

General Description

FUEL INJECTION (FUEL SYSTEMS)

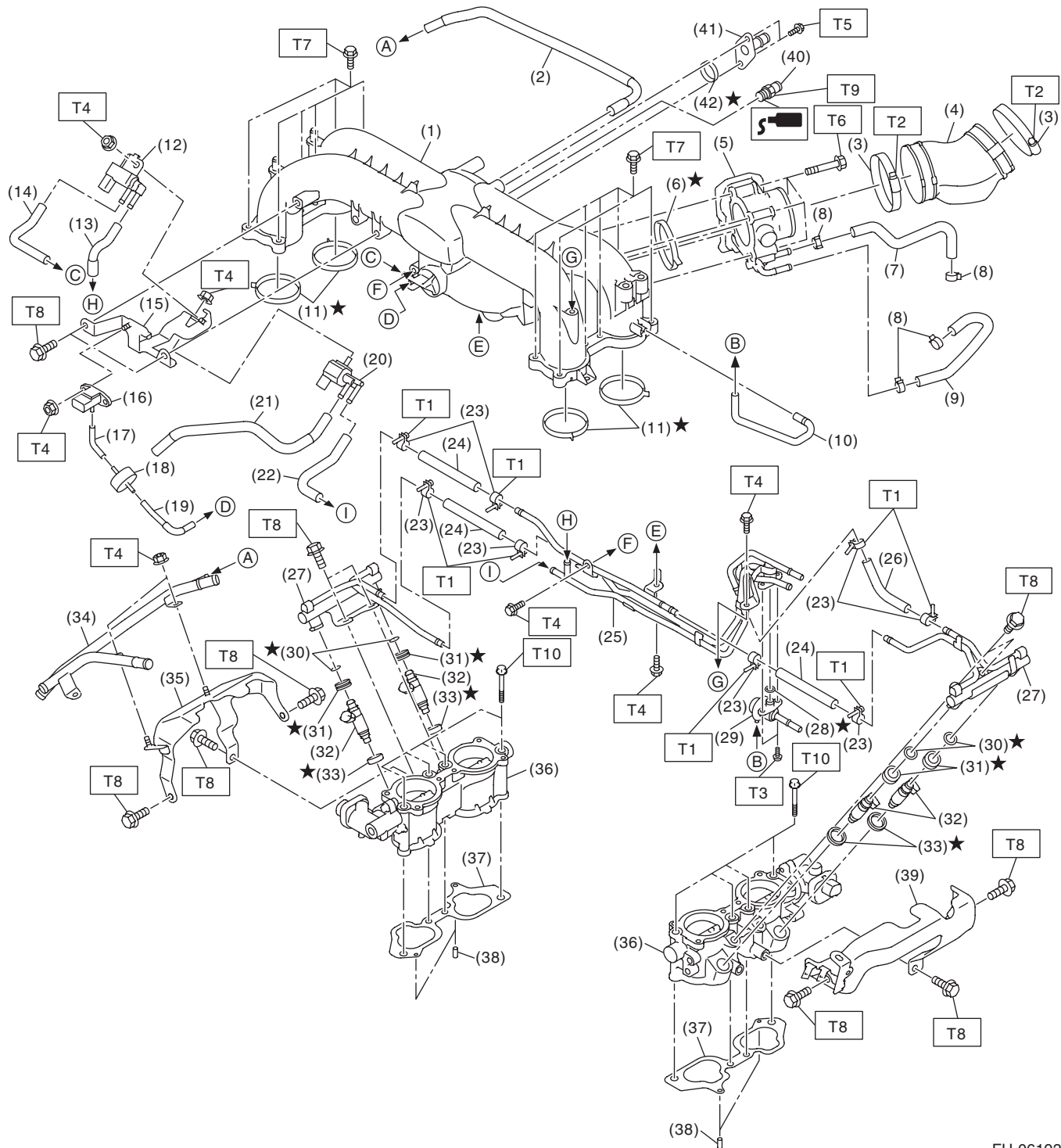
1. General Description

A: SPECIFICATION

Fuel tank	Capacity	70 ℓ (18.5 US gal, 15.4 Imp gal)
	Install locations	Under rear seat
Fuel pump	Type	Impeller
	Shutoff discharge pressure	850 kPa (8.67 kgf/cm ² , 123.3 psi) or less
	Discharge rate	175 ℓ (46.2 US gal, 38.5 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



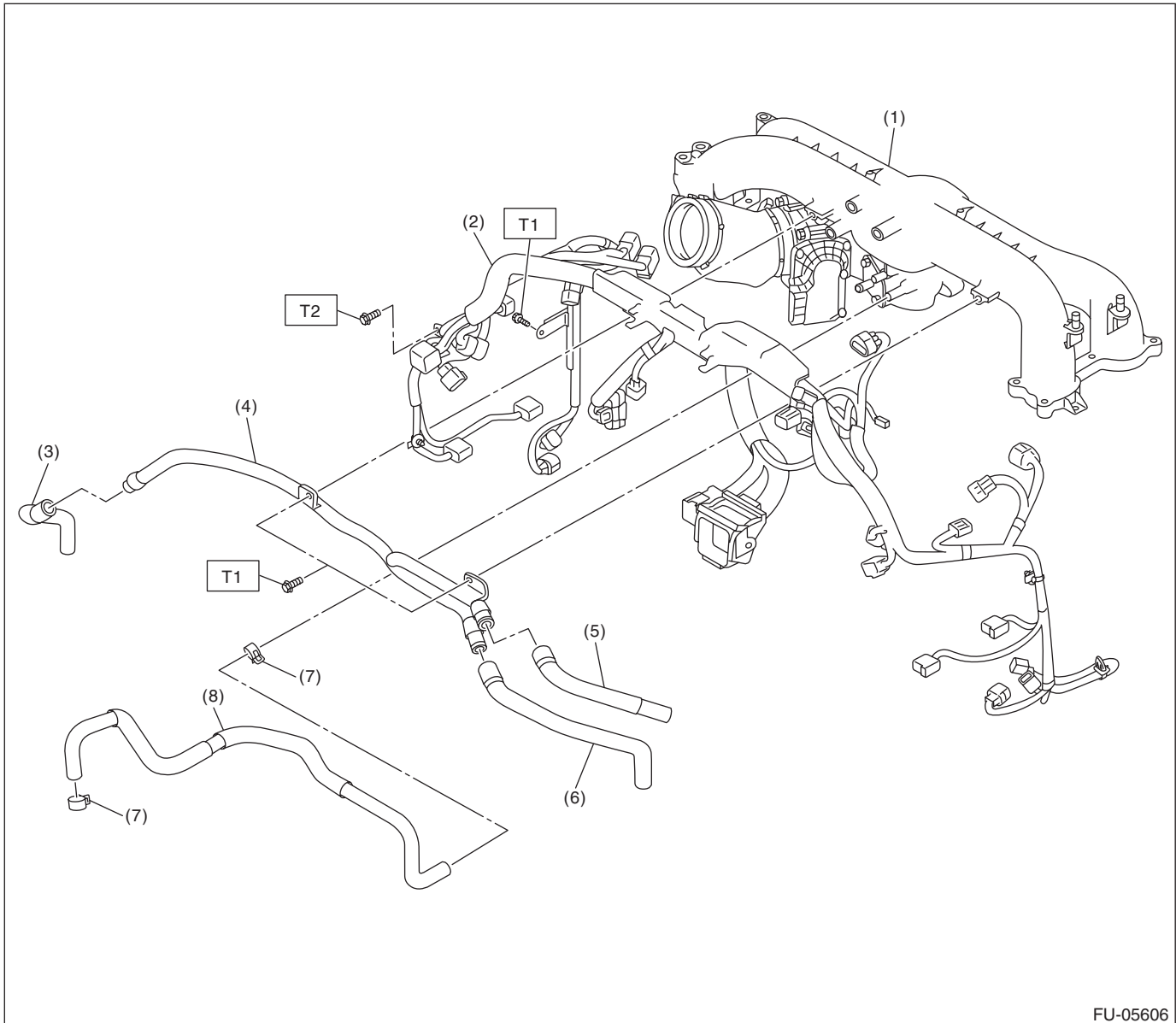
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(1) Intake manifold	(19) Vacuum hose D	(37) Gasket
(2) Vacuum control hose	(20) Purge control solenoid valve 2	(38) Knock pin
(3) Clamp	(21) Vacuum hose E	(39) Intake manifold protector LH
(4) Intake duct	(22) Vacuum hose F	(40) Nipple (except for model with integrated plate)
(5) Throttle body	(23) Clamp	(41) Nipple (model with integrated plate)
(6) O-ring	(24) Fuel hose A	(42) O-ring (model with integrated plate)
(7) Preheater hose A	(25) Fuel delivery pipe	
(8) Clip	(26) Fuel hose B	<i>Tightening torque:N·m (kgf-m, ft-lb)</i>
(9) Preheater hose B	(27) Fuel pipe	<i>T1: 1.25 (0.1, 0.9)</i>
(10) Pressure regulator vacuum hose	(28) O-ring	<i>T2: 3 (0.3, 2.2)</i>
(11) O-ring	(29) Pressure regulator	<i>T3: 3.45 (0.4, 2.5)</i>
(12) Purge control solenoid valve 1	(30) O-ring	<i>T4: 6.4 (0.7, 4.7)</i>
(13) Vacuum hose A	(31) Grommet	<i>T5: 7.8 (0.8, 5.8)</i>
(14) Vacuum hose B	(32) Fuel injector	<i>T6: 8 (0.8, 5.9)</i>
(15) Solenoid valve bracket	(33) Seal ring	<i>T7: 8.3 (0.8, 6.1)</i>
(16) Manifold absolute pressure sensor	(34) PCV pipe	<i>T8: 19 (1.9, 14.0)</i>
(17) Vacuum hose C	(35) Intake manifold protector RH	<i>T9: 23 (2.3, 17.0)</i>
(18) Filter	(36) Tumble generator valve ASSY	<i>T10: 25 (2.5, 18.4)</i>

2. INTAKE MANIFOLD 2



FU-05606

- | | |
|---------------------|-------------------------------|
| (1) Intake manifold | (5) Vacuum hose B |
| (2) Engine harness | (6) Vacuum hose C |
| (3) Vacuum hose A | (7) Clip |
| (4) PCV pipe | (8) Brake booster vacuum hose |

Tightening torque: N·m (kgf-m, ft-lb)

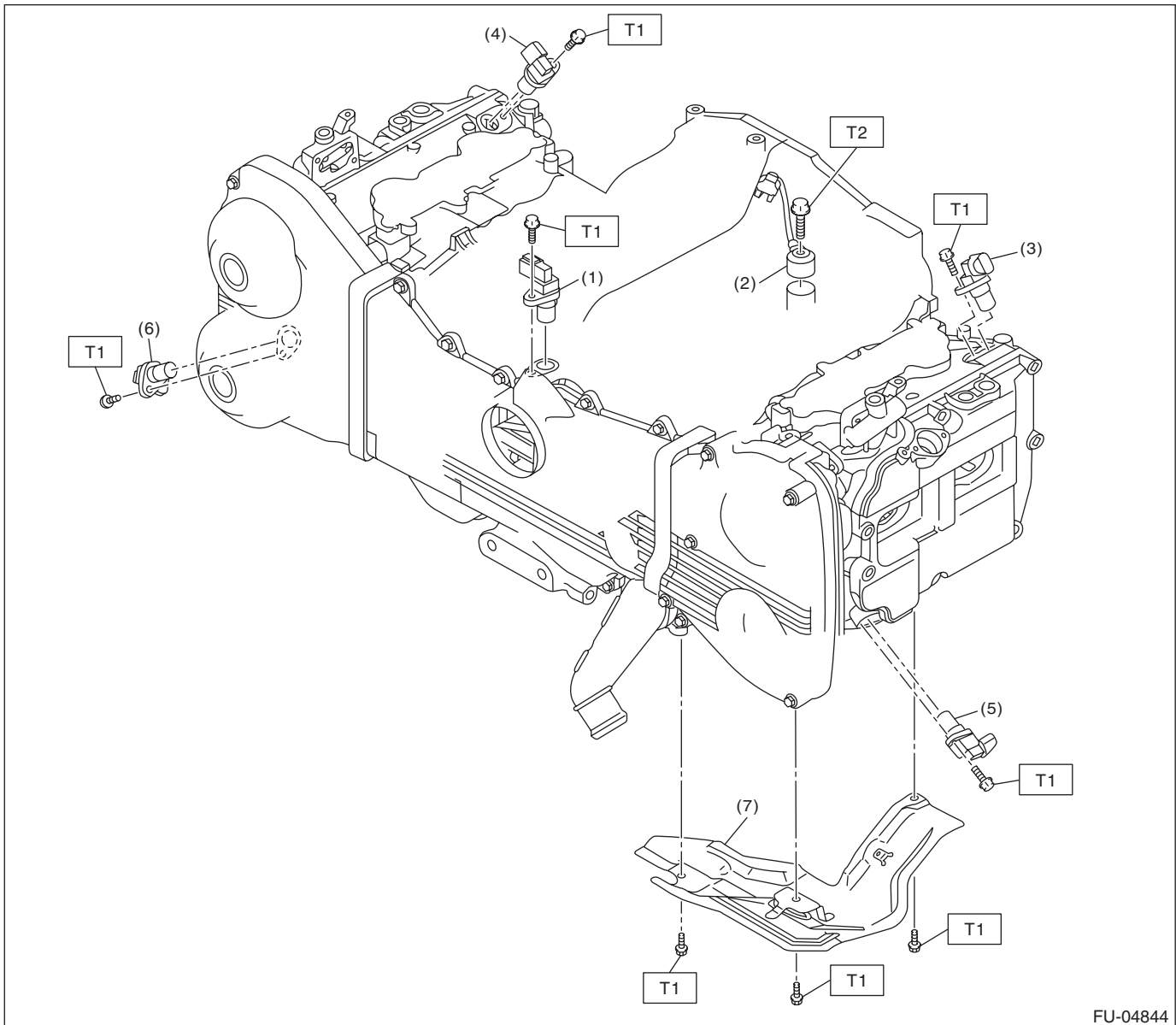
T1: 6.4 (0.7, 4.7)

T2: 19 (1.9, 14.0)

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3. CRANKSHAFT POSITION, CAMSHAFT POSITION AND KNOCK SENSORS



FU-04844

(1) Crankshaft position sensor

(5) Exhaust camshaft position sensor
LH

Tightening torque: N·m (kgf-m, ft-lb)

(2) Knock sensor

(6) Exhaust camshaft position sensor
RH

T1: 6.4 (0.7, 4.7)

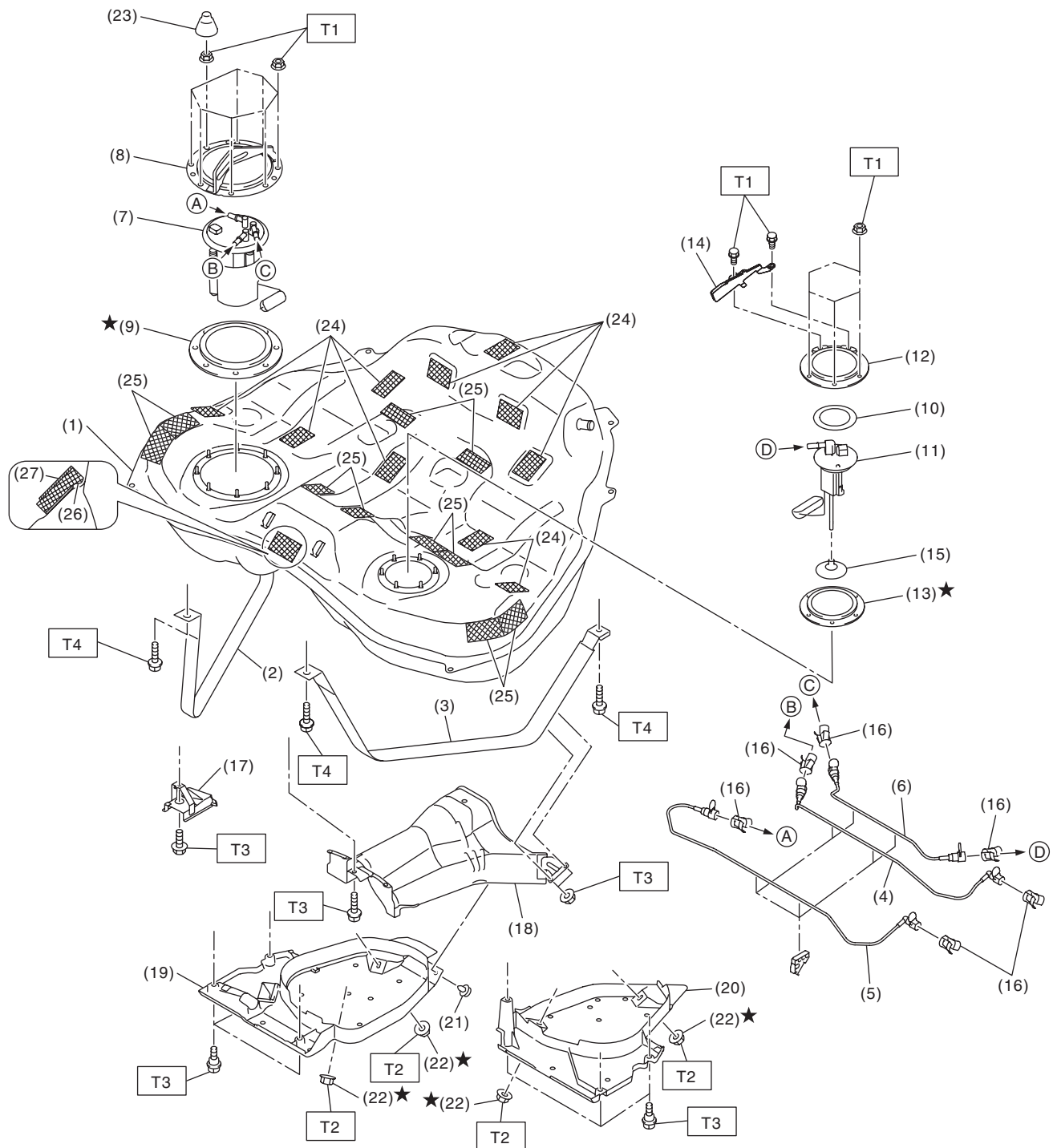
(3) Intake camshaft position sensor
LH

(7) Engine harness cover

T2: 24 (2.4, 17.7)

(4) Intake camshaft position sensor
RH

4. FUEL TANK



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General Description

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

Tightening torque:N·m (kgf-m, ft-lb)

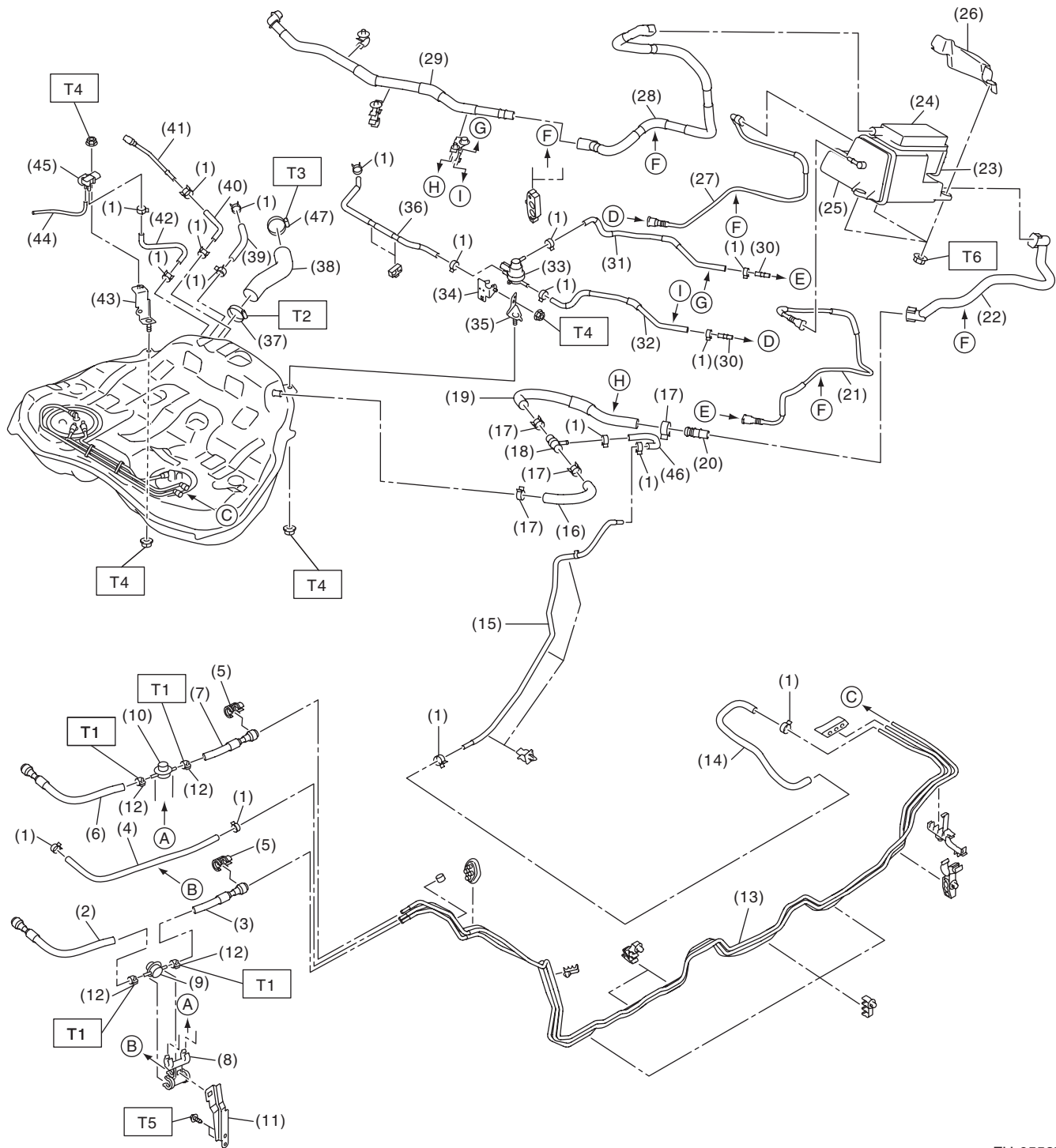
T1: 4.4 (0.4, 3.2)

T2: 9 (0.9, 6.6)

T3: 18 (1.8, 13.3)

T4: 33 (3.4, 24.3)

5. FUEL LINE



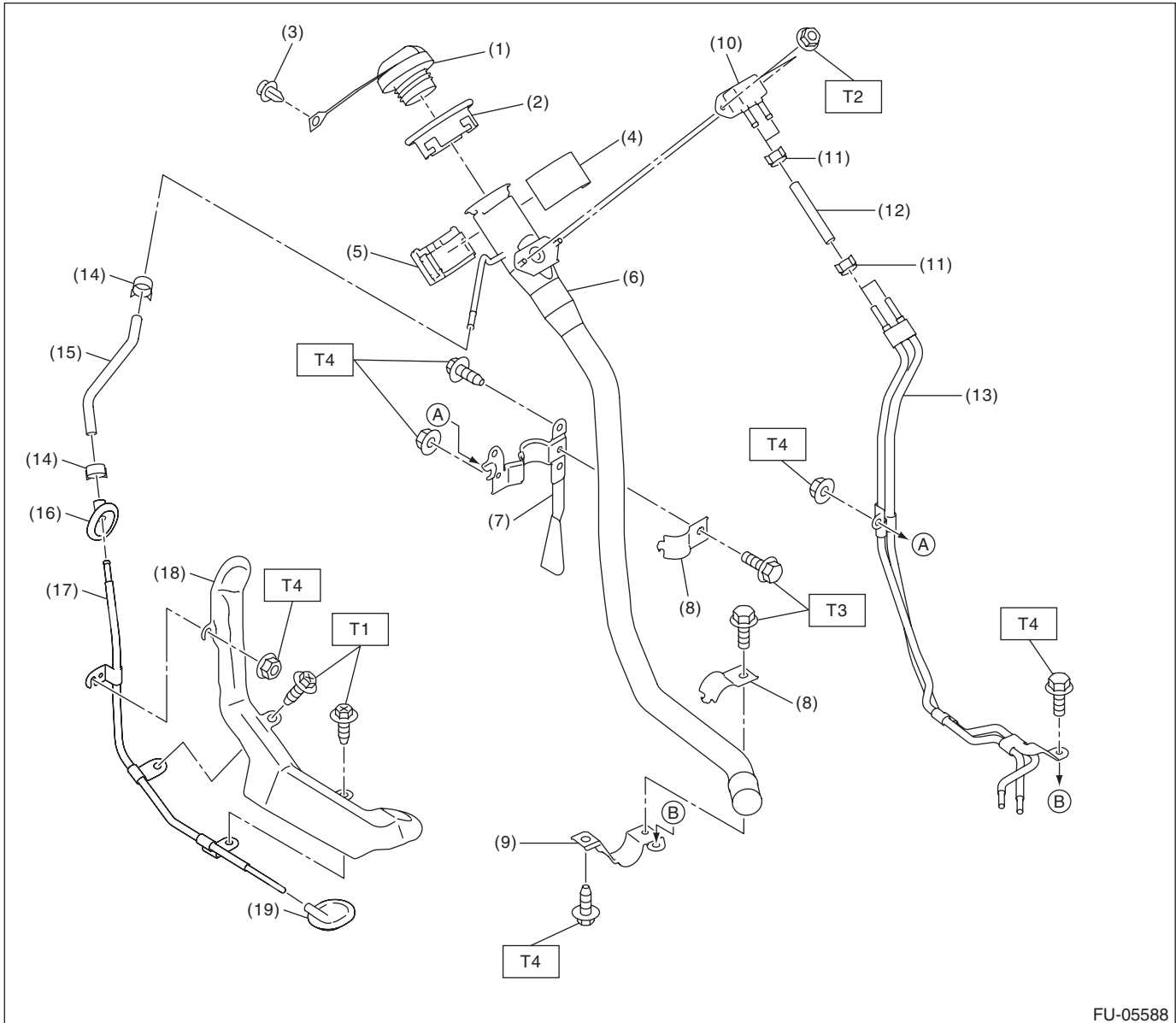
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(1) Clip	(20) Connector	(39) Charge hose
(2) Fuel return hose A	(21) PCV drain tube	(40) Circulate hose
(3) Fuel return hose B	(22) Vent tube	(41) Circulate tube
(4) Evaporation hose	(23) Drain valve	(42) Pressure hose
(5) Connect check cover	(24) Drain filter	(43) Fuel tank pressure sensor bracket
(6) Fuel delivery hose A	(25) Canister	(44) Vacuum hose
(7) Fuel delivery hose B	(26) Canister protector	(45) Fuel tank pressure sensor
(8) Fuel damper holder	(27) Charge tube	(46) Purge hose B
(9) Fuel damper	(28) Canister drain tube	(47) Clamp
(10) Fuel damper	(29) Drain tube ASSY	
(11) Fuel damper bracket	(30) Connector	<i>Tightening torque:N·m (kgf-m, ft-lb)</i>
(12) Clamp	(31) PCV drain hose	<i>T1: 1.25 (0.1, 0.9)</i>
(13) Fuel pipe ASSY	(32) PCV outlet hose	<i>T2: 2.0 (0.2, 1.5)</i>
(14) Purge hose A	(33) Pressure control solenoid valve	<i>T3: 2.5 (0.3, 1.8)</i>
(15) Purge pipe	(34) Pressure control solenoid valve bracket A	<i>T4: 7.35 (0.7, 5.4)</i>
(16) Air vent hose A	(35) Pressure control solenoid valve bracket B	<i>T5: 7.5 (0.8, 5.5)</i>
(17) Clip	(36) PCV inlet hose	<i>T6: 8 (0.8, 5.9)</i>
(18) Connector	(37) Clamp	
(19) Air vent hose B	(38) Fuel filler hose	

6. FUEL FILLER PIPE



FU-05588

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|--------------------------------|---------------------------------|--------------|
| (1) Fuel filler cap | (10) Shut valve | (19) Grommet |
| (2) Fuel filler pipe protector | (11) Clip | |
| (3) Clip | (12) Evaporation hose A | |
| (4) Neck holder A | (13) Evaporation pipe A | |
| (5) Neck holder B | (14) Clip | |
| (6) Fuel filler pipe | (15) Evaporation hose B | |
| (7) Fuel filler pipe bracket A | (16) Grommet | |
| (8) Fuel filler pipe bracket B | (17) Evaporation pipe B | |
| (9) Fuel filler pipe bracket C | (18) Evaporation pipe protector | |

Tightening torque: N·m (kgf-m, ft-lb)

T1: 1 (0.1, 0.7)

T2: 4.5 (0.5, 3.3)

T3: 7.35 (0.7, 5.4)

T4: 7.5 (0.8, 5.5)

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C: CAUTION

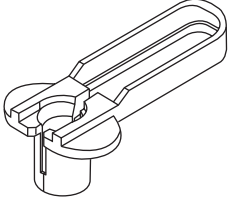
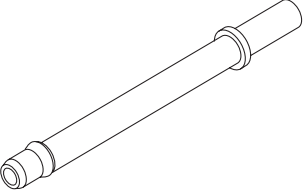
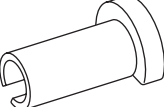
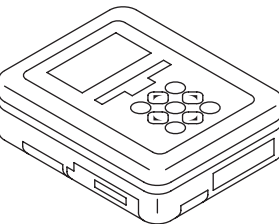
- Wear appropriate work clothing, including a cap, protective goggles and protective shoes when performing any work.
- Remove contamination including dirt and corrosion before removal, installation or disassembly.
- Keep the disassembled parts in order and protect them from dust and dirt.
- Before removal, 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.
- 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 fuel 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.

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D: PREPARATION TOOL

1. SPECIAL TOOL

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
 ST18371AA000	18371AA000	CONNECTOR REMOVER	Used for disconnecting the quick connector on the fuel return hose side of the engine compartment (intake manifold).
 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.
Sensor socket	Used for removing and installing the front oxygen (A/F) sensor and rear oxygen sensor.