

## General Description

FUEL INJECTION (FUEL SYSTEMS)

---

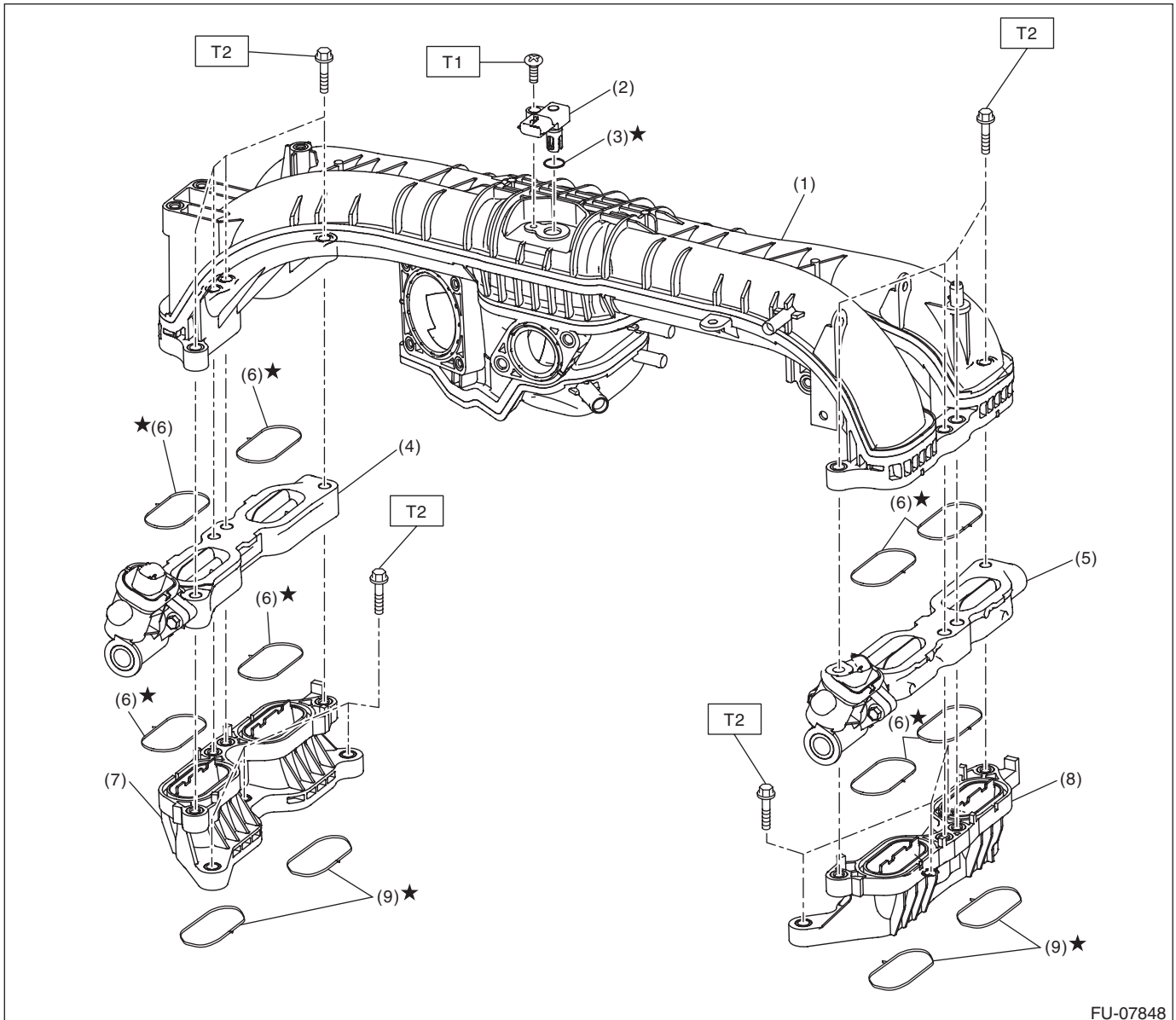
### 1. General Description

#### A: SPECIFICATION

Fuel tank	Capacity	60 L (15.9 US gal, 13.2 Imp gal)
	Location	Under rear seat
Fuel pump	Type	Impeller
	Shutoff discharge pressure	940 kPa (9.6 kgf/cm <sup>2</sup> , 123.3 psi) or less
	Discharge rate	153 L (40.4 US gal, 33.7 Imp gal)/h or more [12 V at 343 kPa (3.5 kgf/cm <sup>2</sup> , 49.7 psi)]
Fuel filter		In-tank type

## B: COMPONENT

### 1. INTAKE MANIFOLD



FU-07848

- |  |                           |
|--|---------------------------|
| (1) Intake manifold  | (6) Gasket                |
| (2) Manifold absolute pressure and intake air temperature sensor | (7) Air intake adapter LH |
| (3) O-ring   | (8) Air intake adapter RH |
| (4) Tumble generator valve ASSY LH                               | (9) Gasket                |
| (5) Tumble generator valve ASSY RH                               |                           |

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

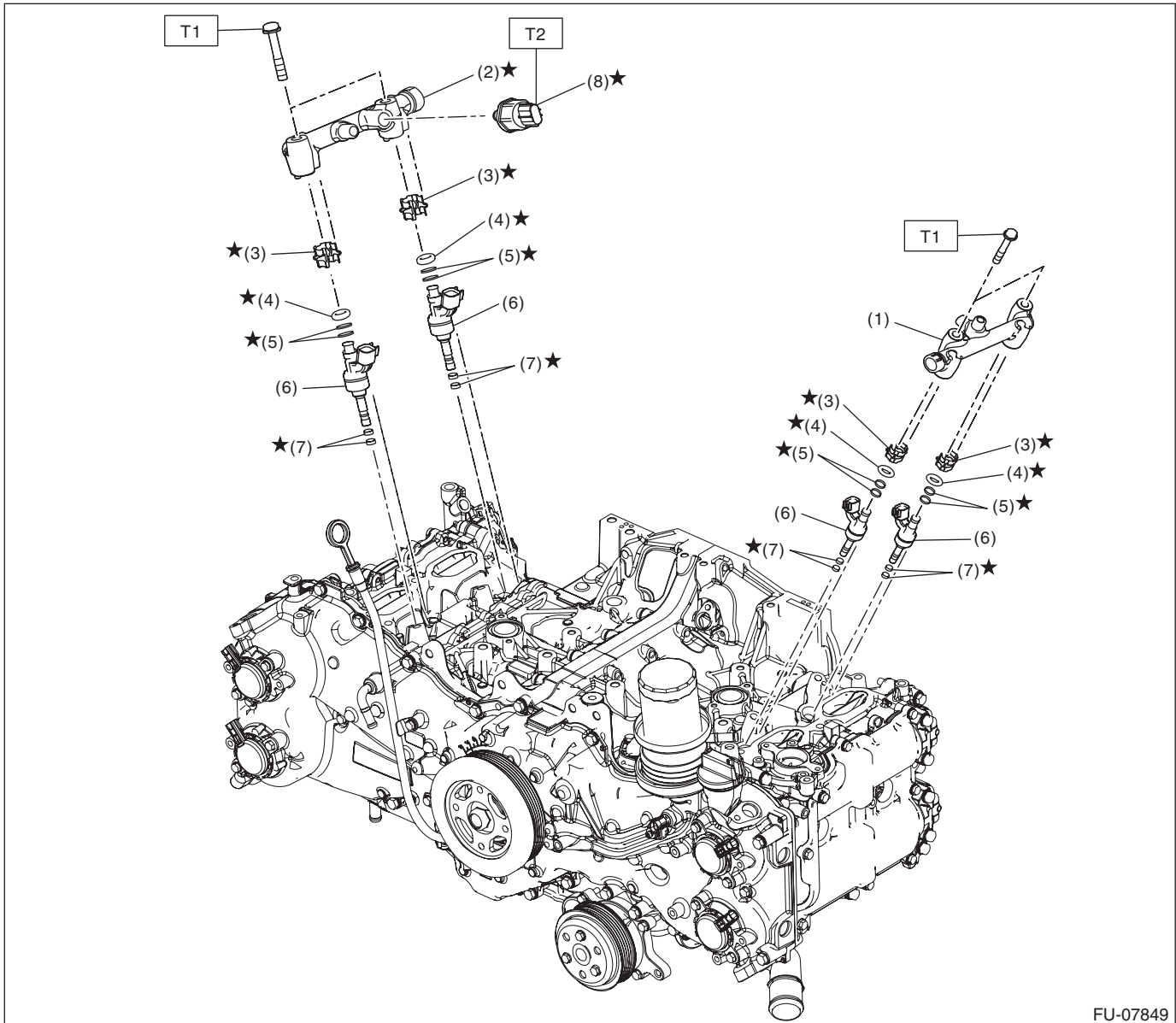
**T1: 3.5 (0.4, 2.6)**

**T2: 25 (2.5, 18.4)**

# General Description

## FUEL INJECTION (FUEL SYSTEMS)

### 2. FUEL INJECTOR 1



FU-07849

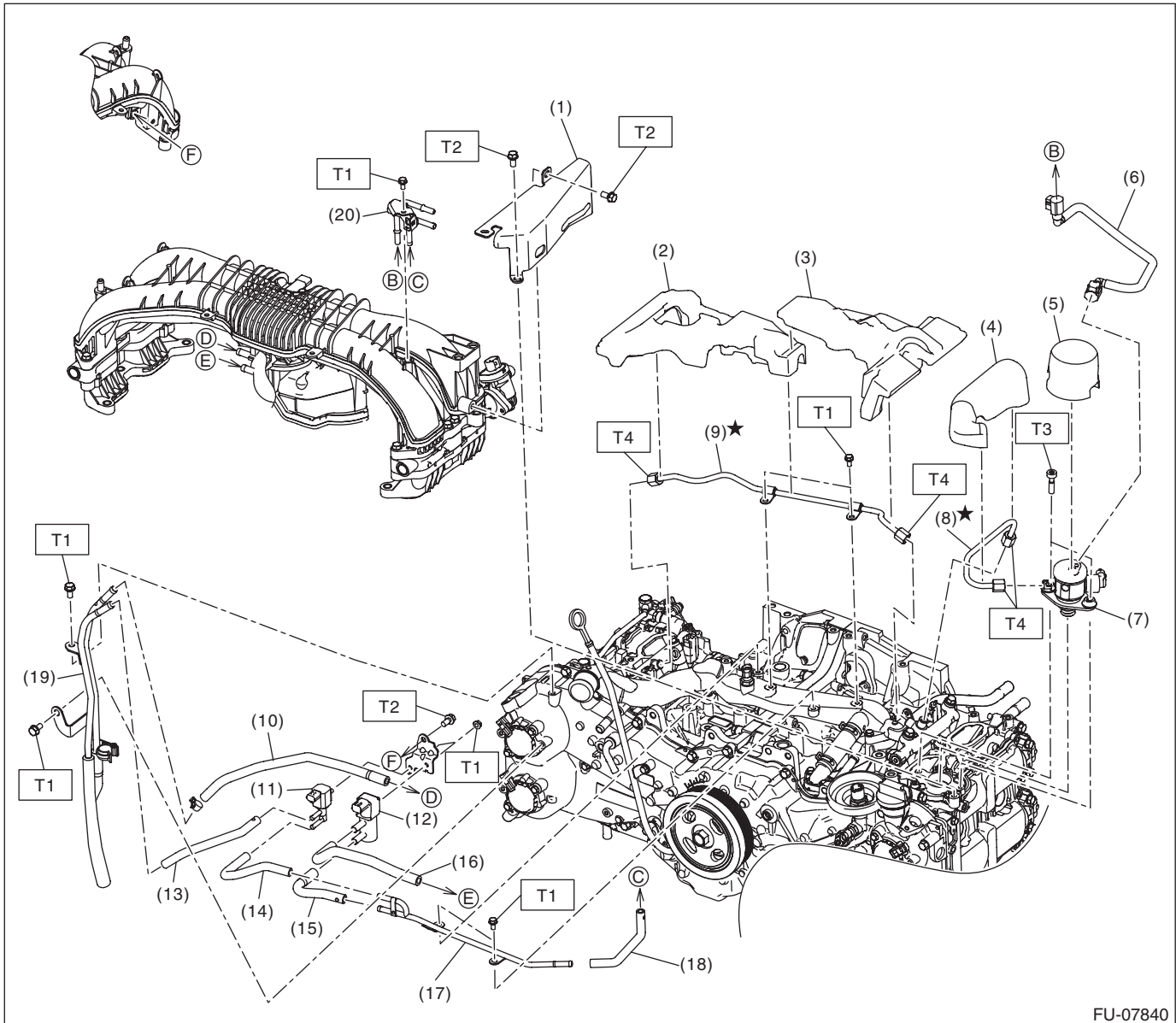
- |                           |                          |
|---------------------------|--------------------------|
| (1) Fuel injector pipe LH | (5) Back-up ring         |
| (2) Fuel injector pipe RH | (6) Fuel injector        |
| (3) Holder                | (7) Injector seal        |
| (4) O-ring                | (8) Fuel pressure sensor |

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

**T1: 19 (1.9, 14.0)**

**T2: 46 (4.7, 33.9)**

### 3. FUEL INJECTOR 2



FU-07840

- |   |                                     |                       |
|---|-------------------------------------|-----------------------|
| (1) Fuel pipe protector                   | (10) Vacuum control hose            | (19) Vacuum pipe ASSY |
| (2) Fuel pipe insulator No. 3             | (11) Purge control solenoid valve A | (20) Fuel pipe ASSY   |
| (3) Fuel pipe insulator No. 2             | (12) Purge control solenoid valve B |                       |
| (4) Fuel pipe insulator No. 1             | (13) Vacuum hose A                  |                       |
| (5) Fuel pump insulator                   | (14) Vacuum hose B                  |                       |
| (6) Fuel delivery pipe                    | (15) Vacuum hose C                  |                       |
| (7) High-pressure fuel pump               | (16) Vacuum hose D                  |                       |
| (8) High-pressure fuel delivery pipe      | (17) Canister pipe                  |                       |
| (9) High-pressure fuel delivery pipe ASSY | (18) Vacuum hose E                  |                       |

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

**T1: 6.4 (0.7, 4.7)**

**T2: 19 (1.9, 14.0)**

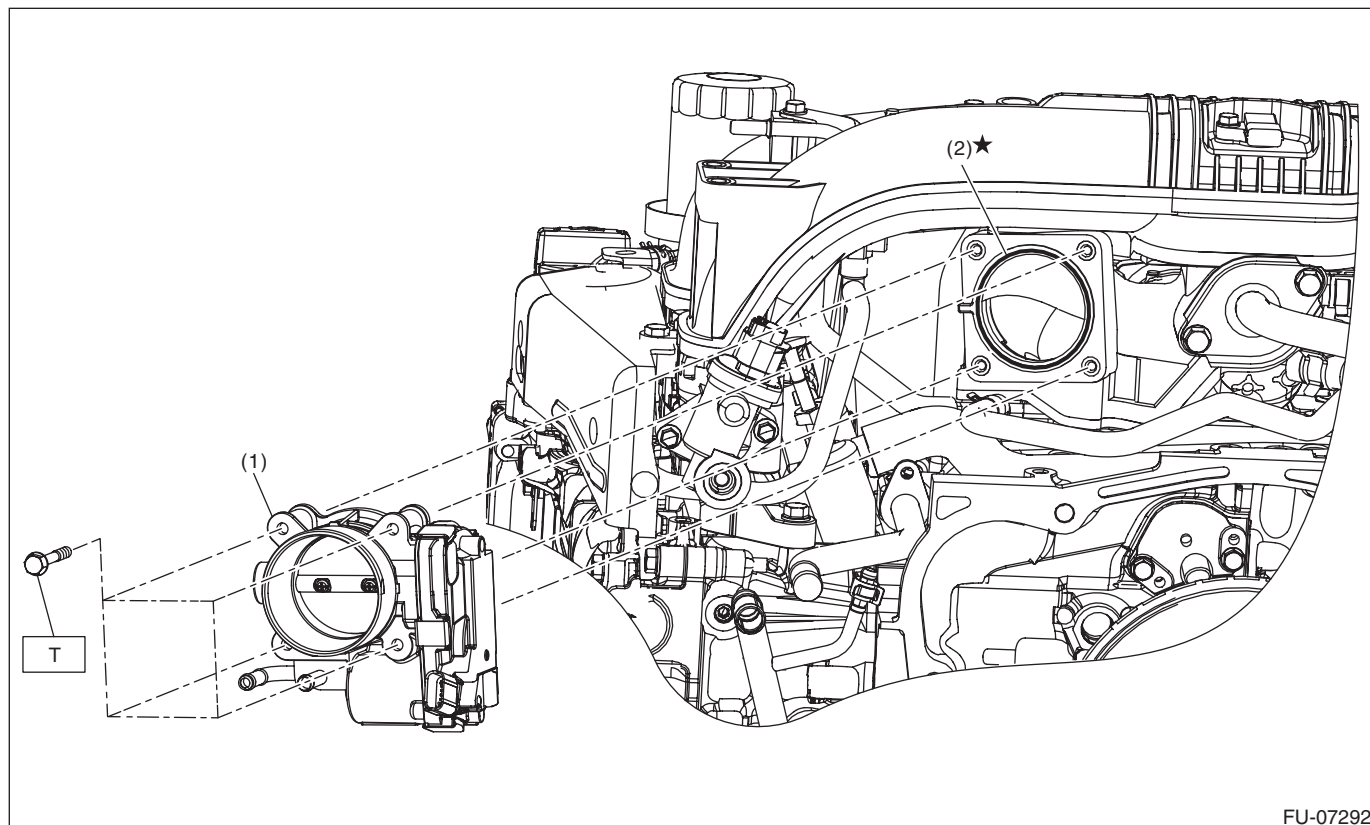
**T3: 21 (2.1, 15.5)**

**T4: 25 (2.5, 4.7)**

# General Description

## FUEL INJECTION (FUEL SYSTEMS)

### 4. THROTTLE BODY



FU-07292

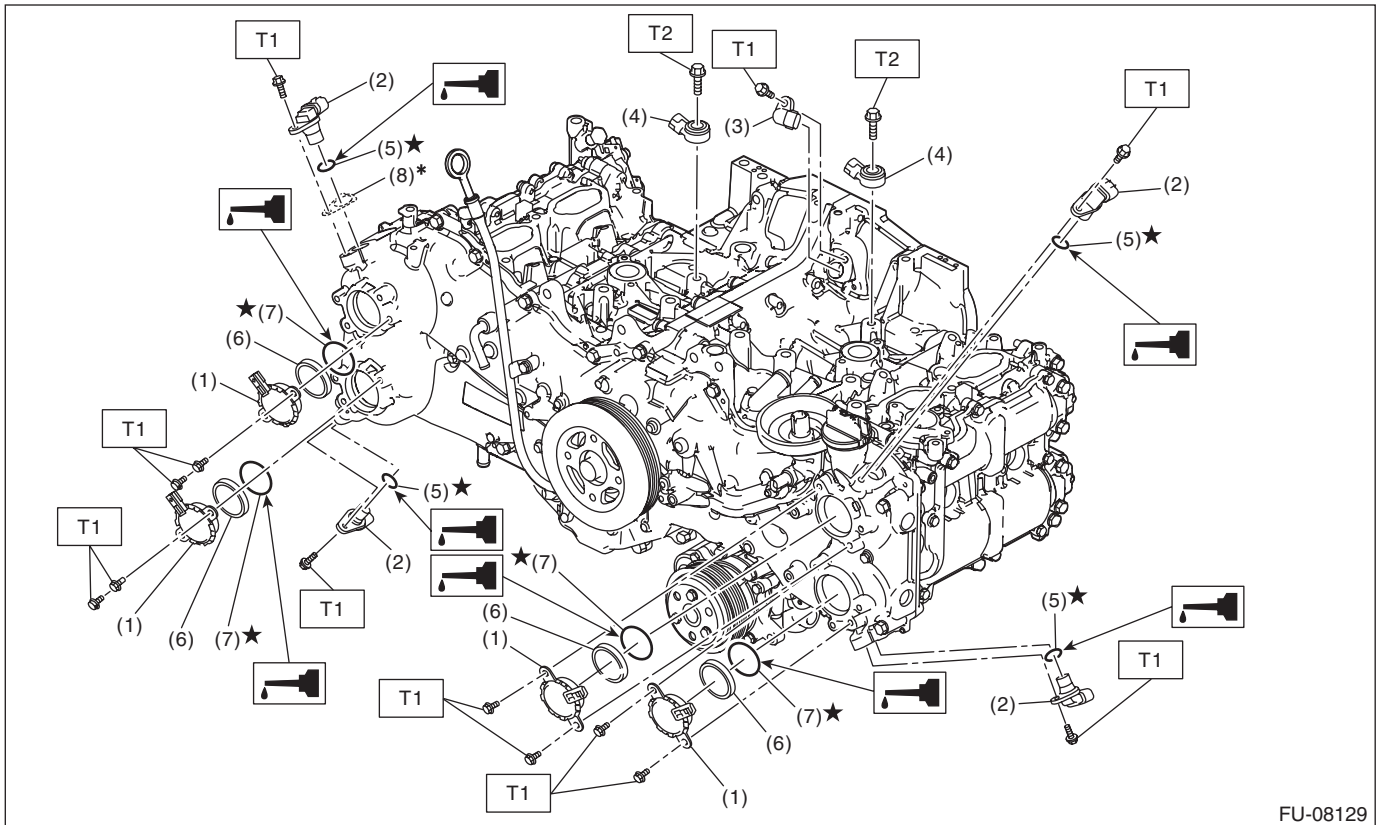
(1) Throttle body

(2) Gasket

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

**T: 8 (0.8, 5.9)**

## 5. CRANKSHAFT POSITION SENSOR, CAMSHAFT POSITION SENSOR AND KNOCK SENSOR



FU-08129

- (1) Oil control solenoid
- (2) Camshaft position sensor
- (3) Crankshaft position sensor
- (4) Knock sensor

- (5) O-ring
- (6) Back-up ring
- (7) O-ring
- (8) Spacer

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

**T1: 6.4 (0.7, 4.7)**

**T2: 24 (2.4, 17.7)**

\* Use one or no spacer to adjust the gap.

## FUEL INJECTION (FUEL SYSTEMS)

**FU(H4DOTC)-8**

# General Description

## FUEL INJECTION (FUEL SYSTEMS)

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

(29) Cushion
(30) Cushion
(31) Cushion

---

### ***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: <Ref. to FU(H4DOTC)-163,  
INSTALLATION, Fuel Tank.>***

***T6: <Ref. to FU(H4DOTC)-181,  
INSTALLATION, Fuel Pump.>***

***T7: <Ref. to FU(H4DOTC)-191,  
INSTALLATION, Fuel Sub Level  
Sensor.>***

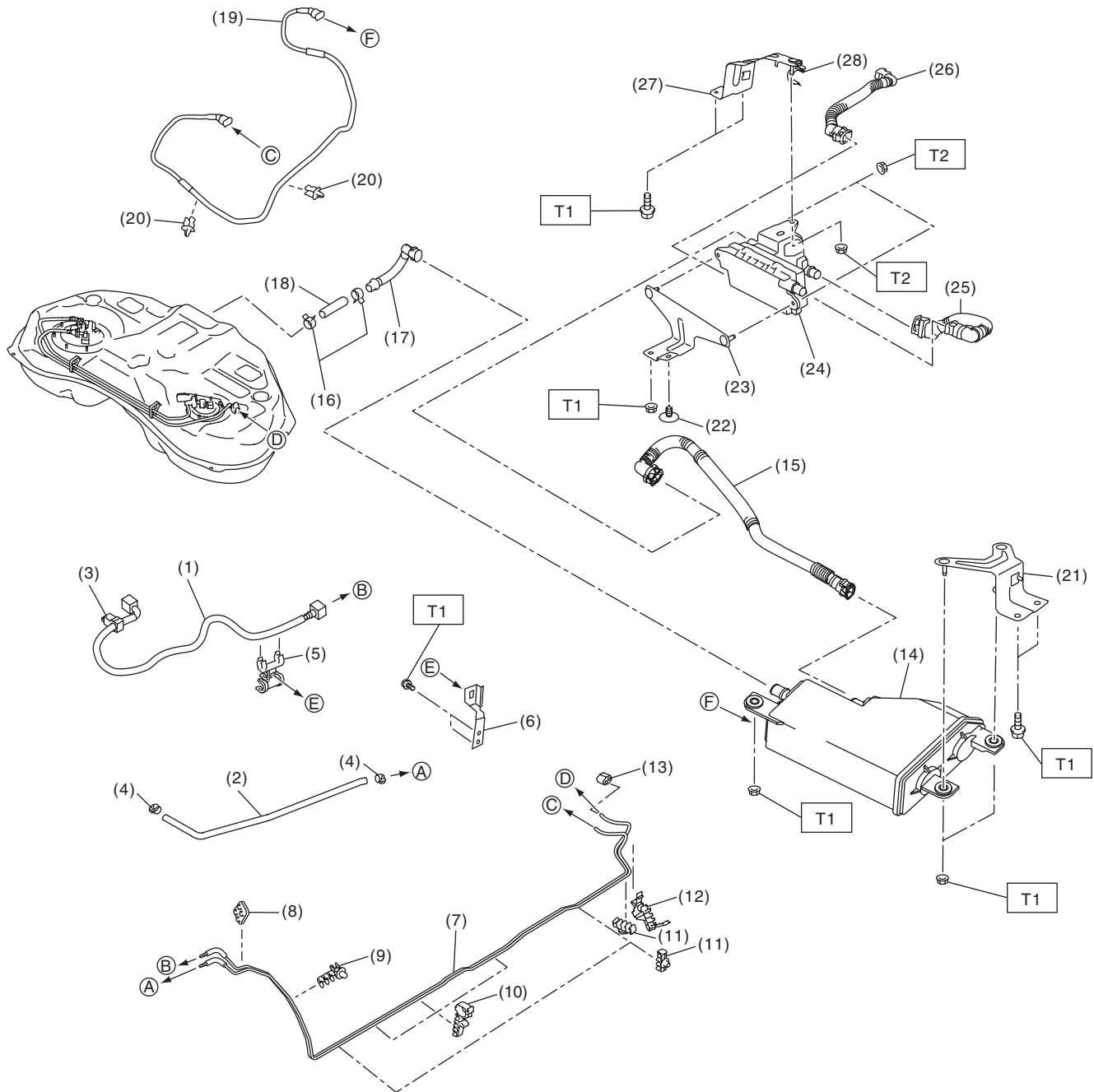
---



# General Description

## FUEL INJECTION (FUEL SYSTEMS)

### 7. FUEL LINE



FU-07857

## General Description

### FUEL INJECTION (FUEL SYSTEMS)

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

---

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

***T1: 7.5 (0.8, 5.5)***

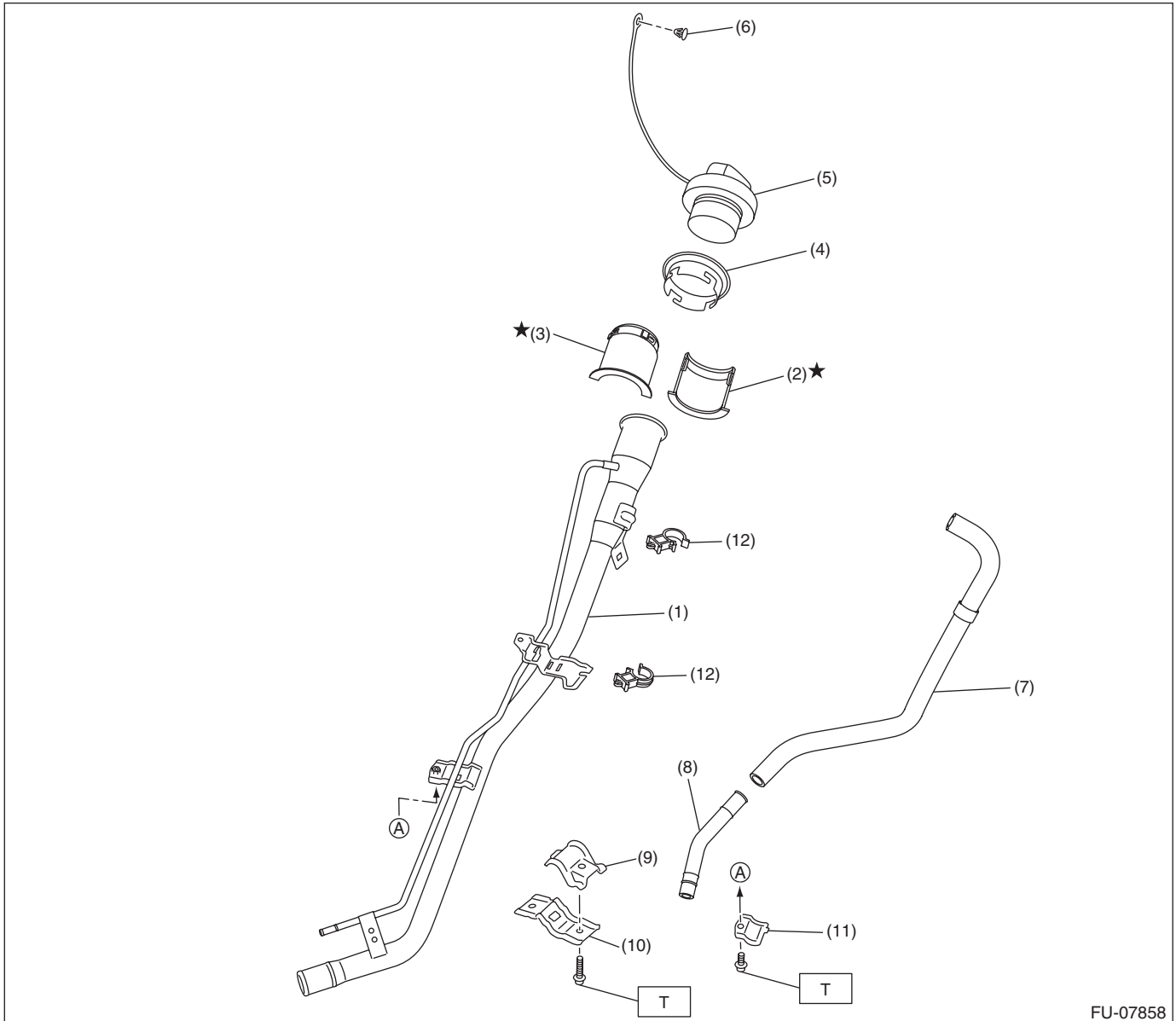
***T2: 18 (1.8, 13.3)***

---

# General Description

## FUEL INJECTION (FUEL SYSTEMS)

### 8. FUEL FILLER PIPE



- (1) Fuel filler pipe ASSY
- (2) Neck holder A
- (3) Neck holder B
- (4) Fuel filler pipe protector
- (5) Fuel filler cap

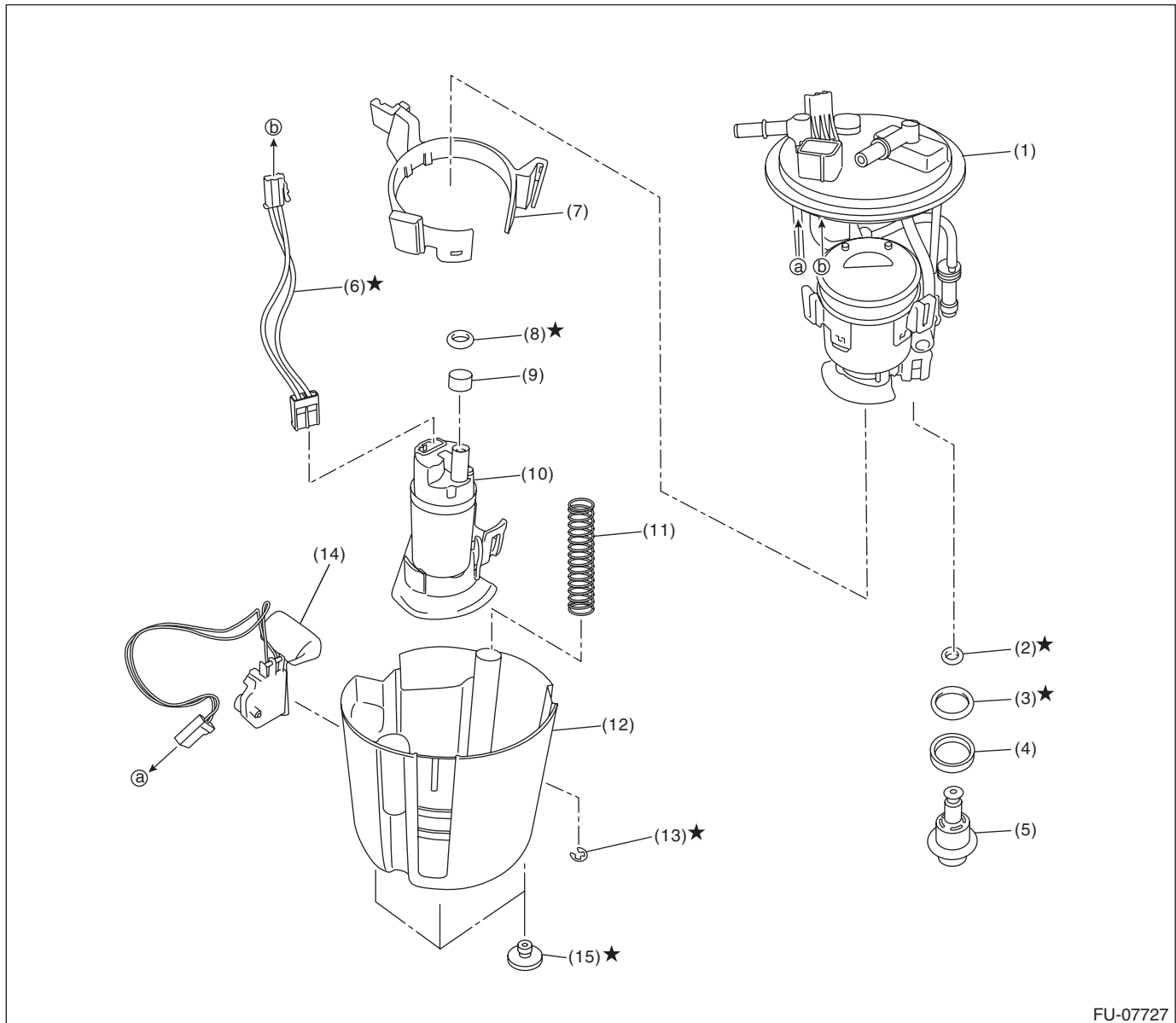
- (6) Clip
- (7) Drain hose
- (8) Drain pipe
- (9) Upper bracket
- (10) Lower bracket

- (11) Drain lower bracket
- (12) Drain hose clamp

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

**T: 7.5 (0.8, 5.5)**

### 9. FUEL PUMP



- |                        |                      |                        |
|------------------------|----------------------|------------------------|
| (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           |

## General Description

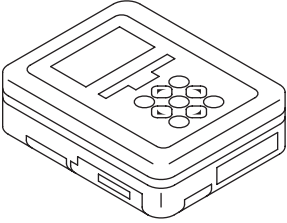
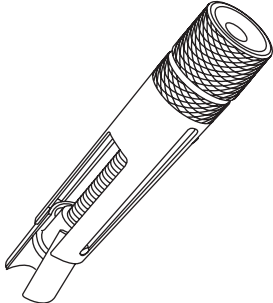
### FUEL INJECTION (FUEL SYSTEMS)

#### C: CAUTION

- Prior to starting work, pay special attention to the following:
  1. Always wear work clothes, a safety cap, 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-23, ADJUSTMENT, VDC Control Module and Hydraulic Control Unit (VDC-CM&H/U).>

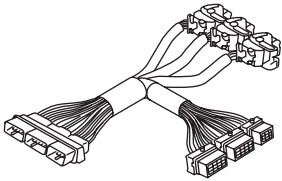
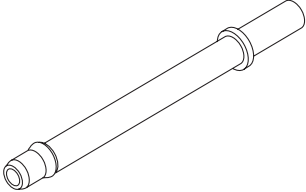
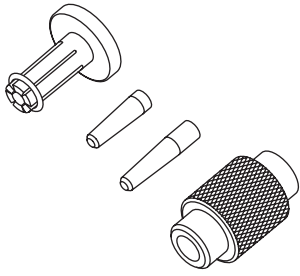
#### D: PREPARATION TOOL

##### 1. SPECIAL TOOL

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
 ST1B022XU0	1B022XU0	SUBARU SELECT MONITOR III KIT	Used for draining fuel and each inspection.
 ST18356AA000	18356AA000 (Newly adopted tool)	REMOVER INJECTOR	Used for removing the injector.

# General Description

## FUEL INJECTION (FUEL SYSTEMS)

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
 ST18460AA030	18460AA030 (Newly adopted tool)	CHECK BOARD	Used for inspecting the fuel system.
 ST18471AA000	18471AA000	FUEL PIPE ADAPTER	Used for draining fuel.
 ST18683AA000	18683AA000 (Newly adopted tool)	INSTALLER INJECTOR SEAL	Used for installing the injector seal.

## 2. GENERAL TOOL

TOOL NAME	REMARKS
Circuit tester	Used for measuring resistance and voltage.
Oscilloscope	Used for inspecting the waveform of each sensor.
TORX PLUS® bit 40IP	Used for removing and installing high-pressure fuel pump.