

## ENGINE SECTION 1

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(H4SO)**

**EMISSION CONTROL (AUX. EMISSION CONTROL DEVICES) EC(H4SO)**

**INTAKE (INDUCTION) IN(H4SO)**

**MECHANICAL ME(H4SO)**

**EXHAUST EX(H4SO)**

**COOLING CO(H4SO)**

**LUBRICATION LU(H4SO)**

**SPEED CONTROL SYSTEMS SP(H4SO)**

**IGNITION IG(H4SO)**

**STARTING/CHARGING SYSTEMS SC(H4SO)**

**ENGINE (DIAGNOSTICS) EN(H4SO)(diag)**

**FUEL INJECTION (FUEL SYSTEMS) FU(H4SOw/oOBD)**

**EMISSION CONTROL (AUX. EMISSION CONTROL DEVICES) EC(H4SOw/oOBD)**

**INTAKE (INDUCTION) IN(H4SOw/oOBD)**

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ENGINE SECTION 1

LUBRICATION

LU(H4SOw/oOBD)

SPEED CONTROL SYSTEMS

SP(H4SOw/oOBD)

IGNITION

IG(H4SOw/oOBD)

STARTING/CHARGING SYSTEMS

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ENGINE (DIAGNOSTICS)

EN(H4SOw/oOBD)  
(diag)

# EMISSION CONTROL (AUX. EMISSION CONTROL DEVICES) *EC(H4SO)*

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## General Description

EMISSION CONTROL (AUX. EMISSION CONTROL DEVICES)

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### 1. General Description

#### A: CAUTION

- Wear working 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 or dirt.
- Before removal, installation or disassembly, be sure to clarify the failure. Avoid unnecessary removal, installation, disassembly, and replacement.
- Be careful not to burn your hands, 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)

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## 2. Front Catalytic Converter

### A: REMOVAL

The front and rear catalytic converter and center exhaust pipe are integrated into one unit. Therefore, the removal procedures are the same as those for center exhaust pipe.

<Ref. to EX(H4SO)-9, REMOVAL, Center Exhaust Pipe.>

### B: INSTALLATION

The front and rear catalytic converter and center exhaust pipe are integrated into one unit. Therefore, the installation procedures are the same as those for center exhaust pipe.

<Ref. to EX(H4SO)-9, INSTALLATION, Center Exhaust Pipe.>

### 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)

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### 3. Rear Catalytic Converter

#### A: REMOVAL

The front and rear catalytic converter and center exhaust pipe are integrated into one unit. Therefore, the removal procedures are the same as those for center exhaust pipe.

<Ref. to EX(H4SO)-9, REMOVAL, Center Exhaust Pipe.>

#### B: INSTALLATION

The front and rear catalytic converter and center exhaust pipe are integrated into one unit. Therefore, the installation procedures are the same as those for center exhaust pipe.

<Ref. to EX(H4SO)-9, INSTALLATION, Center Exhaust Pipe.>

#### C: INSPECTION

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

## **EGR Valve**

EMISSION CONTROL (AUX. EMISSION CONTROL DEVICES)

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### **4. EGR Valve**

#### **A: PROCEDURE**

For EGR valve removal and installation procedures, refer to FU section. <Ref. to FU(H4SO)-36, EGR Valve.>

# Canister

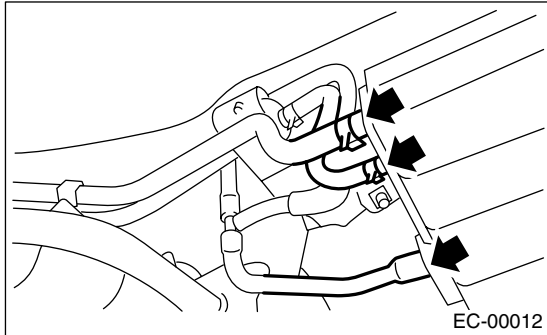
EMISSION CONTROL (AUX. EMISSION CONTROL DEVICES)

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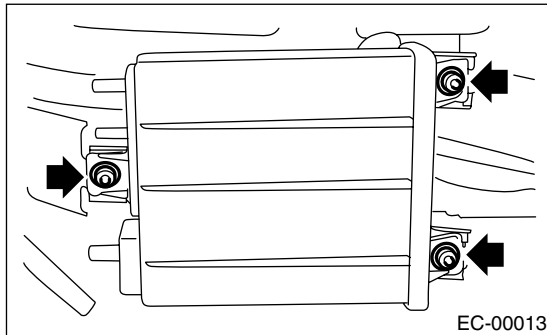
## 5. Canister

### A: REMOVAL

- 1) Lift-up the vehicle.
- 2) Loosen the two clamps which hold the two canister hoses, and then disconnect the three evaporation hoses from canister.



- 3) Remove the canister from body.

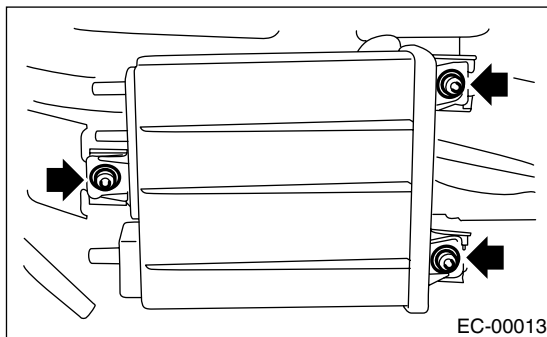


### B: INSTALLATION

Install in the reverse order of removal.

#### *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.



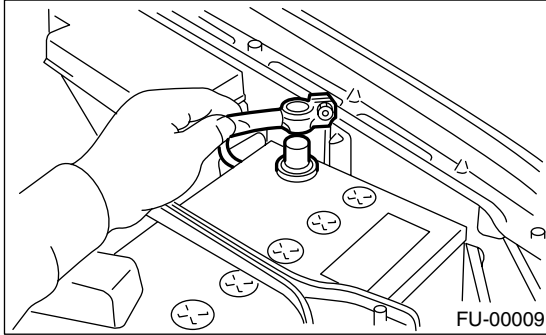
# Purge Control Solenoid Valve

EMISSION CONTROL (AUX. EMISSION CONTROL DEVICES)

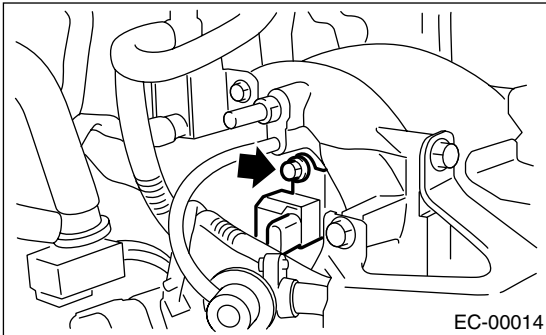
## 6. Purge Control Solenoid Valve

### A: REMOVAL

1) Disconnect the ground cable from battery.



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

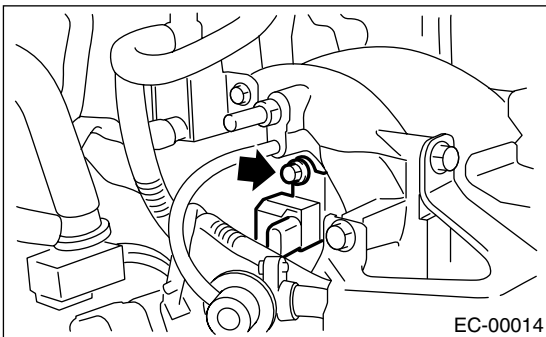


### B: INSTALLATION

Install in the reverse order of removal.

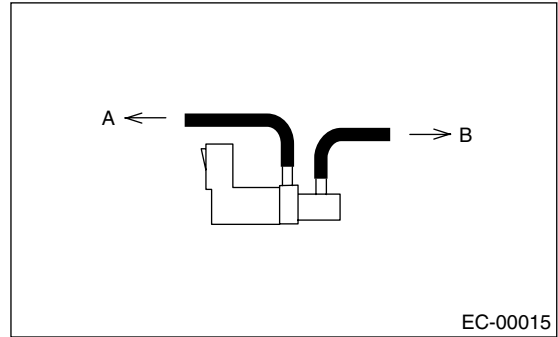
**Tightening torque:**

**19 N·m (1.9 kgf·m, 13.7 ft·lb)**



NOTE:

Connect the evaporation hoses as shown in the figure.



(A) To fuel pipe

(B) To intake manifold

### C: INSPECTION

Make sure hoses are not cracked or loose.

## Two-way Valve

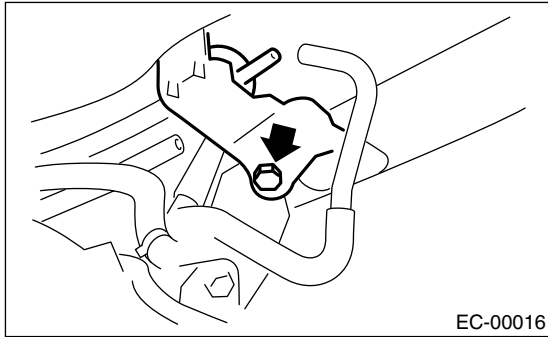
EMISSION CONTROL (AUX. EMISSION CONTROL DEVICES)

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### 7. Two-way Valve

#### A: REMOVAL

- 1) Lift-up the vehicle.
- 2) Remove the canister from body. <Ref. to EC(H4SO)-6, REMOVAL, Canister.>
- 3) Remove the two-way valve with bracket as a single unit from body.



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

#### B: INSTALLATION

Install in the reverse order of removal.

#### C: INSPECTION

Make sure that the hoses are not cracked or loose.