

General Description

FUEL INJECTION (FUEL SYSTEMS)

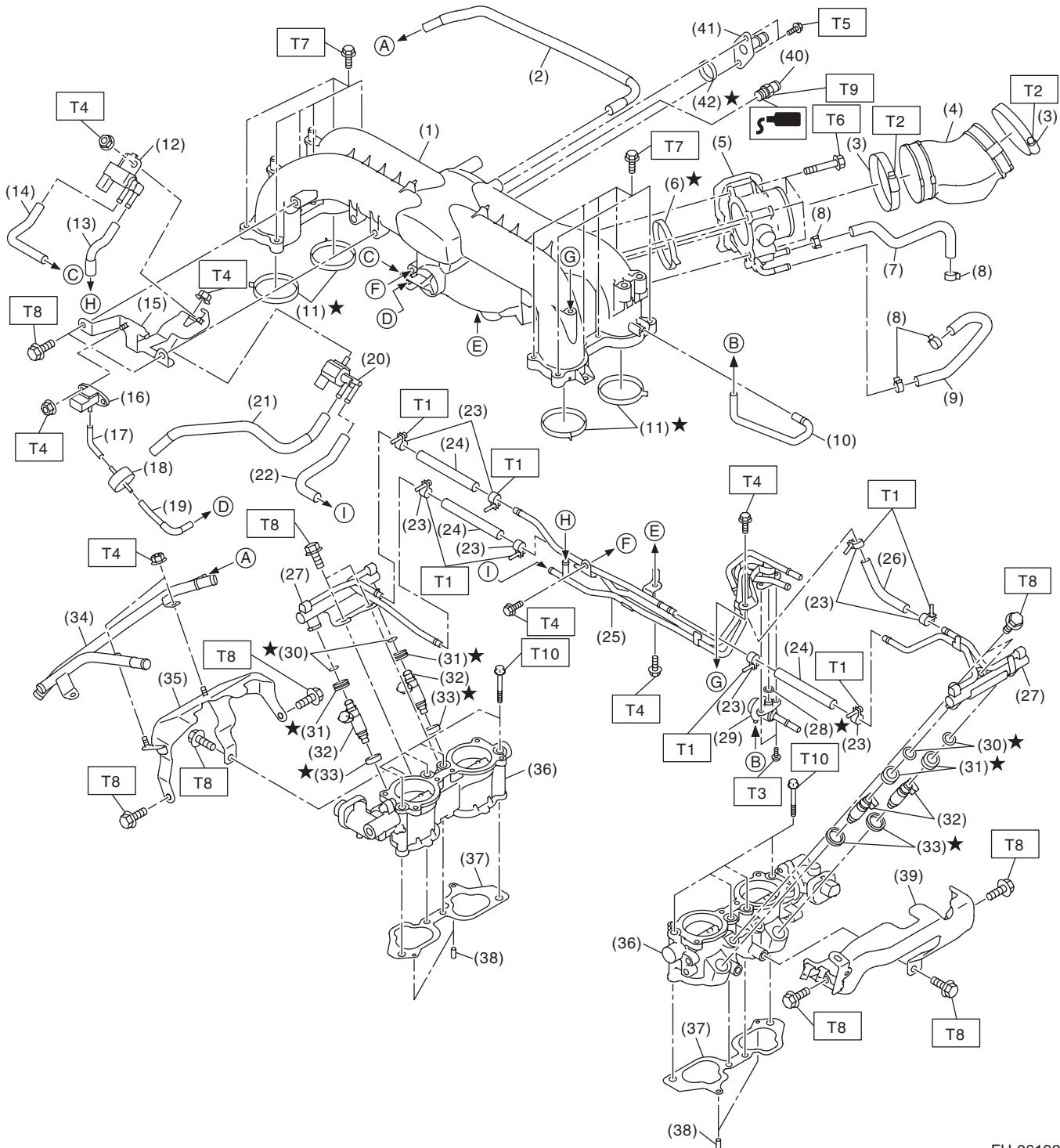
1. General Description

A: SPECIFICATION

Fuel tank	Capacity	70 ℥ (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 ℥ (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



General Description

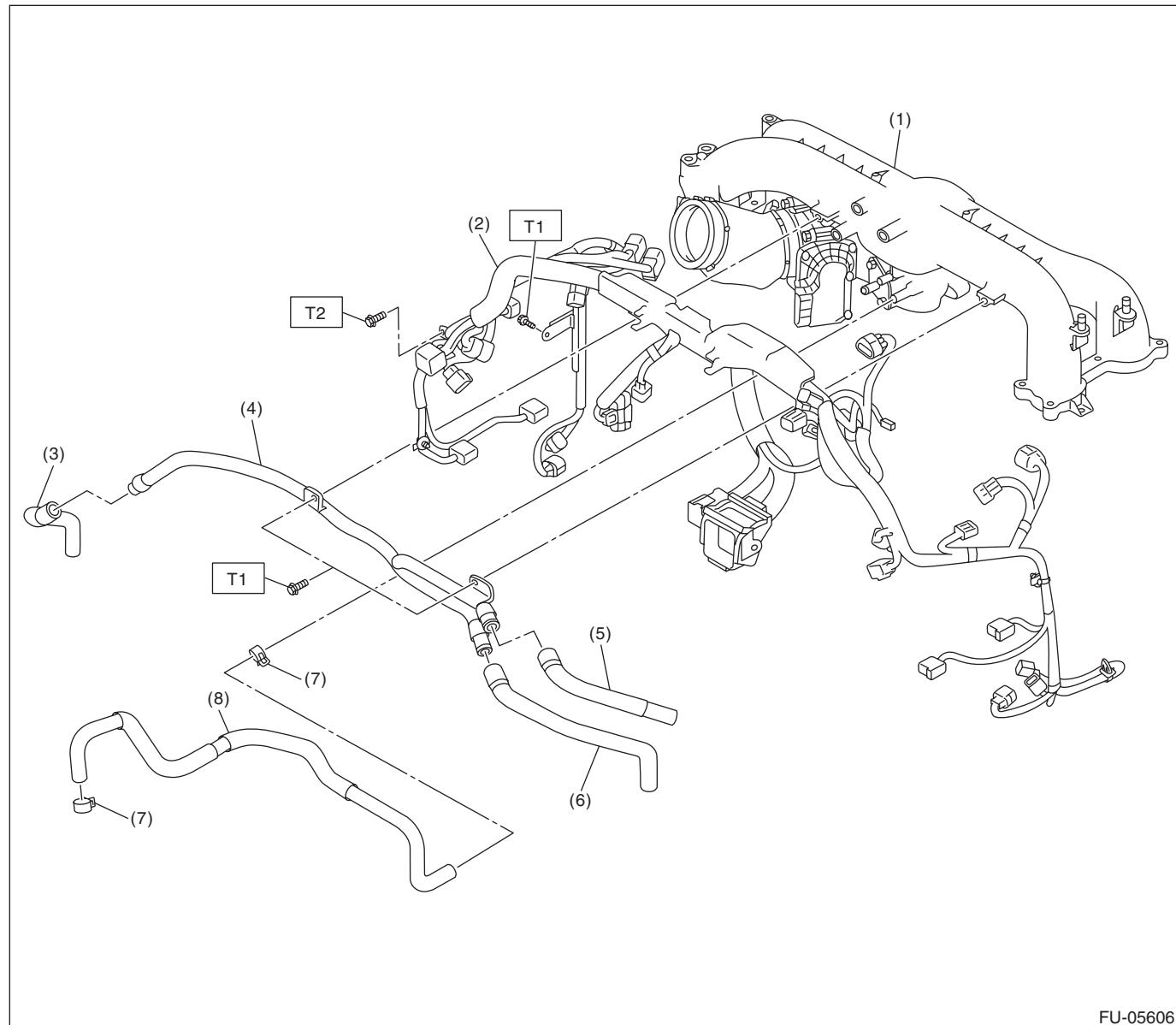
FUEL INJECTION (FUEL SYSTEMS)

(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	<hr/>
(8) Clip	(26) Fuel hose B	Tightening torque: N·m (kgf·m, ft·lb)
(9) Preheater hose B	(27) Fuel pipe	T1: 1.25 (0.1, 0.9)
(10) Pressure regulator vacuum hose	(28) O-ring	T2: 3 (0.3, 2.2)
(11) O-ring	(29) Pressure regulator	T3: 3.45 (0.4, 2.5)
(12) Purge control solenoid valve 1	(30) O-ring	T4: 6.4 (0.7, 4.7)
(13) Vacuum hose A	(31) Grommet	T5: 7.8 (0.8, 5.8)
(14) Vacuum hose B	(32) Fuel injector	T6: 8 (0.8, 5.9)
(15) Solenoid valve bracket	(33) Seal ring	T7: 8.3 (0.8, 6.1)
(16) Manifold absolute pressure sensor	(34) PCV pipe	T8: 19 (1.9, 14.0)
(17) Vacuum hose C	(35) Intake manifold protector RH	T9: 23 (2.3, 17.0)
(18) Filter	(36) Tumble generator valve ASSY	T10: 25 (2.5, 18.4)

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2. INTAKE MANIFOLD 2



(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)

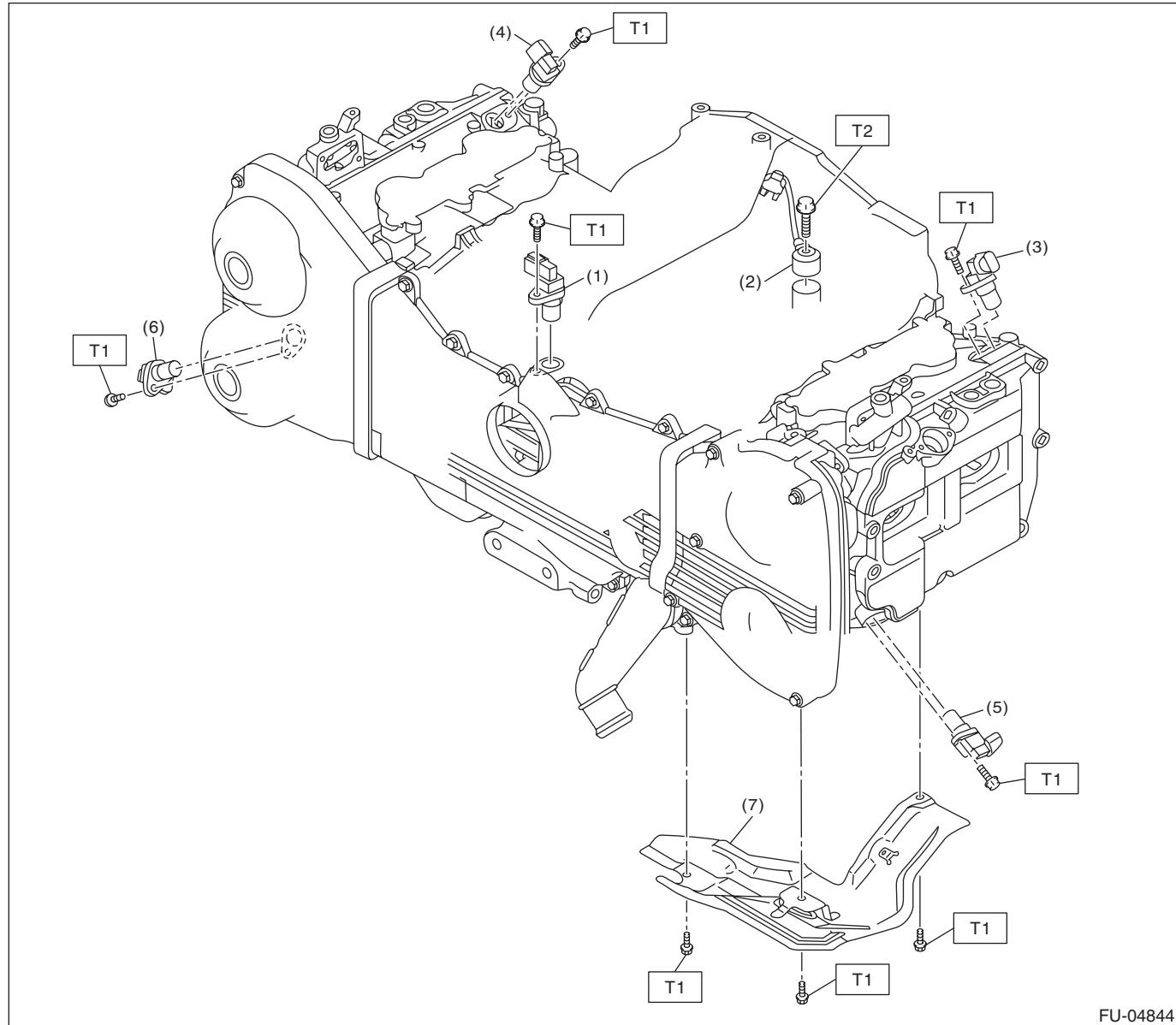
T1: 6.4 (0.7, 4.7)

T2: 19 (1.9, 14.0)

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3. CRANKSHAFT POSITION, CAMSHAFT POSITION AND KNOCK SENSORS



- (1) Crankshaft position sensor
- (2) Knock sensor
- (3) Intake camshaft position sensor LH
- (4) Intake camshaft position sensor RH

- (5) Exhaust camshaft position sensor LH
- (6) Exhaust camshaft position sensor RH
- (7) Engine harness cover

Tightening torque:N·m (kgf·m, ft·lb)

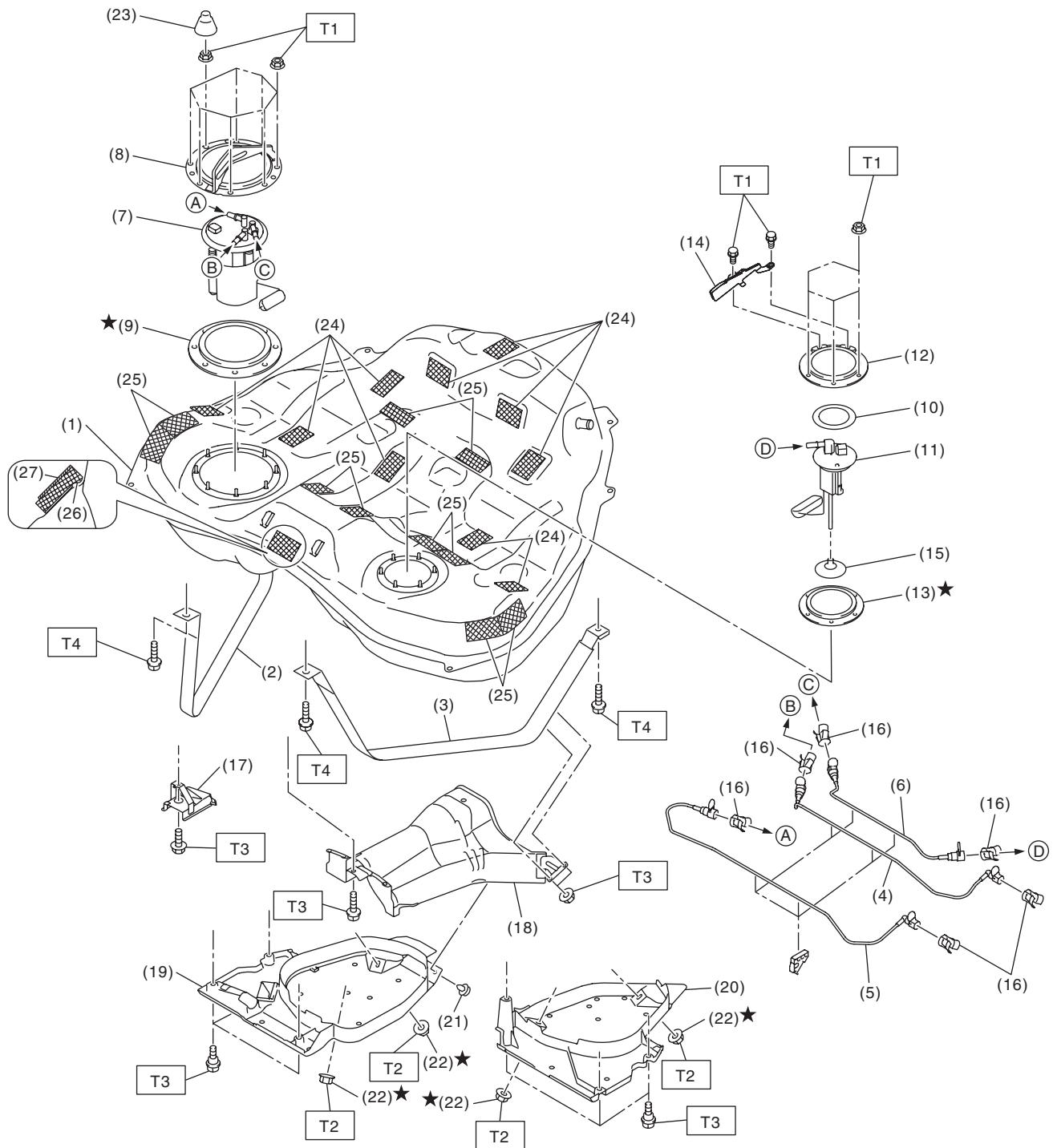
T1: 6.4 (0.7, 4.7)

T2: 24 (2.4, 17.7)

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4. FUEL TANK



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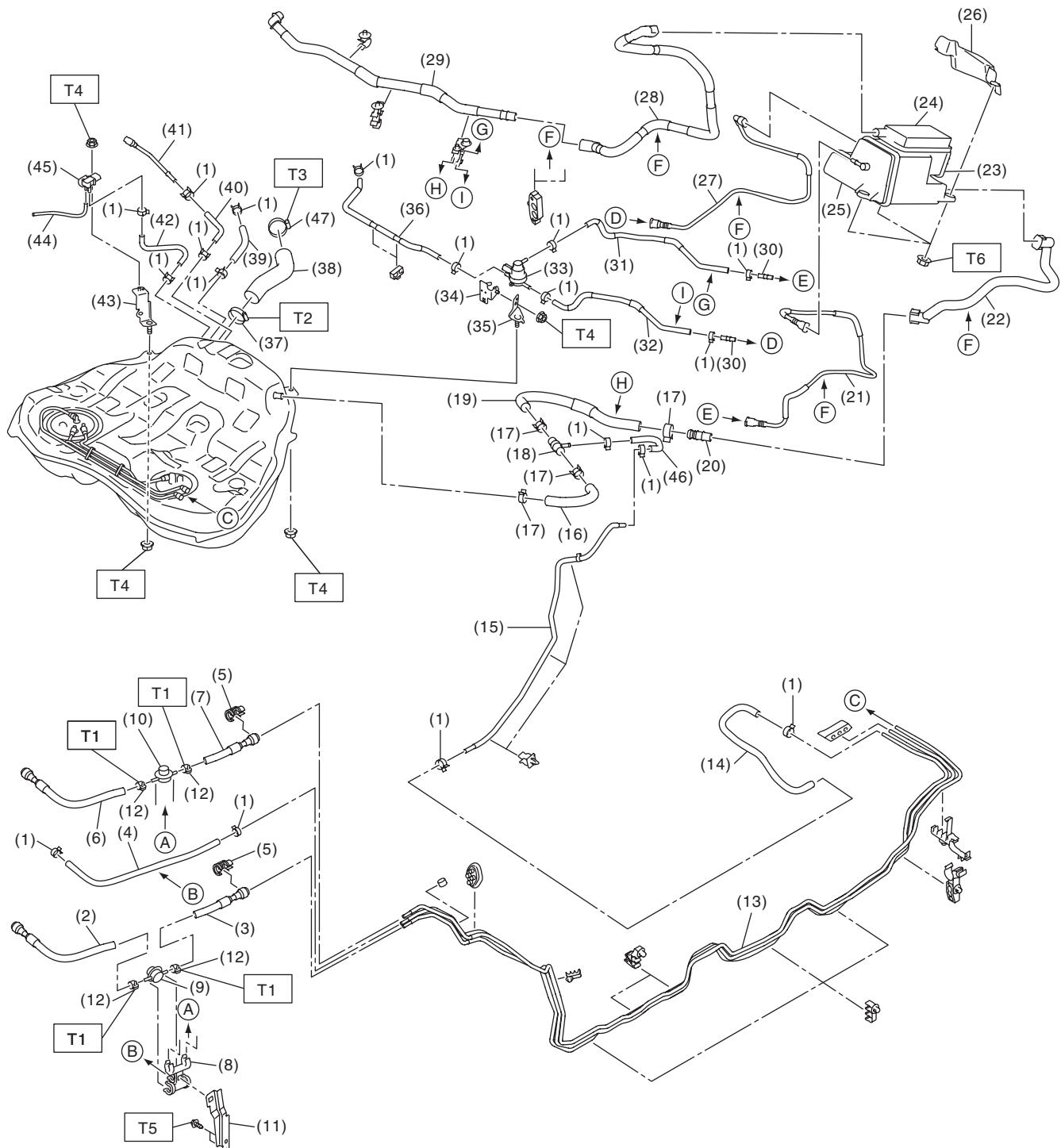
FUEL INJECTION (FUEL SYSTEMS)

(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	Tightening torque: N·m (kgf·m, ft·lb)
(6) Fuel sub delivery tube	(18) Heat shield cover	T1: 4.4 (0.4, 3.2)
(7) Fuel pump ASSY	(19) Fuel tank protector RH	T2: 9 (0.9, 6.6)
(8) Fuel pump upper plate	(20) Fuel tank protector LH	T3: 18 (1.8, 13.3)
(9) Fuel pump gasket	(21) Clip	T4: 33 (3.4, 24.3)
(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	

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5. FUEL LINE



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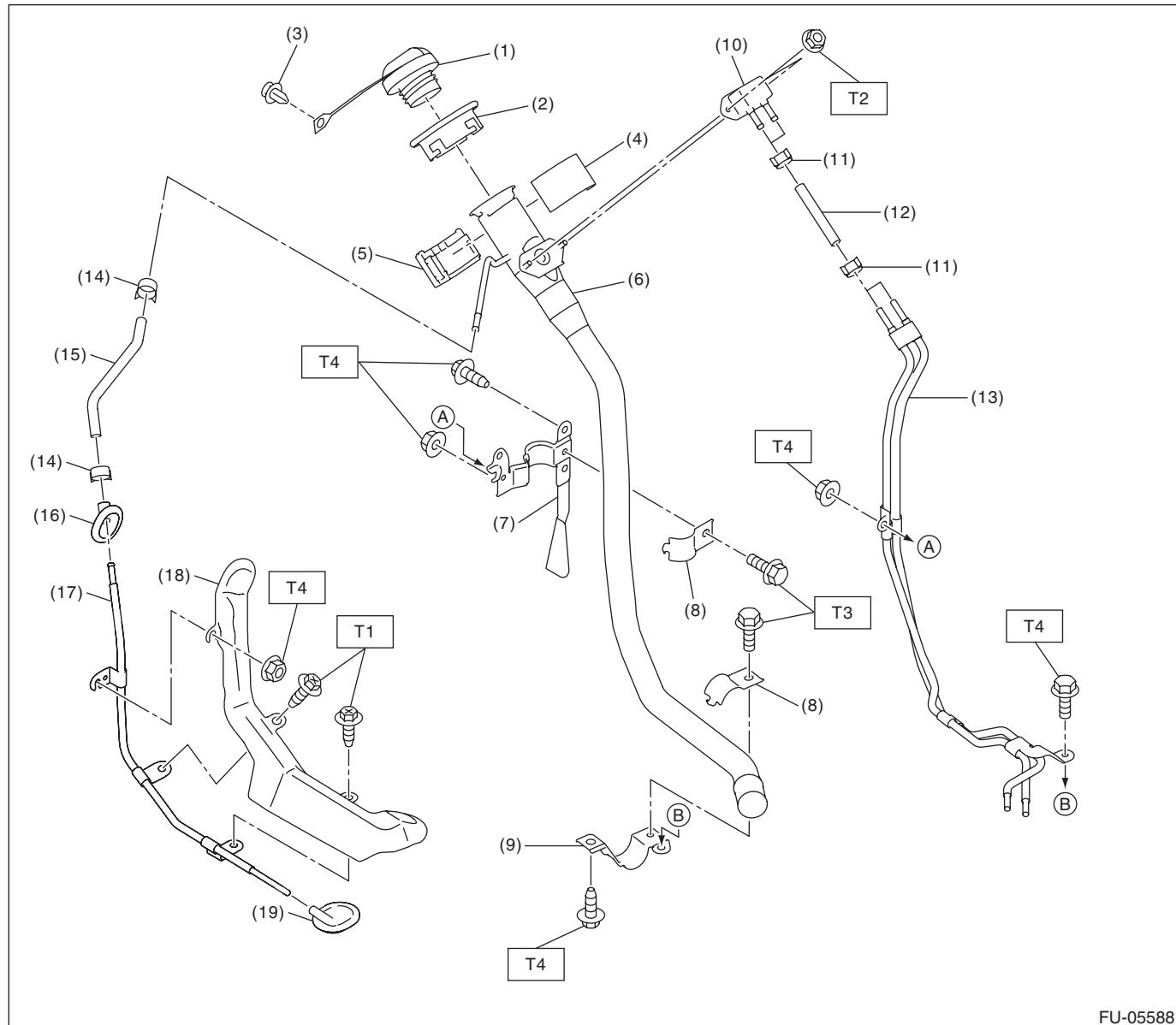
FUEL INJECTION (FUEL SYSTEMS)

(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	
(12) Clamp	(31) PCV drain hose	Tightening torque:N·m (kgf·m, ft·lb)
(13) Fuel pipe ASSY	(32) PCV outlet hose	T1: 1.25 (0.1, 0.9)
(14) Purge hose A	(33) Pressure control solenoid valve	T2: 2.0 (0.2, 1.5)
(15) Purge pipe	(34) Pressure control solenoid valve bracket A	T3: 2.5 (0.3, 1.8)
(16) Air vent hose A	(35) Pressure control solenoid valve bracket B	T4: 7.35 (0.7, 5.4)
(17) Clip	(36) PCV inlet hose	T5: 7.5 (0.8, 5.5)
(18) Connector	(37) Clamp	
(19) Air vent hose B	(38) Fuel filler hose	T6: 8 (0.8, 5.9)

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6. FUEL FILLER PIPE



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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)

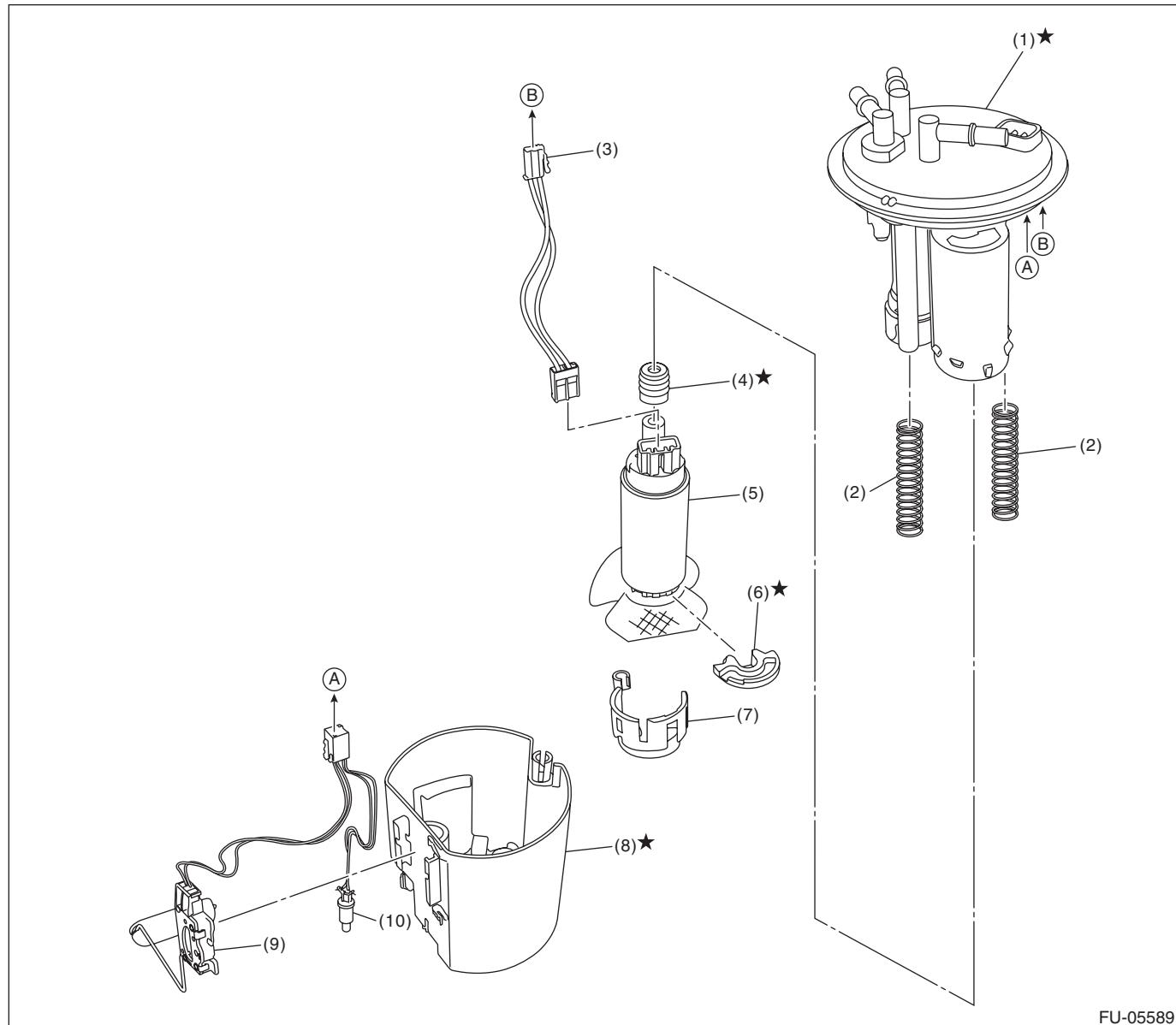
T3: 7.35 (0.7, 5.4)

T4: 7.5 (0.8, 5.5)

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7. FUEL PUMP



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

C: CAUTION

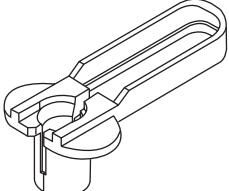
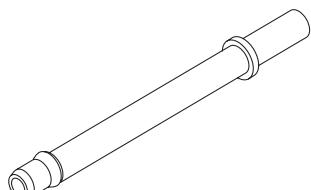
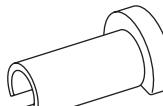
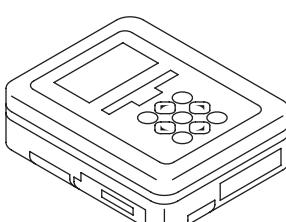
- Wear appropriate work clothing, including a cap, protective goggles and protective shoes when performing any work.
- Remove contamination including dirt and corrosion before removal, installation or disassembly.
- Keep the disassembled parts in order and protect them from dust and dirt.
- Before removal, 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
	18371AA000 ST18371AA000	CONNECTOR REMOVER	Used for disconnecting the quick connector on the fuel return hose side of the engine compartment (intake manifold).
	18471AA000 ST18471AA000	FUEL PIPE ADAPTER	Used for draining fuel.
	42099AE000 ST42099AE000	QUICK CONNEC- TOR RELEASE	Used for removing the quick connector.
	1B022XU0 ST1B022XU0	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.