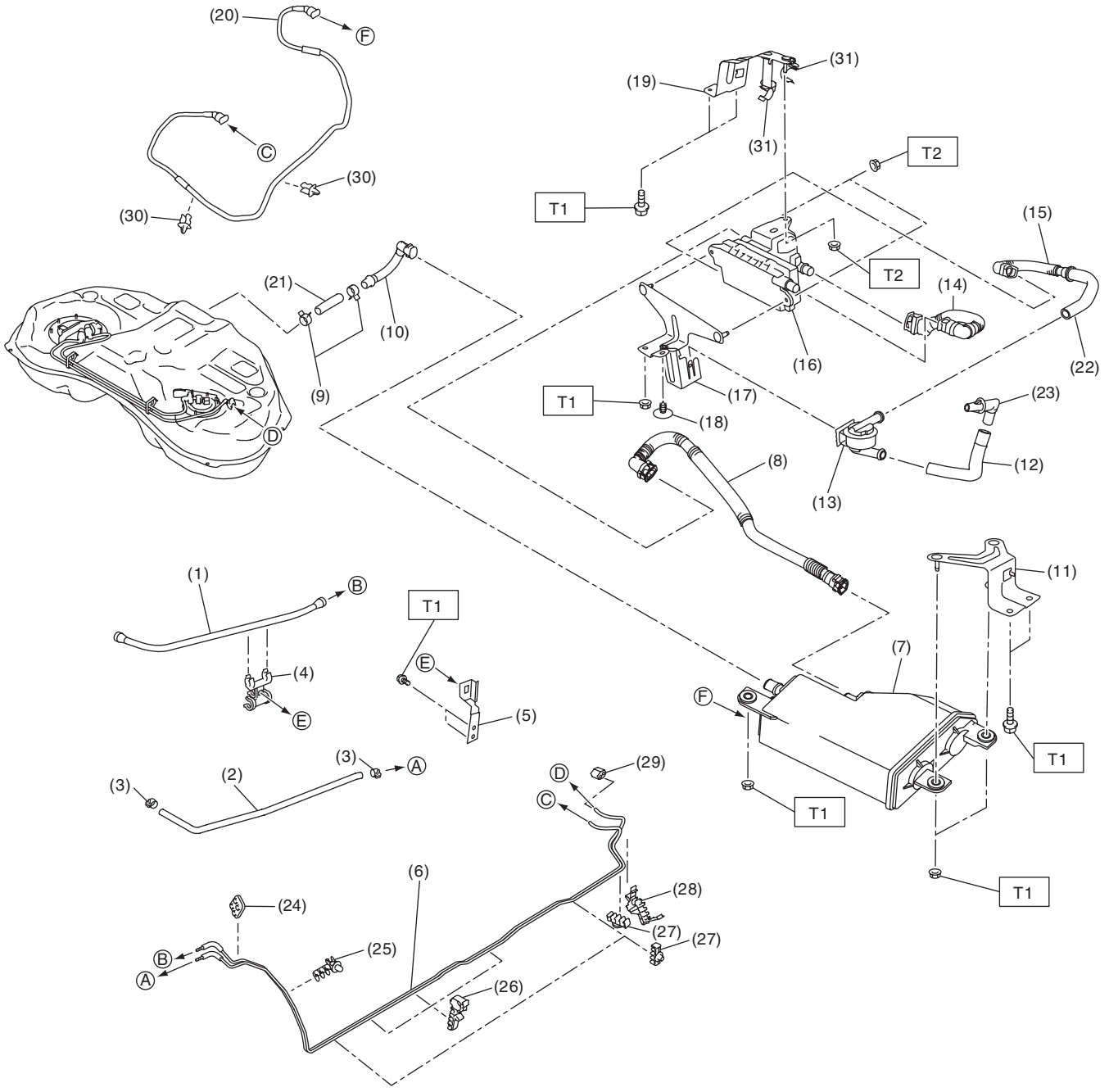

T6
(6)
(28)
(5)
(8)
★(7)
(25)
(24)
(25)
T2
(23)
(21)
(22)
T1
(20)
T7
T7
(13)
(10)
(27)
(9)
(12)
(11)★
(1)
T5
(2)
(14)
(15)
T4
T5
(2)
T5
T4
T4
(16)
(4)
(26)
(3)
(19)★
T3
(17)
(18)
(19)★
T3
★(19)
T3
(19)★
T3
T4
T4
FU-07622

(1) Fuel tank
(2) Fuel tank band
(3) Delivery tube
(4) Jet pump tube
(5) Fuel pump ASSY
(6) Fuel pump upper plate
(7) Fuel pump gasket
(8) Fuel level sensor
(9) Fuel sub level sensor
(10) Fuel sub level sensor upper plate
(11) Fuel sub level sensor gasket
(12) Fuel sub level sensor filter
(13) Fuel sub level sensor protector
(14) Stopper RH
(15) Stopper LH
(16) Heat shield cover
(17) Fuel tank protector RH
(18) Fuel tank protector LH
(19) Self-locking nut
(20) Rubber cap
(21) Fuel filler hose
(22) Clamp
(23) Clamp
(24) Air vent hose
(25) Clip
(26) Tube clamp
(27) Fuel sub level sensor upper plate cushion
(28) Fuel pump upper plate cushion

Tightening torque: N·m (kgf-m, ft-lb)

T1: 2 (0.2, 1.5)
T2: 2.5 (0.3, 1.8)
T3: 9 (0.9, 6.6)
T4: 18 (1.8, 13.3)
T5: 33 (3.4, 24.3)
T6: <Ref. to FU(H4DO)-151, INSTALLATION, Fuel Pump.>
T7: <Ref. to FU(H4DO)-159, INSTALLATION, Fuel Sub Level Sensor.>

6. FUEL LINE

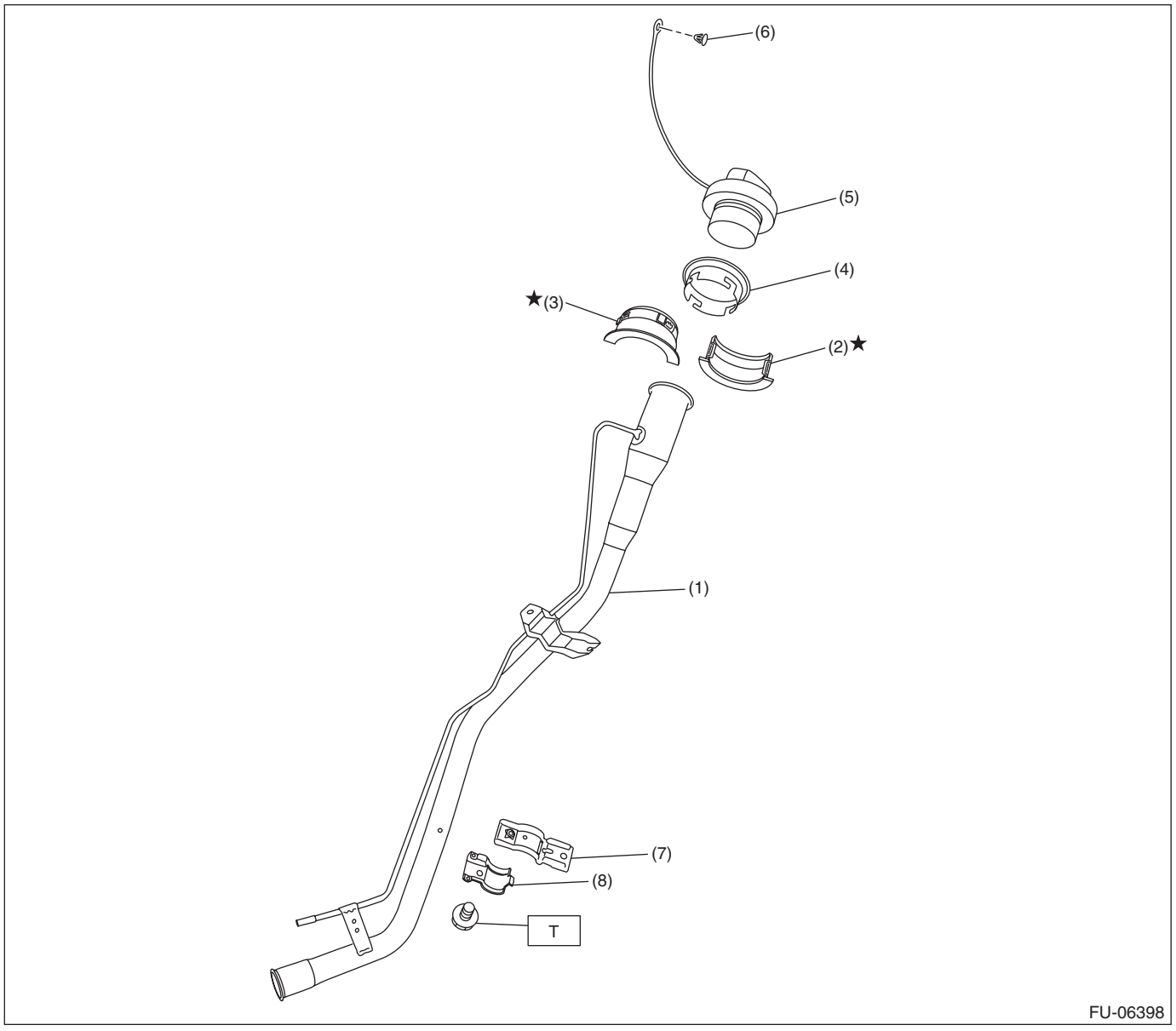


FU-07623

(1) Fuel delivery hose
(2) Evaporation hose
(3) Clip
(4) Hose clamp
(5) Hose clamp bracket
(6) Fuel pipe ASSY
(7) Canister
(8) Drain tube A
(9) Clip
(10) Vent tube
(11) Canister bracket
(12) Intake hose
(13) Drain separator
(14) Drain tube B
(15) Drain tube C
(16) Leak check valve ASSY
(17) Leak check valve bracket A
(18) Clip
(19) Leak check valve bracket B
(20) Purge pipe
(21) Vent hose
(22) Drain hose
(23) Connector
(24) Fuel pipe front grommet
(25) Pipe clamp
(26) Pipe clamp
(27) Pipe clamp
(28) Pipe clamp
(29) Fuel pipe rear grommet
(30) Pipe clamp
(31) Tube clamp

Tightening torque: N·m (kgf-m, ft-lb)
T1: 7.5 (0.8, 5.5)
T2: 18 (1.8, 13.3)

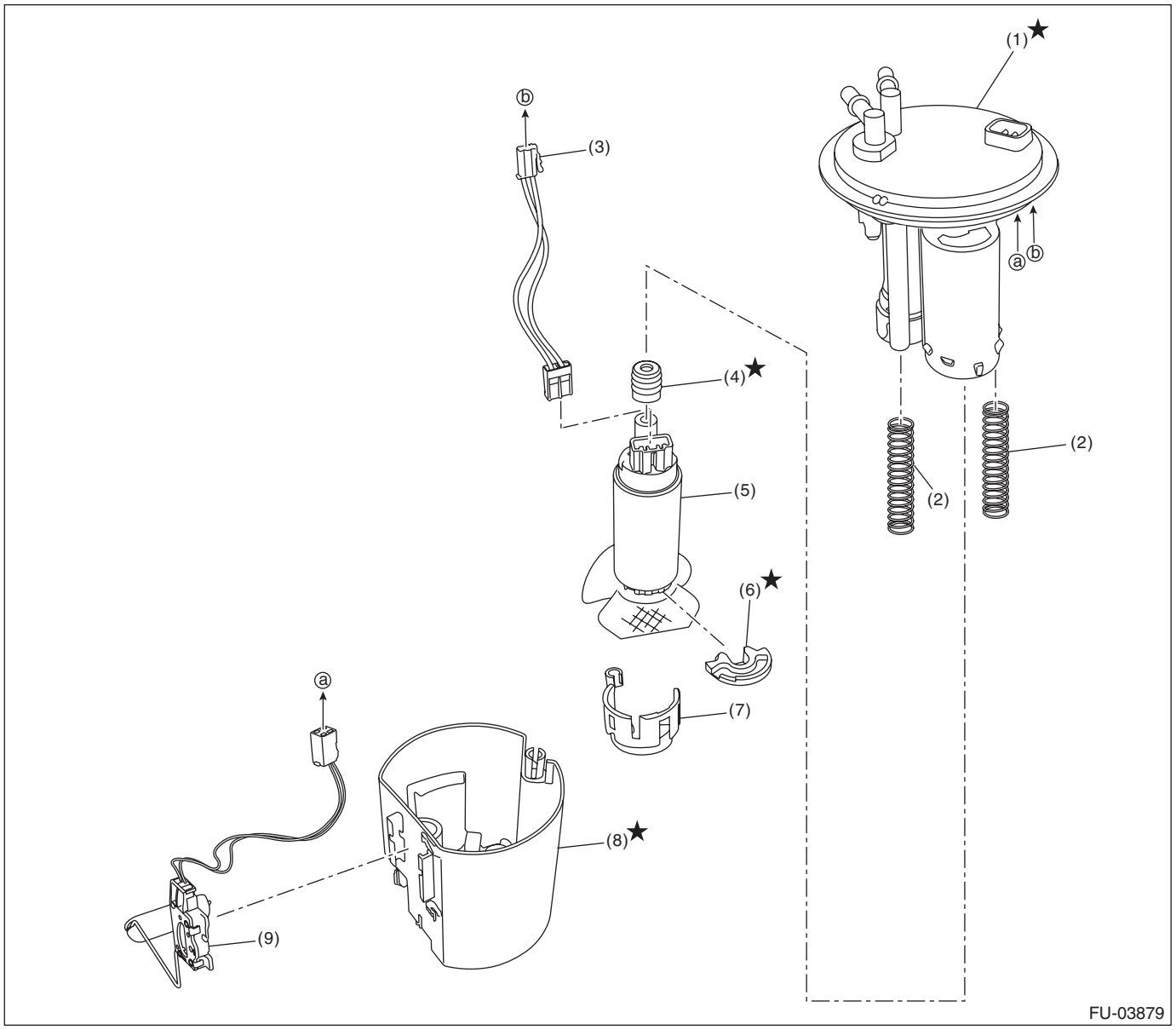
7. FUEL FILLER PIPE



(1) Fuel filler pipe ASSY
(2) Neck holder A
(3) Neck holder B
(4) Fuel filler pipe protector
(5) Fuel filler cap
(6) Clip
(7) Upper bracket
(8) Lower bracket

Tightening torque: N·m (kgf-m, ft-lb)
T: 7.35 (0.7, 5.4)

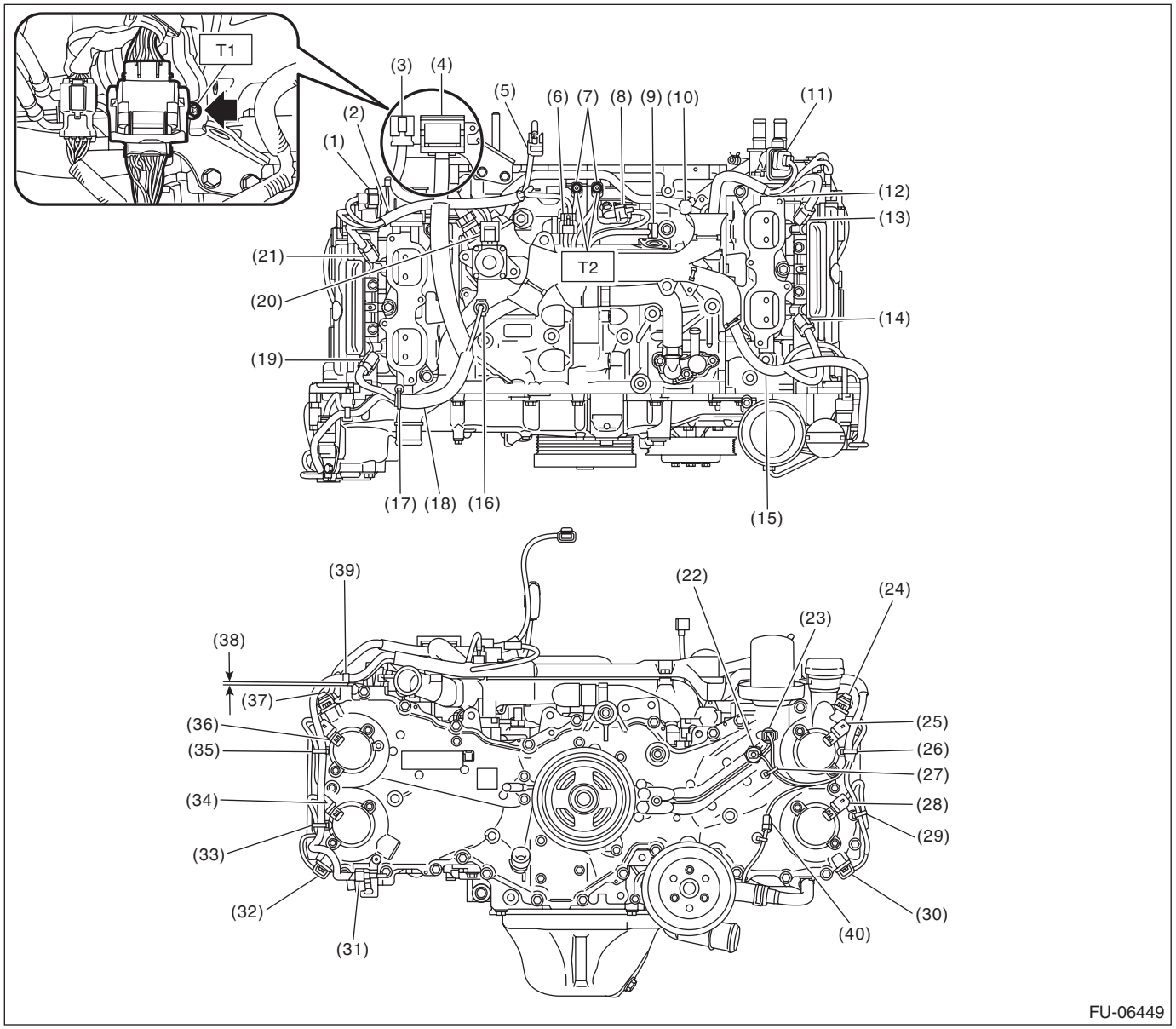
8. FUEL PUMP



(1) Fuel filter ASSY
(2) Pump module spring
(3) Fuel pump harness
(4) Packing spacer
(5) Fuel pump
(6) Support rubber cushion
(7) Fuel pump holder
(8) Fuel chamber ASSY
(9) Fuel level sensor

9. ENGINE HARNESS

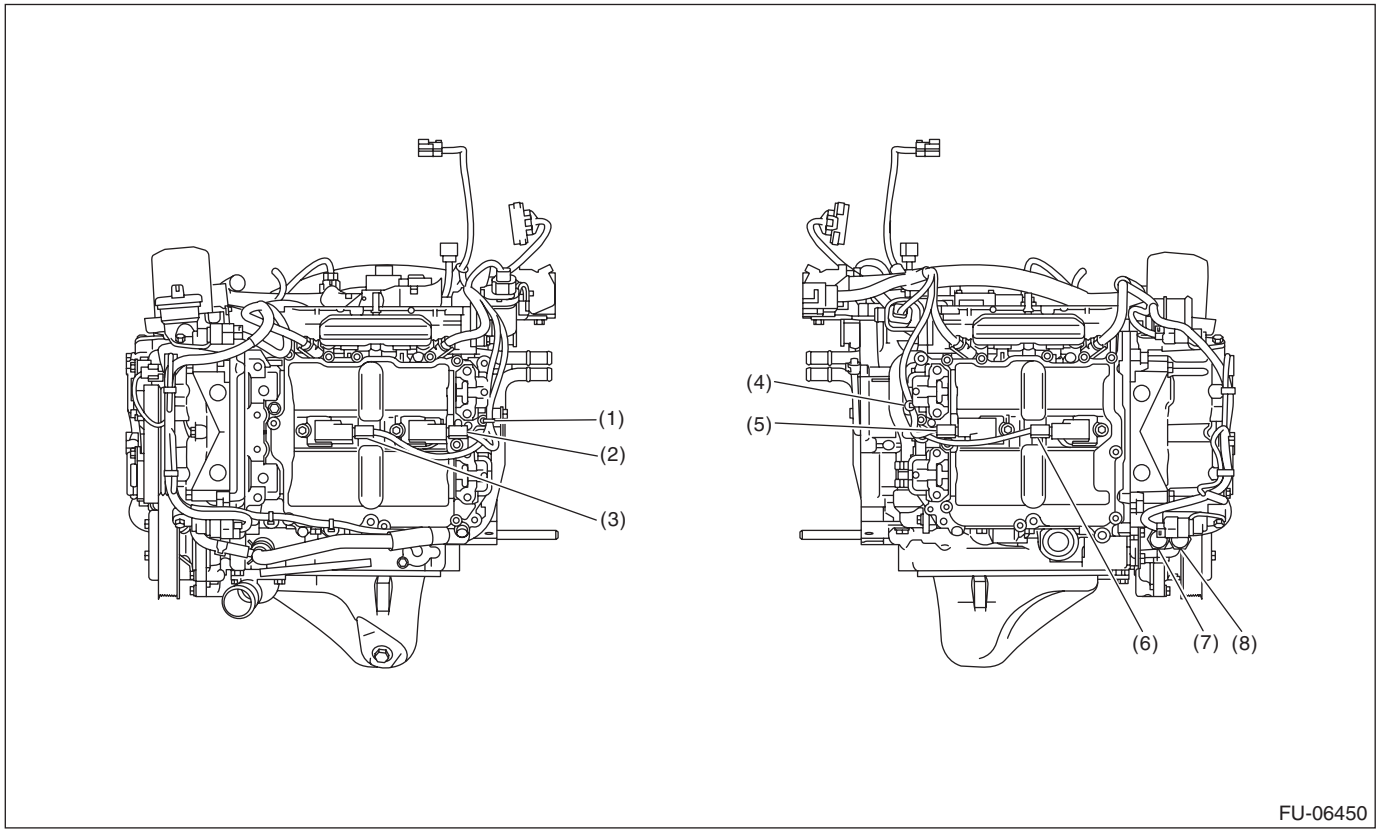
- Structural diagram 1



(1) Tumble generator valve actuator RH
(2) Be careful of pinching when installing the intake manifold.
(3) Engine harness connector (16P)
(4) Engine harness connector (54P)
(5) Throttle position sensor connector
(6) Manifold absolute pressure sensor connector
(7) Engine ground (2 locations)
(8) Crankshaft position sensor
(9) Knock sensor
(10) Purge control solenoid valve connector
(11) Tumble generator valve actuator LH
(12) Be careful of pinching when installing the intake manifold.
(13) Fuel injector (#4)
(14) Fuel injector (#2)
(15) Be careful of pinching when installing the intake manifold and A/C bracket.
(16) Engine coolant temperature sensor
(17) Secure the clip to the screw hole.
(18) Be careful of pinching when installing the intake manifold.
(19) Fuel injector (#1)
(20) EGR valve
(21) Fuel injector (#3)
(22) Oil pressure switch
(23) Engine oil temperature sensor
(24) Intake camshaft position sensor LH
(25) Intake oil control solenoid LH
(26) Secure the clip to the screw hole.
(27) Secure the clip to the screw hole.
(28) Exhaust oil control solenoid LH
(29) Secure the clip to the screw hole.
(30) Exhaust camshaft position sensor LH
(31) Secure the clip to the oval hole.
(32) Exhaust camshaft position sensor RH
(33) Secure the clip to the screw hole.
(34) Exhaust oil control solenoid RH
(35) Secure the clip to the screw hole.
(36) Intake oil control solenoid RH
(37) Intake camshaft position sensor RH
(38) Maximum of 0 — 2 mm (0 — 0.079 in) gap is allowed.
(39) Secure the clip to the screw hole.
(40) Oil level switch connector

Tightening torque: N·m (kgf-m, ft-lb)
T1: 7.5 (0.8, 5.5)
T2: 19 (1.9, 14.0)

- Structural diagram 2



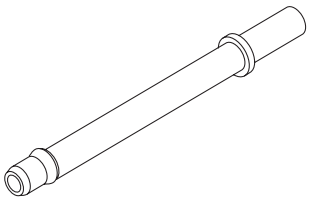
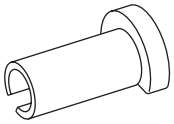
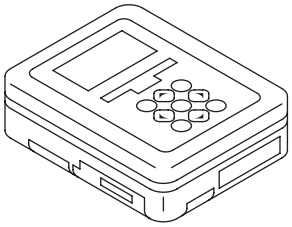
(1) Secure the clip to the screw hole.
(2) Ignition coil No. 4
(3) Ignition coil No. 2
(4) Secure the clip to the screw hole.
(5) Ignition coil No. 3
(6) Ignition coil No. 1
(7) Front oxygen (A/F) sensor
(8) Rear oxygen sensor

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.
- Place “NO OPEN FLAMES” signs near the working area.
- Prepare a container and cloth to prevent scattering of fuels when performing work where fuels can be spilled. If the 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.
- Follow all government and local regulations concerning disposal of refuse when disposing fuel.

D: PREPARATION TOOL

1. SPECIAL TOOL

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
 ST18471AA000	18471AA000	FUEL PIPE ADAPTER	Used for draining fuel.
 ST42099AE000	42099AE000	QUICK CONNECTOR RELEASE	Used for removing the quick connector.
 ST1B022XU0	1B022XU0	SUBARU SELECT MONITOR III KIT	Used for draining fuel and each inspection.

2. GENERAL TOOL

TOOL NAME	REMARKS
Circuit tester	Used for measuring resistance and voltage.
Oscilloscope	Used for inspecting the waveform of each sensor.