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EMISSION CONTROL

(AUX. EMISSION CONTROL DEVICES)

General Description

EMISSION CONTROL (AUX. EMISSION CONTROL DEVICES)

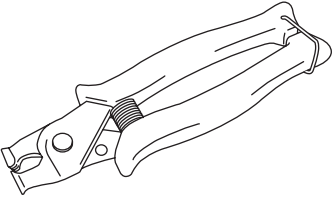
1. General Description

A: 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.

B: 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 is a general tool made by the French company CAILLAU. (Code: 54.0.000.205) To make this easier to obtain in the same way as genuine Subaru parts, it has been provided with a tool number as an ST.

Front Catalytic Converter

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2. Front Catalytic Converter

A: REMOVAL

The front catalytic converter is integrated into the front exhaust pipe. Refer to "Front Exhaust Pipe" for removal procedures. <Ref. to EX(H4SO)-4, REMOVAL, Front Exhaust Pipe.>

B: INSTALLATION

The front catalytic converter is integrated into the front exhaust pipe. Refer to "Front Exhaust Pipe" for the installation procedures. <Ref. to EX(H4SO)-5, INSTALLATION, Front Exhaust Pipe.>

C: INSPECTION

- 1) Check the connections and welds for exhaust leaks.
- 2) Make sure there are no holes or rusting.

Rear Catalytic Converter

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3. Rear Catalytic Converter

A: REMOVAL

The rear catalytic converter is integrated into the center exhaust pipe. Refer to "Center Exhaust Pipe" for removal procedures. <Ref. to EX(H4SO)-7, REMOVAL, Center Exhaust Pipe.>

B: INSTALLATION

The rear catalytic converter is integrated into the center exhaust pipe. Refer to "Center Exhaust Pipe" for installation procedures. <Ref. to EX(H4SO)-7, INSTALLATION, Center Exhaust Pipe.>

C: INSPECTION

- 1) Check the connections and welds for exhaust leaks.
- 2) Make sure there are no holes or rusting.

EGR Valve

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4. EGR Valve

A: SPECIFICATION

Refer to "EGR Valve" for removal and installation procedures. <Ref. to FU(H4SO)-29, EGR Valve.>

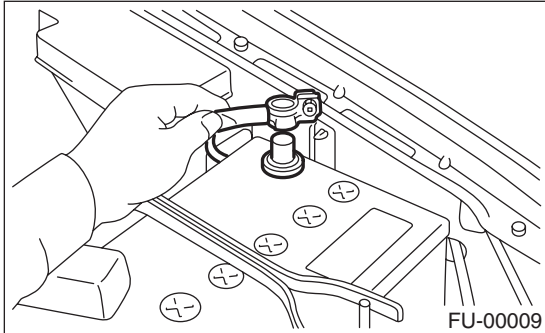
Canister

EMISSION CONTROL (AUX. EMISSION CONTROL DEVICES)

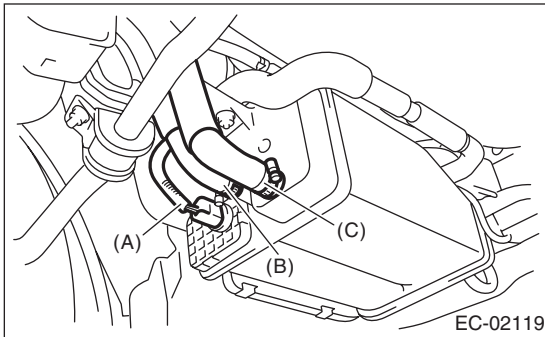
5. Canister

A: REMOVAL

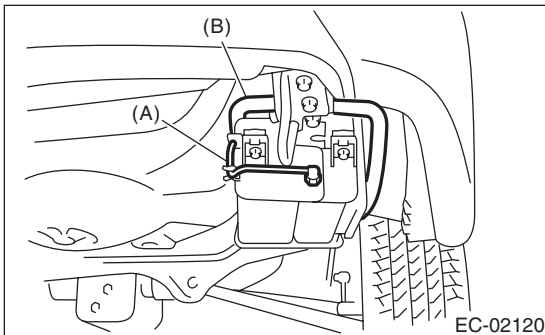
- 1) Set the vehicle on a lift.
- 2) Disconnect the ground cable from the battery.



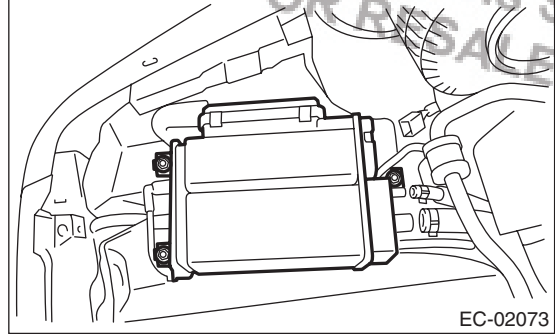
- 3) Lift up the vehicle.
- 4) Disconnect the connector (A) from the drain valve.
- 5) Disconnect the evaporation hoses (B) and (C) from the canister.



- 6) Disconnect the quick connector (A) from the canister.
- 7) Disconnect the drain hose (B) from the canister.



- 8) Remove the canister from the vehicle body.



B: INSTALLATION

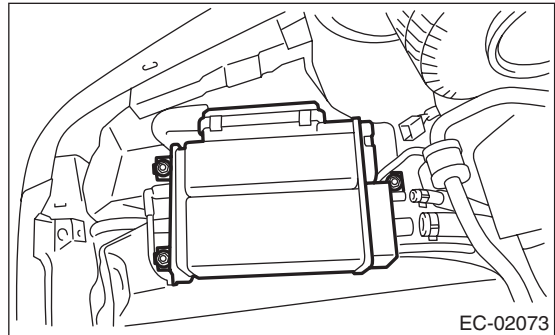
Install in the reverse order of removal.

NOTE:

Replace the retainer of the quick connector with a new part.

Tightening torque:

23 N·m (2.3 kgf-m, 17 ft-lb)



C: INSPECTION

Make sure the canister and canister hoses are not cracked or loose.

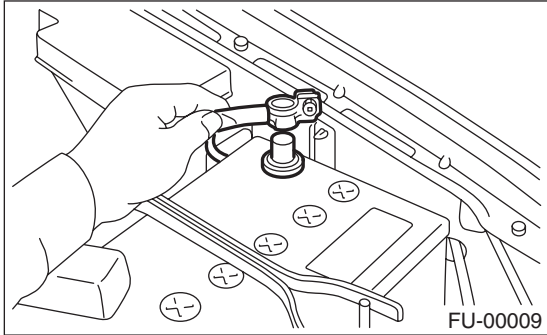
Purge Control Solenoid Valve

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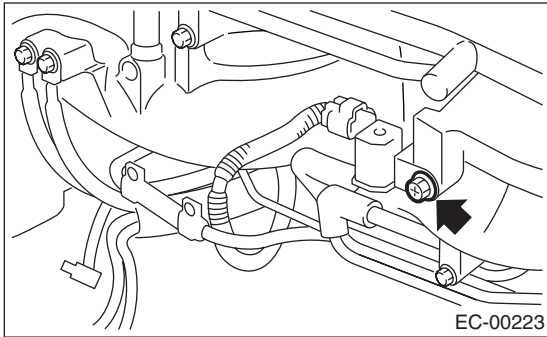
6. Purge Control Solenoid Valve

A: REMOVAL

1) Disconnect the ground cable from the battery.



2) Disconnect the connector and hoses of purge control solenoid valve, and then remove the purge control solenoid valve.

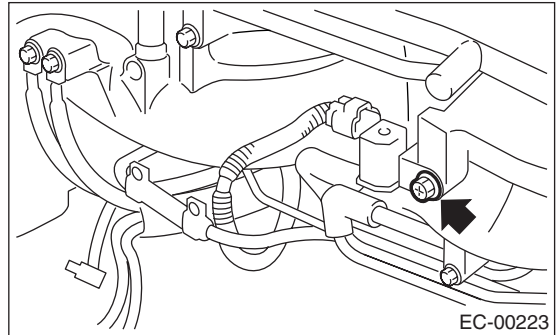


B: INSTALLATION

Install in the reverse order of removal.

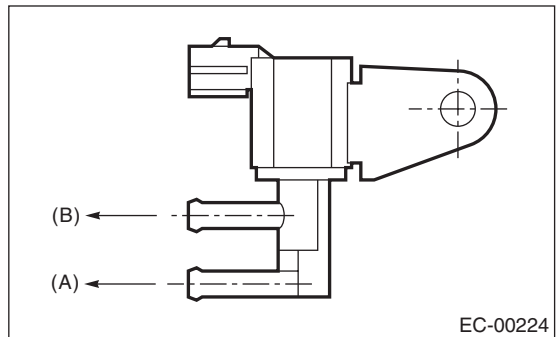
Tightening torque:

19 N·m (1.9 kgf-m, 14.0 ft-lb)



NOTE:

Connect the evaporation hose as shown in the following.



(A) To fuel pipe (evaporation line)

(B) To intake manifold

C: INSPECTION

Make sure the hoses are not cracked or loose.

Fuel Level Sensor

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7. Fuel Level Sensor

A: REMOVAL

Refer to "Fuel Level Sensor" for removal procedure. <Ref. to FU(H4SO)-53, REMOVAL, Fuel Level Sensor.>

B: INSTALLATION

Refer to "Fuel Level Sensor" for installation procedure. <Ref. to FU(H4SO)-53, INSTALLATION, Fuel Level Sensor.>

Fuel Temperature Sensor

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8. Fuel Temperature Sensor

A: REMOVAL

The fuel temperature sensor and fuel level sensor are integrated into one unit; therefore, refer to "Fuel Level Sensor" for removal procedure. <Ref. to FU(H4SO)-53, REMOVAL, Fuel Level Sensor.>

B: INSTALLATION

The fuel temperature sensor and fuel level sensor are integrated into one unit; therefore, refer to "Fuel Level Sensor" for installation procedure. <Ref. to FU(H4SO)-53, INSTALLATION, Fuel Level Sensor.>

Fuel Sub Level Sensor

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9. Fuel Sub Level Sensor

A: REMOVAL

Refer to "Fuel Sub Level Sensor" for removal procedure. <Ref. to FU(H4SO)-54, REMOVAL, Fuel Sub Level Sensor.>

B: INSTALLATION

Refer to "Fuel Sub Level Sensor" for installation procedure. <Ref. to FU(H4SO)-54, INSTALLATION, Fuel Sub Level Sensor.>

Fuel Tank Pressure Sensor

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10. Fuel Tank Pressure Sensor

A: REMOVAL

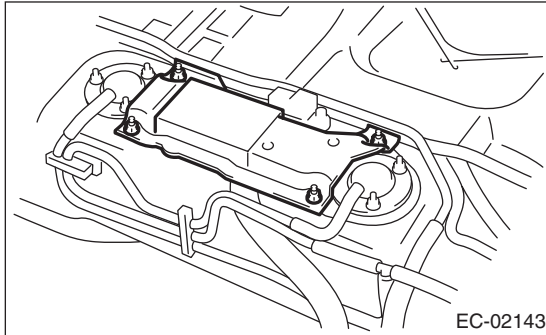
WARNING:

Place "NO OPEN FLAMES" signs near the working area.

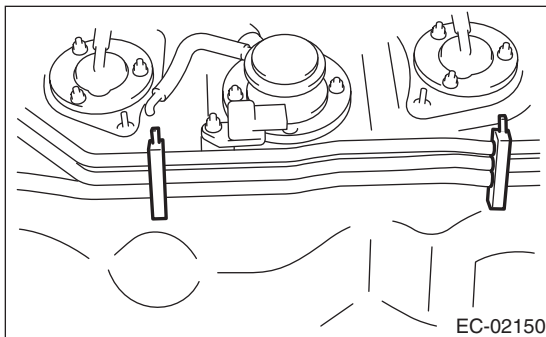
CAUTION:

Be careful not to spill fuel.

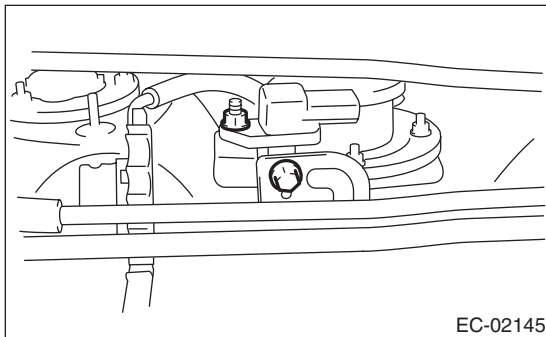
- 1) Remove the fuel tank. <Ref. to FU(H4SO)-44, REMOVAL, Fuel Tank.>
- 2) Remove the protector cover.



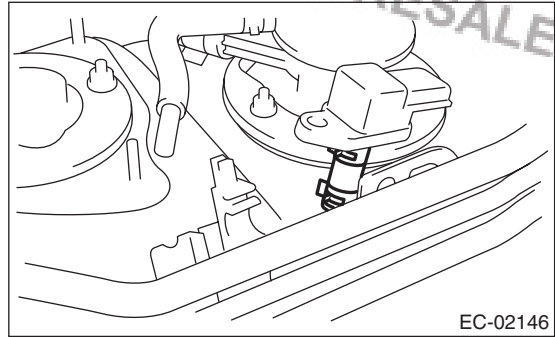
- 3) Disconnect the connector from the fuel tank pressure sensor.
- 4) Release the clips which secure the fuel pipe to the fuel tank.



- 5) Remove the bolts and nuts which hold the fuel tank pressure sensor to the bracket.



- 6) Disconnect the pressure hose from the fuel tank pressure sensor.

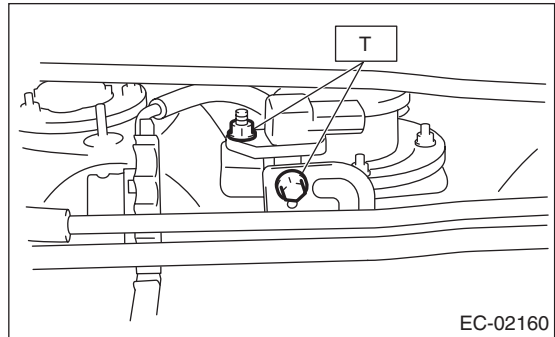


B: INSTALLATION

Install in the reverse order of removal.

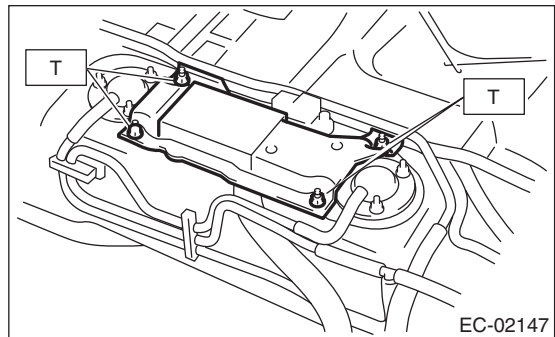
Tightening torque:

7.4 N·m (0.75 kgf-m, 5.4 ft-lb)



Tightening torque:

T: 4.4 N·m (0.45 kgf-m, 3.3 ft-lb)



C: INSPECTION

Make sure the hoses are not cracked or loose.

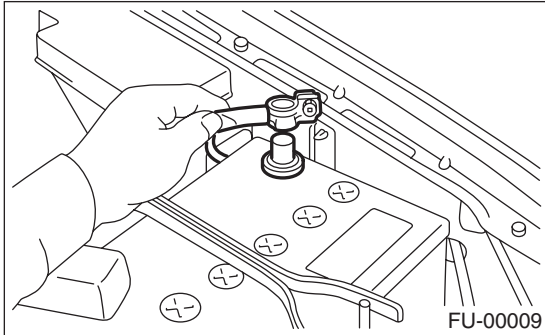
Pressure Control Solenoid Valve

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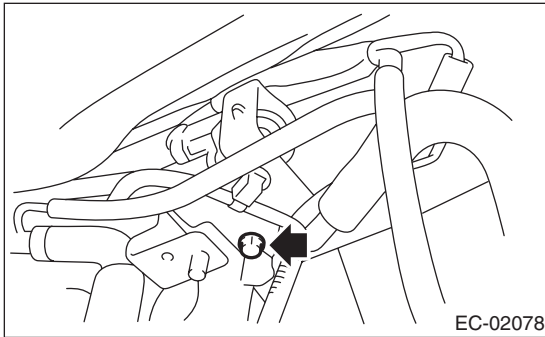
11. Pressure Control Solenoid Valve

A: REMOVAL

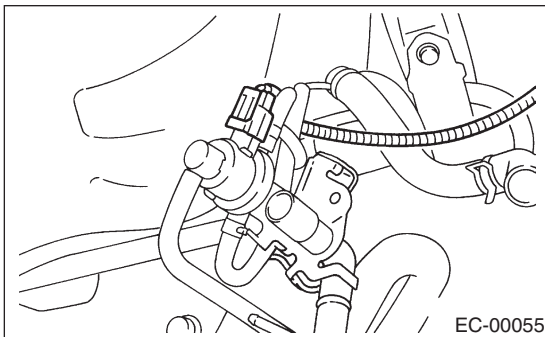
- 1) Set the vehicle on a lift.
- 2) Disconnect the ground cable from the battery.



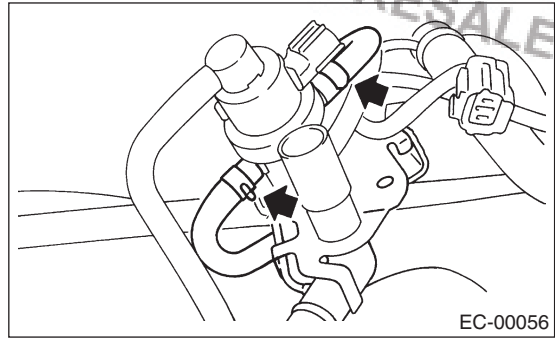
- 3) Lift up the vehicle.
- 4) Remove the canister. <Ref. to EC(H4SO)-6, REMOVAL, Canister.>
- 5) Remove the bolt which holds the pressure control solenoid valve holding bracket to the vehicle body.



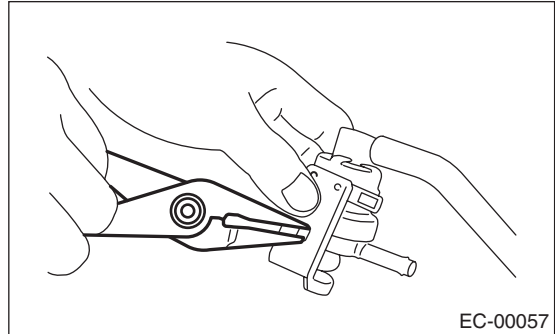
- 6) Remove the pressure control solenoid valve and bracket as a unit.
- 7) Disconnect the connector from the pressure control solenoid valve.



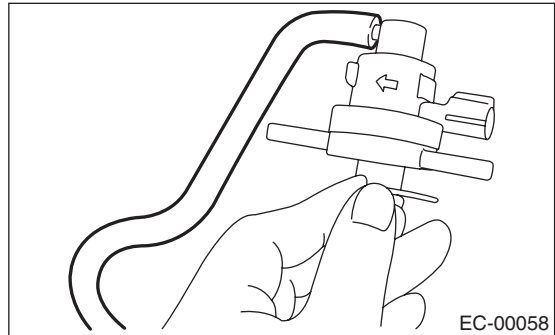
- 8) Disconnect the two evaporation hoses from the pressure control solenoid valve.



- 9) Remove the pressure control solenoid valve from the bracket.



- 10) Disconnect the hose from the pressure control solenoid valve.

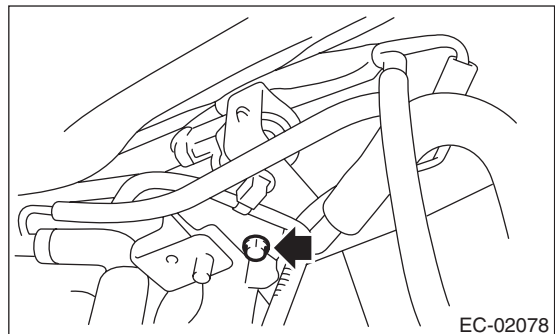


B: INSTALLATION

Install in the reverse order of removal.

Tightening torque:

25 N·m (2.5 kgf·m, 18.4 ft·lb)



C: INSPECTION

Make sure the hoses are not cracked or loose.

Drain Filter

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12.Drain Filter

A: SPECIFICATION

The drain filter is integrated with the canister, and cannot be disassembled.

Vent Valve

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13. Vent Valve

A: REMOVAL

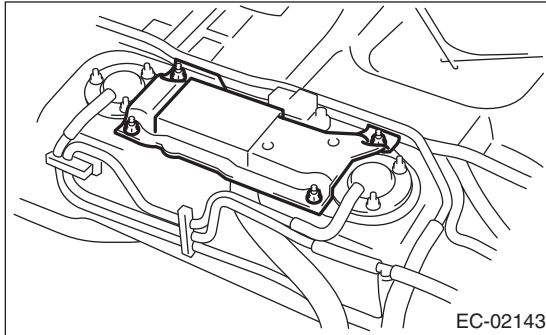
WARNING:

Place "NO OPEN FLAMES" signs near the working area.

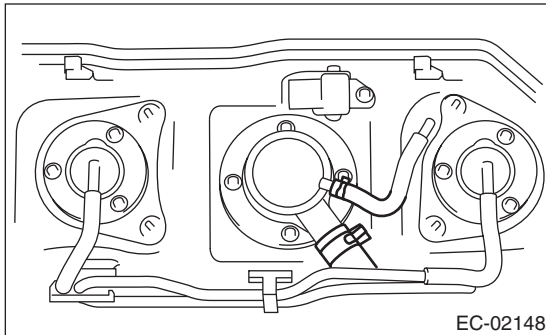
CAUTION:

Be careful not to spill fuel.

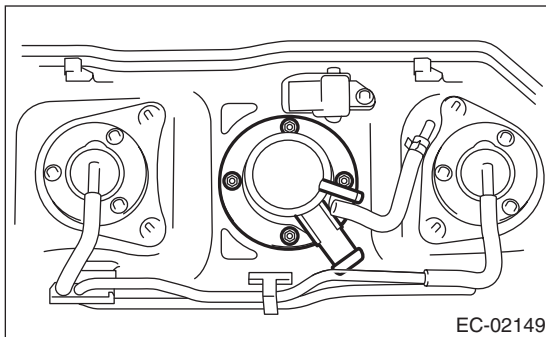
- 1) Remove the fuel tank. <Ref. to FU(H4SO)-44, REMOVAL, Fuel Tank.>
- 2) Remove the protector cover.



- 3) Remove the clip and disconnect the hose from the vent valve.



- 4) Remove the nut to remove the vent valve.



B: INSTALLATION

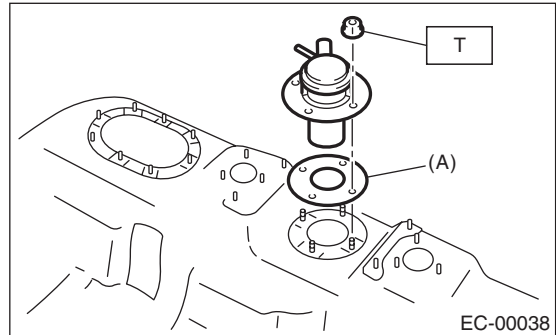
Install in the reverse order of removal.

NOTE:

Use a new gasket.

Tightening torque:

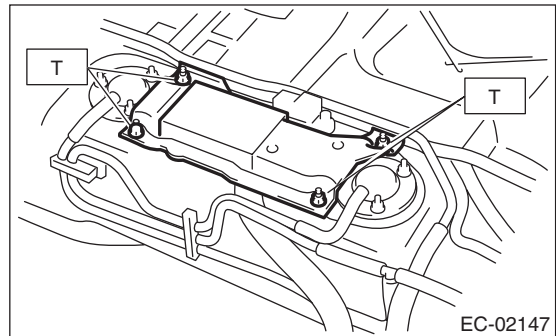
T: 4.4 N·m (0.45 kgf·m, 3.3 ft·lb)



(A) Gasket

Tightening torque:

T: 4.4 N·m (0.45 kgf·m, 3.3 ft·lb)



C: INSPECTION

Make sure the hoses are not cracked or loose.

14. Shut Valve

A: REMOVAL

WARNING:

Place "NO OPEN FLAMES" signs near the working area.

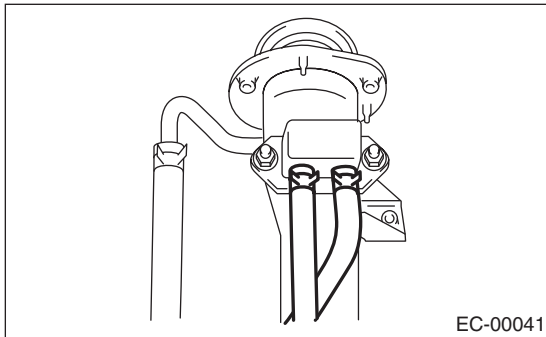
CAUTION:

Be careful not to spill fuel.

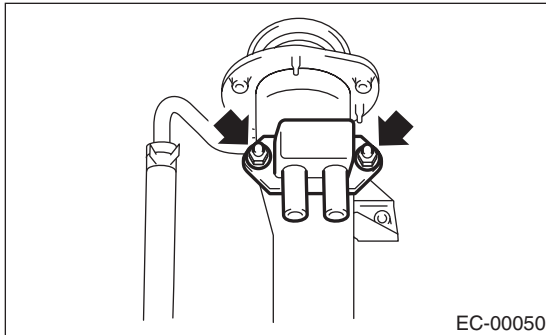
1) Remove the fuel filler pipe.

<Ref. to FU(H4SO)-47, REMOVAL, Fuel Filler Pipe.>

2) Disconnect the evaporation hose from the shut valve.



3) Remove the shut valve from the fuel filler pipe.

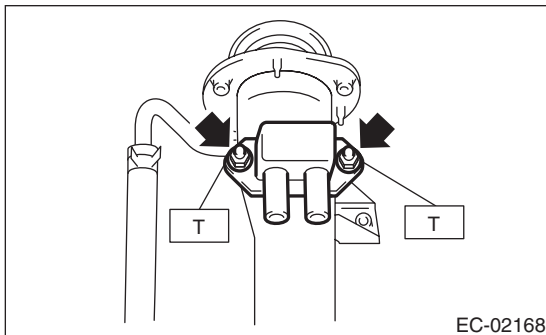


B: INSTALLATION

Install in the reverse order of removal.

Tightening torque:

4.5 N·m (0.46 kgf-m, 3.3 ft-lb)



C: INSPECTION

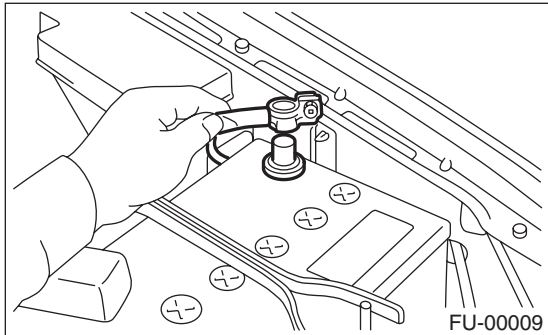
Make sure the hoses are not cracked or loose.

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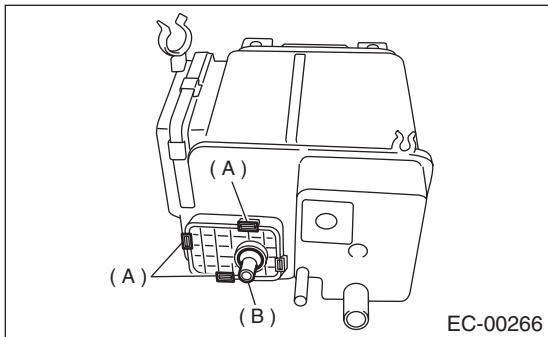
15. Drain Valve

A: REMOVAL

- 1) Set the vehicle on a lift.
- 2) Disconnect the ground cable from the battery.



- 3) Lift up the vehicle.
- 4) Remove the canister. <Ref. to EC(H4SO)-6, REMOVAL, Canister.>
- 5) Remove the clip (A) and remove the drain valve (B) from the canister.

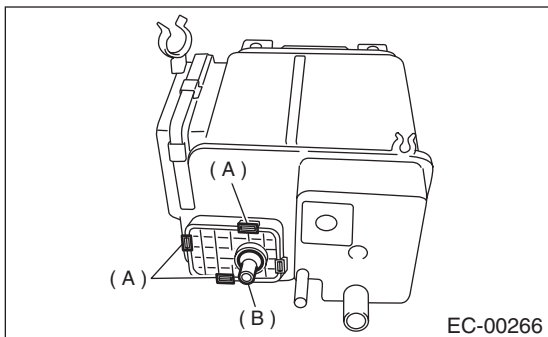


B: INSTALLATION

Install in the reverse order of removal.

NOTE:

Use a new clip.



- (A) Clip
- (B) Drain valve

C: INSPECTION

- 1) Check that all hoses are connected securely.
- 2) Make sure the hoses are not cracked or loose.

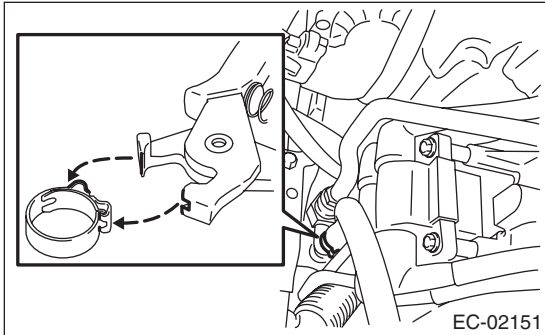
16.PCV Hose Assembly

A: REMOVAL

CAUTION:

Do not remove unless the PCV hose, diagnostics connector and PCV valve are damaged.

- 1) Remove the air intake chamber.
<Ref. to IN(H4SO)-6, REMOVAL, Air Intake Chamber.>
 - 2) Fit the depression in the ST with the protrusion on the clamp to unlock.
 - 3) Remove the PCV hose assembly.
- ST 18353AA000 CLAMP PLIERS



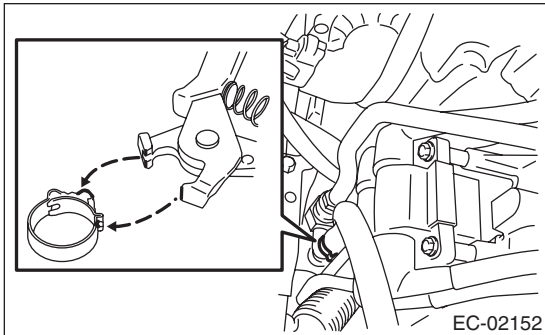
B: INSTALLATION

NOTE:

Use a new clamp.

- 1) Install the PCV hose assembly, then lock by fitting the ST on the clamp protrusion.

ST 18353AA000 CLAMP PLIERS



- 2) Install the air intake chamber.
<Ref. to IN(H4SO)-6, INSTALLATION, Air Intake Chamber.>

PCV Hose Assembly

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