

General Description

FUEL INJECTION (FUEL SYSTEMS)

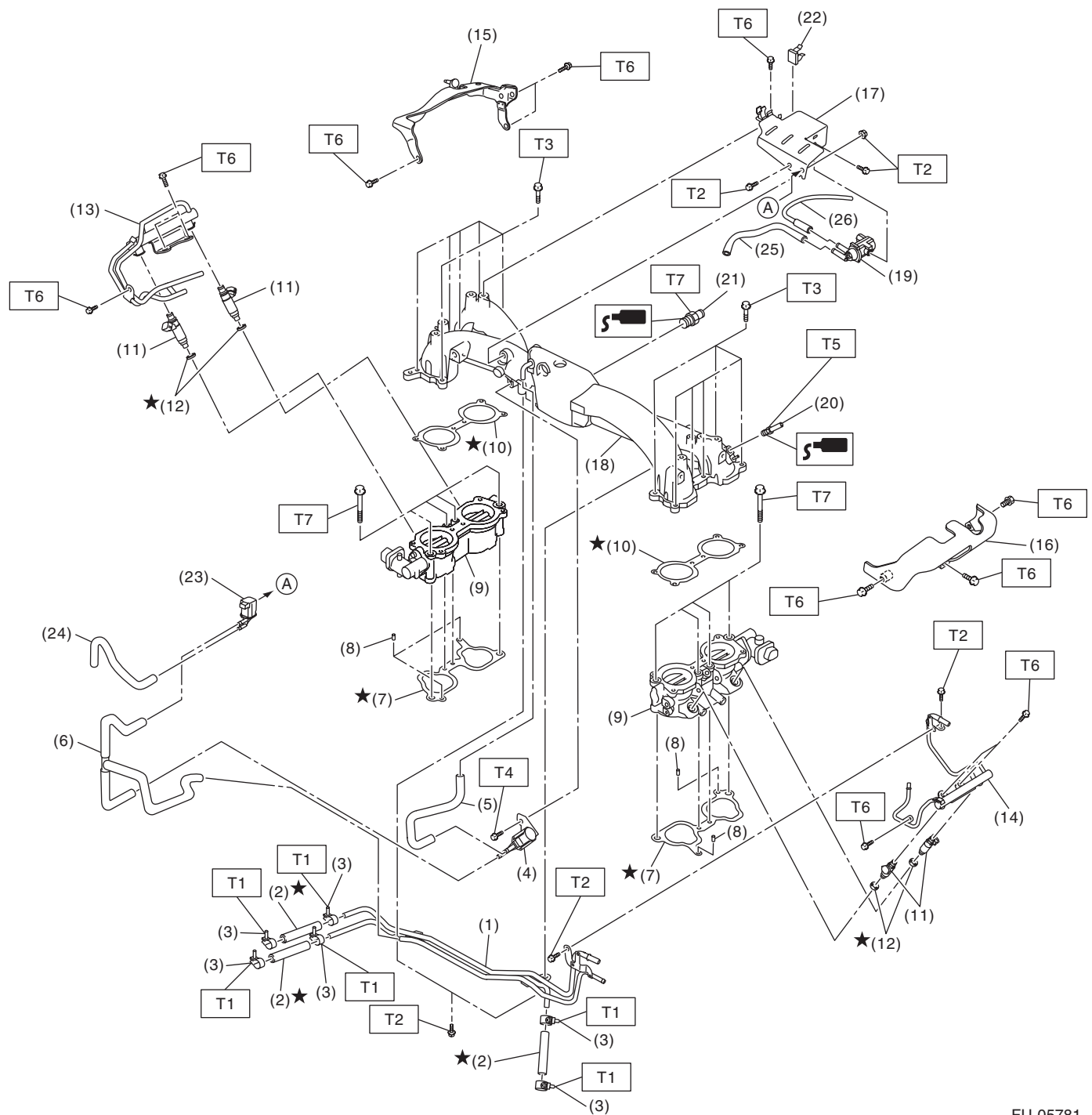
1. General Description

A: SPECIFICATION

| | | |
|-------------|----------------------------|---|
| Fuel tank | Capacity | 64 L (16.9 US gal, 14.1 Imp gal) |
| | Location | Under rear seat |
| Fuel pump | Type | Impeller |
| | Shutoff discharge pressure | 900 kPa (9.18 kg/cm ² , 130.5 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 kg/cm ² , 43.5 psi)] |
| Fuel filter | | In-tank type |

B: COMPONENT

1. INTAKE MANIFOLD



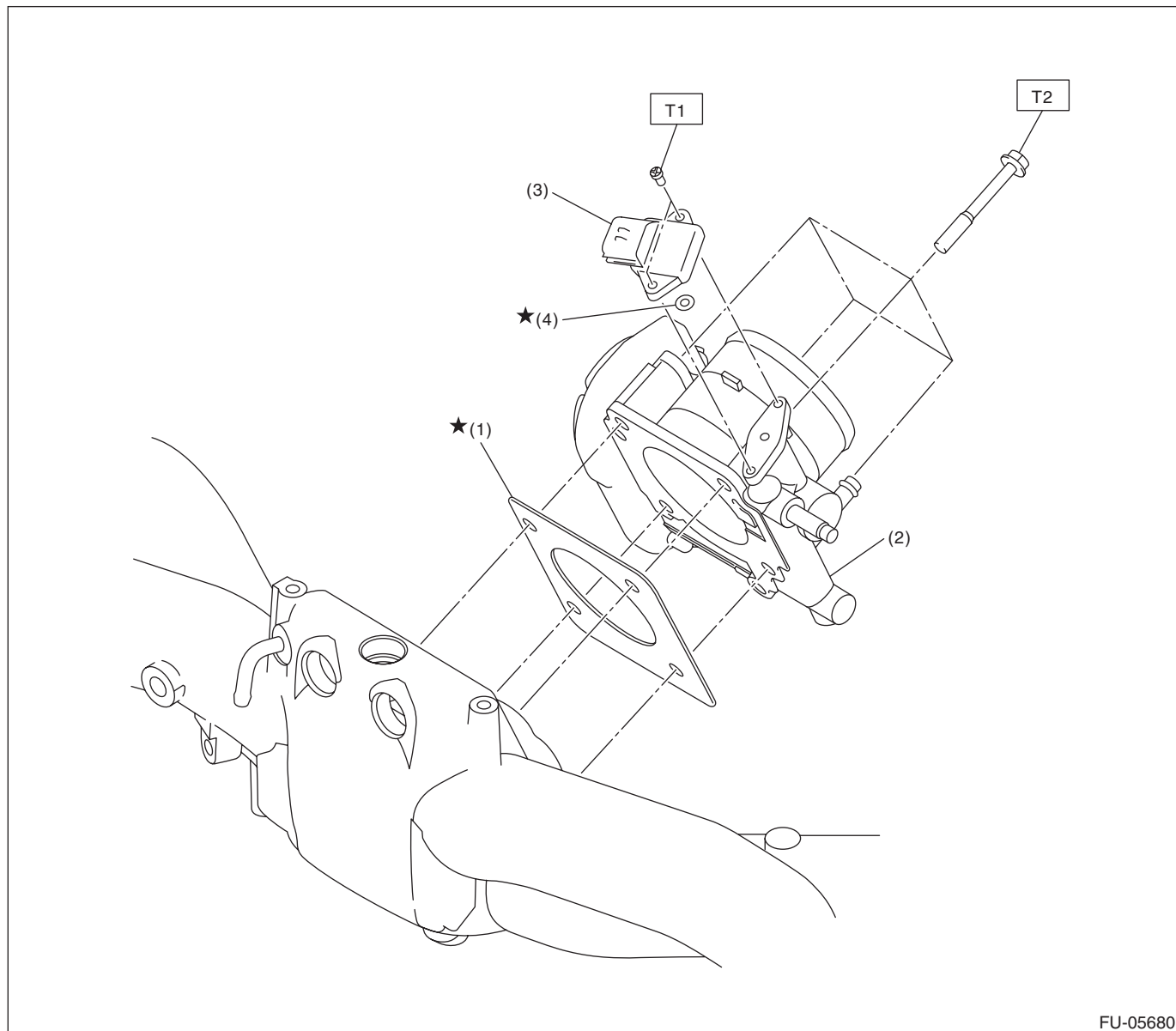
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| | | |
|------------------------------------|---------------------------------------|---|
| (1) Fuel pipe ASSY | (13) Fuel injector pipe RH | (24) Vacuum hose |
| (2) Fuel hose | (14) Fuel injector pipe LH | (25) Vacuum hose |
| (3) Clamp | (15) Fuel pipe protector RH | (26) Air control hose |
| (4) Purge control solenoid valve 1 | (16) Fuel pipe protector LH | |
| (5) Vacuum hose A | (17) Solenoid valve bracket | <i>Tightening torque: N·m (kgf-m, ft-lb)</i> |
| (6) Vacuum control hose | (18) Intake manifold | <i>T1: 1.25 (0.1, 0.9)</i> |
| (7) Intake manifold gasket | (19) Wastegate control solenoid valve | <i>T2: 6.4 (0.7, 4.7)</i> |
| (8) Guide pin | (20) Nipple | <i>T3: 8.3 (0.8, 6.1)</i> |
| (9) Tumble generator valve ASSY | (21) Nipple | <i>T4: 16 (1.6, 11.8)</i> |
| (10) Tumble generator valve gasket | (22) Clip | <i>T5: 17 (1.7, 12.5)</i> |
| (11) Fuel injector | (23) Purge control solenoid valve 2 | <i>T6: 19 (1.9, 14.0)</i> |
| (12) O-ring | | <i>T7: 25 (2.5, 18.4)</i> |

2. AIR INTAKE SYSTEM



- (1) Gasket
- (2) Throttle body

- (3) Manifold absolute pressure sensor
- (4) O-ring

Tightening torque: N·m (kgf-m, ft-lb)

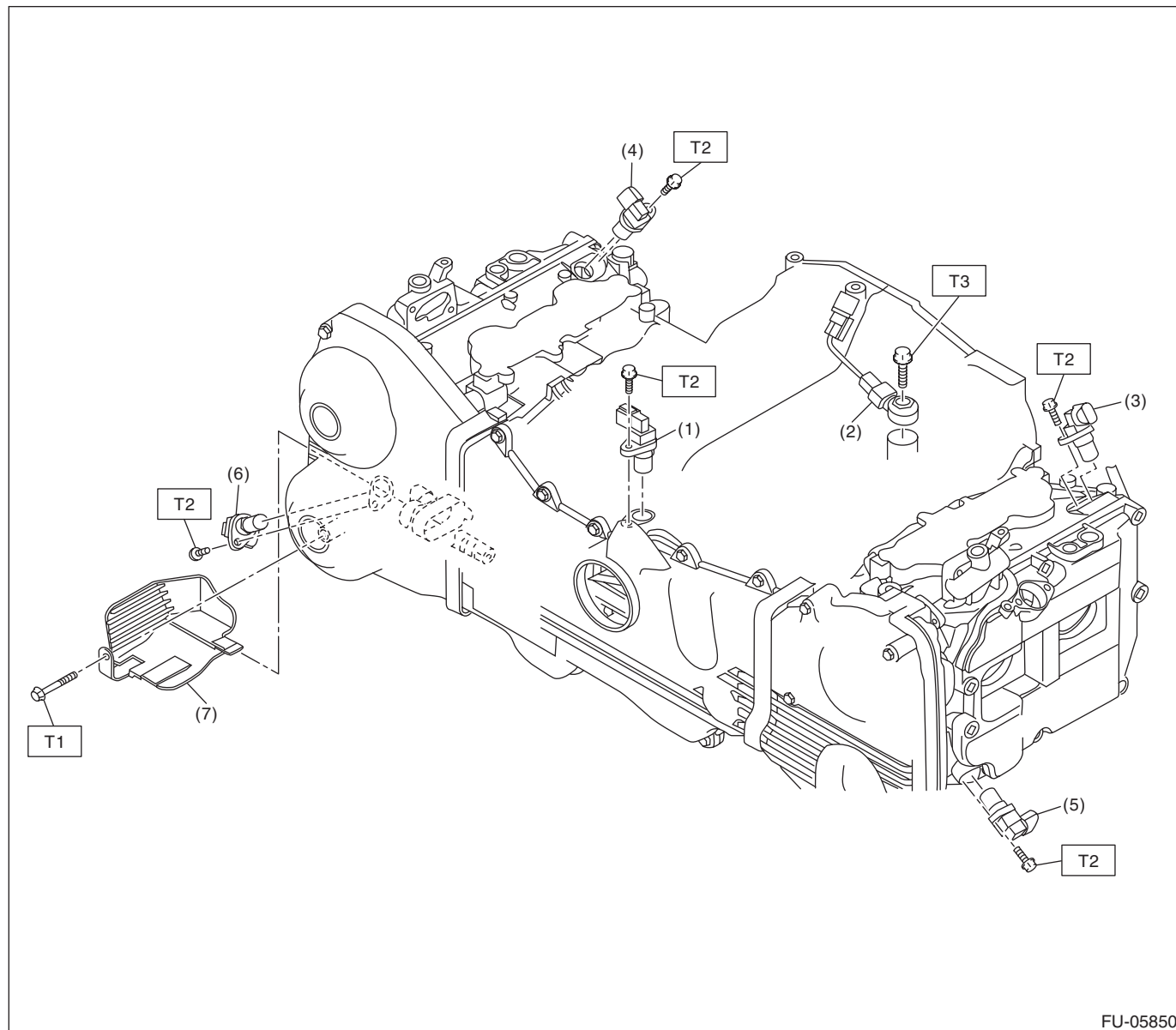
T1: 2 (0.2, 1.5)

T2: 8 (0.8, 5.9)

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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: 5 (0.5, 3.7)

T2: 6.4 (0.7, 4.7)

T3: 24 (2.4, 17.7)

FUEL INJECTION (FUEL SYSTEMS)

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FU(STI)-7

General Description

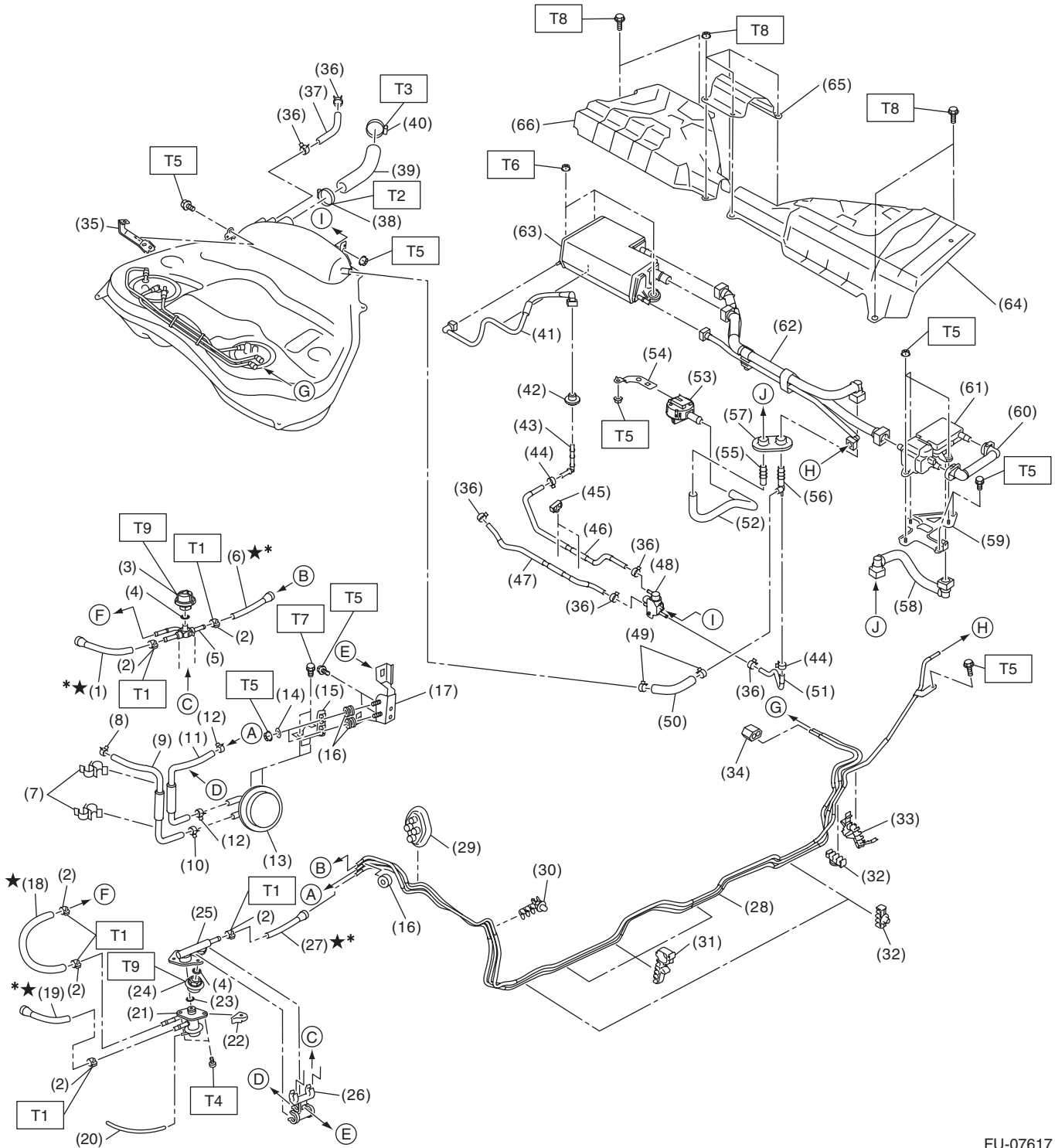
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| | | |
|--|--|--|
| (1) Fuel tank | (12) Fuel sub level sensor | (23) Clip |
| (2) Fuel tank band RH | (13) Fuel sub level sensor upper plate | (24) Self-locking nut |
| (3) Fuel tank band LH | (14) Fuel sub level sensor gasket | (25) Rubber cap |
| (4) Fuel delivery tube | (15) Fuel sub level sensor protector | (26) Tube clamp |
| (5) Fuel return tube | (16) Fuel sub level sensor filter | (27) Fuel pump upper plate cushion |
| (6) Jet pump tube | (17) Retainer | |
| (7) Fuel pump ASSY | (18) Stopper RH | <hr/> Tightening torque: N·m (kgf-m, ft-lb) |
| (8) Fuel pump upper plate | (19) Stopper LH | T1: 4.4 (0.4, 3.2) |
| (9) Fuel pump gasket | (20) Heat shield cover | T2: 9 (0.9, 6.6) |
| (10) Fuel level sensor | (21) Fuel tank protector RH | T3: 18 (1.8, 13.3) |
| (11) Fuel sub level sensor upper plate cushion | (22) Fuel tank protector LH | T4: 33 (3.4, 24.3) |

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5. FUEL LINE



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| | | |
|---------------------------|---|------------------------------------|
| (1) Fuel delivery hose A | (27) Fuel return hose B | (53) Drain separator |
| (2) Clamp | (28) Fuel pipe ASSY | (54) Drain separator bracket |
| (3) Pulsation damper A | (29) Fuel pipe front grommet | (55) Hose connector |
| (4) Fuel pipe gasket | (30) Pipe clamp | (56) Hose connector |
| (5) Fuel by-pass pipe | (31) Pipe clamp | (57) Grommet |
| (6) Fuel delivery hose B | (32) Pipe clamp | (58) Drain tube A |
| (7) Hose clamp | (33) Pipe clamp | (59) Leak check valve ASSY bracket |
| (8) Clip | (34) Fuel pipe rear grommet | (60) Drain tube B |
| (9) Evaporation hose A | (35) Bracket | (61) Leak check valve ASSY |
| (10) Clip | (36) Clip | (62) Canister tube ASSY |
| (11) Evaporation hose B | (37) Evaporation hose C | (63) Canister |
| (12) Clip | (38) Clamp | (64) Canister cover LH |
| (13) Purge damper | (39) Fuel filler hose | (65) Center canister cover |
| (14) Collar | (40) Clamp | (66) Canister cover RH |
| (15) Purge damper bracket | (41) PCV drain tube | |
| (16) Bushing | (42) Grommet | |
| (17) Damper bracket | (43) Hose connector | |
| (18) Fuel hose | (44) Clip | |
| (19) Fuel return hose A | (45) Hose clamp | |
| (20) Vacuum hose | (46) Evaporation hose D | |
| (21) Pressure regulator | (47) Evaporation hose E | |
| (22) Fuel pipe protector | (48) Pressure control solenoid valve ASSY | |
| (23) O-ring | (49) Clip | |
| (24) Pulsation damper B | (50) Evaporation hose F | |
| (25) Fuel holder ASSY | (51) Evaporation hose G | |
| (26) Damper holder | (52) Drain hose | |

Tightening torque: N·m (kgf-m, ft-lb)

T1: 1.25 (0.1, 0.9)

T2: 2 (0.2, 1.5)

T3: 2.5 (0.3, 1.8)

T4: 6.4 (0.7, 4.7)

T5: 7.5 (0.8, 5.5)

T6: 8 (0.8, 5.9)

T7: 13 (1.3, 9.6)

T8: 18 (1.8, 13.3)

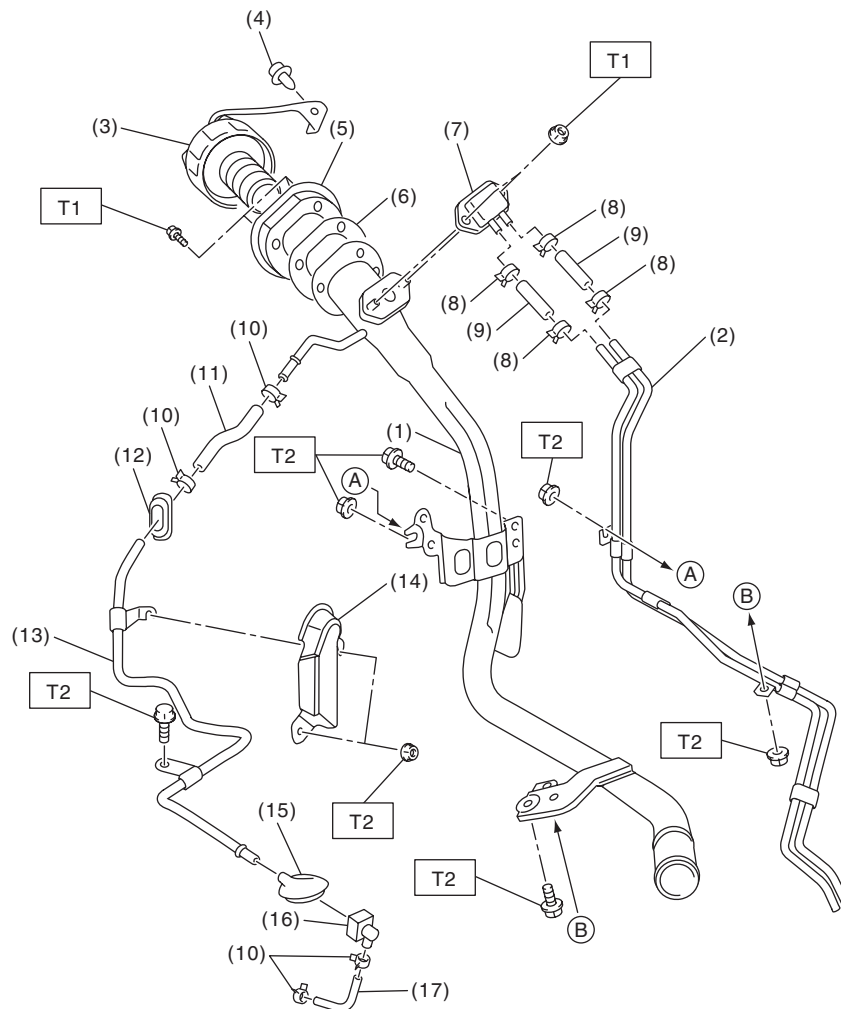
T9: 21.6 (2.2, 15.9)

* It can be reused if the quick connector side is disconnected.

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6. FUEL FILLER PIPE



FU-06742

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|------------------------|---------------------------------|-------------------------|
| (1) Fuel filler pipe | (8) Clip | (15) Grommet |
| (2) Evaporation pipe A | (9) Evaporation hose A | (16) Quick connector |
| (3) Fuel filler cap | (10) Clip | (17) Evaporation hose C |
| (4) Clip | (11) Evaporation hose B | |
| (5) Filler ring | (12) Grommet | |
| (6) Filler pipe gasket | (13) Evaporation pipe B | |
| (7) Shut valve | (14) Evaporation pipe protector | |

Tightening torque: N·m (kgf-m, ft-lb)

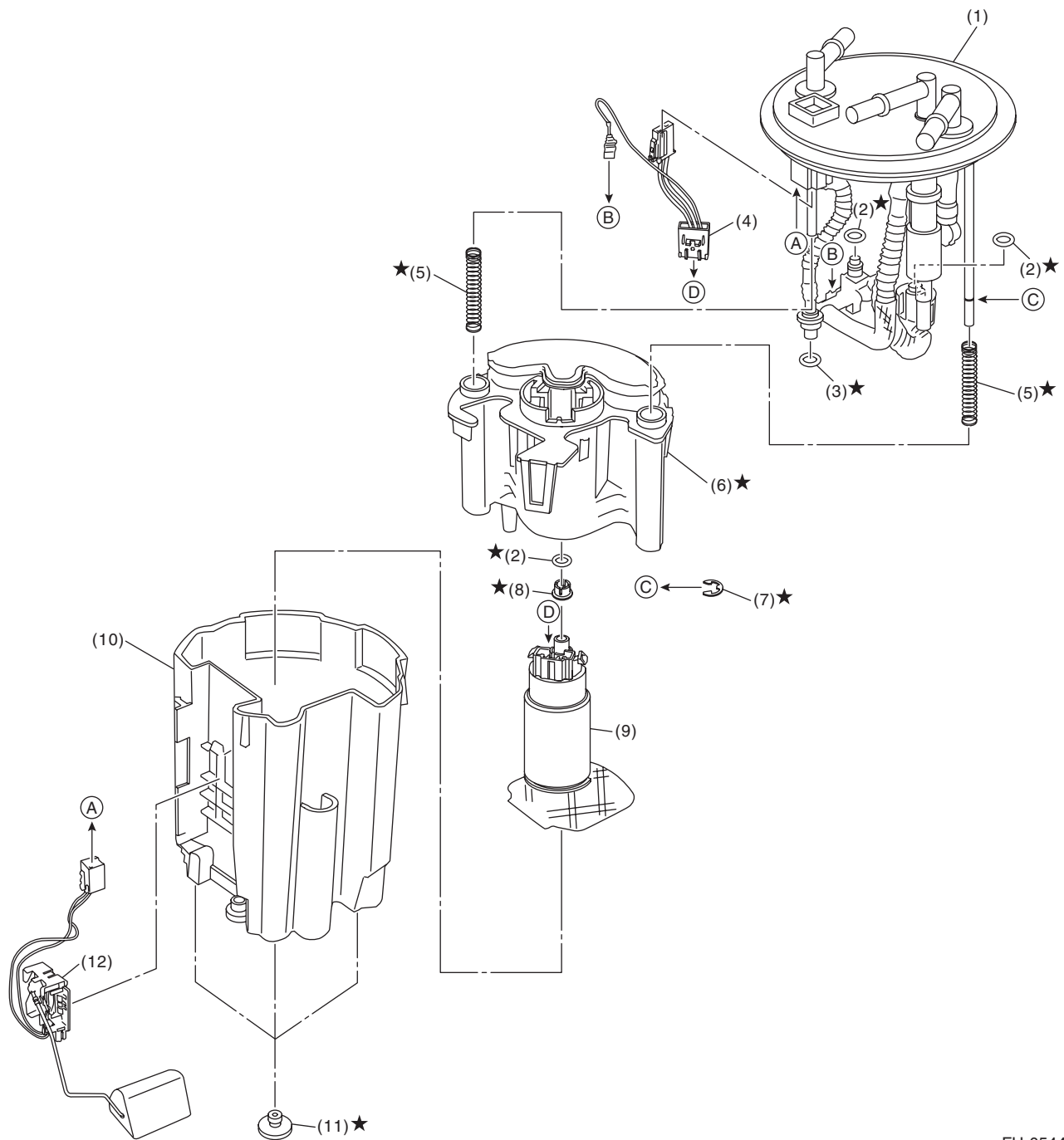
T1: 4.4 (0.4, 3.2)

T2: 7.5 (0.8, 5.5)

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7. FUEL PUMP



FU-05444

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|---------------------------|-----------------|------------------------|
| (1) Sub tank bracket ASSY | (5) Spring | (9) Pump ASSY |
| (2) O-ring | (6) Fuel filter | (10) Sub tank |
| (3) O-ring | (7) Clip | (11) Cushion |
| (4) Fuel pump harness | (8) Spacer | (12) Fuel level sensor |

C: CAUTION

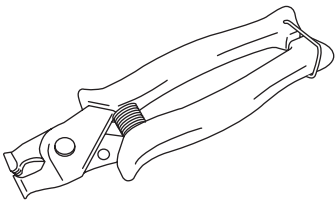
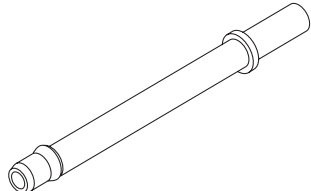
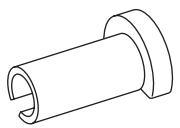
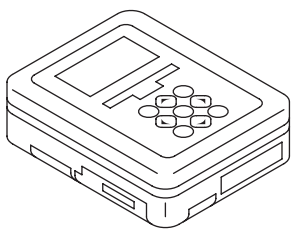
- Prior to starting work, pay special attention to the following:
 1. Always wear work clothes, a work cap, and protective shoes. Additionally, wear a helmet, protective goggles, etc. if necessary.
 2. Protect the vehicle using a seat cover, fender cover, etc.
 3. Prepare the service tools, clean cloth, 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.
- When the suspension-related components have been removed and installed, be sure to adjust the steering angle sensor. <Ref. to VDC-13, ADJUSTMENT, VDC Control Module and Hydraulic Control Unit (VDC-CM&H/U).>

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D: PREPARATION TOOL

1. SPECIAL TOOL

| ILLUSTRATION | TOOL NUMBER | DESCRIPTION | REMARKS |
|---|-------------|-------------------------------|--|
|  ST18353AA000 | 18353AA000 | CLAMP PLIERS | <ul style="list-style-type: none"> Used for removing and installing the PCV hose. This tool is made by the French company CAILLAU. (code) 54.0.000.205 To make it easier to obtain, it has been provided with a tool number. |
|  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. |