

ENGINE SECTION 2

This service manual has been prepared to provide SUBARU service personnel with the necessary information and data for the correct maintenance and repair of SUBARU vehicles.

This manual includes the procedures for maintenance, disassembling, reassembling, inspection and adjustment of components and diagnostics for guidance of experienced mechanics.

Please peruse and utilize this manual fully to ensure complete repair work for satisfying our customers by keeping their vehicle in optimum condition. When replacement of parts during repair work is needed, be sure to use SUBARU genuine parts.

All information, illustration and specifications contained in this manual are based on the latest product information available at the time of publication approval.

FUEL INJECTION (FUEL SYSTEMS) FU(H4DOTC)

**EMISSION CONTROL
(AUX. EMISSION CONTROL DEVICES) EC(H4DOTC)**

INTAKE (INDUCTION) IN(H4DOTC)

MECHANICAL ME(H4DOTC)

EXHAUST EX(H4DOTC)

COOLING CO(H4DOTC)

LUBRICATION LU(H4DOTC)

SPEED CONTROL SYSTEMS SP(H4DOTC)

IGNITION IG(H4DOTC)

STARTING/CHARGING SYSTEMS SC(H4DOTC)

ENGINE (DIAGNOSTICS) EN(H4DOTC)(diag)

EMISSION CONTROL (AUX. EMISSION CONTROL DEVICES)

EC(H4DOTC)

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General Description

EMISSION CONTROL (AUX. EMISSION CONTROL DEVICES)

1. General Description

A: CAUTION

- Wear work clothing, including a cap, protective goggles and protective shoes during operation.
- 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.
- Be careful not to burn yourself, because each part on the vehicle is hot after running.
- 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 electrical connectors of sensors or units, be sure to disconnect the ground cable from battery.

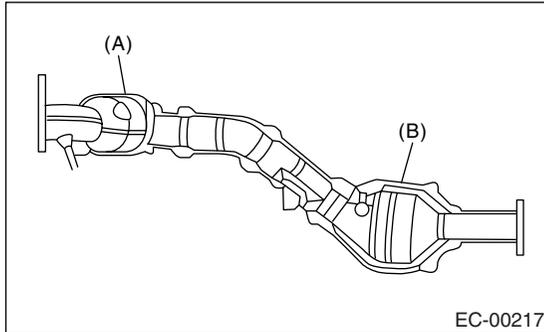
Front Catalytic Converter

EMISSION CONTROL (AUX. EMISSION CONTROL DEVICES)

2. Front Catalytic Converter

A: REMOVAL

- 1) Remove the center exhaust pipe.
<Ref. to EX(H4DOTC)-6, REMOVAL, Center Exhaust Pipe.>
- 2) Separate the front catalytic converter (A) from rear catalytic converter (B).



B: INSTALLATION

Install in the reverse order of removal.

NOTE:

Always use new gasket.

C: INSPECTION

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

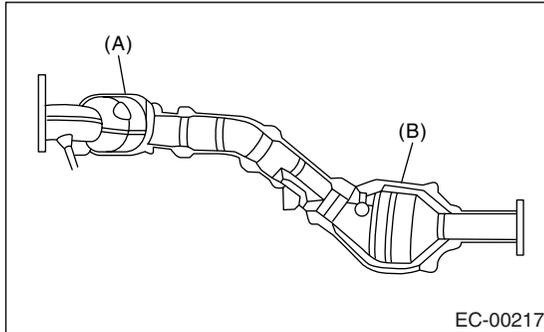
Rear Catalytic Converter

EMISSION CONTROL (AUX. EMISSION CONTROL DEVICES)

3. Rear Catalytic Converter

A: REMOVAL

- 1) Remove the center exhaust pipe.
<Ref. to EX(H4DOTC)-6, REMOVAL, Center Exhaust Pipe.>
- 2) Separate the rear catalytic converter (B) from front catalytic converter (A).



B: INSTALLATION

Install in the reverse order of removal.

NOTE:

Always use new gasket.

C: INSPECTION

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

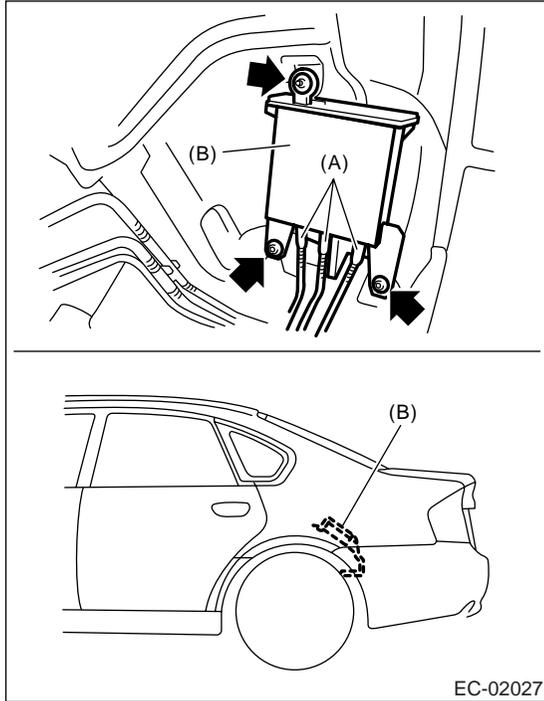
Canister

EMISSION CONTROL (AUX. EMISSION CONTROL DEVICES)

4. Canister

A: REMOVAL

- 1) Lift-up the vehicle.
- 2) Remove the rear wheel LH.
- 3) Remove the rear mud guard LH.
- 4) Remove the canister protector.
- 5) Disconnect the quick connector (A).
- 6) Remove the canister (B) from body.



B: INSTALLATION

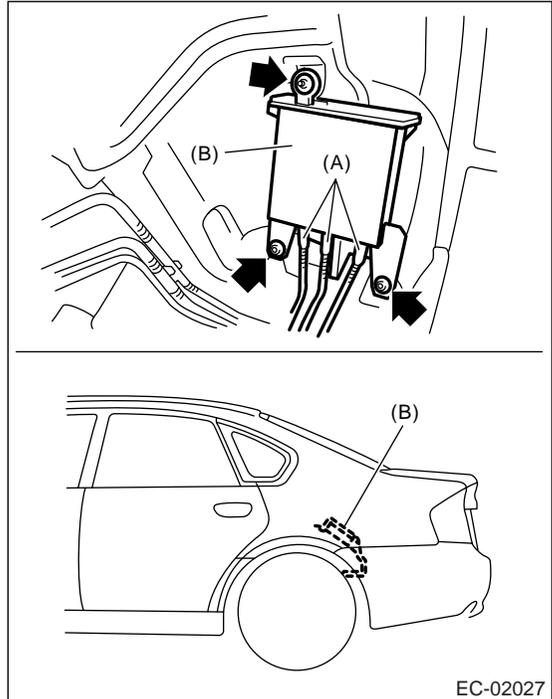
Install in the reverse order of removal.

NOTE:

Make sure there are no damage or dust on the connection of quick connector. If necessary, clean the seal surface of pipe.

Tightening torque:

8.3 N·m (0.85 kgf·m, 6.1 ft·lb)



C: INSPECTION

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

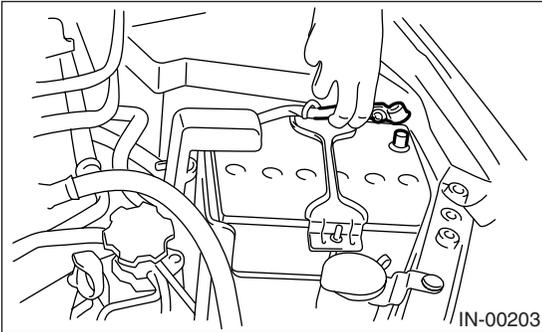
Purge Control Solenoid Valve

EMISSION CONTROL (AUX. EMISSION CONTROL DEVICES)

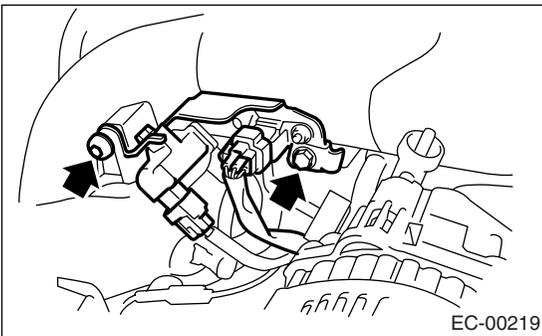
5. Purge Control Solenoid Valve

A: REMOVAL

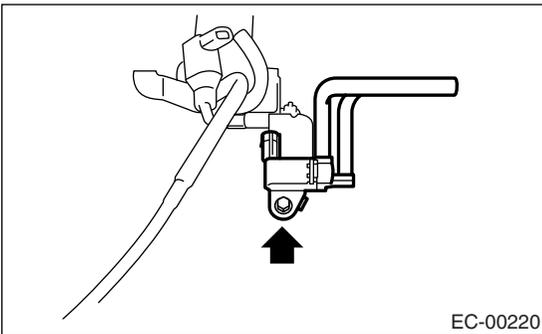
- 1) Remove the collector cover.
- 2) Disconnect the ground cable from battery.



- 3) Remove the solenoid valve bracket assembly from intake manifold.



- 4) Disconnect the connector from purge control solenoid valve.
- 5) Disconnect the evaporation hose from the intake manifold and fuel pipe assembly.
- 6) Remove the purge control solenoid valve from solenoid valve bracket assembly.

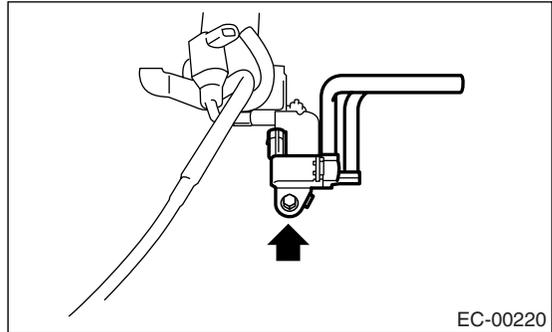


B: INSTALLATION

Install in the reverse order of removal.

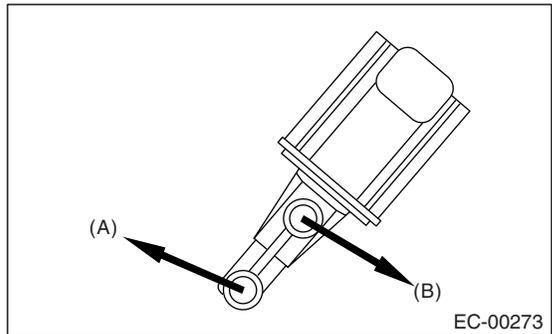
Tightening torque:

19 N·m (1.94 kgf-m, 13.7 ft-lb)



NOTE:

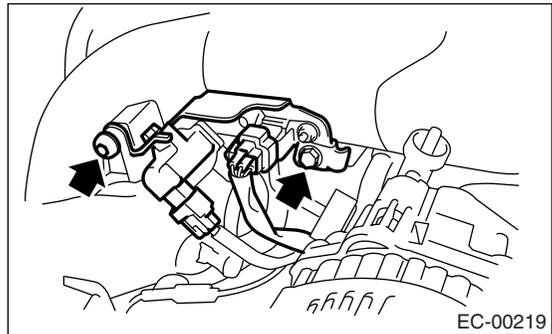
Connect the evaporation hose as shown in the figure.



- (A) To intake manifold
- (B) To fuel pipe ASSY

Tightening torque:

19 N·m (1.94 kgf-m, 13.7 ft-lb)



C: INSPECTION

Make sure the hoses are not cracked or loose.

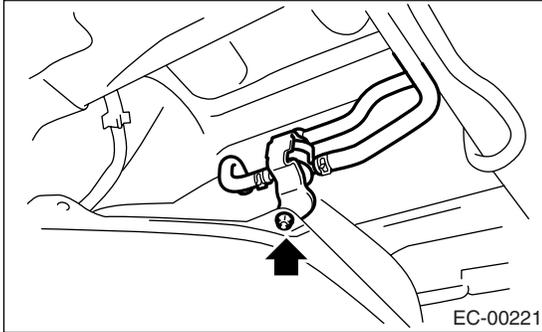
Two-way Valve

EMISSION CONTROL (AUX. EMISSION CONTROL DEVICES)

6. Two-way Valve

A: REMOVAL

- 1) Lift-up the vehicle.
- 2) Disconnect the evaporation hoses from two-way valve.
- 3) Remove the two-way valve as a unit with bracket from body.



- 4) Remove the two-way valve from bracket.

B: INSTALLATION

Install in the reverse order of removal.

Tightening torque:

7.5 N·m (0.76 kgf-m, 5.5 ft-lb)

C: INSPECTION

Make sure the hoses are not cracked or loose.

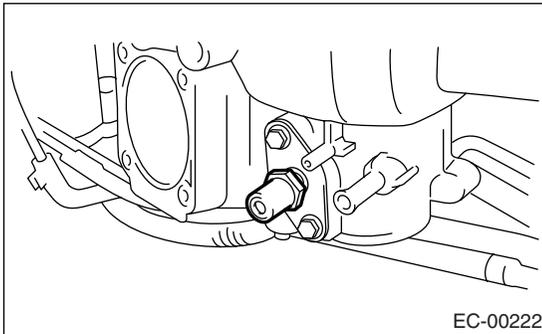
PCV Valve

EMISSION CONTROL (AUX. EMISSION CONTROL DEVICES)

7. PCV Valve

A: REMOVAL

- 1) Remove the intake manifold.
<Ref. to FU(H4DOTC)-13, REMOVAL, Intake Manifold.>
- 2) Remove the PCV valve from intake manifold.



B: INSTALLATION

Install in the reverse order of removal.

NOTE:

Apply liquid gasket to the bolt threads of PCV valve.

Liquid gasket:

THREE BOND 1105 (Part No. 004403010) or equivalent

Tightening torque:

23 N·m (2.35 kgf·m, 17.0 ft·lb)