

General Description

FUEL INJECTION (FUEL SYSTEMS)

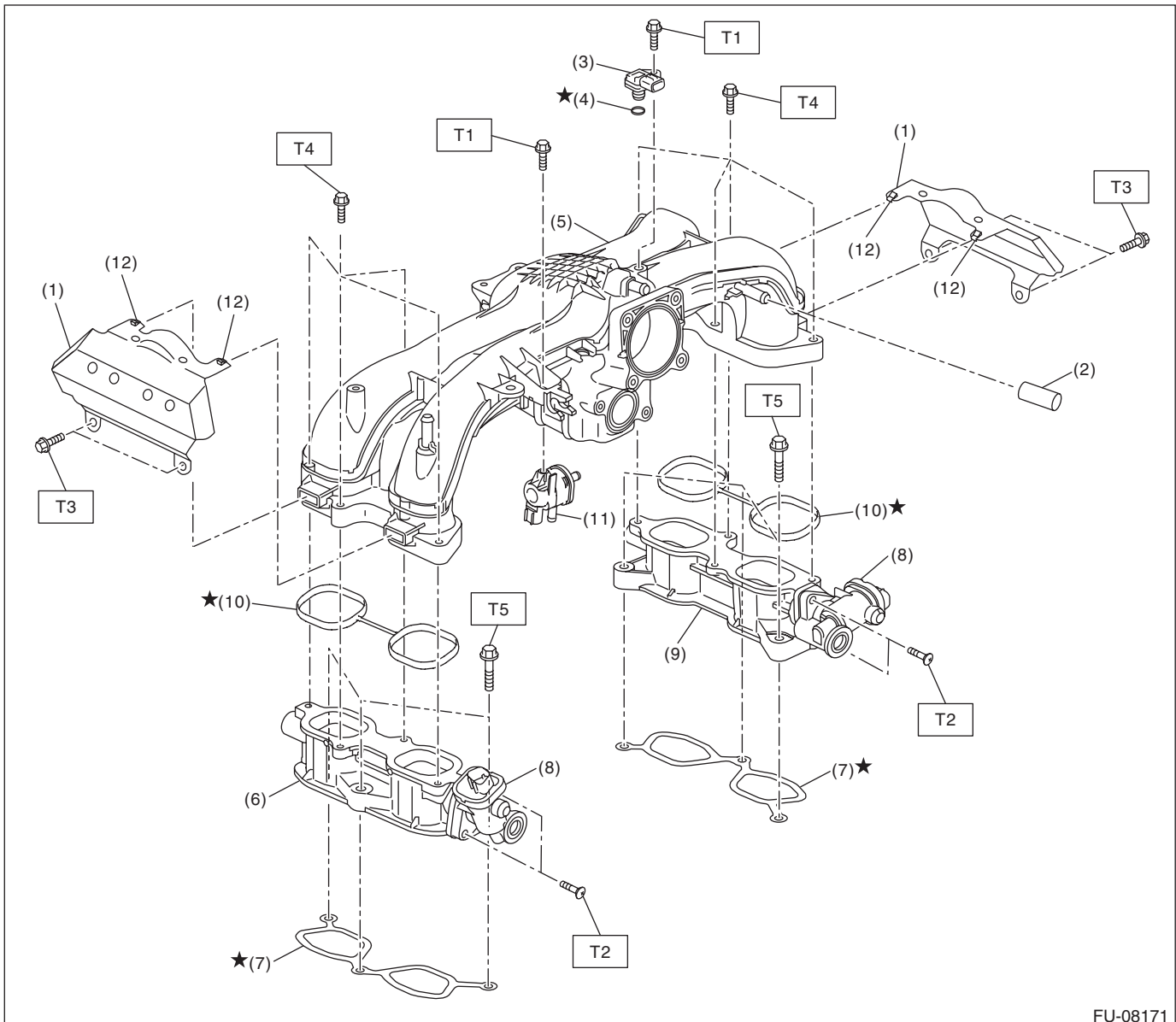
1. General Description

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		750 kPa (7.7 kg/cm ² , 108.8 psi), or less
	Discharge rate		82 L (21.7 US gal, 18 Imp gal)/h or more [12.5 V at 343 kPa (3.5 kg/cm ² , 49.7 psi)]
Fuel filter			In-tank type

B: COMPONENT

1. INTAKE MANIFOLD 1



FU-08171

- | | |
|---------------------------------------|-------------------------------------|
| (1) Intake manifold protector | (7) Gasket |
| (2) Cap | (8) Tumble generator valve actuator |
| (3) Manifold absolute pressure sensor | (9) Tumble generator valve RH |
| (4) O-ring | (10) Gasket |
| (5) Intake manifold | (11) Purge control solenoid valve |
| (6) Tumble generator valve LH | (12) Cushion |

Tightening torque: N·m (kgf·m, ft·lb)

T1: 3.4 (0.3, 2.5)

T2: 6 (0.6, 4.4)

T3: 6.4 (0.7, 4.7)

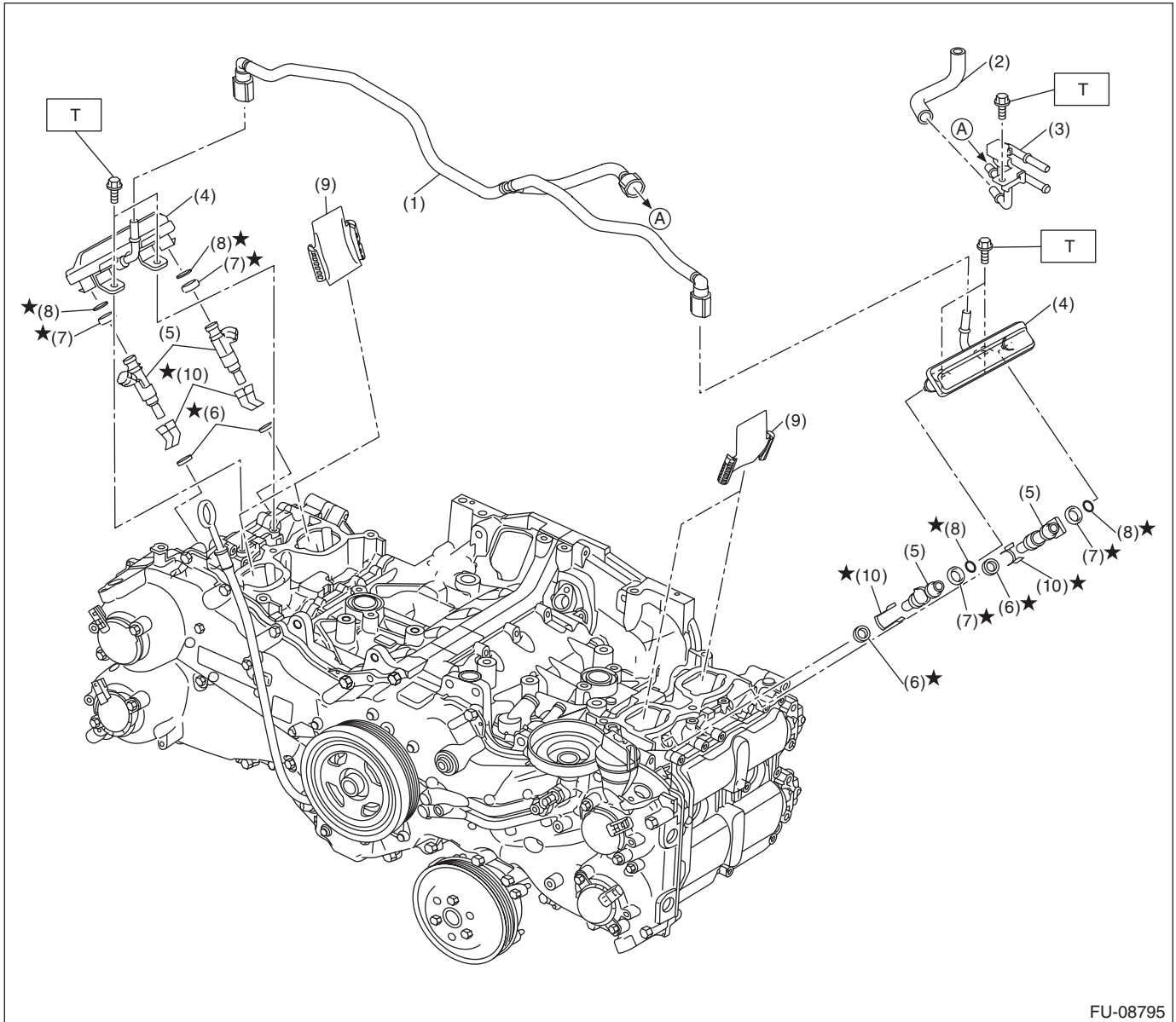
T4: 8.3 (0.8, 6.1)

T5: 25 (2.5, 18.4)

General Description

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2. INTAKE MANIFOLD 2



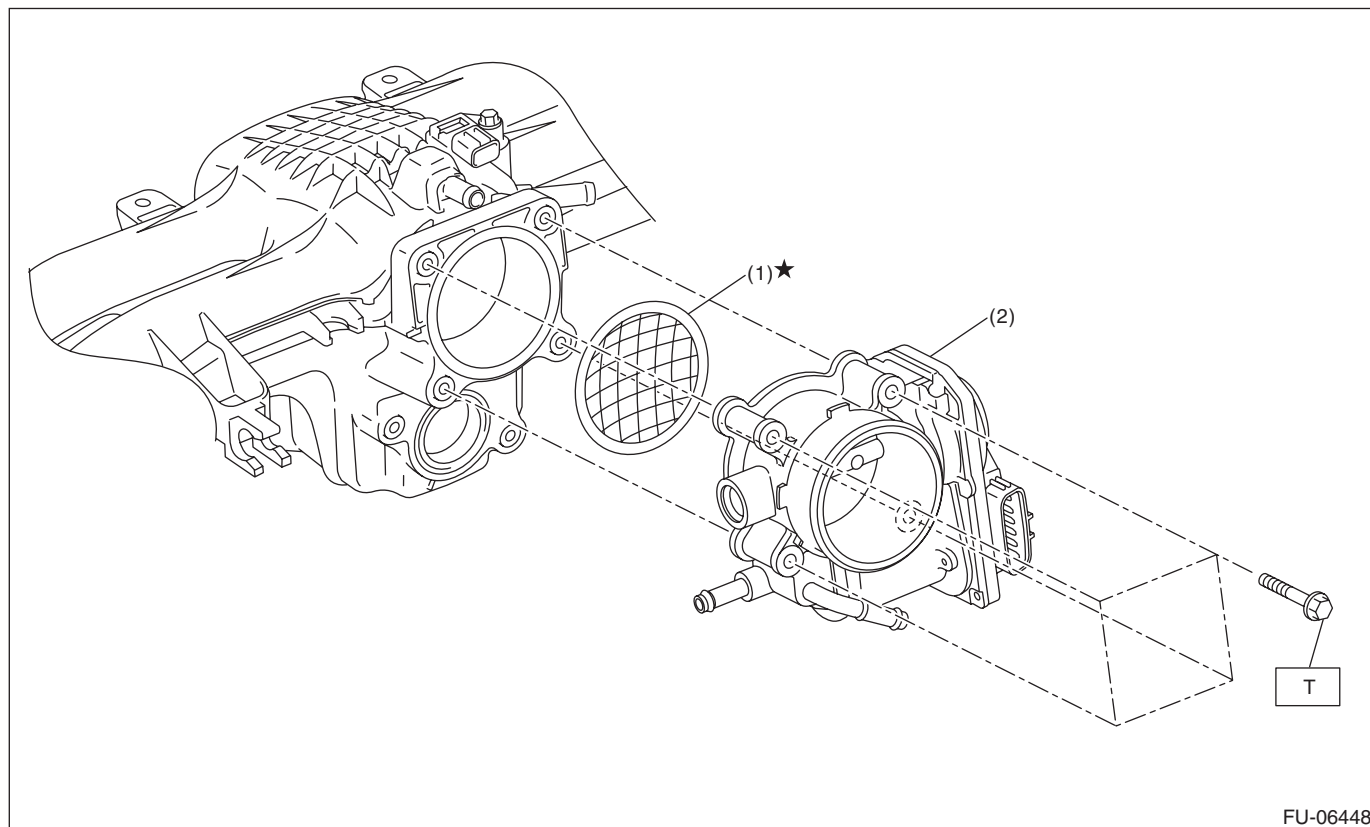
FU-08795

- | | |
|------------------------|---------------------------|
| (1) Fuel delivery pipe | (6) Seal ring |
| (2) Vacuum hose | (7) Rubber |
| (3) Fuel pipe A | (8) O-ring |
| (4) Fuel pipe B | (9) Cylinder head plate |
| (5) Fuel injector | (10) Fuel injector holder |

Tightening torque: N·m (kgf-m, ft-lb)

T: 6.4 (0.7, 4.7)

3. THROTTLE BODY



FU-06448

(1) Gasket

(2) Throttle body

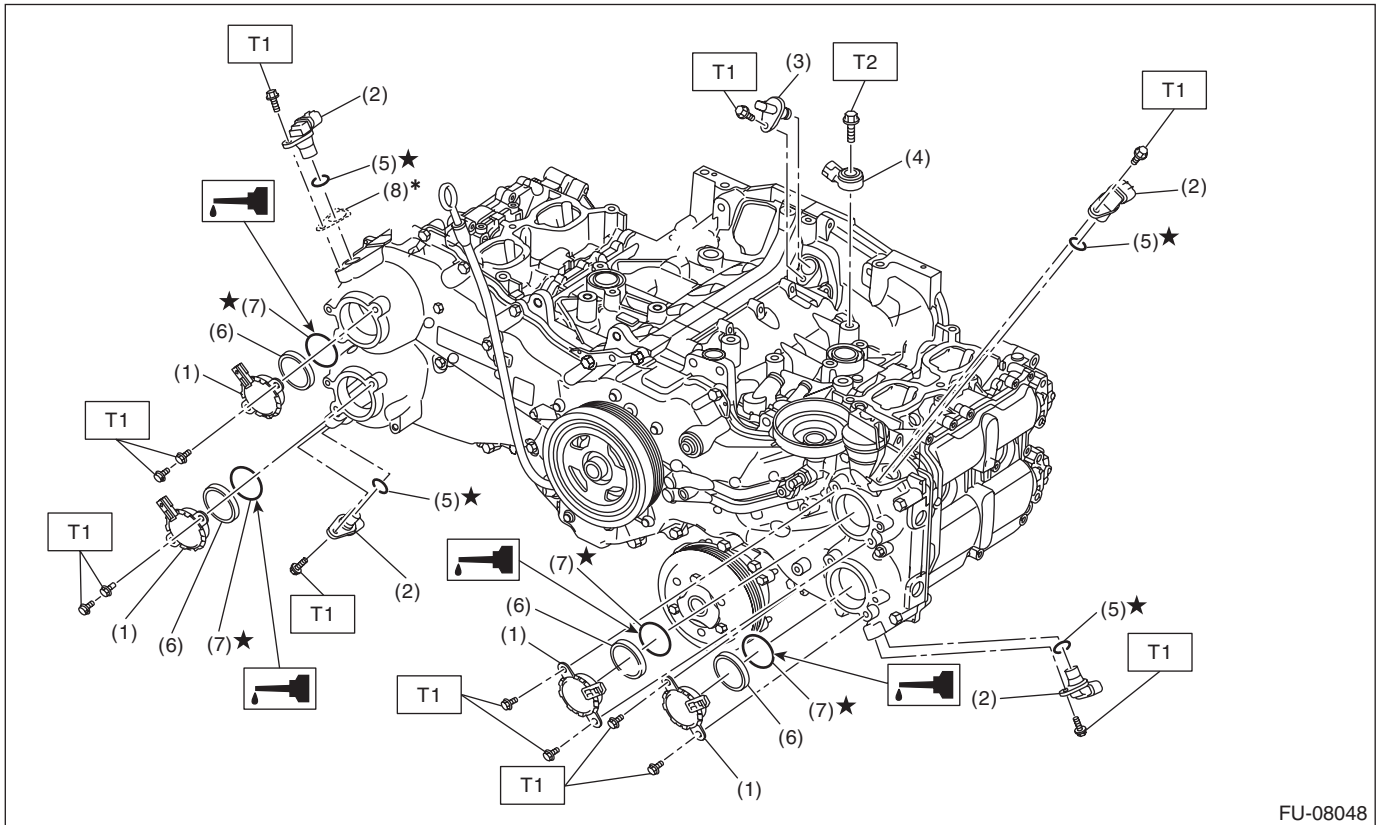
Tightening torque: N·m (kgf-m, ft-lb)

T: 8 (0.8, 5.9)

General Description

FUEL INJECTION (FUEL SYSTEMS)

4. CRANKSHAFT POSITION, CAMSHAFT POSITION AND KNOCK SENSORS



FU-08048

- | | |
|--------------------------------|------------------|
| (1) Oil control solenoid | (5) O-ring |
| (2) Camshaft position sensor | (6) Back-up ring |
| (3) Crankshaft position sensor | (7) O-ring |
| (4) Knock sensor | (8) Spacer |

* Zero or one spacer for gap adjustment.

Tightening torque: N·m (kgf-m, ft-lb)

T1: 6.4 (0.7, 4.7)

T2: 24 (2.4, 17.7)

FUEL INJECTION (FUEL SYSTEMS)

This diagram illustrates the assembly of a car engine block. The main components are labeled as follows:

- Engine Block (1):** The central component, shown in an exploded view.
- Cylinder Head (2):** The top cover of the engine block.
- Valve Train (3):** The mechanism for opening and closing the valves.
- Timing Belt (4):** The belt that synchronizes the rotation of the crankshaft and the camshaft.
- Timing Cover (5):** The cover for the timing belt.
- Water Pump (6):** The pump that circulates coolant through the engine.
- Timing Chain (7):** The chain that synchronizes the rotation of the crankshaft and the camshaft.
- Timing Cover (8):** The cover for the timing chain.
- Timing Cover (9):** The cover for the timing chain.
- Timing Cover (10):** The cover for the timing chain.
- Timing Cover (11):** The cover for the timing chain.
- Timing Cover (12):** The cover for the timing chain.
- Timing Cover (13):** The cover for the timing chain.
- Timing Cover (14):** The cover for the timing chain.
- Timing Cover (15):** The cover for the timing chain.
- Timing Cover (16):** The cover for the timing chain.
- Timing Cover (17):** The cover for the timing chain.
- Timing Cover (18):** The cover for the timing chain.
- Timing Cover (19):** The cover for the timing chain.
- Timing Cover (20):** The cover for the timing chain.
- Timing Cover (21):** The cover for the timing chain.
- Timing Cover (22):** The cover for the timing chain.
- Timing Cover (23):** The cover for the timing chain.
- Timing Cover (24):** The cover for the timing chain.
- Timing Cover (25):** The cover for the timing chain.
- Timing Cover (26):** The cover for the timing chain.
- Timing Cover (27):** The cover for the timing chain.
- Timing Cover (28):** The cover for the timing chain.

The diagram also includes various fasteners and components labeled with letters and numbers:

- T1, T2, T3, T4, T5, T6, T7:** Torque wrench settings for various bolts and nuts.
- (1), (2), (3), (4), (5), (6), (7), (8), (9), (10), (11), (12), (13), (14), (15), (16), (17), (18), (19), (20), (21), (22), (23), (24), (25), (26), (27), (28):** Part numbers for various components.
- ★:** A star symbol indicating a specific assembly step or a critical component.

FU(H4DO(w/o HEV))-7

General Description

FUEL INJECTION (FUEL SYSTEMS)

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

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)

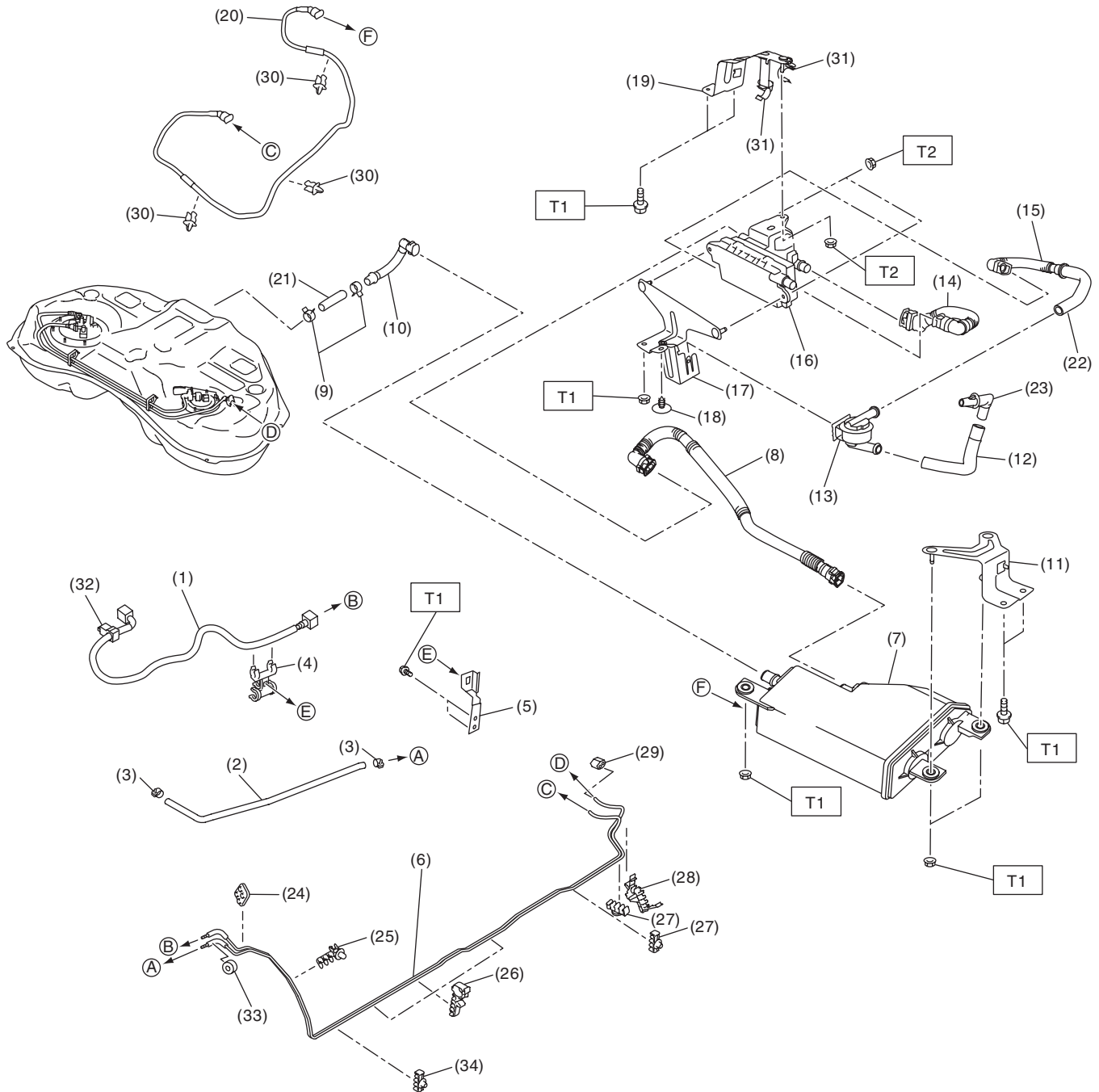
T4: 18 (1.8, 13.3)

T5: 33 (3.4, 24.3)

T6: <Ref. to FU(H4DO(w/o HEV))-141, INSTALLATION, Fuel Pump.>

T7: <Ref. to FU(H4DO(w/o HEV))-150, INSTALLATION, Fuel Sub Level Sensor.>

6. FUEL LINE



FU-08922

General Description

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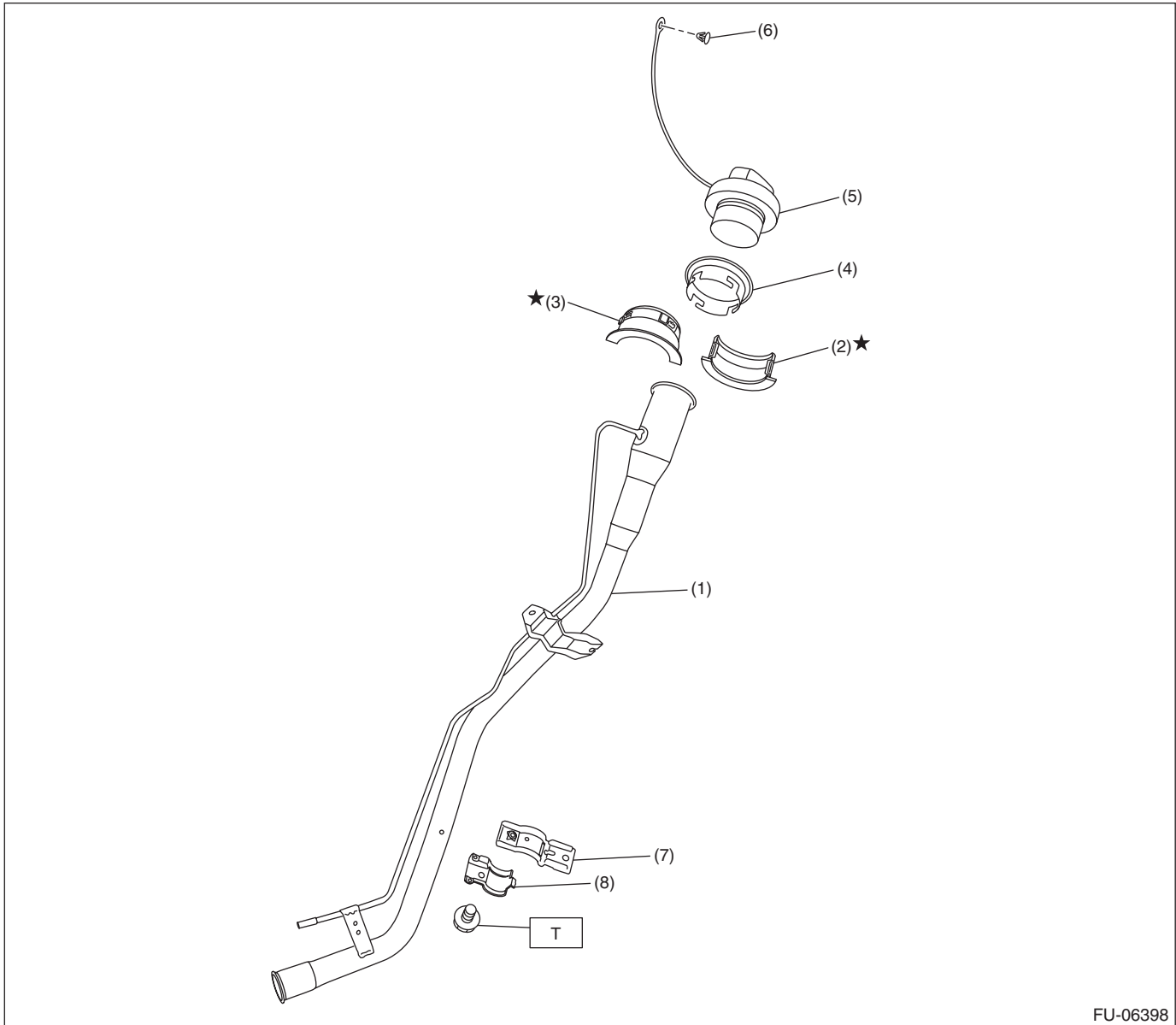
(1) Fuel delivery tube	(14) Drain tube B	(27) Pipe clamp
(2) Evaporation hose	(15) Drain tube C	(28) Pipe clamp
(3) Clip	(16) Leak check valve ASSY	(29) Fuel pipe rear grommet
(4) Hose clamp	(17) Leak check valve bracket A	(30) Pipe clamp
(5) Hose clamp bracket	(18) Clip	(31) Tube clamp
(6) Fuel pipe ASSY	(19) Leak check valve bracket B	(32) Tube clamp
(7) Canister	(20) Purge pipe	(33) Bushing
(8) Drain tube A	(21) Vent hose	(34) Pipe clamp
(9) Clip	(22) Drain hose	
(10) Vent tube	(23) Connector	
(11) Canister bracket	(24) Fuel pipe front grommet	
(12) Intake hose	(25) Pipe clamp	
(13) Drain separator	(26) Pipe 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



FU-06398

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

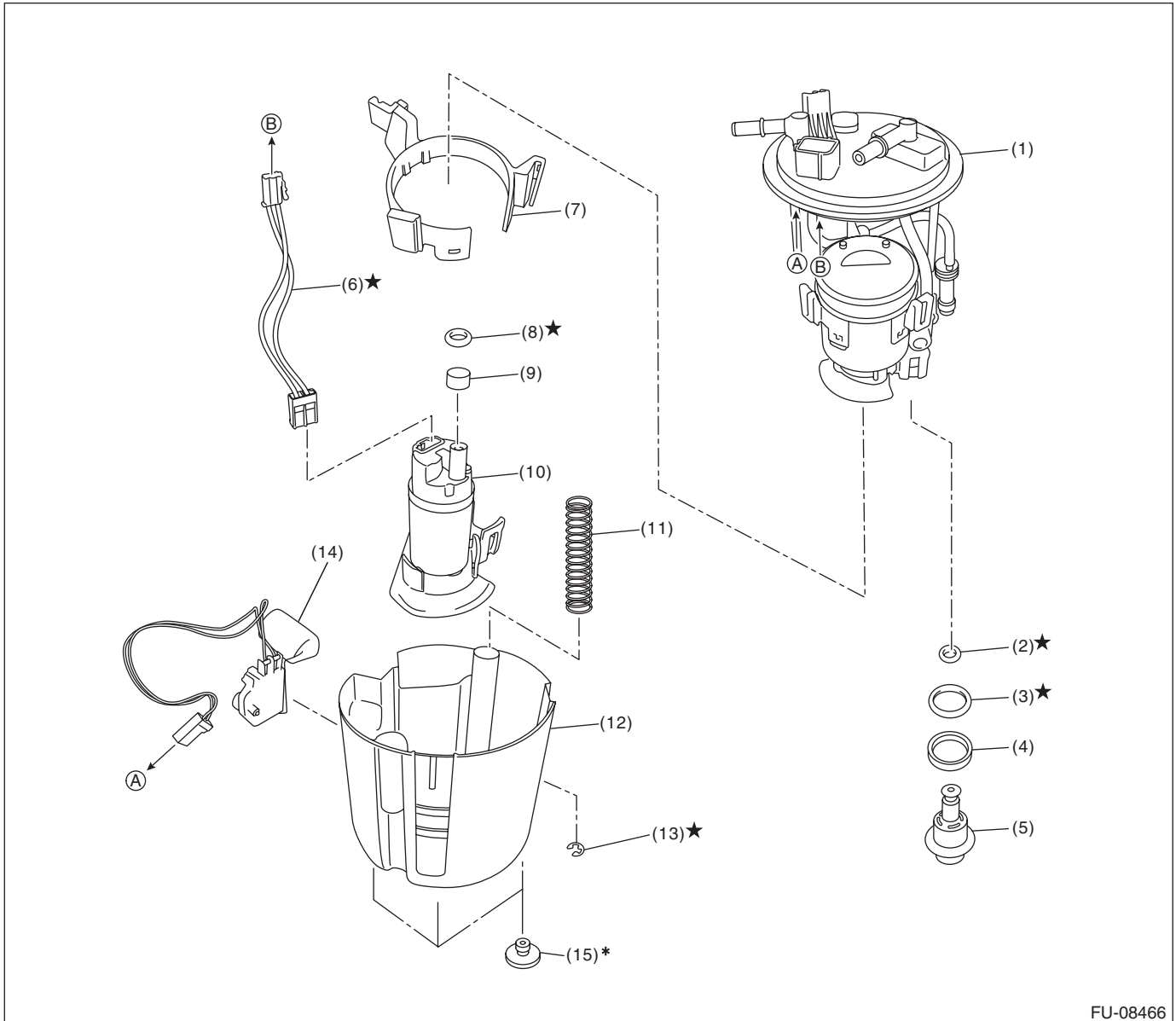
Tightening torque: N·m (kgf-m, ft-lb)

T: 7.5 (0.8, 5.5)

General Description

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8. FUEL PUMP



FU-08466

- | | | |
|------------------------|----------------------|------------------------|
| (1) Fuel filter ASSY | (6) Connector cable | (11) Spring |
| (2) O-ring | (7) Fuel pump holder | (12) Fuel chamber ASSY |
| (3) O-ring | (8) O-ring | (13) Clip |
| (4) Back-up ring | (9) Spacer | (14) Fuel level sensor |
| (5) Pressure regulator | (10) Fuel pump | (15) Cushion |

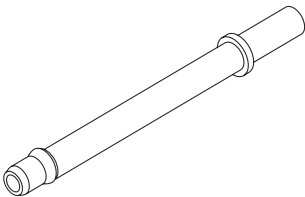
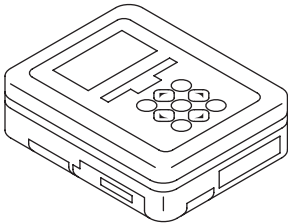
* When removing the cushion from the fuel chamber assembly, replace it with a new part.

C: CAUTION

- Prior to starting work, pay special attention to the following:
 1. Always wear work clothes, a work cap, and 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.
 ST1B022XU0	1B022XU0	SUBARU SELECT MONITOR III KIT	Used for setting of each function and trouble-shooting for electrical system. NOTE: For detailed operation procedures of Subaru Select Monitor III, refer to “PC application help for Subaru Select Monitor”.

2. GENERAL TOOL

TOOL NAME	REMARKS
Circuit tester	Used for measuring resistance and voltage.
Oscilloscope	Used for inspecting the waveform of each sensor.
Mighty Vac	Used for inspecting the manifold absolute pressure sensor.