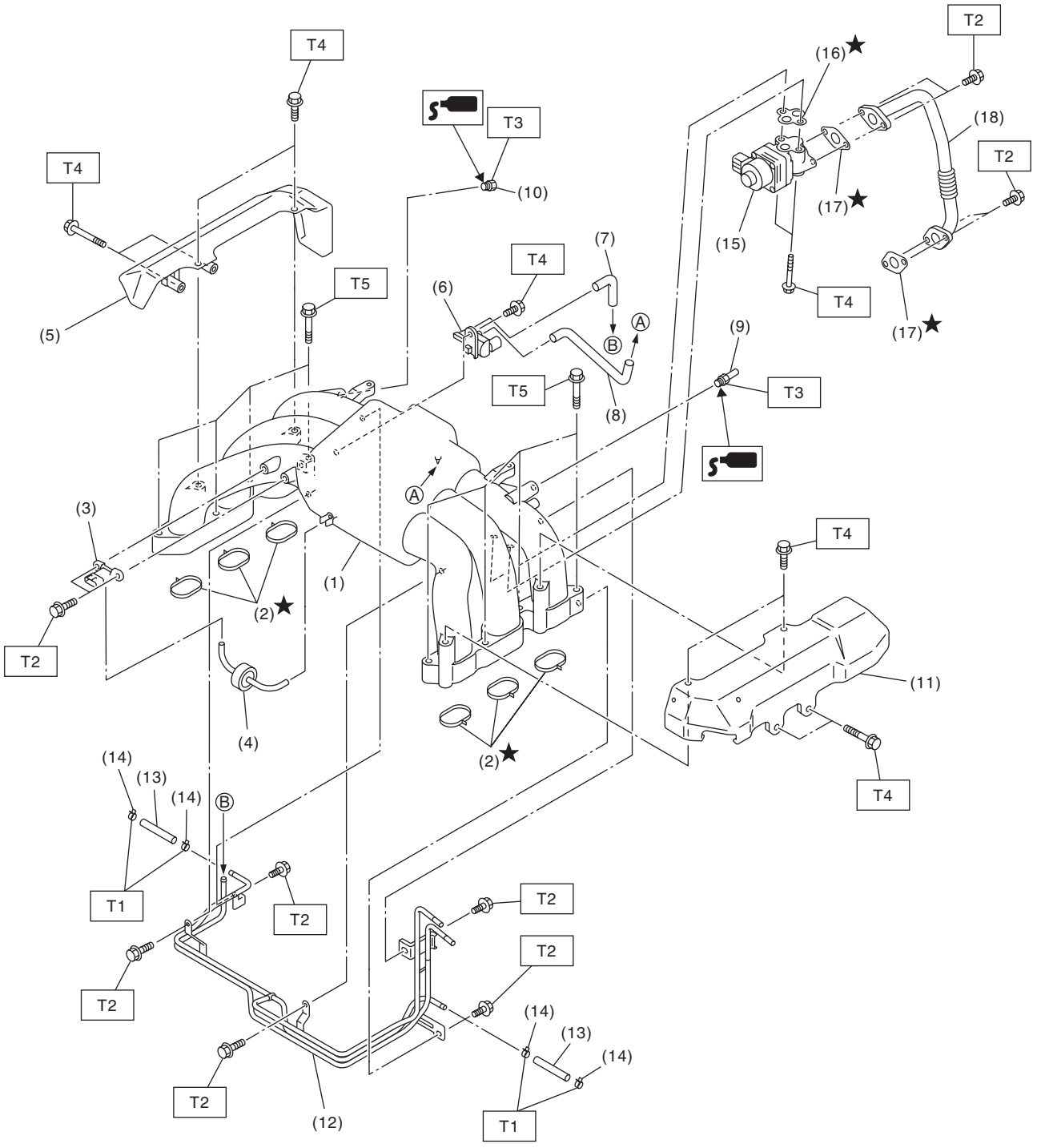
1. General Description

A: SPECIFICATION

Fuel tank	Capacity	70 ℓ (18.5 US gal, 15.4 Imp gal)
	Location	Rear floor under
Fuel pump	Type	Impeller
	Shutoff discharge pressure	850 kPa (8.67 kg/cm^2, 123.3 psi), or less
	Discharge rate	155 ℓ (41 US gal, 34.1 Imp gal)/h or more [12 V at 300 kPa (3.06 kg/cm^2, 43.5 psi)]
Fuel filter		In-tank type

B: COMPONENT

1. INTAKE MANIFOLD

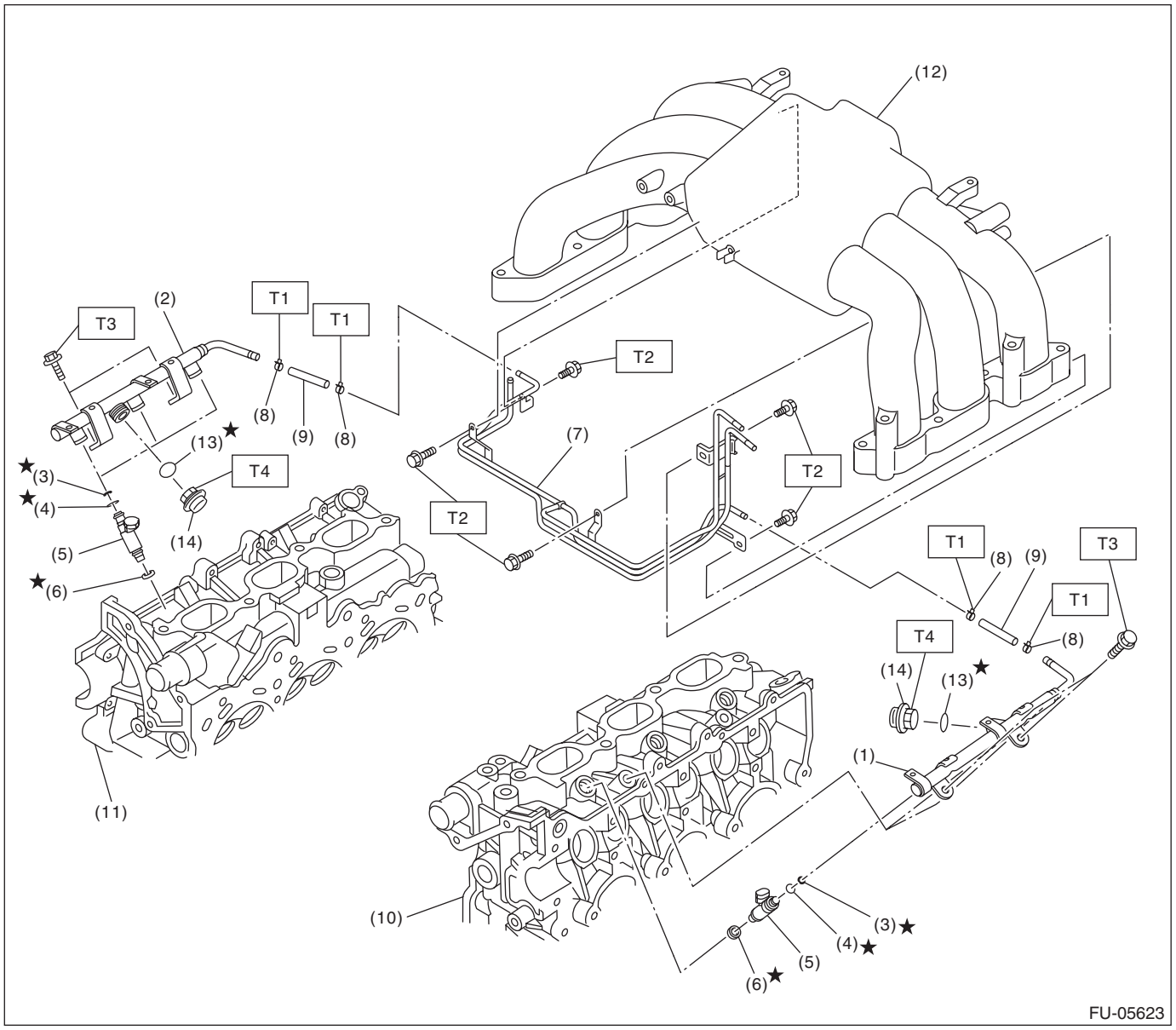


FU-05591

(1) Intake manifold
(2) O-ring
(3) Manifold absolute pressure sensor
(4) Filter
(5) Fuel pipe protector RH
(6) Purge control solenoid valve
(7) Hose
(8) Hose
(9) Nipple
(10) Plug
(11) Fuel pipe protector LH
(12) Fuel pipe ASSY
(13) Hose
(14) Clamp
(15) EGR valve
(16) Gasket
(17) Gasket
(18) EGR pipe

Tightening torque:N·m (kgf-m, ft-lb)
T1: 1.25 (0.1, 0.9)
T2: 6.4 (0.7, 4.7)
T3: 17 (1.7, 12.5)
T4: 19 (1.9, 14.0)
T5: 25 (2.5, 18.4)

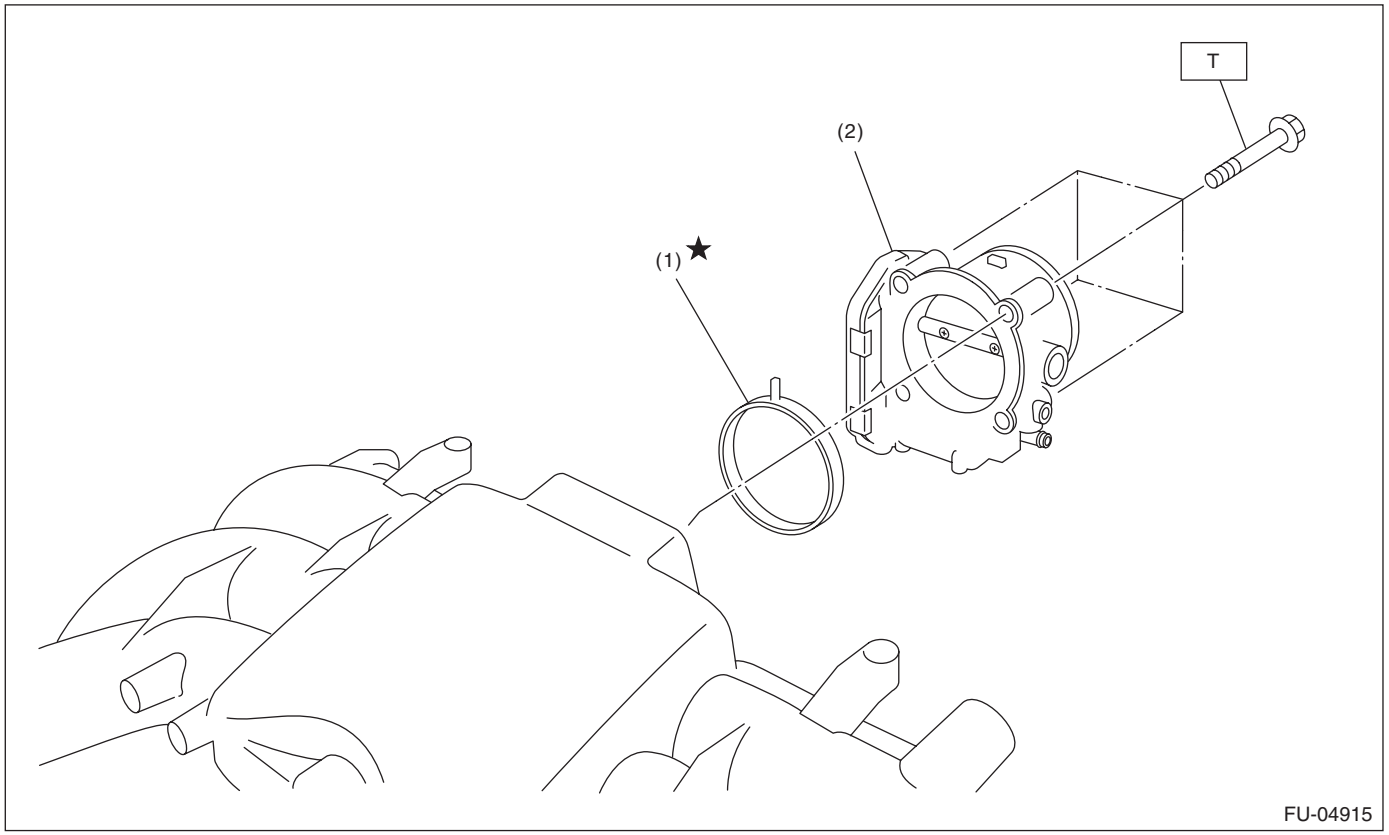
2. FUEL INJECTOR



(1) Fuel injector pipe LH
(2) Fuel injector pipe RH
(3) O-ring
(4) Injection rubber
(5) Fuel injector
(6) Seal ring
(7) Fuel pipe ASSY
(8) Clamp
(9) Hose
(10) Cylinder head LH
(11) Cylinder head RH
(12) Intake manifold
(13) Gasket
(14) Pulsation damper

Tightening torque:N·m (kgf-m, ft-lb)
T1: 1.25 (0.1, 0.9)
T2: 6.4 (0.7, 4.7)
T3: 19 (1.9, 14.0)
T4: 21.6 (2.2, 15.9)

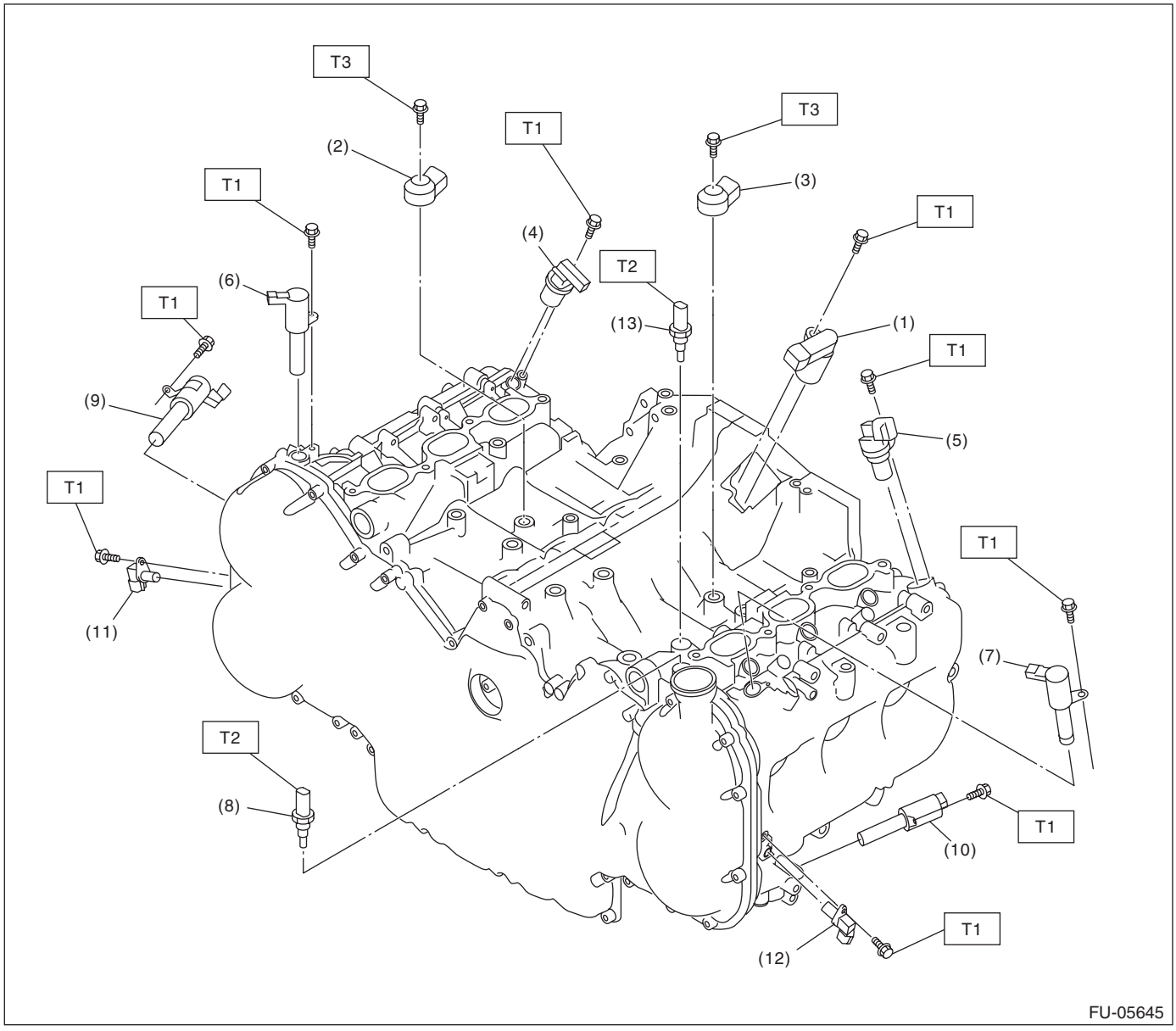
3. AIR INTAKE SYSTEM



(1) O-ring
(2) Throttle body

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

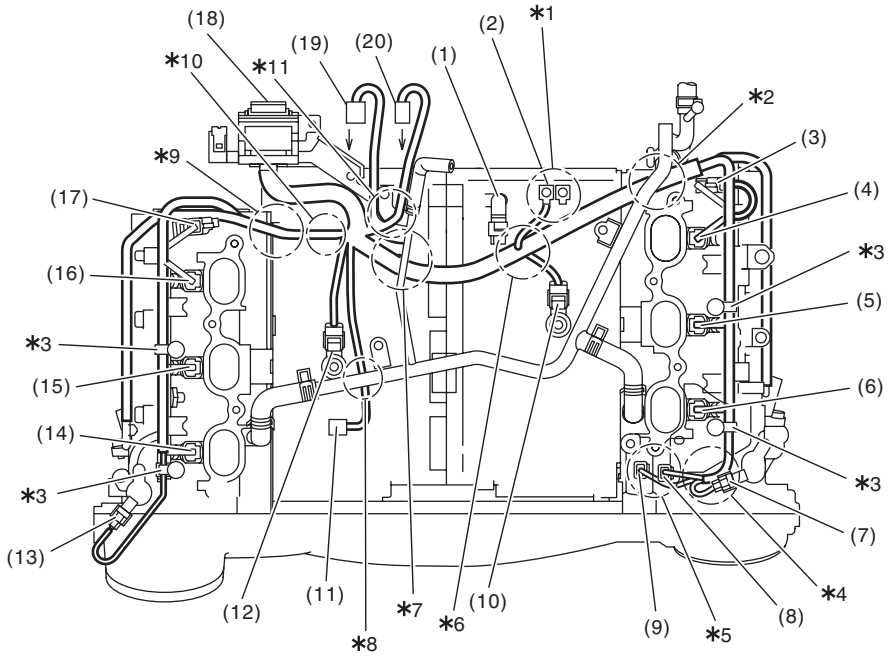
4. SENSOR

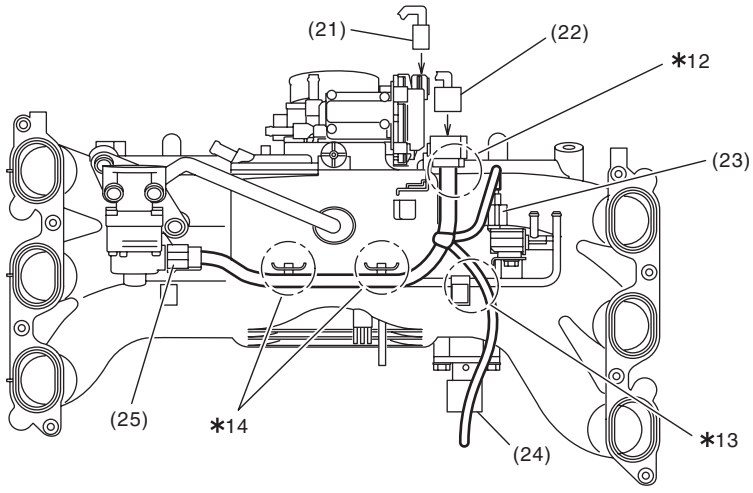


(1)	Crankshaft position sensor	(7)	Intake oil flow control solenoid valve LH	(13)	Engine coolant temperature sensor
(2)	Knock sensor RH	(8)	Oil temperature sensor		
(3)	Knock sensor LH	(9)	Exhaust oil flow control solenoid valve RH	***Tightening torque:N·m (kgf-m, ft-lb)***	
(4)	Intake camshaft position sensor RH	(10)	Exhaust oil flow control solenoid valve LH	***T1:***	***6.4 (0.7, 4.7)***
(5)	Intake camshaft position sensor LH	(11)	Exhaust camshaft position sensor RH	***T2:***	***22 (2.2, 16.2)***
(6)	Intake oil flow control solenoid valve RH	(12)	Exhaust camshaft position sensor LH	***T3:***	***25 (2.5, 18.4)***

5. ENGINE HARNESS

Engine harness assembly diagram 1



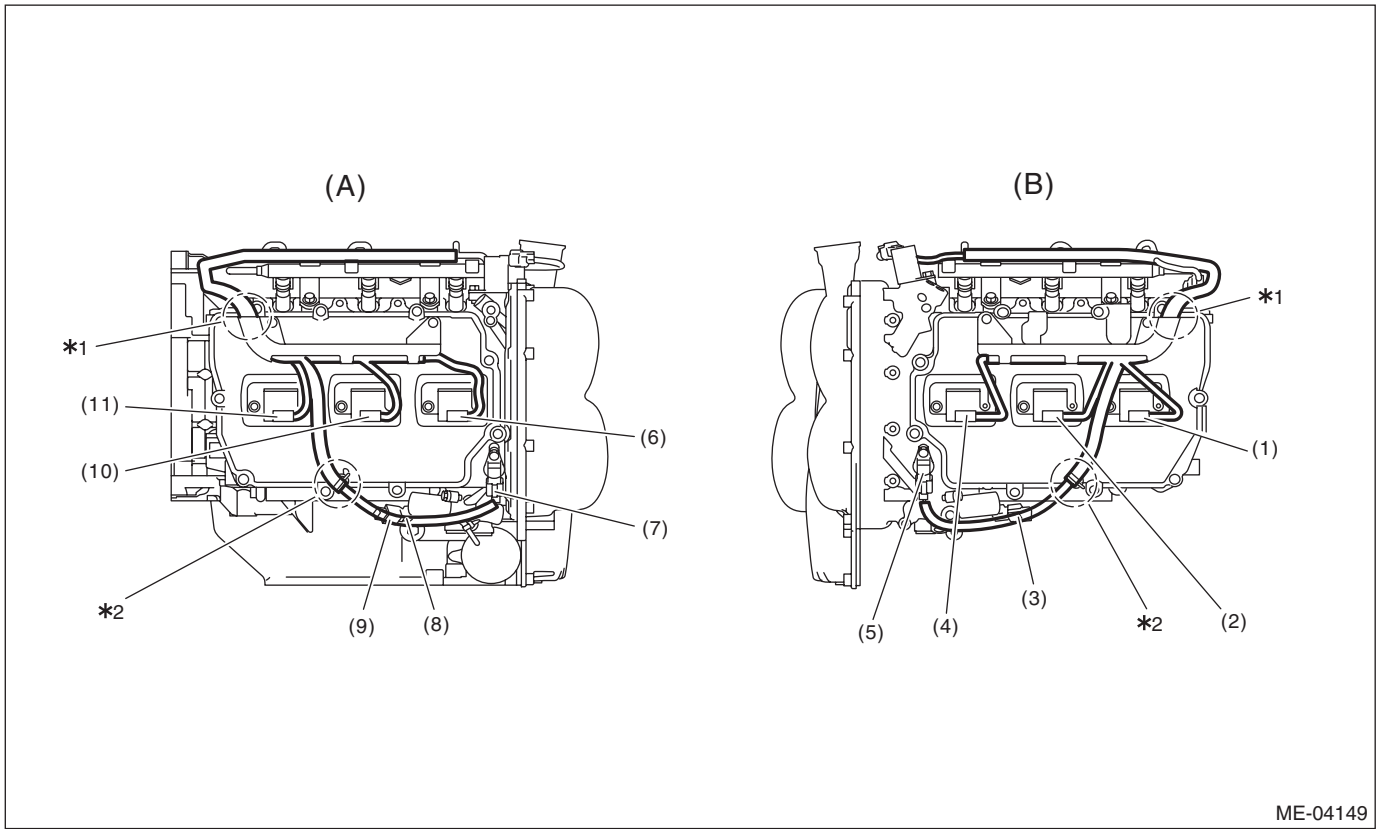


ME-04534

(A)	Cylinder block upper face	(B)	Intake manifold back surface		
(1)	Crankshaft position sensor connector	(10)	Knock sensor LH connector	(19)	Upper/lower connection connector (To intake manifold)
(2)	Engine ground	(11)	Power steering switch connector	(20)	Electronic throttle control connector (To intake manifold)
(3)	Intake camshaft position sensor LH connector	(12)	Knock sensor RH connector	(21)	Electronic throttle control connector (From upper part of the cylinder block)
(4)	#6 injector connector	(13)	Intake oil flow control solenoid valve RH connector	(22)	Upper/lower connection connector (From upper part of the cylinder block)
(5)	#4 injector connector	(14)	#1 injector connector	(23)	Purge control solenoid valve connector
(6)	#2 injector connector	(15)	#3 injector connector	(24)	Manifold absolute pressure sensor connector
(7)	Intake oil flow control solenoid valve LH connector	(16)	#5 injector connector	(25)	EGR valve connector
(8)	Oil temperature sensor connector	(17)	Intake camshaft position sensor RH connector		
(9)	Engine coolant temperature sensor connector	(18)	Engine harness docking connector		

*1: Install so that engine ground terminals face the rear side of vehicle.
*2: Route under the heater pipe.
*3: Attach the engine harness fixing clip to the fuel pipe stay.
*4: Route from the cutout portion on the fuel pipe protector LH.
*5: Be careful not to mix up the connectors of oil temperature sensor and engine coolant temperature sensor.
*6: Route between crankshaft position sensor and knock sensor LH.
*7: Route under the heater pipe.
*8: Route under the heater pipe.
*9: Route under the fuel pipe.
*10: Attach the engine harness fixing clip to the fixing boss on the cylinder block.
*11: Route over the heater pipe stay.
*12: Securely install the engine harness fixing stay.
*13: Route outside the fuel pipe.
*14: Attach the engine harness fixing clip to the fixing stay on the intake manifold.

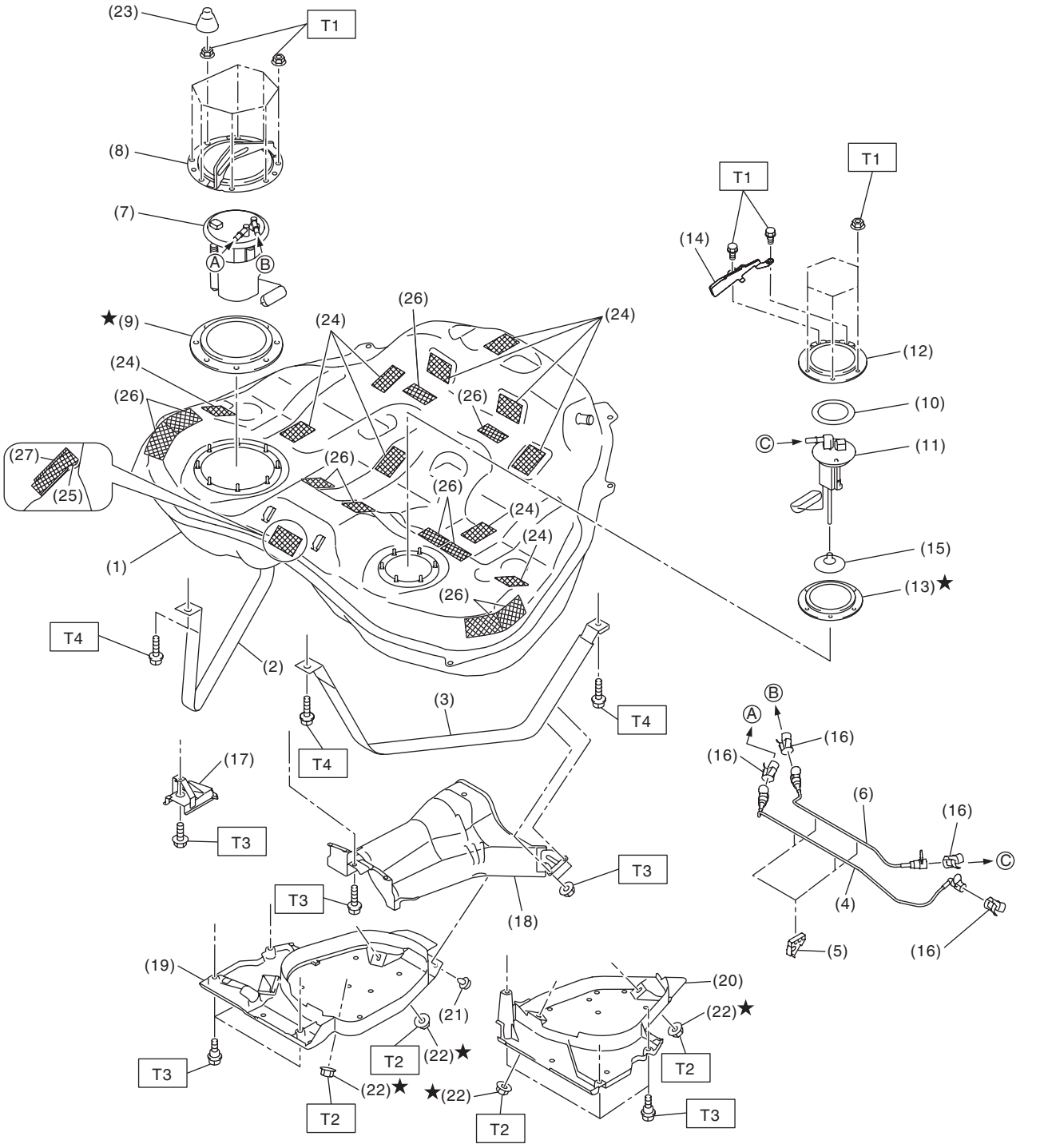
Engine harness assembly diagram 2



(A)	Right side of the engine	(B)	Left side of the engine		
(1)	#6 ignition coil connector	(5)	Exhaust camshaft position sensor LH connector	(9)	Exhaust oil flow control valve solenoid RH connector
(2)	#4 ignition coil connector	(6)	#1 injector connector	(10)	#3 ignition coil connector
(3)	Exhaust oil flow control valve solenoid LH connector	(7)	Exhaust camshaft position sensor RH connector	(11)	#5 ignition coil connector
(4)	#2 ignition coil connector	(8)	Oil pressure switch connector		

*1: Align the engine harness stay end with the end of engine harness identification tape.
*2: Attach the engine harness fixing clip to the fixing boss on the rocker cover.

6. FUEL TANK

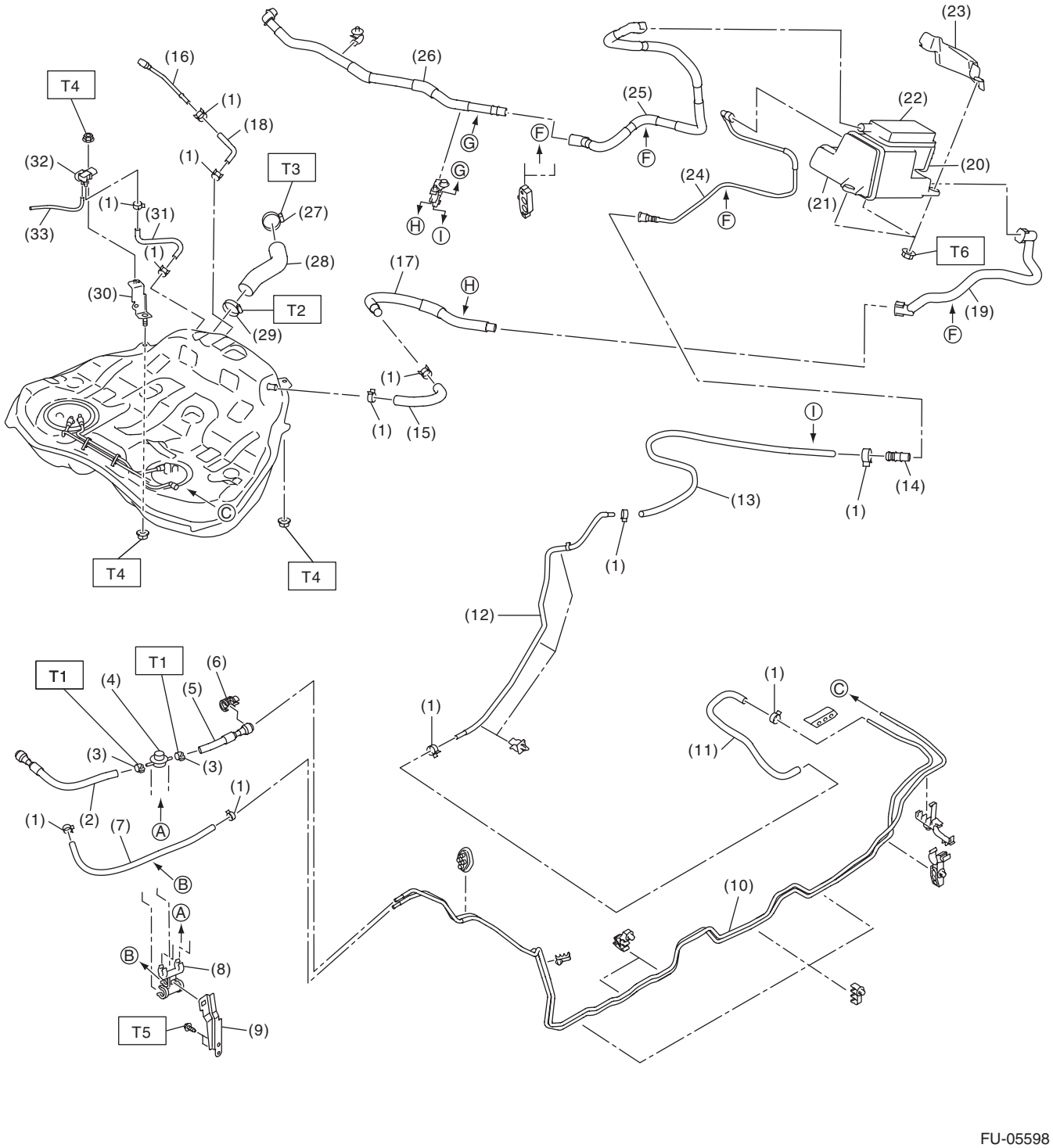


FU-05592

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

Tightening torque:N·m (kgf-m, ft-lb)
T1: 4.4 (0.4, 3.2)
T2: 9 (0.9, 6.6)
T3: 18 (1.8, 13.3)
T4: 33 (3.4, 24.3)

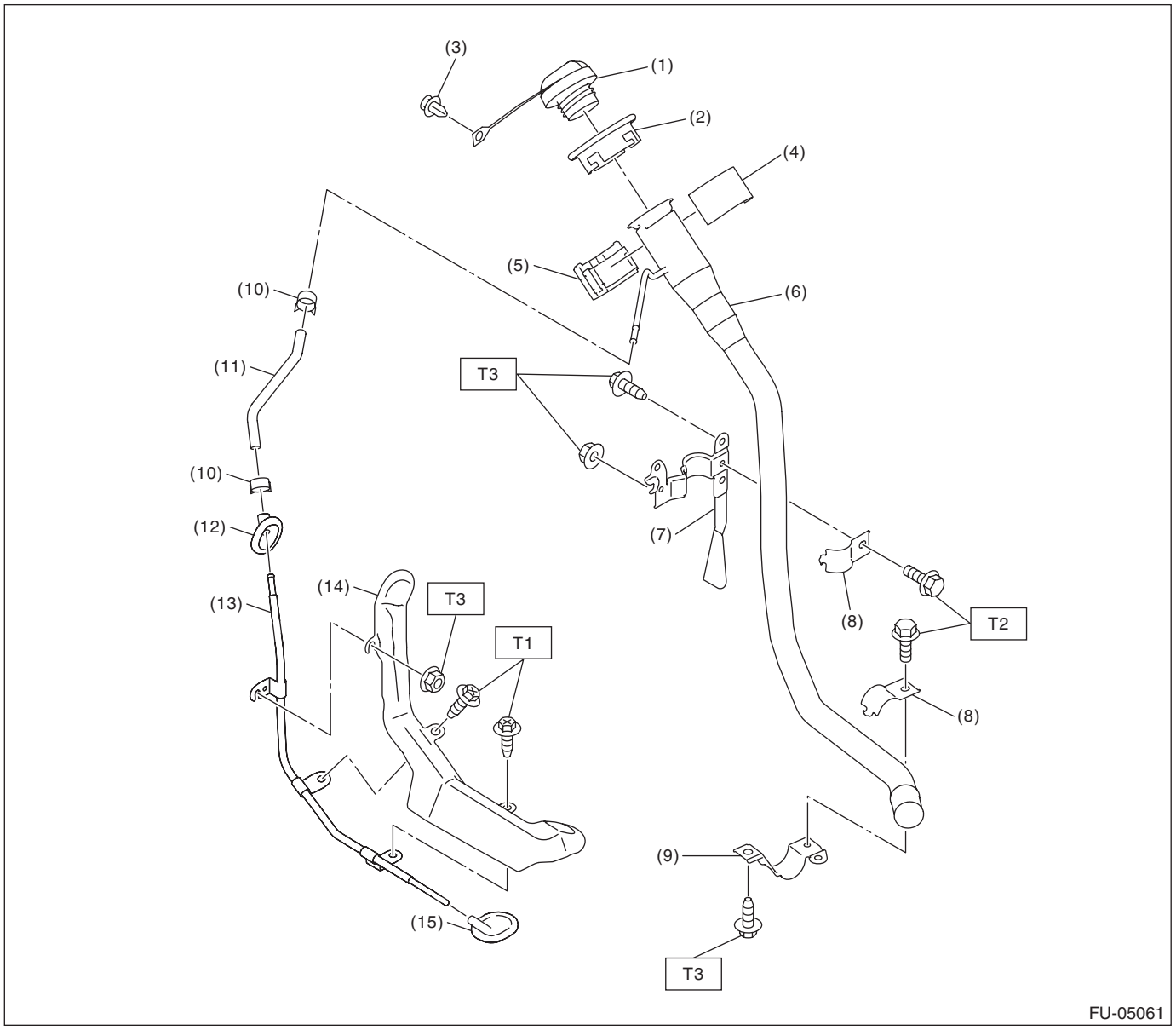
7. FUEL LINE


(23)
(16)
(26)
T4
(1)
(18)
(25)
(22)
(32)
(1)
T3
(20)
(24)
(1)
(31)
(27)
(21)
(33)
(1)
T6
(28)
(17)
(30)
T2
(19)
(29)
(1)
(15)
(1)
(14)
(13)
(1)
(12)
(1)
T1
T1
(6)
(4)
(5)
(1)
(11)
(3)
(3)
(1)
(1)
(2)
(7)
(10)
(8)
T5
(9)
FU-05598

(1) Clip
(2) Fuel delivery hose A
(3) Clamp
(4) Fuel damper
(5) Fuel delivery hose B
(6) Connect check cover
(7) Evaporation hose
(8) Fuel damper holder
(9) Damper bracket
(10) Fuel pipe ASSY
(11) Purge hose A
(12) Purge pipe
(13) Purge hose B
(14) Connector
(15) Air vent hose A
(16) Circulate tube
(17) Air vent tube
(18) Circulate hose
(19) Vent tube
(20) Drain valve
(21) Canister
(22) Drain filter
(23) Canister protector
(24) Charge tube
(25) Canister drain tube
(26) Drain tube ASSY
(27) Clamp
(28) Fuel filler hose
(29) Clamp
(30) Fuel tank pressure sensor bracket
(31) Pressure hose
(32) Fuel tank pressure sensor
(33) Vacuum hose

Tightening torque:N·m (kgf-m, ft-lb)
T1: 1.25 (0.1, 2.9)
T2: 2 (0.2, 1.5)
T3: 2.5 (0.3, 1.8)
T4: 7.35 (0.7, 5.4)
T5: 7.5 (0.8, 5.5)
T6: 8 (0.8, 5.9)

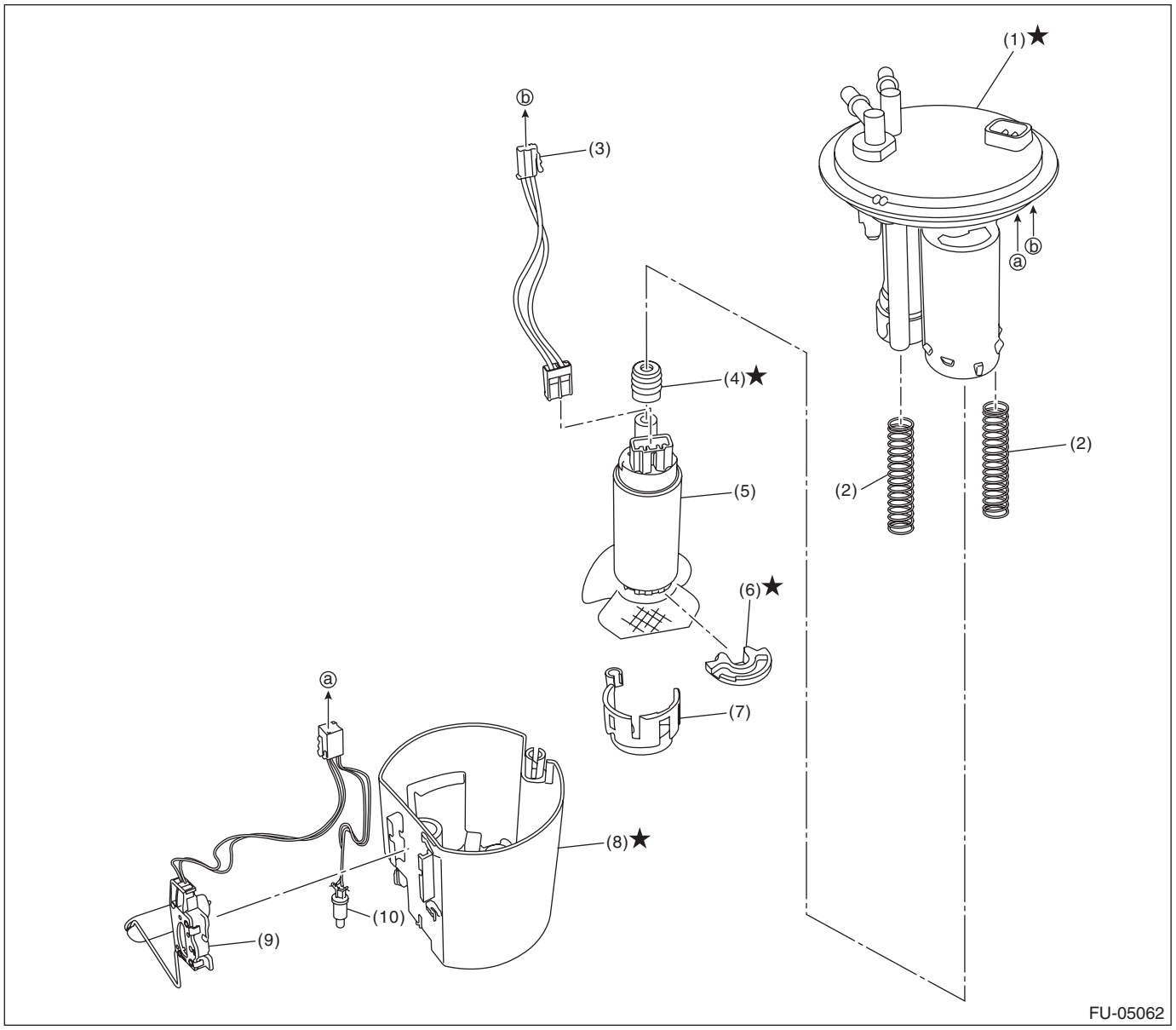
8. FUEL FILLER PIPE



(1) Fuel filler cap
(2) Fuel filler pipe protector
(3) Clip
(4) Neck holder A
(5) Neck holder B
(6) Fuel filler pipe
(7) Fuel filler pipe bracket A
(8) Fuel filler pipe bracket B
(9) Fuel filler pipe bracket C
(10) Clip
(11) Evaporation hose
(12) Grommet
(13) Evaporation pipe
(14) Evaporation pipe protector
(15) Grommet

Tightening torque:N·m (kgf-m, ft-lb)
T1: 1 (0.1, 0.7)
T2: 7.35 (0.7, 5.4)
T3: 7.5 (0.8, 5.5)

9. FUEL PUMP



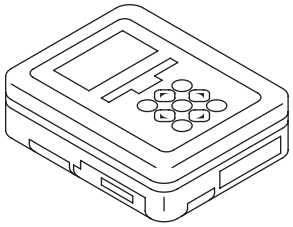
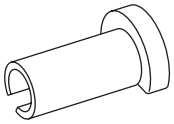
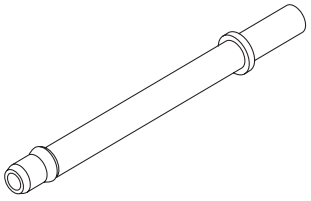
(1) Fuel filter assembly
(2) Pump module spring
(3) Fuel pump harness
(4) Gasket spacer
(5) Fuel pump
(6) Support rubber cushion
(7) Fuel pump holder
(8) Fuel chamber ASSY
(9) Fuel level sensor
(10) Fuel temperature sensor

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.
• 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.
• Follow all government and local regulations concerning disposal of refuse when disposing fuel.

D: PREPARATION TOOL

1. SPECIAL TOOL

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

2. GENERAL TOOL

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