

## General Description

### FUEL INJECTION (FUEL SYSTEMS)

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## 1. General Description

### A: SPECIFICATION

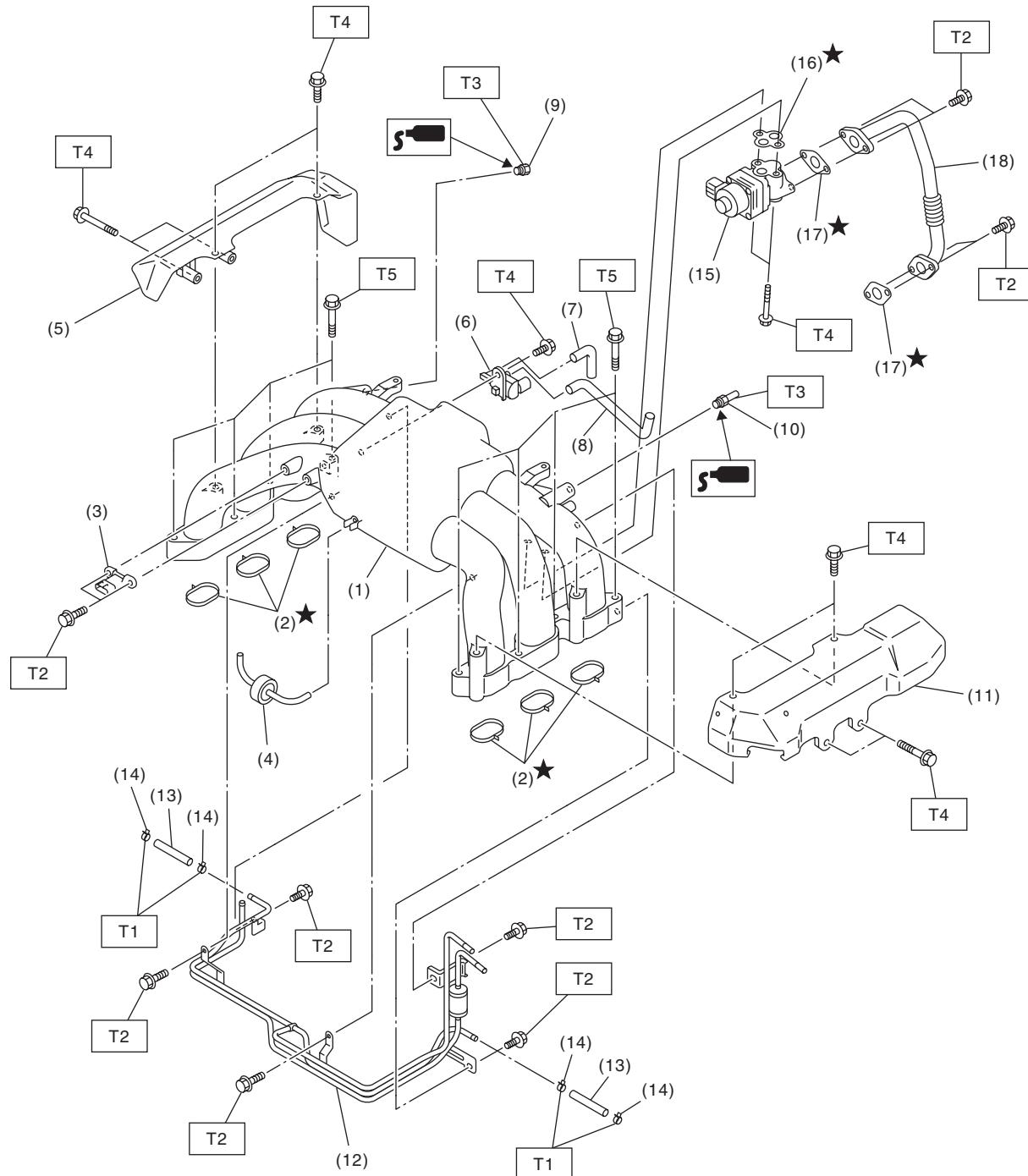
Fuel tank	Capacity	64 ℥ (16.9 US gal, 14.1 Imp gal)
	Location	Rear floor bottom
Fuel pump	Type	Impeller
	Shutoff discharge pressure	550 — 850 kPa (5.61 — 8.67 kg/cm <sup>2</sup> , 79.8 — 123.3 psi)
	Discharge rate	155 ℥ (41 US gal, 34.1 Imp gal)/h or more [12 V at 300 kPa (3.06 kg/cm <sup>2</sup> , 43.5 psi)]
Fuel filter		In-tank type

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## **B: COMPONENT**

## 1. INTAKE MANIFOLD



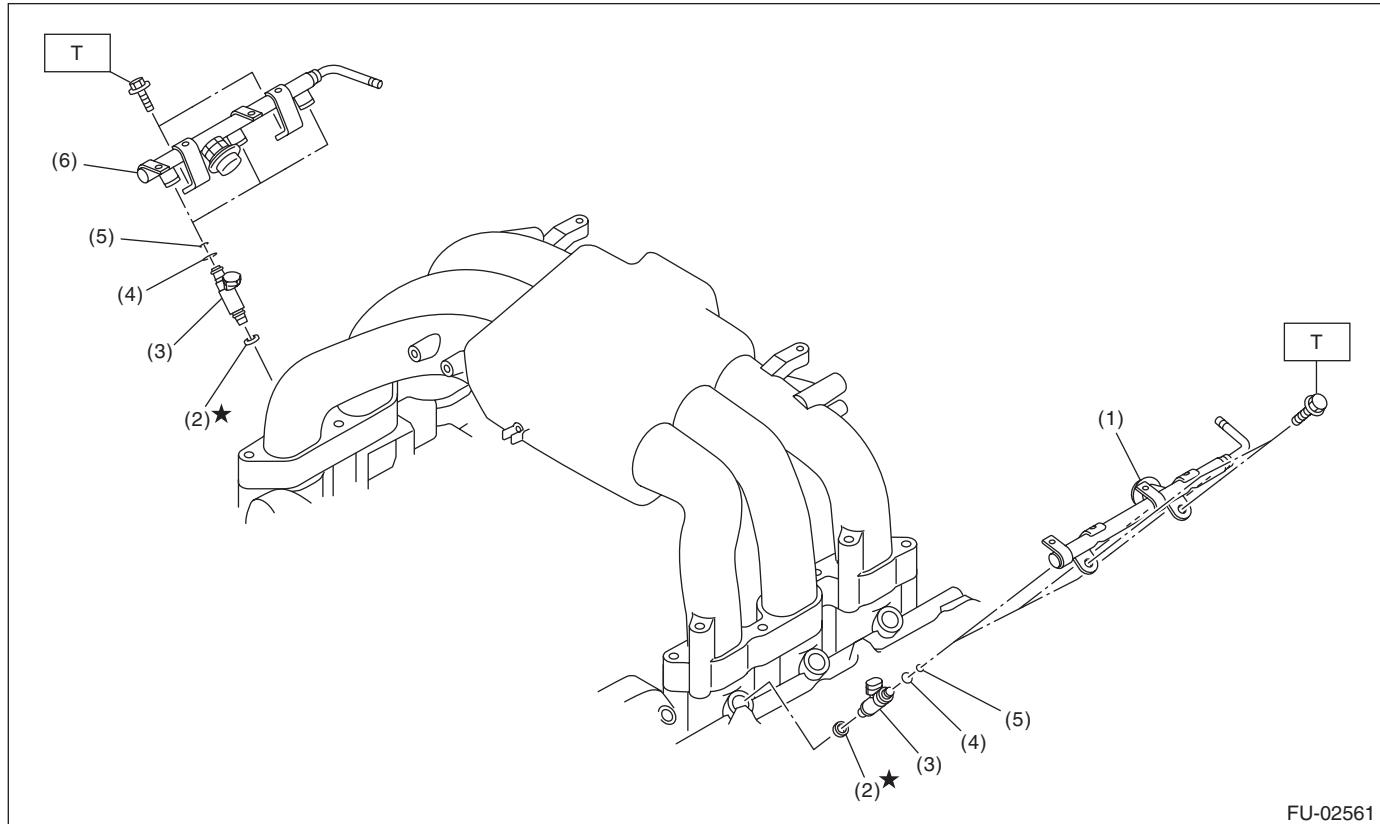
FU-03215

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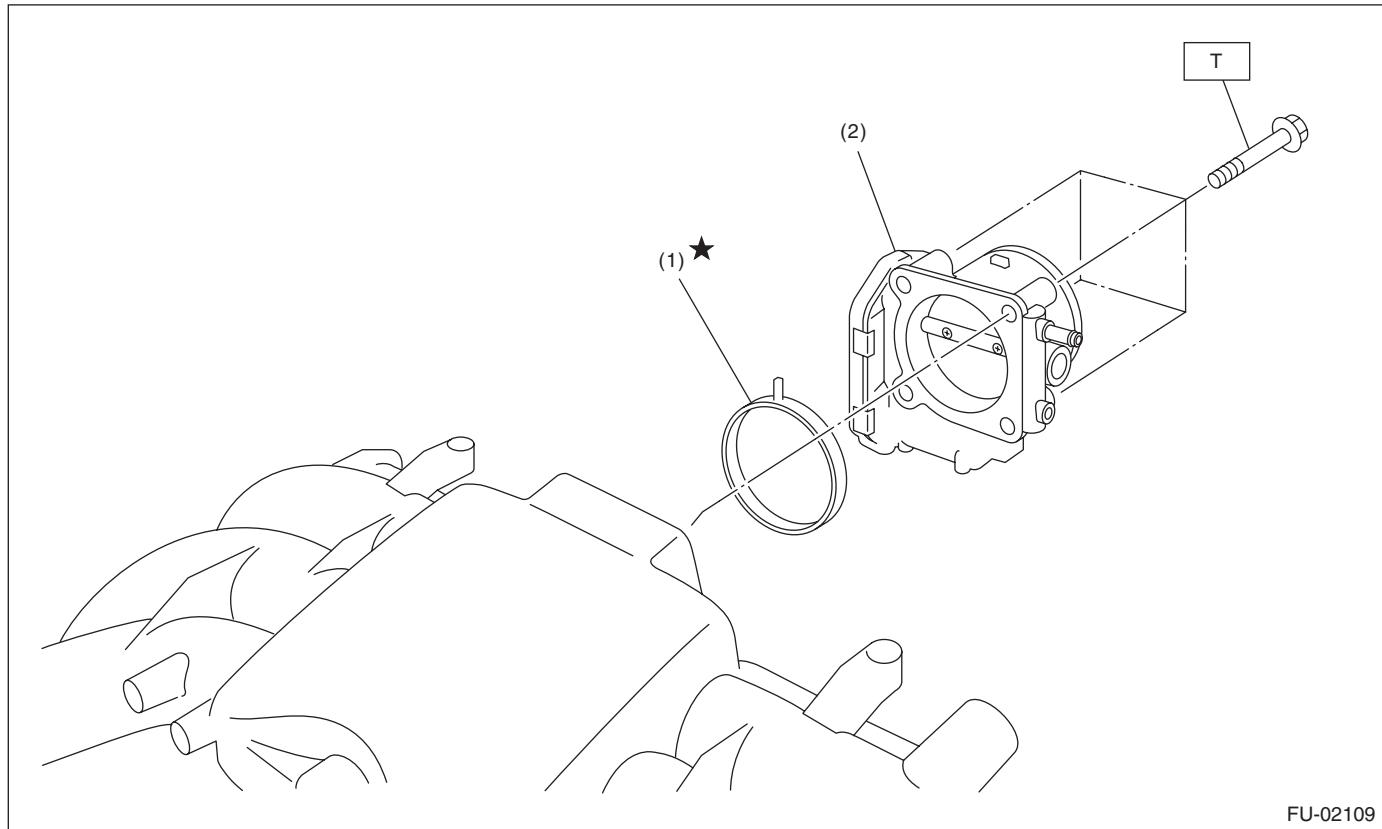
(1) Intake manifold	(10) Nipple	(18) EGR pipe
(2) O-ring	(11) Fuel pipe protector LH	
(3) Manifold absolute pressure sensor	(12) Fuel pipe ASSY	
(4) Filter	(13) Hose	<b>Tightening torque:N·m (kgf·m, ft·lb)</b>
(5) Fuel pipe protector RH	(14) Clamp	<b>T1: 1.5 (0.2, 1.1)</b>
(6) Purge control solenoid valve	(15) EGR valve	<b>T2: 6.4 (0.7, 4.7)</b>
(7) Hose	(16) Gasket	<b>T3: 17 (1.7, 12.5)</b>
(8) Hose	(17) Gasket	<b>T4: 19 (1.9, 14.0)</b>
(9) Plug		<b>T5: 25 (2.5, 18.4)</b>

## 2. FUEL INJECTOR



(1) Fuel injector pipe LH	(4) Injection rubber	<b>Tightening torque:N·m (kgf·m, ft·lb)</b>
(2) Insulator	(5) O-ring	<b>T: 19 (1.9, 14.0)</b>
(3) Fuel injector	(6) Fuel injector pipe RH	

### 3. AIR INTAKE SYSTEM



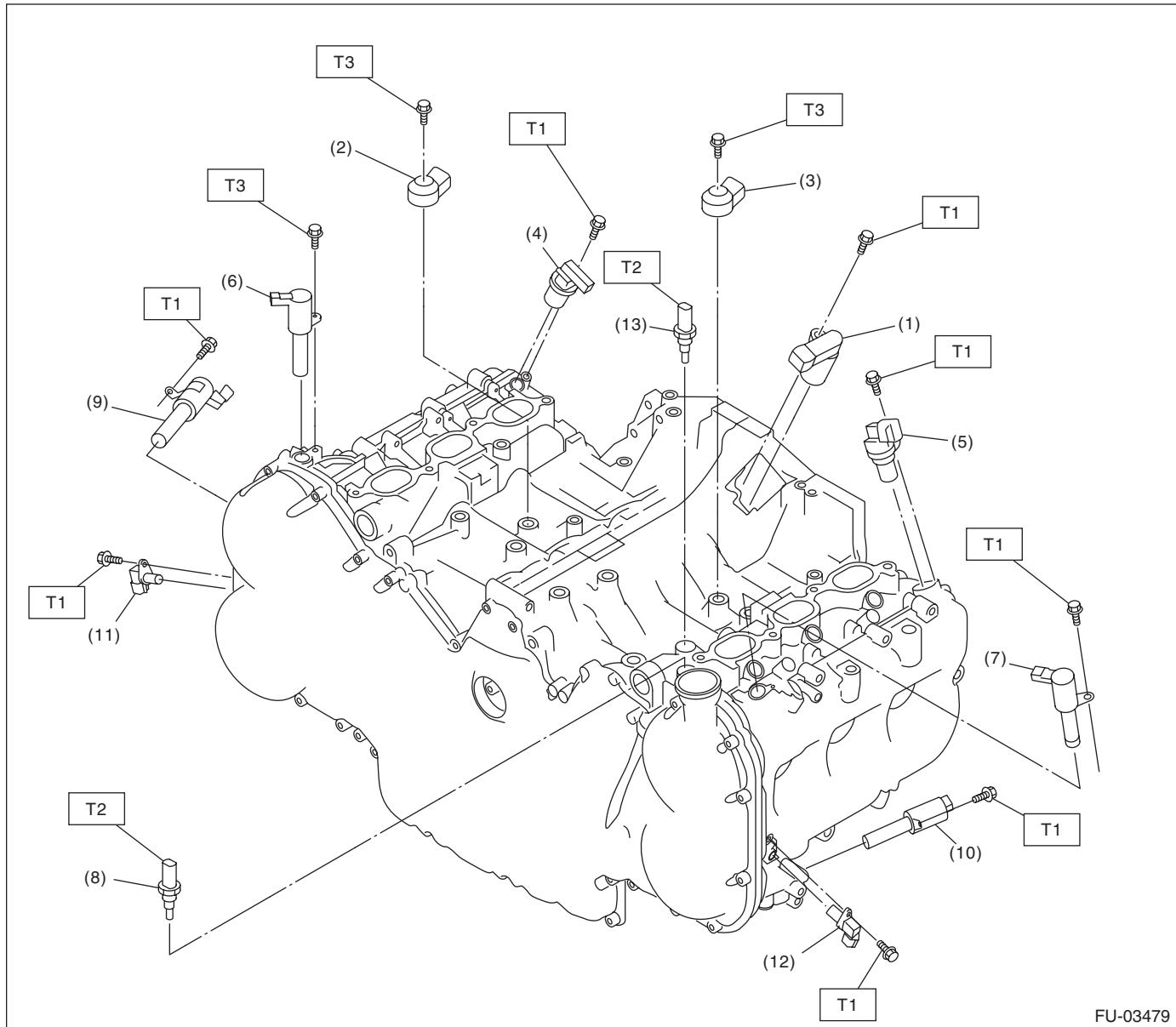
- (1) O-ring
- (2) Throttle body

**Tightening torque: N·m (kgf·m, ft-lb)**  
**T: 8 (0.8, 5.9)**

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## 4. SENSOR



(1)	Crankshaft position sensor	(7)	Intake oil flow control solenoid valve LH	(12)	Exhaust camshaft position sensor LH
(2)	Knock sensor RH				
(3)	Knock sensor LH	(8)	Oil temperature sensor	(13)	Engine coolant temperature sensor
(4)	Intake camshaft position sensor RH	(9)	Exhaust oil flow control solenoid valve RH		
(5)	Intake camshaft position sensor LH	(10)	Exhaust oil flow control solenoid valve LH		<b>Tightening torque:N·m (kgf·m, ft·lb)</b>
(6)	Intake oil flow control solenoid valve RH	(11)	Exhaust camshaft position sensor RH		<b>T1: 6.4 (0.7, 4.7)</b>
					<b>T2: 22 (2.2, 16.2)</b>
					<b>T3: 25 (2.5, 18.4)</b>

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

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

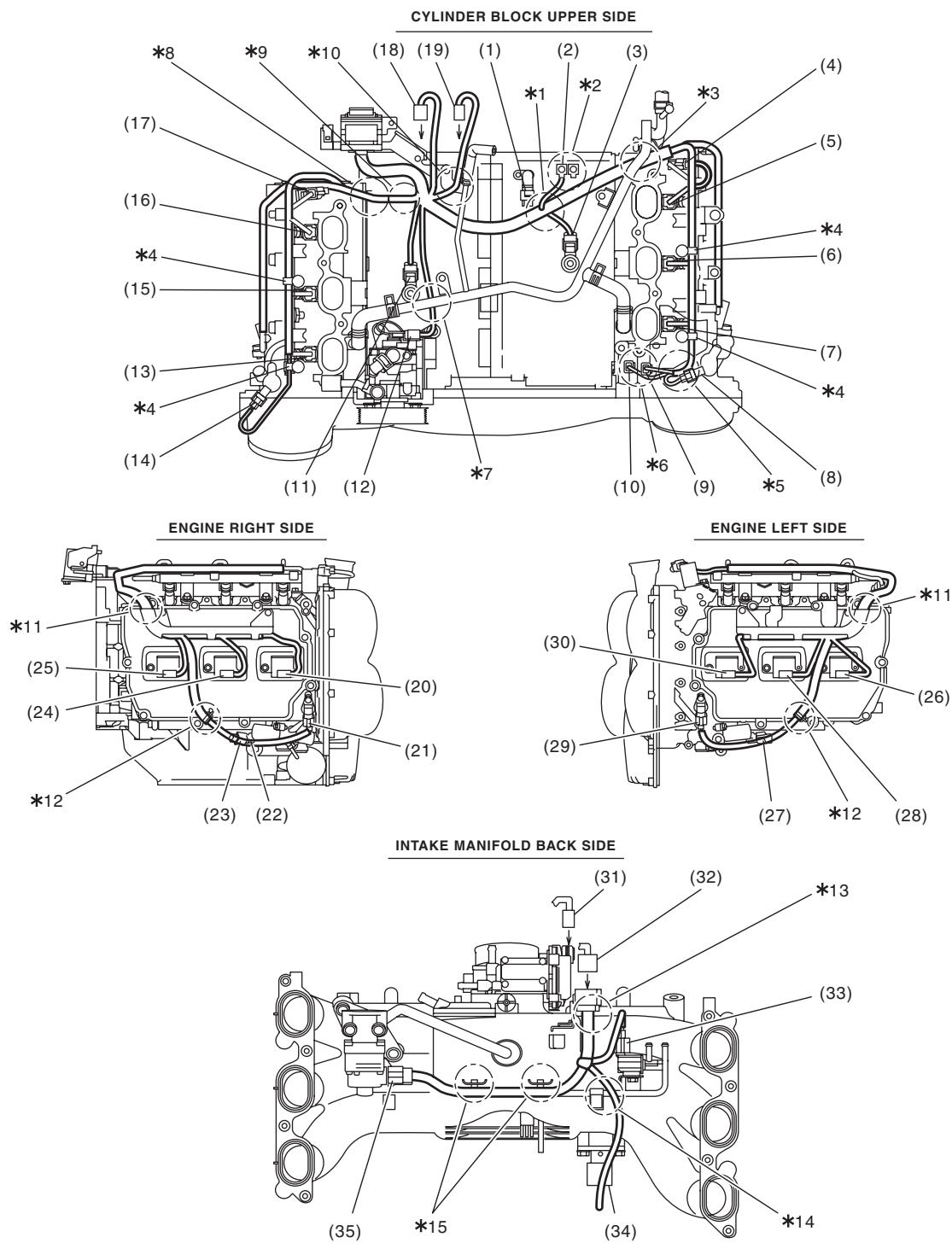
**T2: 22 (2.2, 16.2)**

T3: 25 (2.5, 18.4)

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### 5. ENGINE HARNESS



ME-03361

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(1) Crankshaft position sensor connector	(14) Intake oil flow control solenoid valve RH connector	(25) #5 ignition coil connector
(2) Engine ground	(15) #3 injector connector	(26) #6 ignition coil connector
(3) Knock sensor LH connector	(16) #5 injector connector	(27) Exhaust oil flow control solenoid valve LH connector
(4) Intake camshaft position sensor LH connector	(17) Intake camshaft position sensor RH connector	(28) #4 ignition coil connector
(5) #6 injector connector	(18) Upper and lower connector (to intake manifold)	(29) Exhaust camshaft position sensor LH connector
(6) #4 injector connector	(19) Electronic throttle control connector (to intake manifold)	(30) #2 ignition coil connector
(7) #2 injector connector	(20) #1 ignition coil connector	(31) Electronic throttle control connector (From cylinder block upper part)
(8) Intake oil flow control solenoid valve LH connector	(21) Exhaust camshaft position sensor RH	(32) upper and lower connector (From cylinder block upper part)
(9) Oil temperature sensor connector	(22) Oil pressure switch connector	(33) Purge control solenoid valve connector
(10) Engine coolant temperature sensor connector	(23) Exhaust oil flow control solenoid valve RH connector	(34) Manifold absolute pressure sensor connector
(11) Knock sensor RH connector	(24) #3 ignition coil connector	(35) EGR valve connector

\*1: Route the harness between the crankshaft position sensor and the knock sensor LH.

\*2: Install the engine ground terminal so that it faces the rear of the vehicle.

\*3: Route the harness under the heater hose pipe.

\*4: Install the engine harness fixing clip to the fuel pipe stay.

\*5: Route the harness from the cutout portion of the fuel pipe protector LH.

\*6: Do not confuse the oil temperature sensor connector and the engine coolant temperature sensor connector.

\*7: Route the harness under the heater hose pipe.

\*8: Route the harness under the fuel pipe.

\*9: Install the engine harness fixing clip to the fixing boss of the cylinder block.

\*10: Route the harness over the heater hose pipe stay.

\*11: Align the edges of the engine harness stay and the engine harness identification tape.

\*12: Install the engine harness fixing clip to the fixing boss of the rocker cover.

\*13: Install the engine harness fixing stay securely.

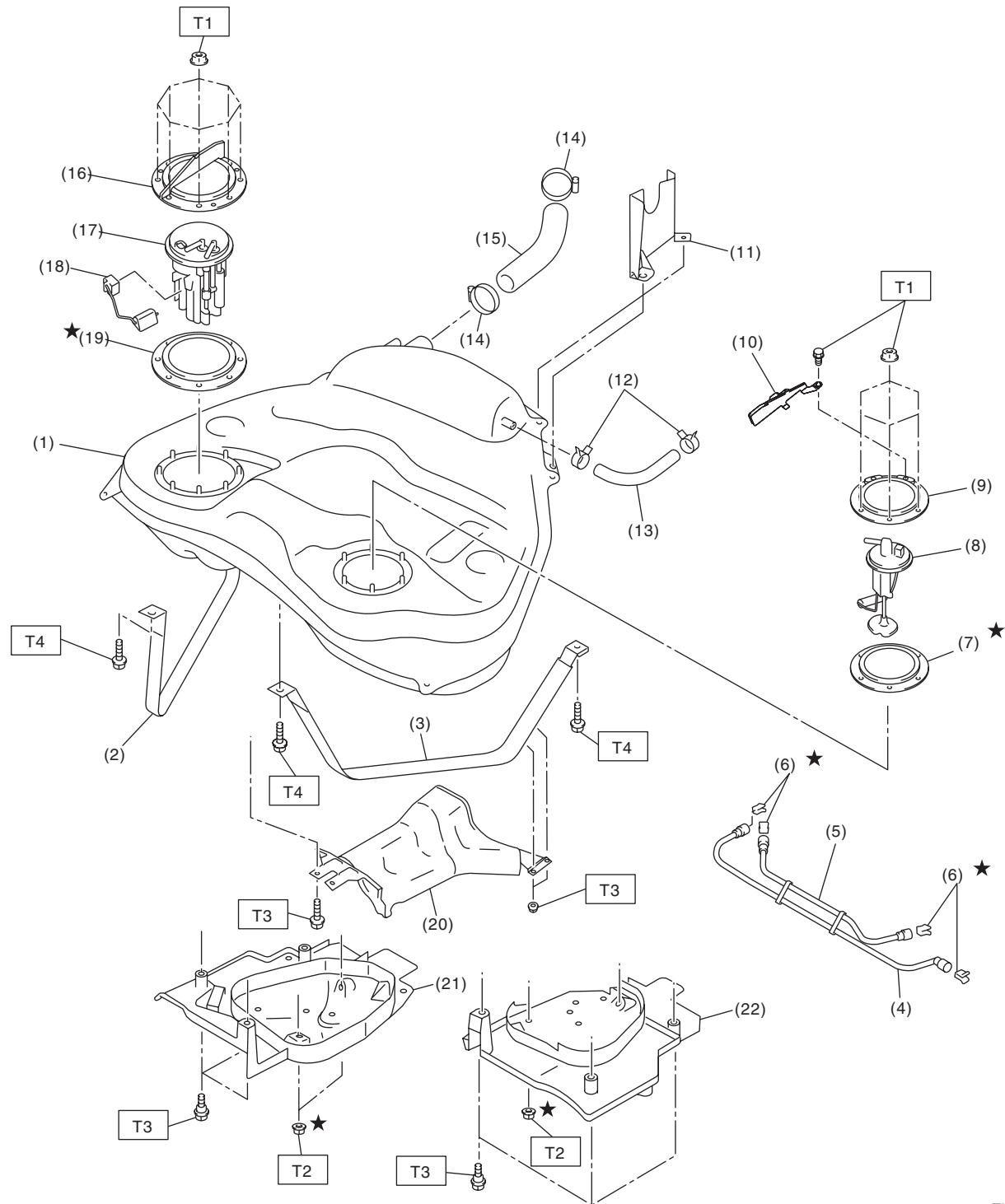
\*14: Route the harness outside the fuel pipe.

\*15: Install the engine harness fixing clip to the fixing stay of the intake manifold.

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### 6. FUEL TANK



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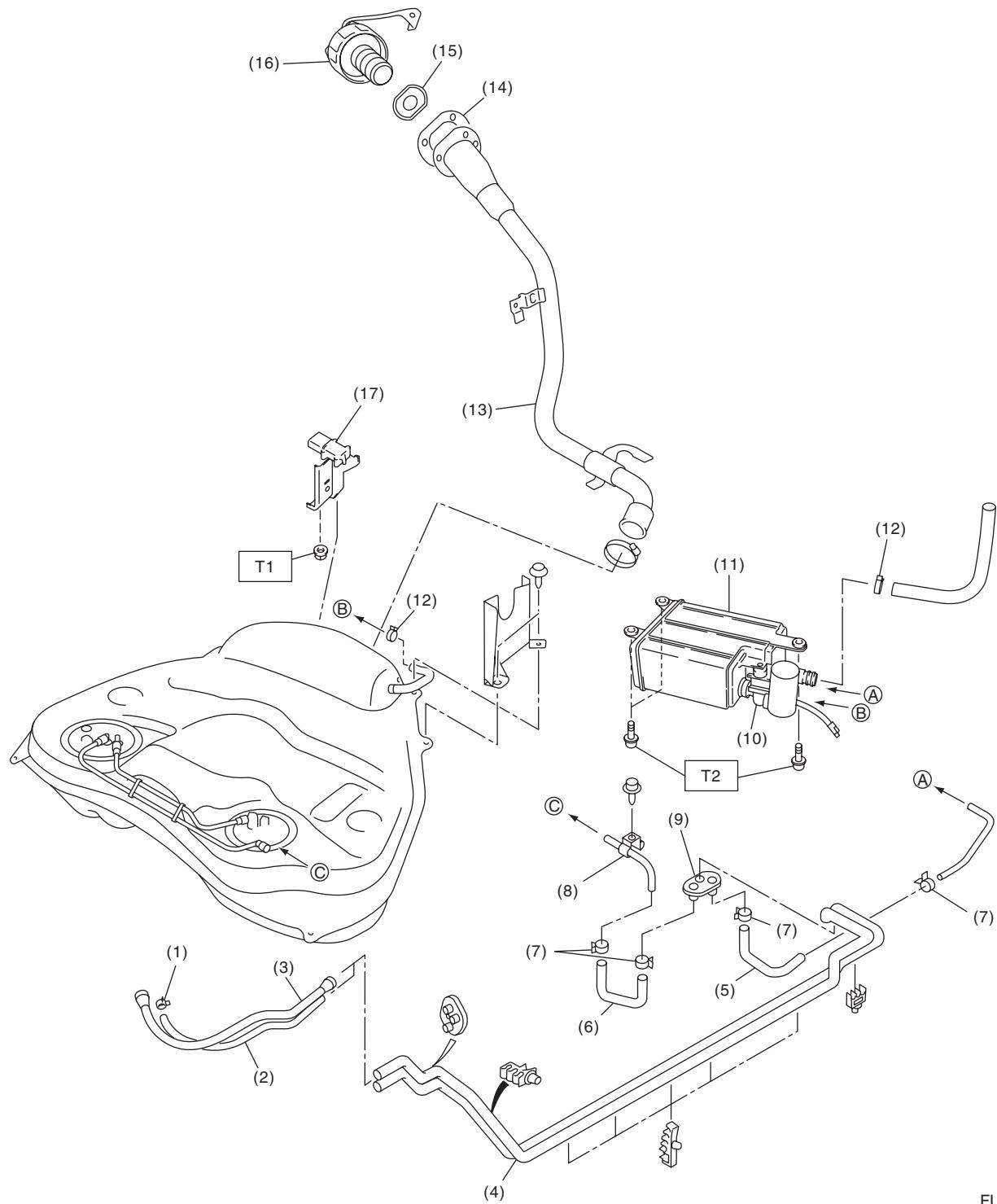
(1) Fuel tank	(11) Fuel tank protector LH (Rear)	(21) Fuel tank protector RH (Front)
(2) Fuel tank band RH	(12) Clip	(22) Fuel tank protector LH (Front)
(3) Fuel tank band LH	(13) Evaporation hose	
(4) Delivery tube	(14) Clamp	<b><i>Tightening torque:N·m (kgf·m, ft-lb)</i></b>
(5) Jet pump tube	(15) Fuel filler hose	<b><i>T1: 4.4 (0.4, 3.2)</i></b>
(6) Retainer	(16) Fuel pump upper plate	<b><i>T2: 9 (0.9, 6.6)</i></b>
(7) Fuel sub level sensor gasket	(17) Fuel pump ASSY	<b><i>T3: 18 (1.8, 13.3)</i></b>
(8) Fuel sub level sensor	(18) Fuel level sensor	<b><i>T4: 33 (3.4, 25)</i></b>
(9) Fuel sub level sensor upper plate	(19) Fuel pump gasket	
(10) Bracket	(20) Heat shield cover	

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### 7. FUEL LINE



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(1) Clamp	(8) Fuel pipe ASSY	(15) Ring
(2) Evaporation hose A	(9) Grommet	(16) Fuel filler cap
(3) Fuel delivery hose A	(10) Drain valve	(17) Fuel tank pressure sensor
(4) Fuel pipe ASSY	(11) Canister	
(5) Evaporation hose B	(12) Clamp	
(6) Fuel delivery hose B	(13) Fuel filler pipe	
(7) Clamp	(14) Gasket	

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

***T1: 7.35 (0.7, 5.4)***

***T2: 8.0 (0.8, 5.9)***

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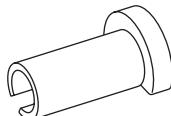
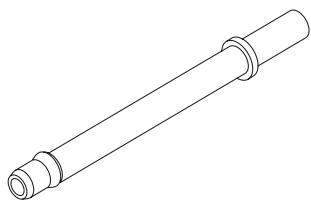
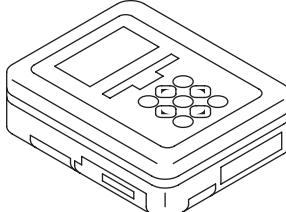
## C: CAUTION

- 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 FIRE" 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

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
 ST42099AE000	42099AE000	QUICK CONNECTOR RELEASE	Used for disconnecting quick connector of the engine compartment.
 ST18471AA000	18471AA000	FUEL PIPE ADAPTER	Used for draining fuel.
 ST1B022XU0	1B022XU0	SUBARU SELECT MONITOR III KIT	Used for draining fuel.