

EMISSION CONTROL SYSTEM AND VACUUM FITTING

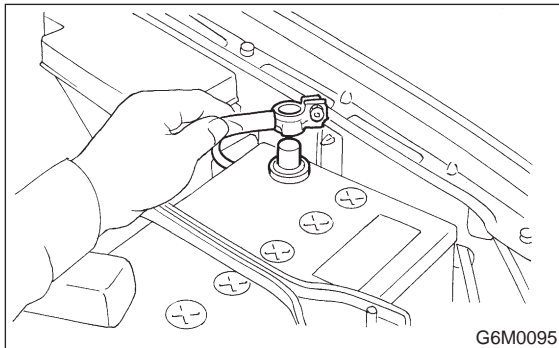
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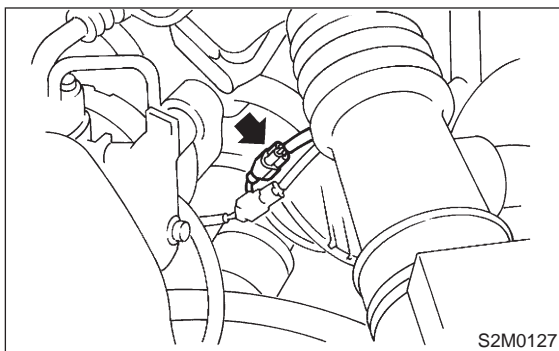
1. Front Catalytic Converter

A: REMOVAL

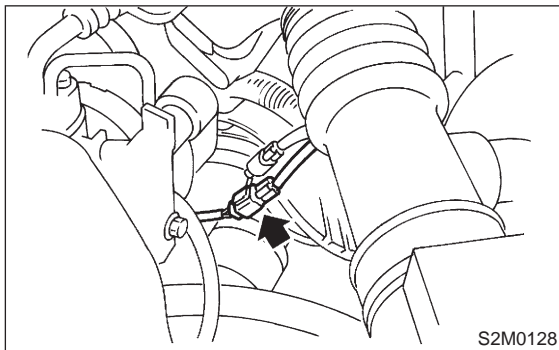
- 1) Disconnect battery ground cable.



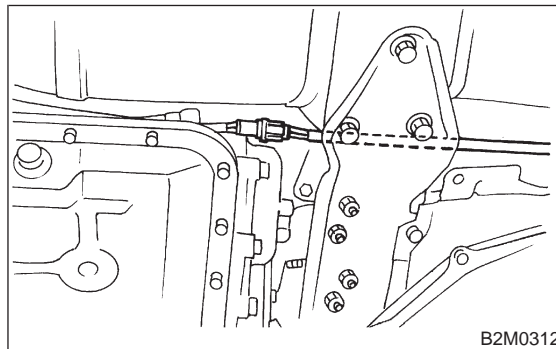
- 2) Disconnect front oxygen sensor connector.



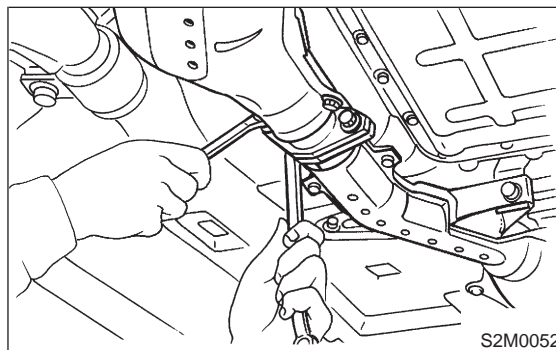
- 3) Disconnect rear oxygen sensor connector.
(California spec. vehicles)



- 4) Lift-up the vehicle.
5) Disconnect rear oxygen sensor connector.
(Except California spec. vehicles)



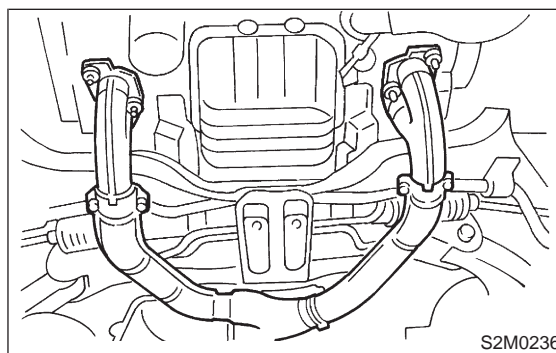
- 6) Separate center exhaust pipe from front catalytic converter.



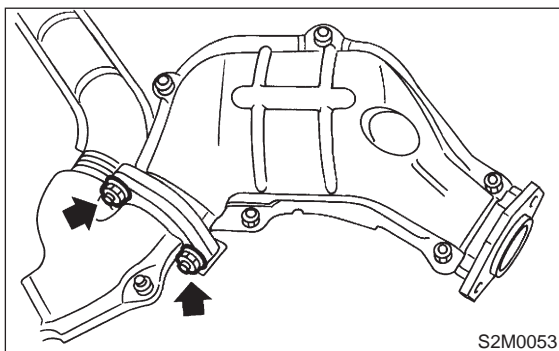
- 7) Remove bolts which hold front exhaust pipe onto cylinder heads.

CAUTION:

Be careful not to pull down front exhaust pipe and center exhaust pipe.



- 8) Separate front catalytic converter from front exhaust pipe.



B: INSTALLATION

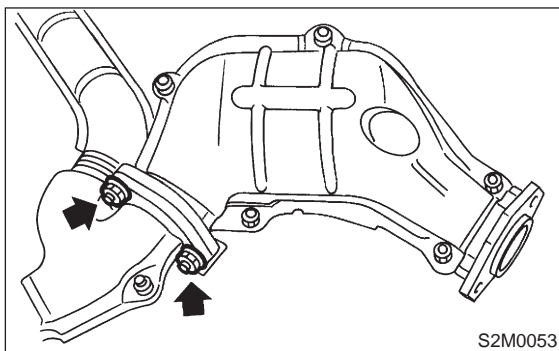
CAUTION:

Replace gaskets with new ones.

- 1) Install front catalytic converter to front exhaust pipe and center exhaust pipe.

Tightening torque:

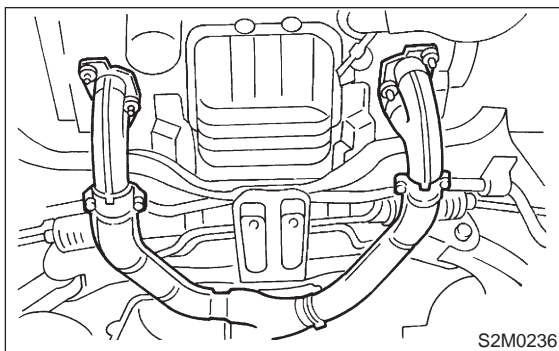
30 ± 5 N·m (3.1 ± 0.5 kg-m, 22.4 ± 3.6 ft-lb)



- 2) Tighten bolts which hold front exhaust pipe onto cylinder heads.

Tightening torque:

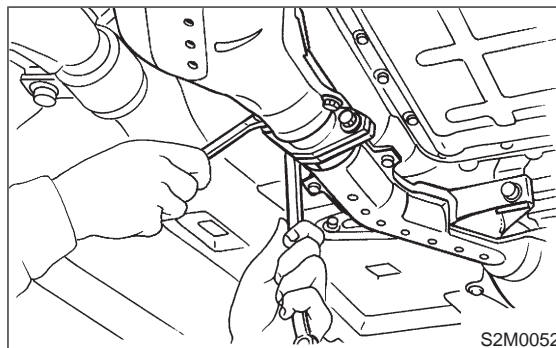
30 ± 5 N·m (3.1 ± 0.5 kg-m, 22.4 ± 3.6 ft-lb)



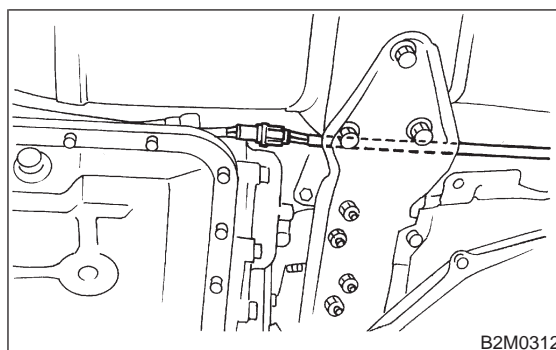
- 3) Install center exhaust pipe to front catalytic converter.

Tightening torque:

35 ± 5 N·m (3.6 ± 0.5 kg-m, 26.0 ± 3.6 ft-lb)

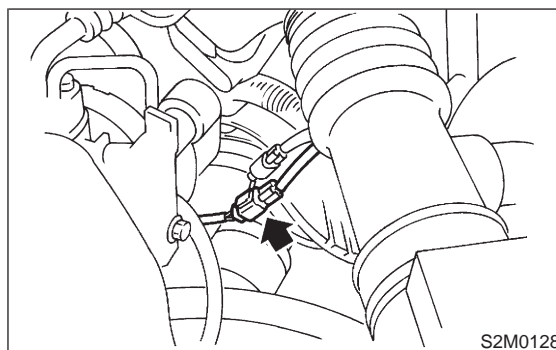


- 4) Connect rear oxygen sensor connector. (Except California spec. vehicles)

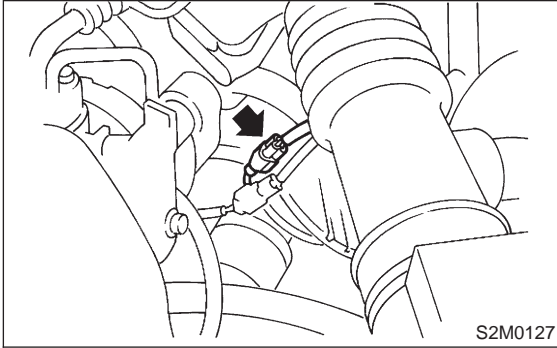


- 5) Lower the vehicle.

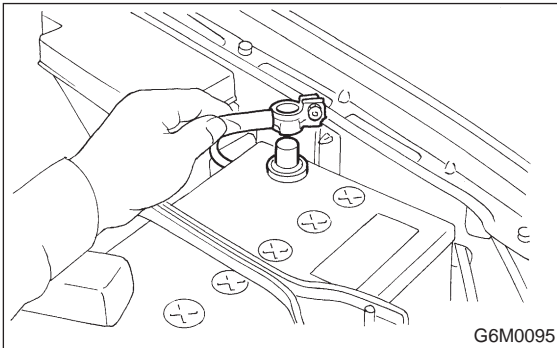
- 6) Connect rear oxygen sensor connector. (California spec. vehicles)



7) Connect front oxygen sensor connector.



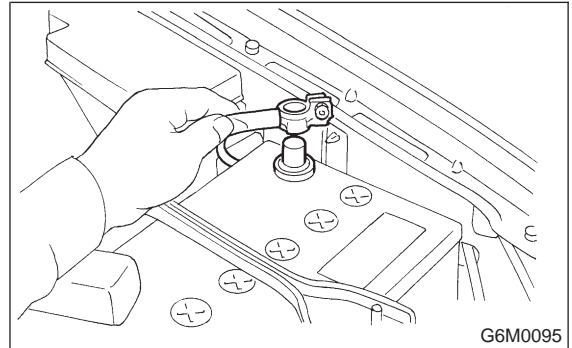
8) Connect battery ground cable.



2. Rear Catalytic Converter

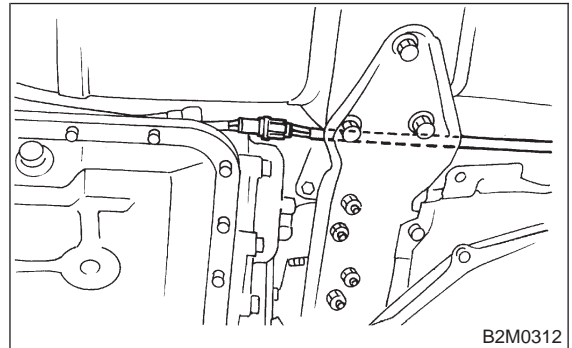
A: REMOVAL

1) Disconnect battery ground cable.

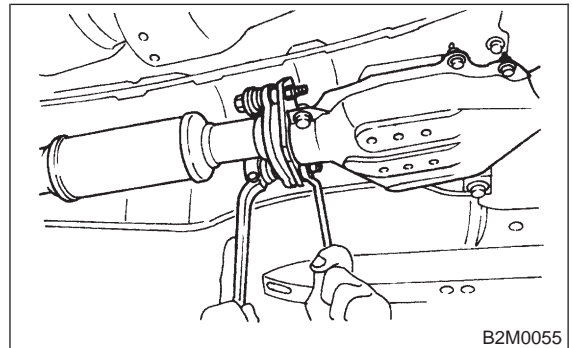


2) Lift-up the vehicle.

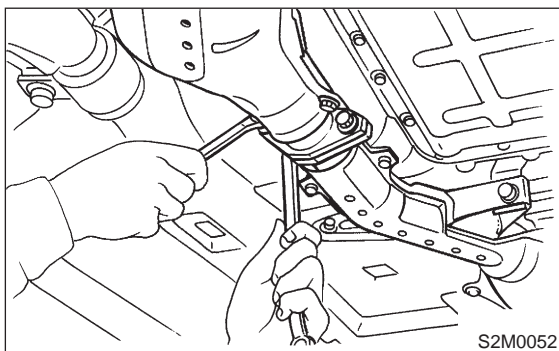
3) Disconnect rear oxygen sensor connector.
(Except California spec. vehicles)



4) Separate center exhaust pipe and rear catalytic converter assembly from rear exhaust pipe.



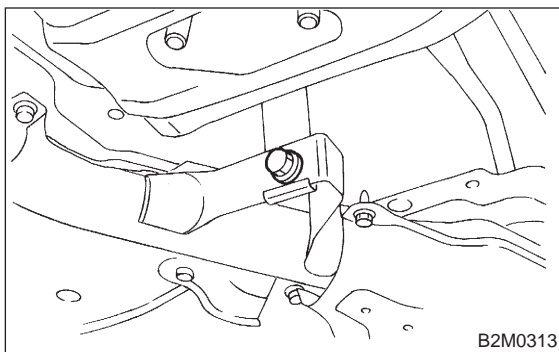
- 5) Separate center exhaust pipe and rear catalytic converter assembly from front catalytic converter.



- 6) Remove center exhaust pipe and rear catalytic converter assembly from hanger bracket.

CAUTION:

- Be careful not to pull down center exhaust pipe.
- After removing center exhaust pipe, do not apply excessive pulling force on front catalytic converter and front exhaust pipe.

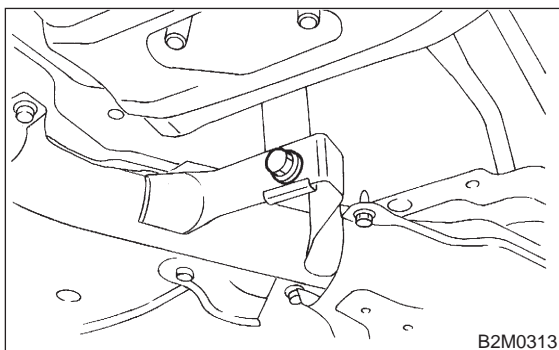


B: INSTALLATION

CAUTION:

Replace gaskets with new ones.

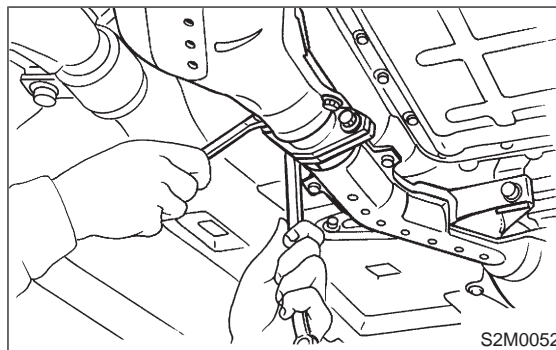
- 1) Install center exhaust pipe and rear catalytic converter assembly.
- Temporarily tighten bolt which installs center exhaust pipe to hanger bracket.



- 2) Install center exhaust pipe to front catalytic converter.

Tightening torque:

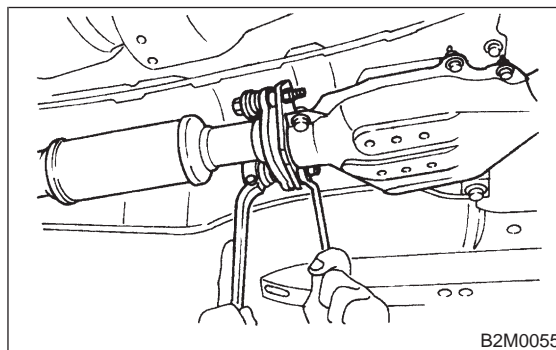
35 ± 5 N·m (3.6 ± 0.5 kg-m, 26.0 ± 3.6 ft-lb)



- 3) Install center exhaust pipe to rear exhaust pipe.

Tightening torque:

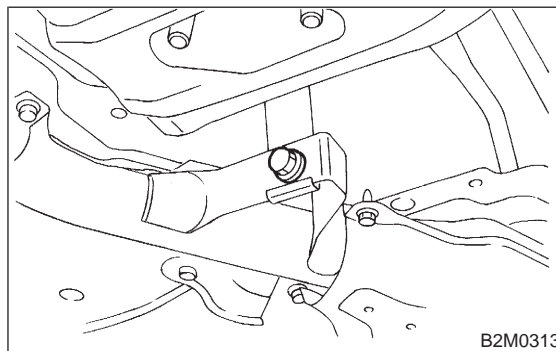
18 ± 5 N·m (1.8 ± 0.5 kg-m, 13.0 ± 3.6 ft-lb)



- 4) Tighten bolt which holds center exhaust pipe to hanger bracket.

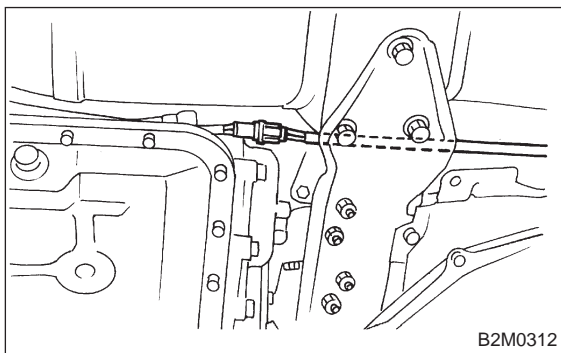
Tightening torque:

35 ± 5 N·m (3.6 ± 0.5 kg-m, 26.0 ± 3.6 ft-lb)

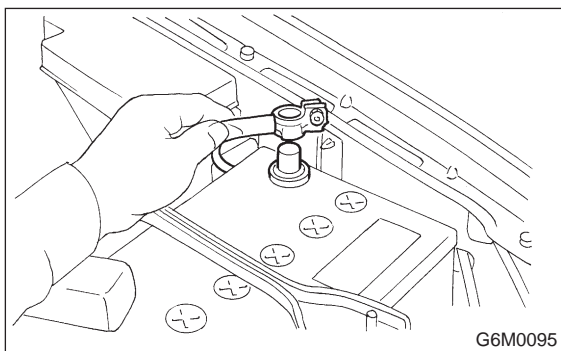


3. Canister

- 5) Connect rear oxygen sensor connector. (Except California spec. vehicles)



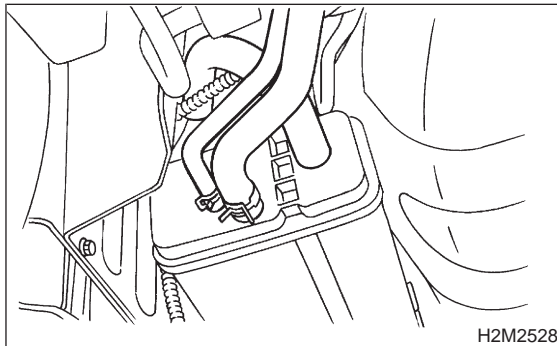
- 6) Lower the vehicle.
7) Connect battery ground cable.



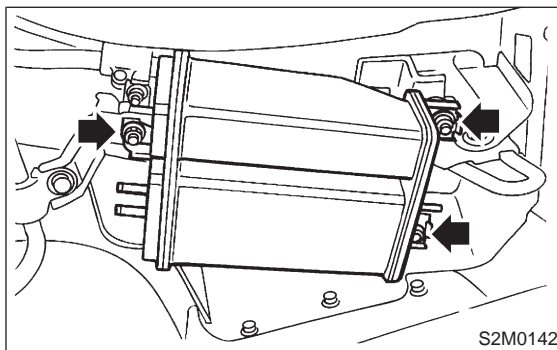
3. Canister

A: REMOVAL AND INSTALLATION

- 1) Lift-up the vehicle.
2) Disconnect evaporation hoses from canister.



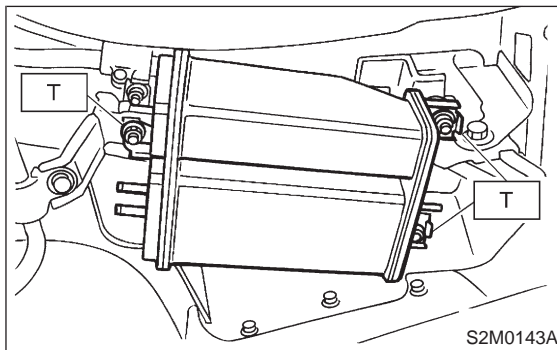
- 3) Remove canister from body.



- 4) Installation is in the reverse order of removal.

Tightening torque:

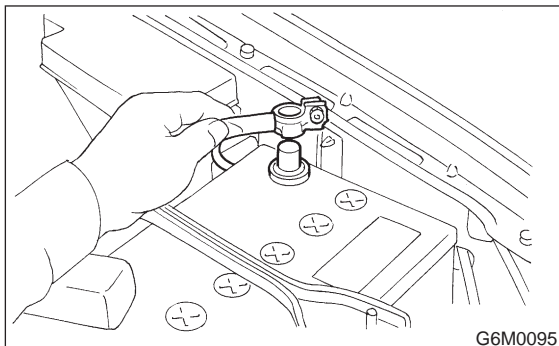
$22.5 \pm 7 \text{ N}\cdot\text{m}$ ($2.3 \pm 0.7 \text{ kg}\cdot\text{m}$, $16.6 \pm 5.1 \text{ ft}\cdot\text{lb}$)



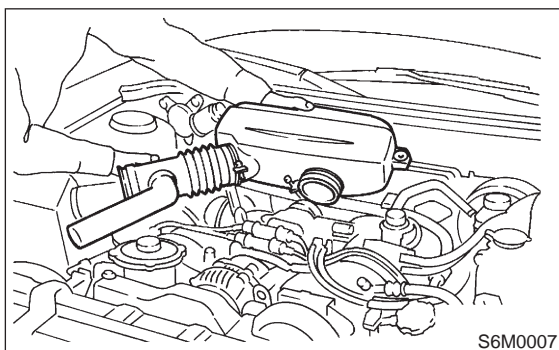
4. Purge Control Solenoid Valve

A: REMOVAL AND INSTALLATION

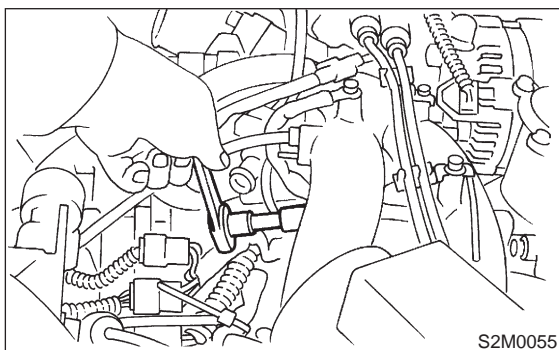
- 1) Disconnect battery ground cable.



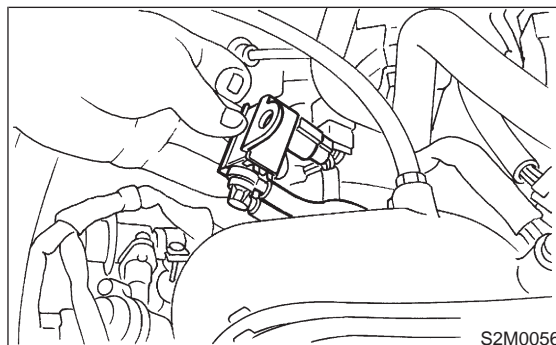
- 2) Remove air intake chamber and air intake duct as a unit. <Ref. to 2-7 [W18A0].>



- 3) Remove bolt which installs purge control solenoid valve to intake manifold.



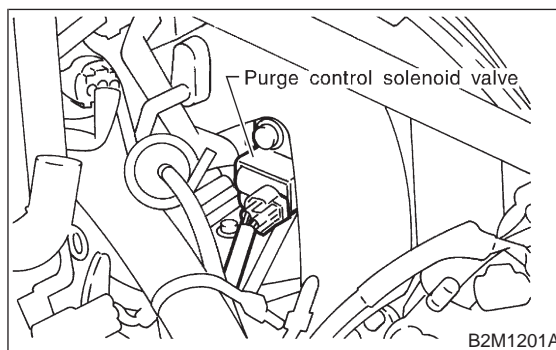
- 4) Take out purge control solenoid valve.
5) Disconnect connector from purge control solenoid valve.
6) Disconnect vacuum hoses from purge control solenoid valve.



- 7) Installation is in the reverse order of removal.

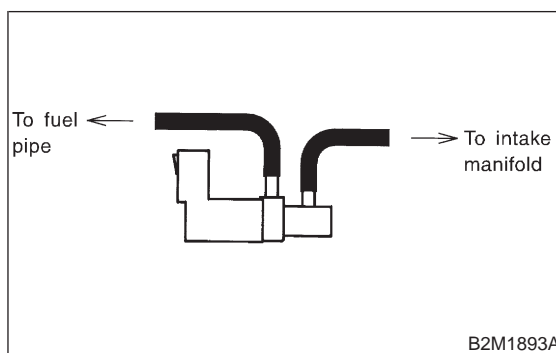
Tightening torque:

$15.7 \pm 1.5 \text{ N}\cdot\text{m}$ ($1.6 \pm 0.15 \text{ kg}\cdot\text{m}$, $11.6 \pm 1.1 \text{ ft}\cdot\text{lb}$)



CAUTION:

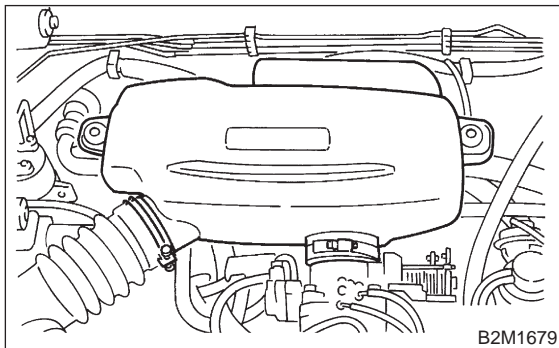
Carefully connect the evaporation hoses.



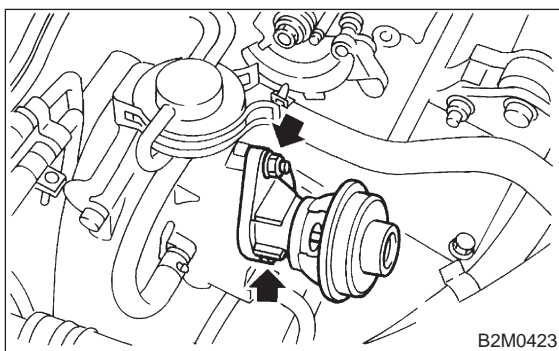
5. EGR Valve (Except 2200 cc MT Vehicles)

A: REMOVAL AND INSTALLATION

- 1) Remove air intake chamber. <Ref. to 2-7 [W18A0].>



- 2) Disconnect vacuum hose from EGR valve.
- 3) Remove bolts which install EGR valve onto intake manifold.



- 4) Installation is in the reverse order of removal.

CAUTION:

Replace gasket with a new one.

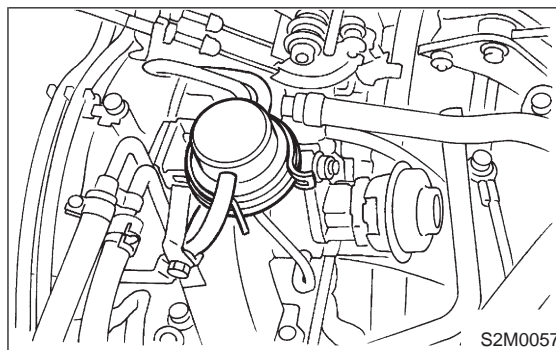
Tightening torque:

$18.6 \pm 1.5 \text{ N}\cdot\text{m}$ ($1.9 \pm 1.5 \text{ kg}\cdot\text{m}$, $13.7 \pm 1.1 \text{ ft}\cdot\text{lb}$)

6. Back-Pressure Transducer (BPT) (Except 2200 cc MT Vehicles)

A: REMOVAL AND INSTALLATION

- 1) Disconnect vacuum hoses from BPT.
- 2) Remove BPT from bracket.



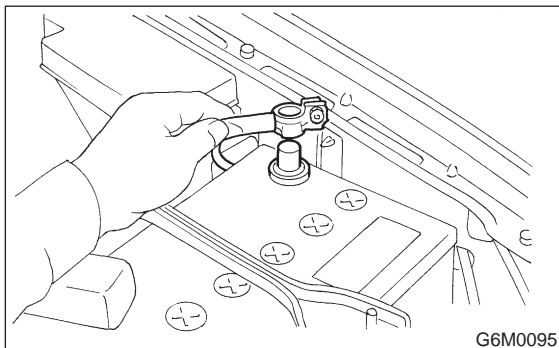
- 3) Installation is in the reverse order of removal.

7. EGR Solenoid Valve (Except 2200 cc MT Vehicles)

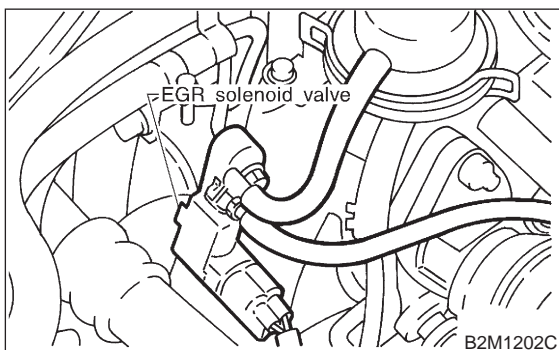
A: REMOVAL AND INSTALLATION

1. 2200 cc AT VEHICLES

- 1) Disconnect battery ground cable.



- 2) Disconnect connector from EGR solenoid valve.
3) Disconnect vacuum hoses from EGR solenoid valve.
4) Remove bolt which installs EGR solenoid valve onto intake manifold.



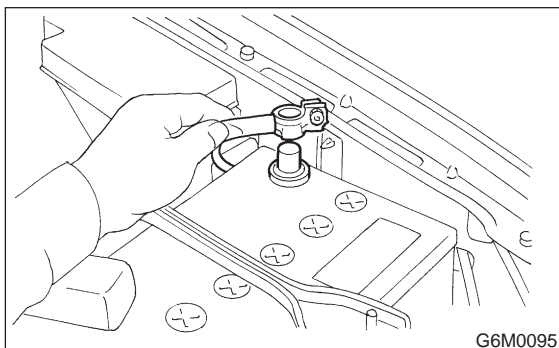
- 5) Installation is in the reverse order of removal.

Tightening torque:

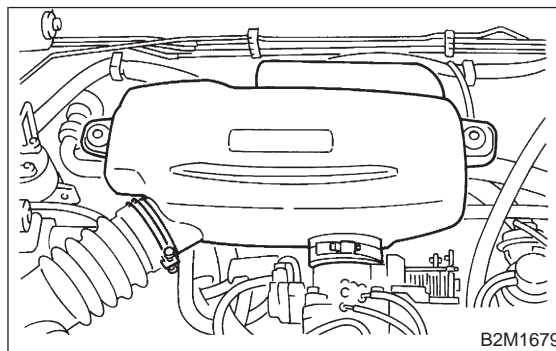
$15.7 \pm 1.5 \text{ N}\cdot\text{m}$ ($1.6 \pm 0.15 \text{ kg}\cdot\text{m}$, $11.6 \pm 1.1 \text{ ft}\cdot\text{lb}$)

2. 2500 cc MODEL

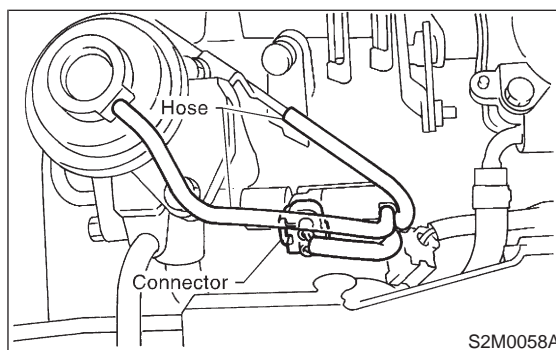
- 1) Disconnect battery ground cable.



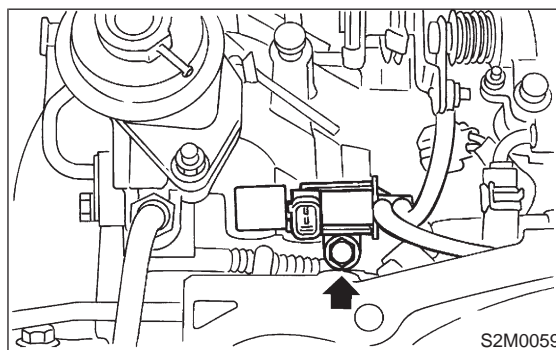
- 2) Remove air intake chamber. <Ref. to 2-7 [W18A0].>



- 3) Disconnect vacuum hoses from EGR solenoid valve.
4) Disconnect connector from EGR solenoid valve.



- 5) Remove bolt which installs EGR solenoid valve onto intake manifold.



- 6) Installation is in the reverse order of removal.

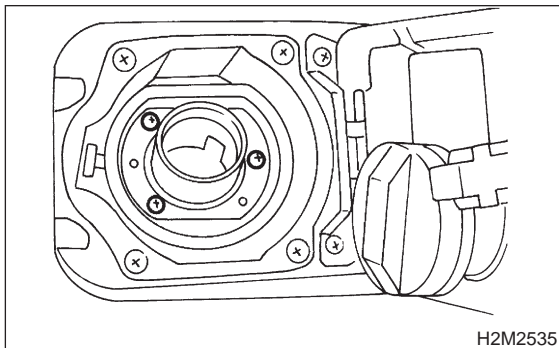
Tightening torque:

$15.7 \pm 1.5 \text{ N}\cdot\text{m}$ ($1.6 \pm 0.15 \text{ kg}\cdot\text{m}$, $11.6 \pm 1.1 \text{ ft}\cdot\text{lb}$)

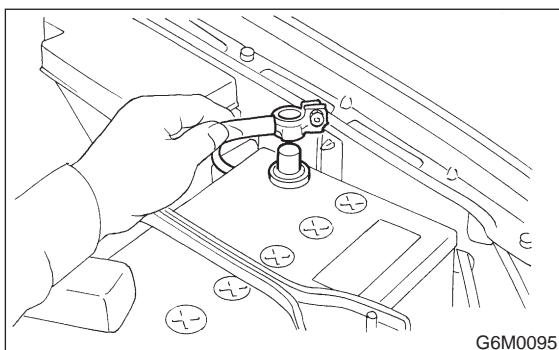
8. Fuel Temperature Sensor

A: REMOVAL

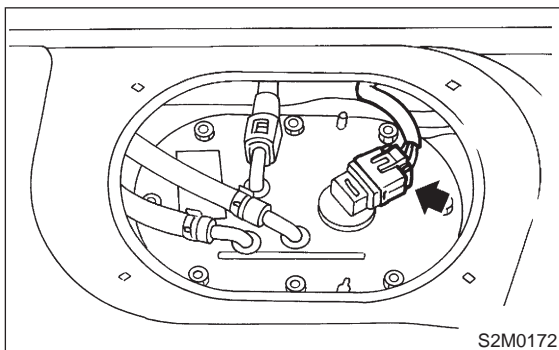
- 1) Release fuel pressure. <Ref. to 2-8 [W1B0].>
- 2) Open fuel filler lid, and remove fuel filler cap.



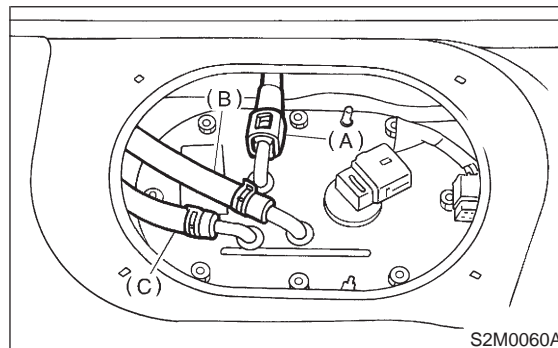
- 3) Disconnect battery ground cable.



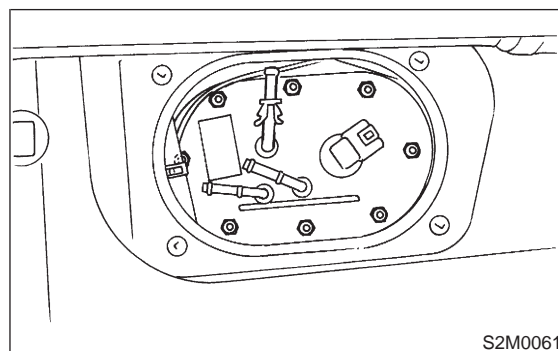
- 4) Disconnect connector from fuel pump.



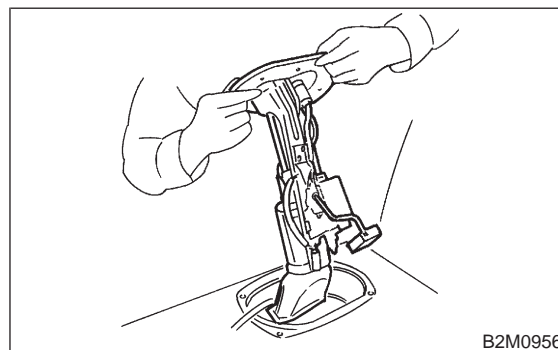
- 5) Move clips, and then disconnect fuel delivery hose (A), return hose (B) and jet pump hose (C).
- 6) Disconnect quick connector, and then disconnect fuel delivery hose (A). <Ref. to 2-8 [W7A0].>



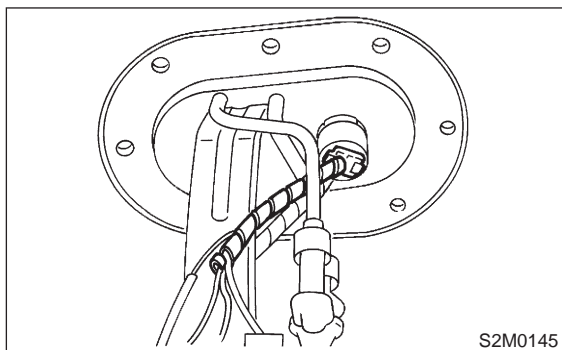
- 7) Remove nuts which install fuel pump assembly onto fuel tank.



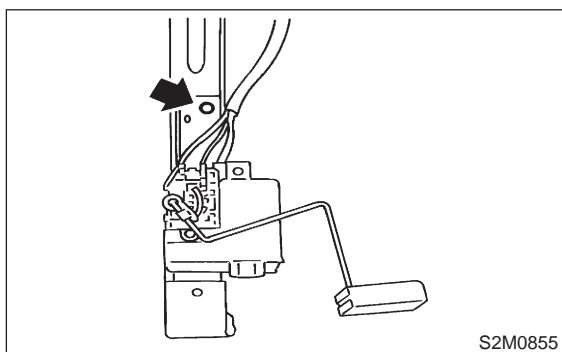
- 8) Take off fuel pump assembly from fuel tank.



9) Disconnect connector from fuel pump bracket.



10) Remove main fuel level sensor from fuel pump assembly. <Ref. to 2-1 [W12A0].>



NOTE:

Fuel temperature sensor is a unit with fuel pump. If replacing it, replace as a fuel pump.

B: INSTALLATION

CAUTION:

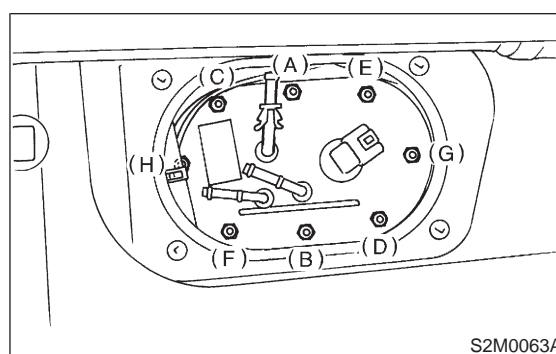
Leave fuel filler cap open when tightening nuts, to prevent fuel from flowing out through fuel delivery and return pipes. Close fuel filler cap after tightening nuts.

Installation is in the reverse order of removal. Do the following:

- (1) Always use new gaskets.
- (2) Ensure sealing portion is free from fuel or foreign particles before installation.
- (3) Tighten nuts in alphabetical sequence shown in figure to specified torque.

Tightening torque:

$4.4 \pm 1.5 \text{ N}\cdot\text{m}$ ($0.45 \pm 0.15 \text{ kg}\cdot\text{m}$, $3.3 \pm 1.1 \text{ ft}\cdot\text{lb}$)

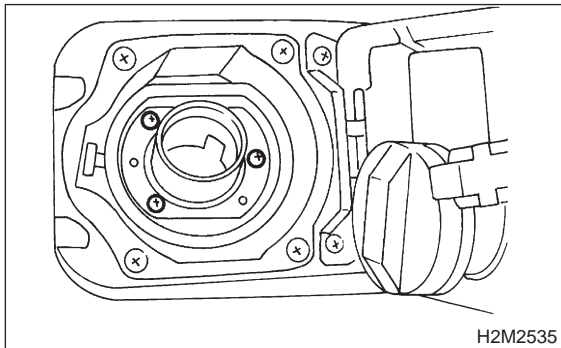


9. Fuel Tank Pressure Sensor

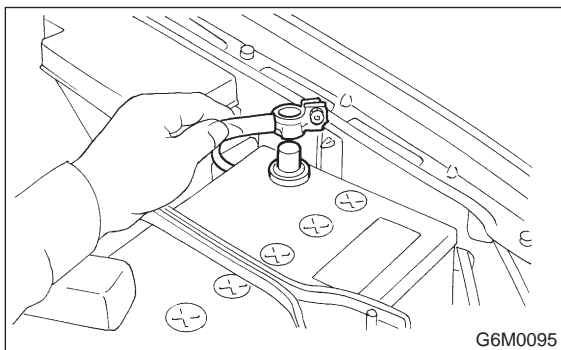
A: REMOVAL AND INSTALLATION

1. 2200 cc MODEL

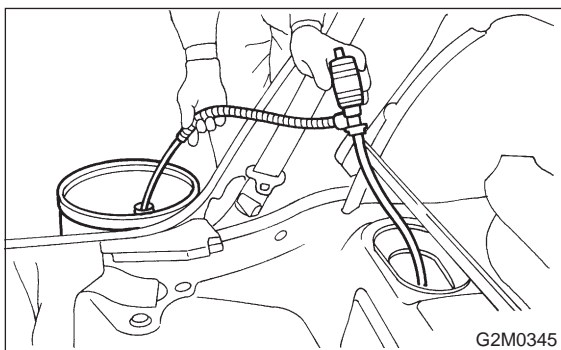
- 1) Release fuel pressure. <Ref. to 2-8 [W1B0].>
- 2) Open fuel flap lid, and remove fuel filler cap.



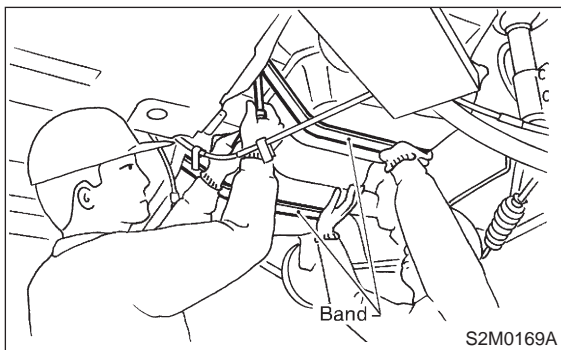
- 3) Disconnect battery ground cable.



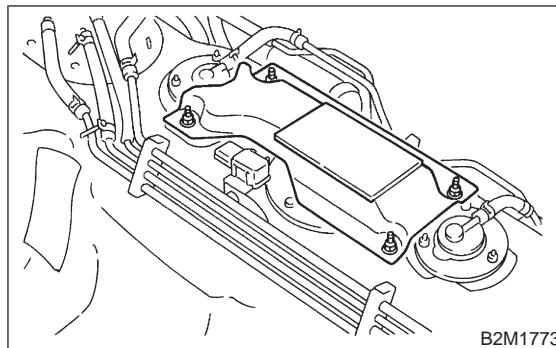
- 4) Drain fuel from fuel tank. <Ref. to 2-8 [W1C0].>



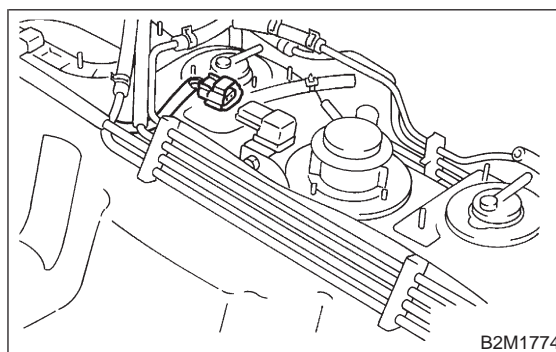
- 5) Remove fuel tank. <Ref. to 2-8 [W2A0].>



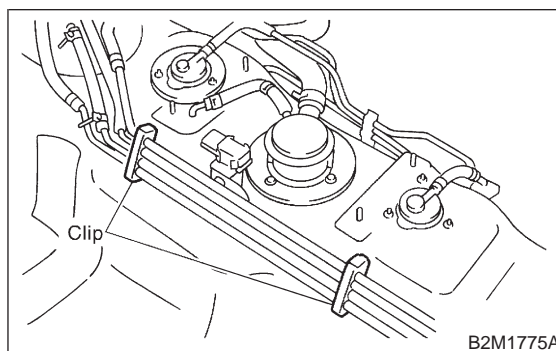
- 6) Remove protector cover.



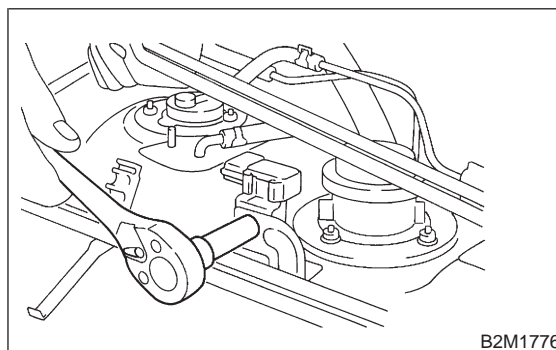
- 7) Disconnect connector from fuel tank pressure sensor.



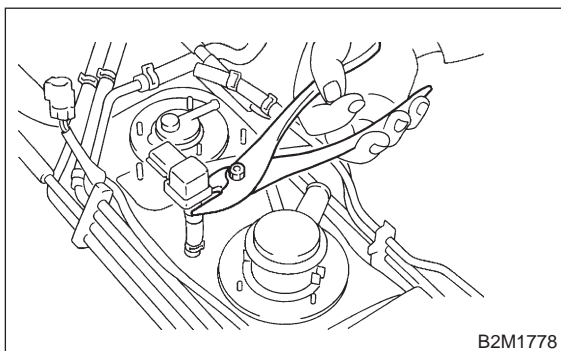
- 8) Release clips which hold fuel pipes onto fuel tank.



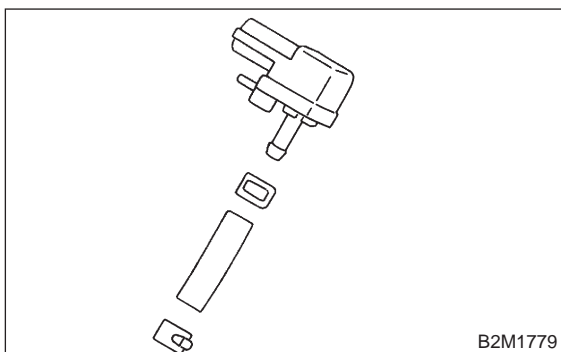
- 9) Move two fuel pipes to upper side, and remove bolt which install fuel tank pressure sensor to bracket.



- 10) Move clip, and disconnect pressure hose from fuel tank.



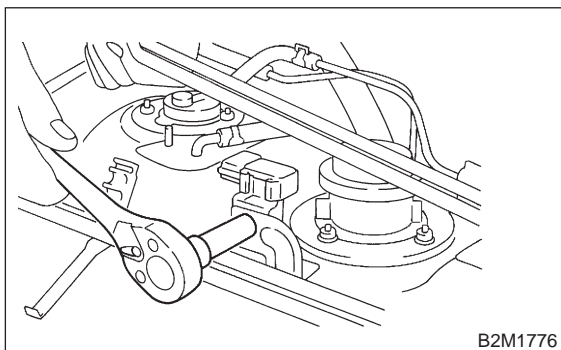
- 11) Disconnect pressure hose from fuel tank pressure sensor.



- 12) Installation is in the reverse order of removal.

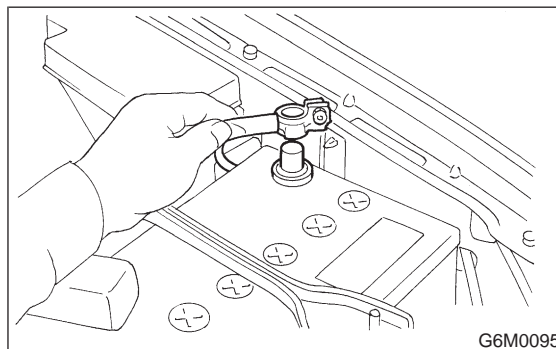
Tightening torque:

$7.35 \pm 1.96 \text{ N}\cdot\text{m}$ ($0.75 \pm 0.20 \text{ kg}\cdot\text{m}$, $5.4 \pm 1.4 \text{ ft}\cdot\text{lb}$)



2. 2500 cc MODEL

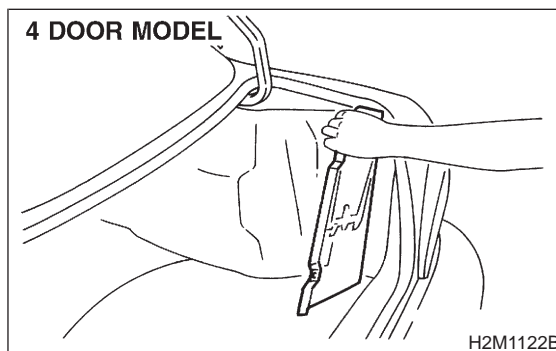
- 1) Disconnect battery ground cable.



- 2) Remove trims.

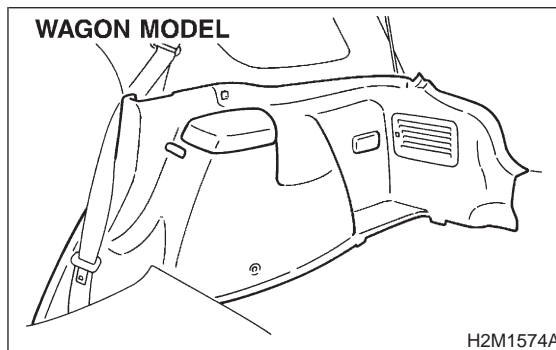
● 4 door model:

Remove right trunk side trim.



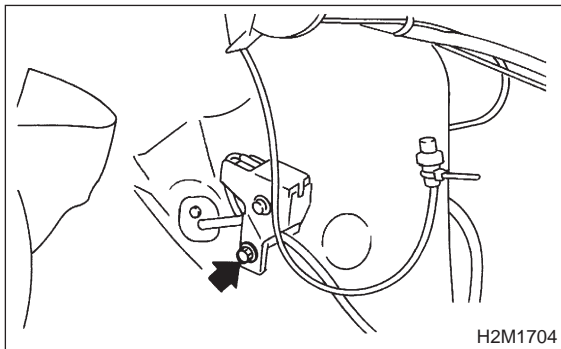
● Wagon model:

- (1) Remove right rear quarter upper rear trim.
- (2) Remove right strut cap.
- (3) Remove right rear quarter pillar lower trim.

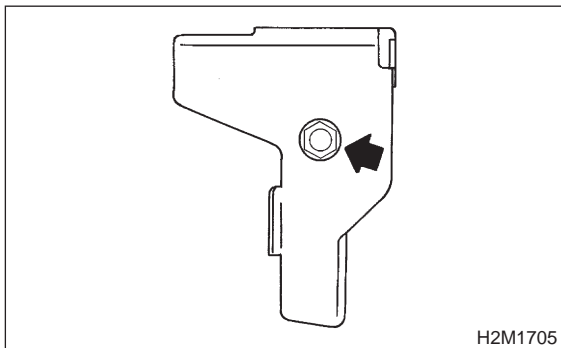


10. Pressure Control Solenoid Valve

- 3) Disconnect connector from fuel tank pressure sensor.
- 4) Remove bolts which install fuel tank pressure sensor bracket on body.



- 5) Disconnect hose from fuel tank pressure sensor.
- 6) Remove fuel tank pressure sensor from bracket.



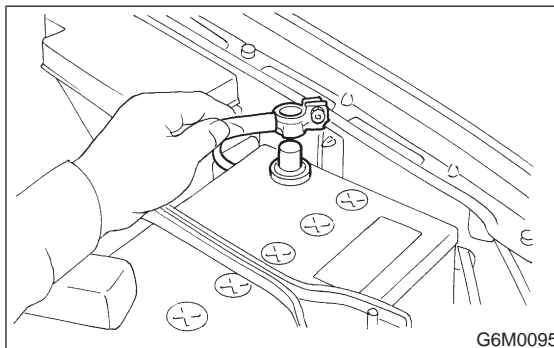
- 7) Installation is in the reverse order of removal.

10. Pressure Control Solenoid Valve

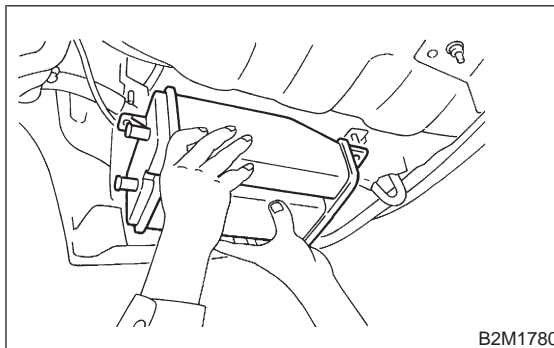
A: REMOVAL AND INSTALLATION

1. 2200 cc MODEL

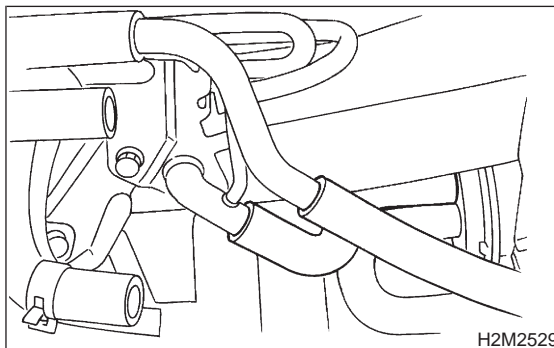
- 1) Disconnect battery ground cable.



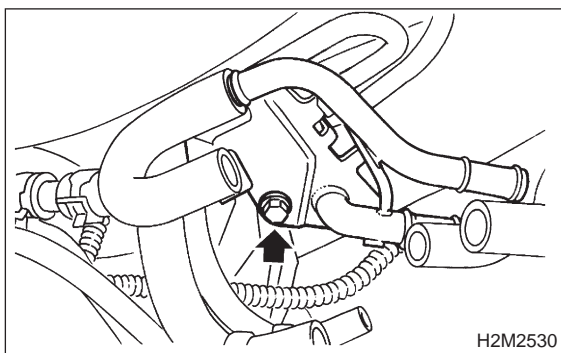
- 2) Remove canister. <Ref. to 2-1 [W3A0].>



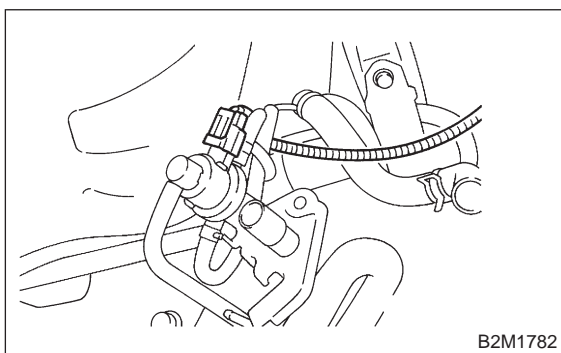
- 3) Disconnect evaporation hoses from joint pipes.



- 4) Remove bolt which installs pressure control solenoid valve holding bracket on body.

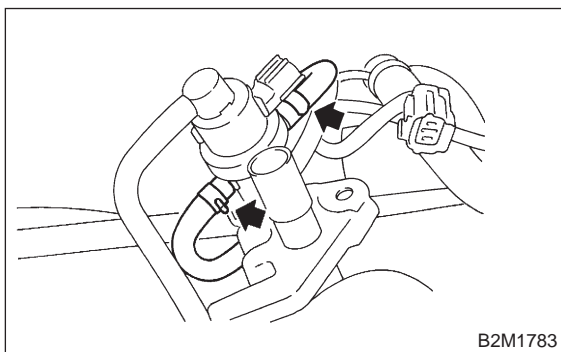


- 5) Disconnect connector from pressure control solenoid valve.

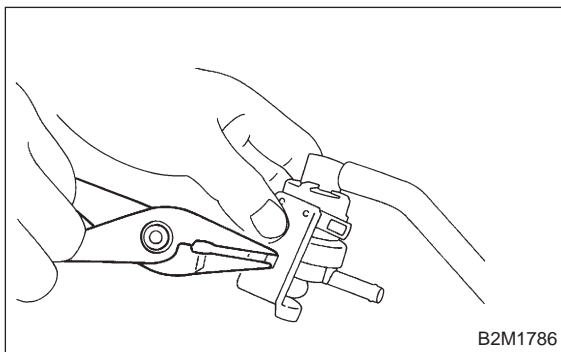


- 6) Disconnect two evaporation hoses from pressure control solenoid valve.

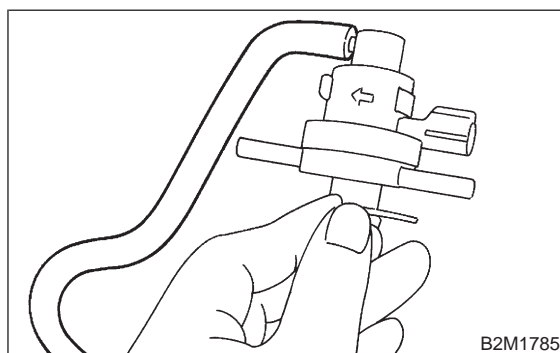
- 7) Remove pressure control solenoid valve with bracket.



- 8) Remove pressure control solenoid valve from bracket.



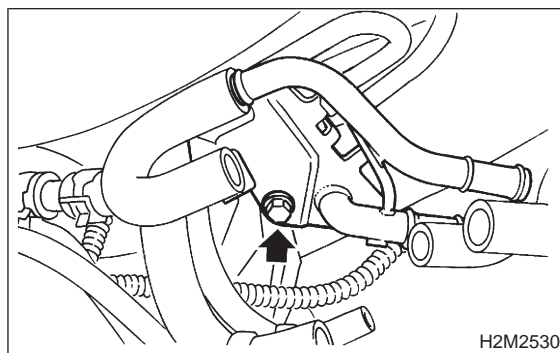
- 9) Disconnect vacuum hose from pressure control solenoid valve.



- 10) Installation is in the reverse order of removal.

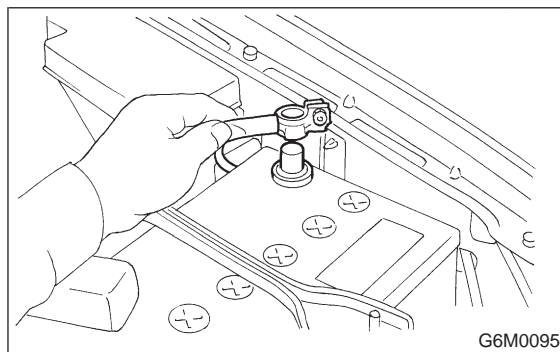
Tightening torque:

17.6 ± 5 N·m (1.8 ± 0.5 kg·m, 13.0 ± 3.6 ft·lb)



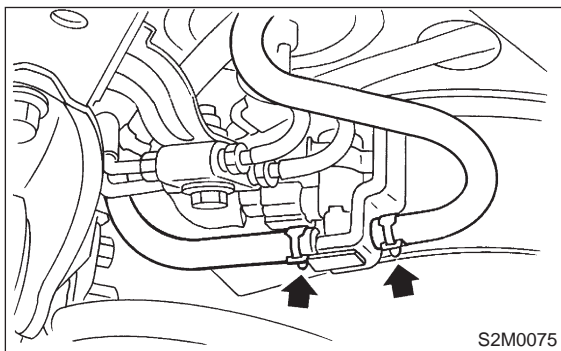
2. 2500 cc MODEL

- 1) Disconnect battery ground cable.

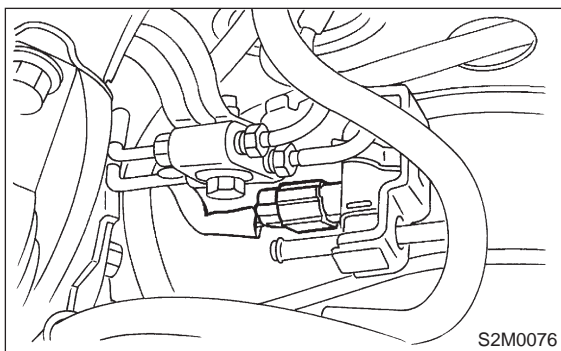


11. Vent Control Solenoid Valve (2500 cc Model)

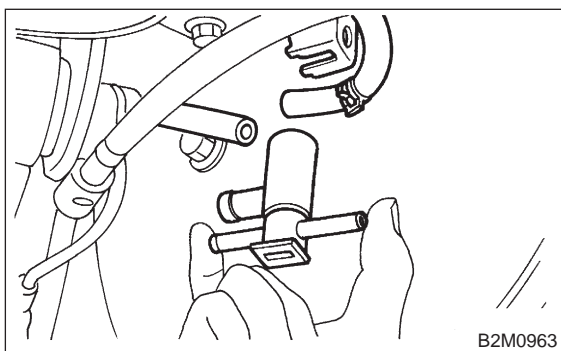
- 2) Lift-up the vehicle.
- 3) Disconnect evaporation hoses from pressure control valve.



- 4) Disconnect connector from pressure control valve.



- 5) Remove pressure control valve from bracket.

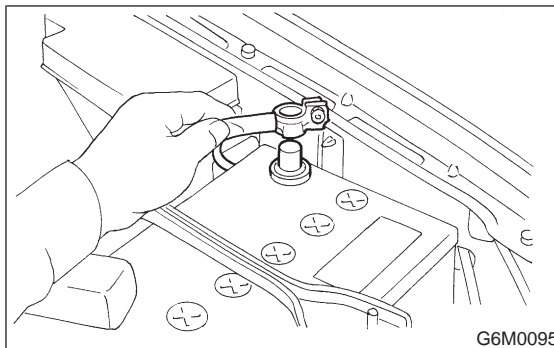


- 6) Installation is in the reverse order of removal.

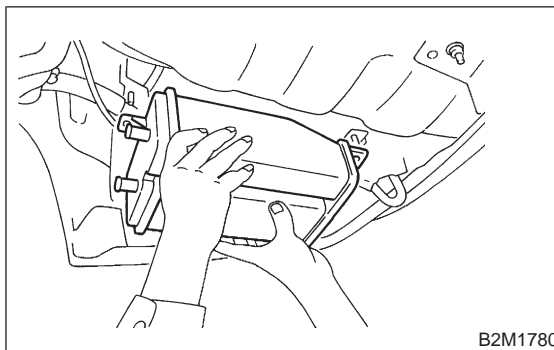
11. Vent Control Solenoid Valve (2500 cc Model)

A: REMOVAL

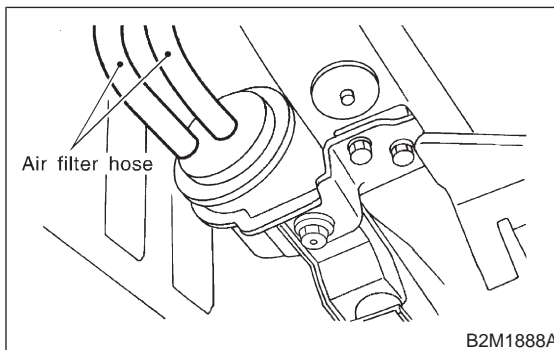
- 1) Disconnect battery ground cable.



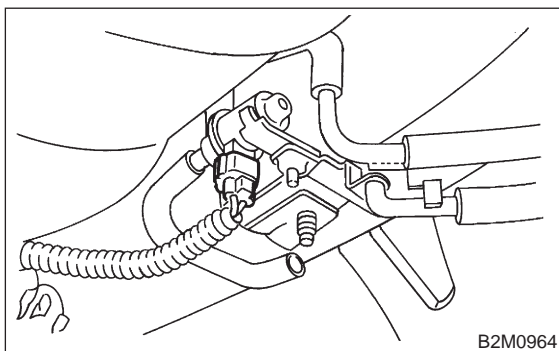
- 2) Lift-up the vehicle.
- 3) Remove canister. <Ref. to 2-1 [W3A0].>



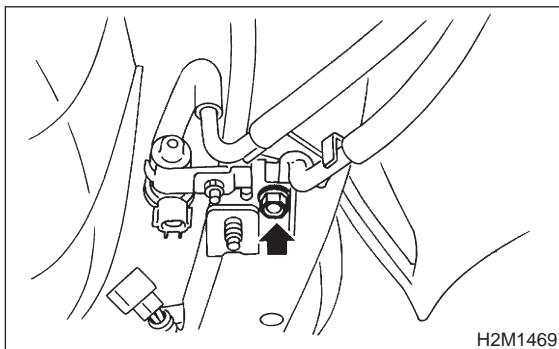
- 4) Disconnect two hoses from air filter.



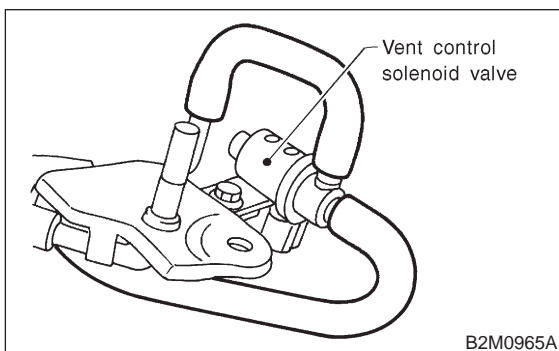
- 5) Disconnect connector from vent control solenoid valve.



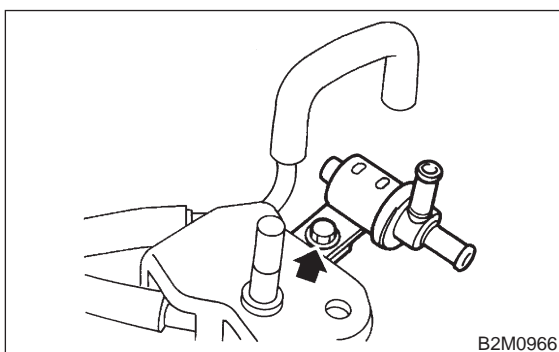
- 6) Remove one bolt fixing bracket on the body.



- 7) Remove two vacuum hoses from vent control solenoid valve.



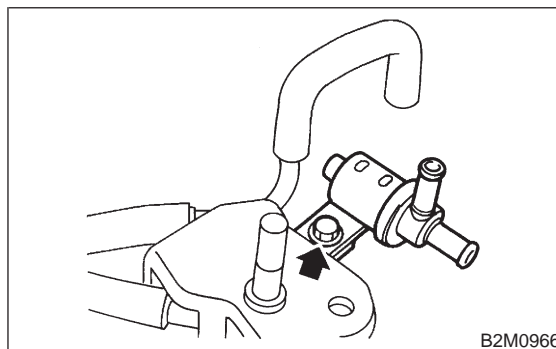
- 8) Remove one bolt fixing vent control solenoid valve on bracket.



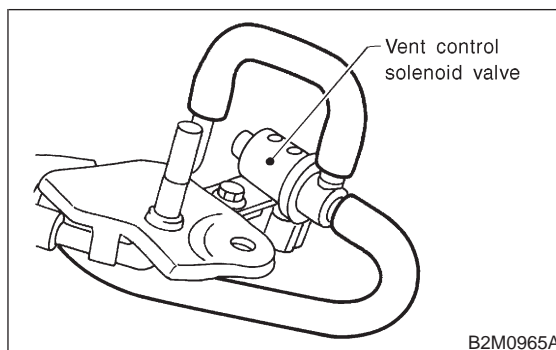
- 9) Remove vent control solenoid valve.

B: INSTALLATION

- 1) Install the bolt fixing vent control solenoid valve on bracket.

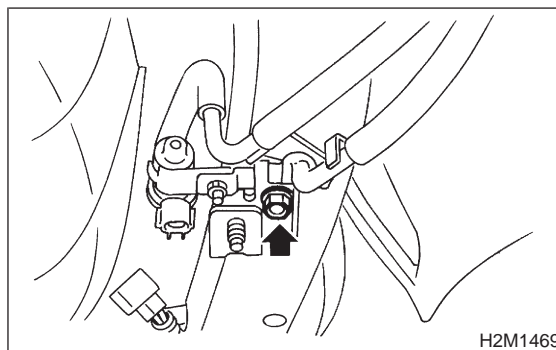


- 2) Install two vacuum hoses to vent control solenoid valve.

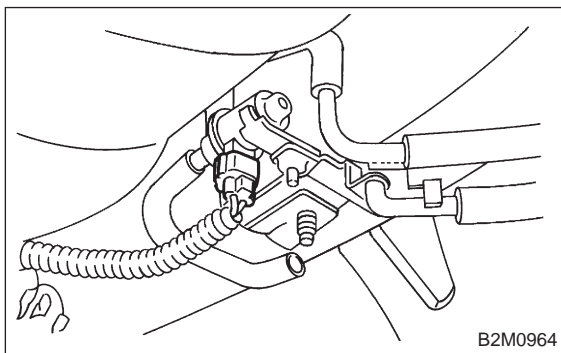


- 3) Install the bolt fixing bracket on the body.

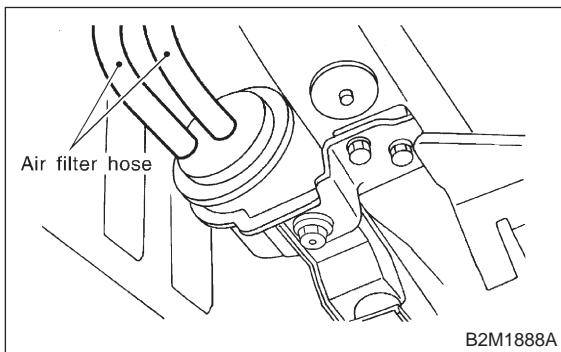
Tightening torque:
 $25 \pm 7 \text{ N-m}$ ($2.5 \pm 0.7 \text{ kg-m}$, $18.1 \pm 5.1 \text{ ft-lb}$)



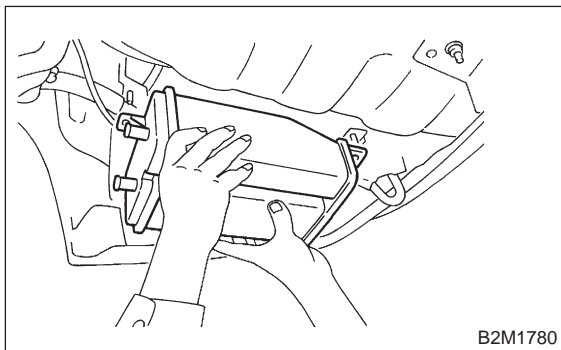
- 4) Connect connector to vent control solenoid valve.



- 5) Connect two hoses to air filter.

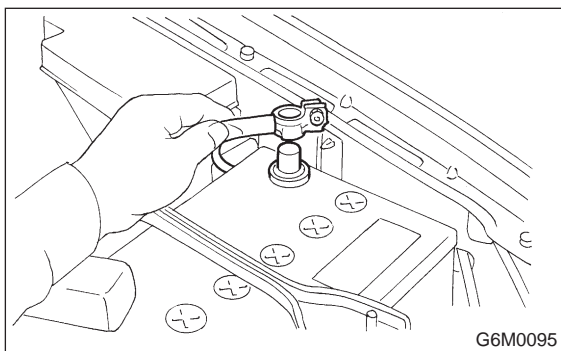


- 6) Install canister. <Ref. to 2-1 [W3A0].>



- 7) Lower the vehicle.

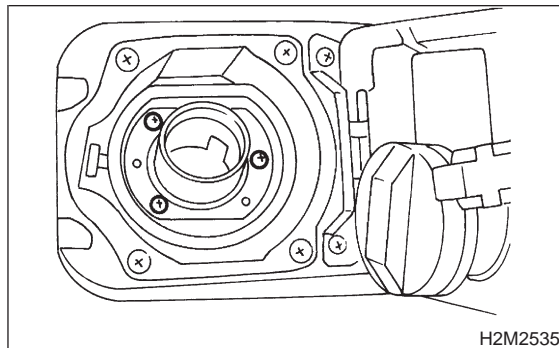
- 8) Connect battery ground cable.



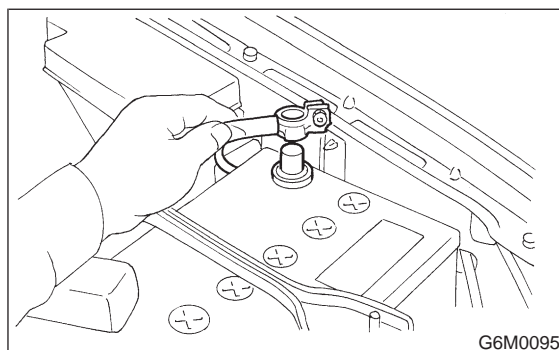
12. Main Fuel Level Sensor

A: REMOVAL

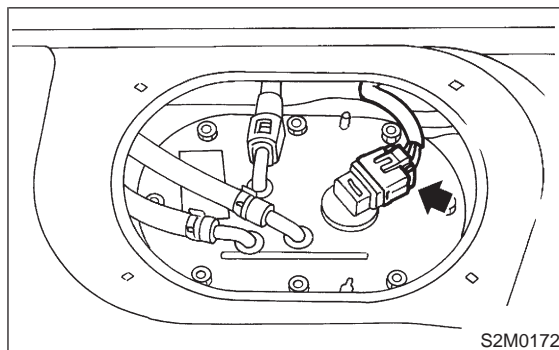
- 1) Release fuel pressure. <Ref. to 2-8 [W1B0].>
- 2) Open fuel flap lid, and remove fuel filler cap.



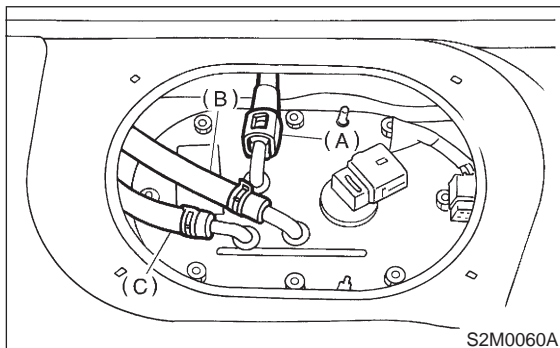
- 3) Disconnect battery ground cable.



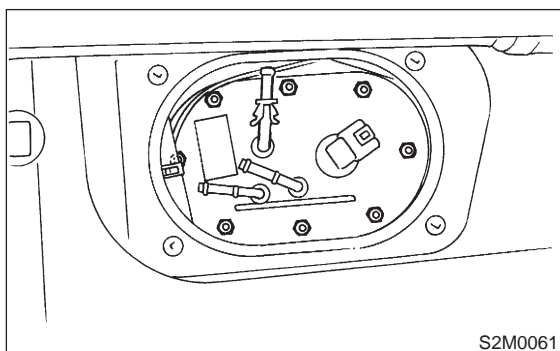
- 4) Disconnect connector from fuel pump.



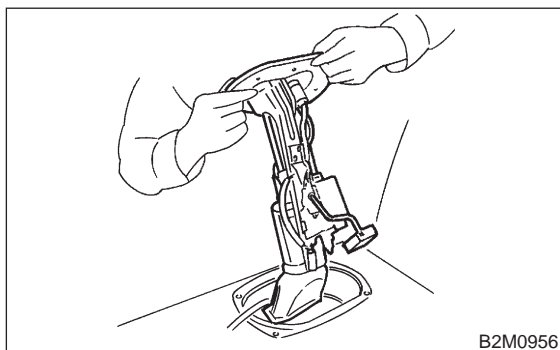
- 5) Move clips, and then disconnect fuel delivery hose (A), return hose (B) and jet pump hose (C).
- 6) Disconnect quick connector, and then disconnect fuel delivery hose (A). <Ref. to 2-8 [W7A0].>



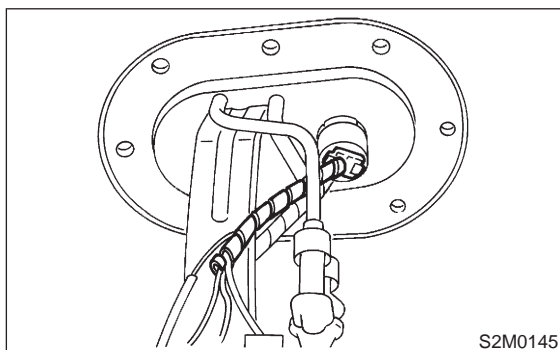
- 7) Remove nuts which install fuel pump assembly onto fuel tank.



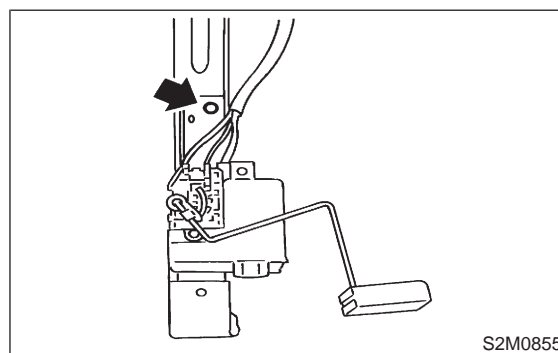
- 8) Take off fuel pump assembly from fuel tank.



- 9) Disconnect connector from fuel pump bracket.



- 10) Remove bolt which installs fuel level sensor on mounting bracket.



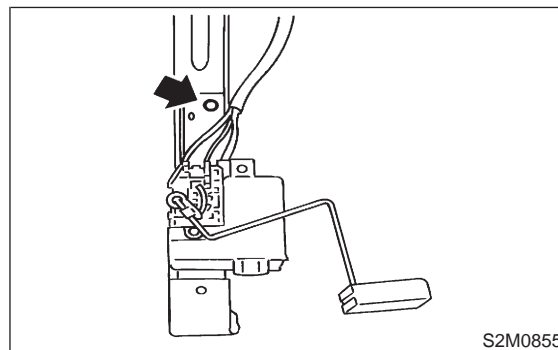
B: INSTALLATION

CAUTION:

Leave fuel filler cap open when tightening nuts, to prevent fuel from flowing out through fuel delivery and return pipes. Close fuel filler cap after tightening nuts.

Installation is in the reverse order of removal. Do the following:

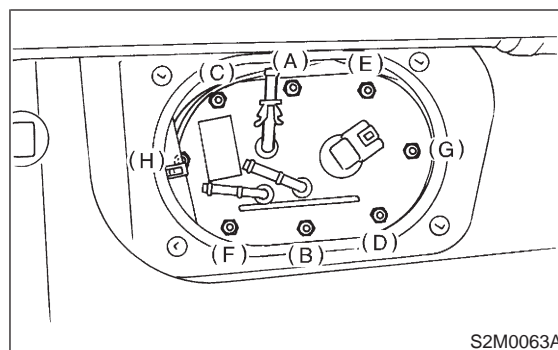
- (1) Install the fuel level sensor onto the mounting bracket.



- (2) Always use new gaskets.
- (3) Ensure sealing portion is free from fuel or foreign particles before installation.
- (4) Tighten nuts in alphabetical sequence shown in figure to specified torque.

Tightening torque:

$4.4 \pm 1.5 \text{ N-m}$ ($0.45 \pm 0.15 \text{ kg-m}$, $3.3 \pm 1.1 \text{ ft-lb}$)

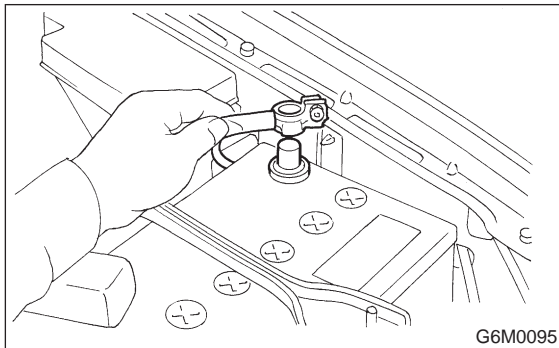


13. Air Filter

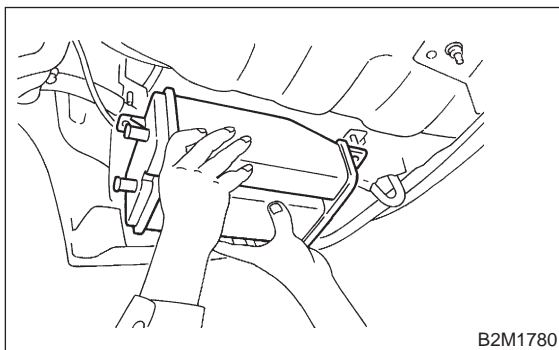
A: REMOVAL AND INSTALLATION

1. 2200 cc MODEL

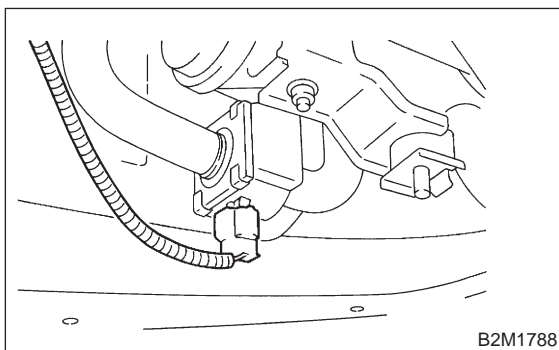
- 1) Disconnect battery ground cable.



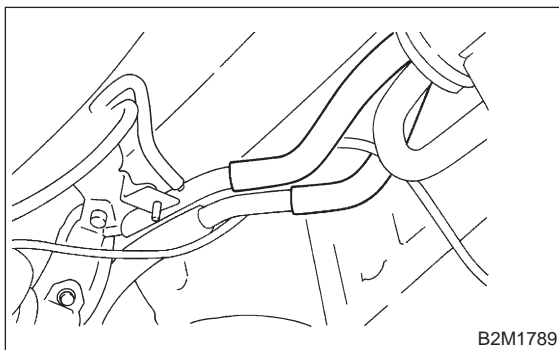
- 2) Lift-up the vehicle.
3) Remove canister. <Ref. to 2-1 [W3A0].>



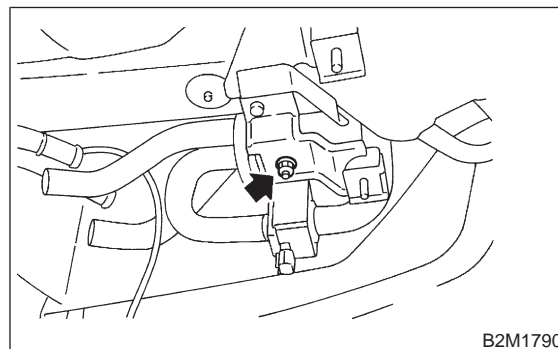
- 4) Disconnect connector from drain valve.



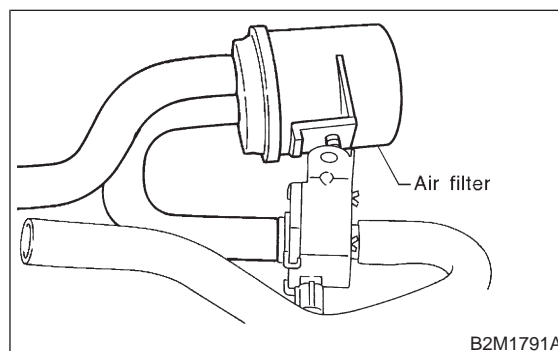
- 5) Disconnect evaporation hoses from joint pipes.



- 6) Remove nut which installs air filter and drain valve brackets on body, and remove them as a unit.



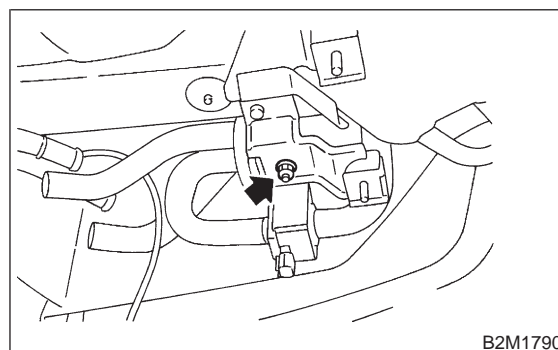
- 7) Disconnect evaporation hoses, and remove air filter.



- 8) Installation is in the reverse order of removal.

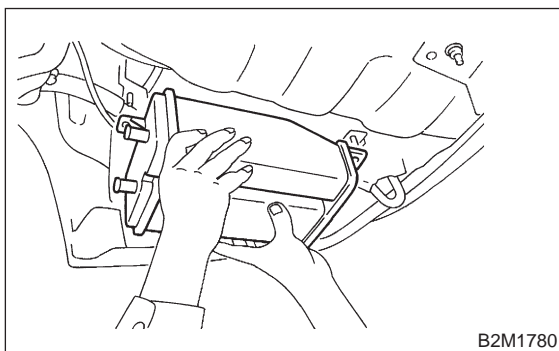
Tightening torque:

22.5 ± 7 N·m (2.3 ± 0.7 kg·m, 16.6 ± 5.1 ft·lb)

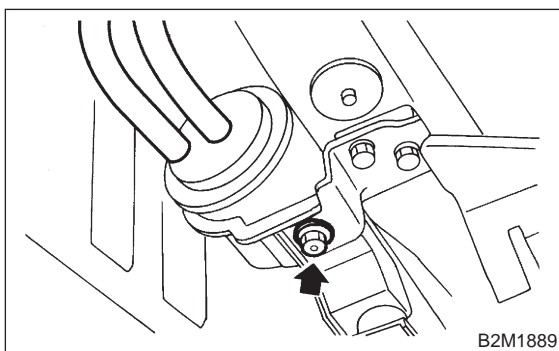


2. 2500 cc MODEL

- 1) Remove canister. <Ref. to 2-1 [W3A0].>



- 2) Disconnect two hoses from air filter.
- 3) Remove flange nut from bracket.



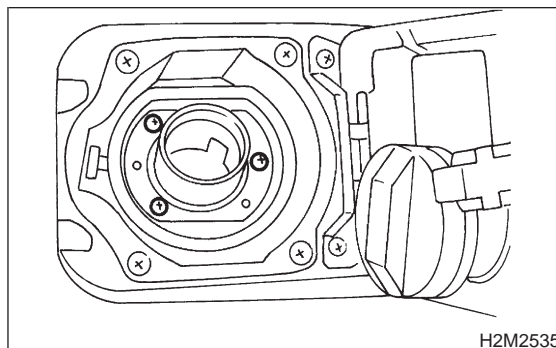
- 4) Installation is in the reverse order of removal.

Tightening torque:

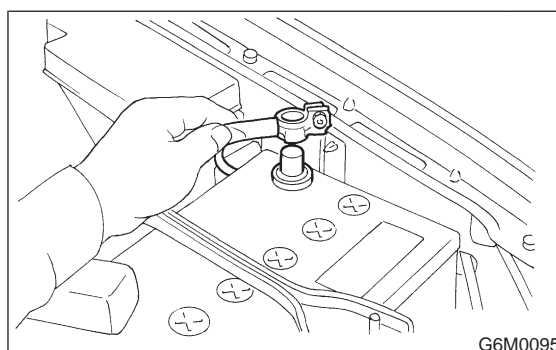
$22.5 \pm 7 \text{ N}\cdot\text{m}$ ($2.3 \pm 0.7 \text{ kg}\cdot\text{m}$, $16.6 \pm 5.1 \text{ ft}\cdot\text{lb}$)

14. Sub Fuel Level Sensor**A: REMOVAL AND INSTALLATION**

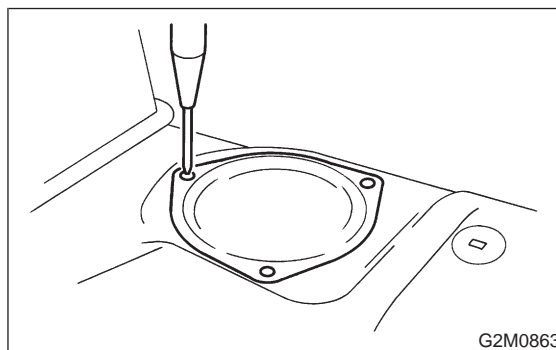
- 1) Release fuel pressure. <Ref. to 2-8 [W1B0].>
- 2) Open fuel flap lid, and remove fuel filler cap.



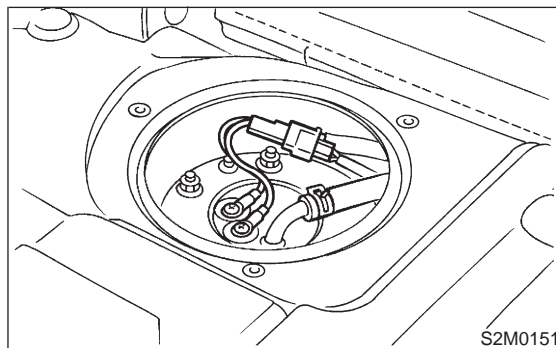
- 3) Disconnect battery ground cable.



- 4) Remove service hole cover.

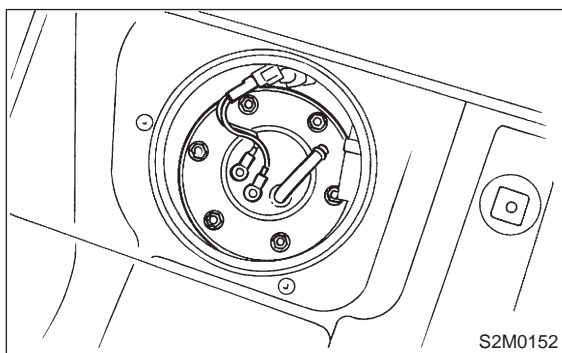


- 5) Disconnect connector from fuel sub meter, and disconnect jet pump hose.

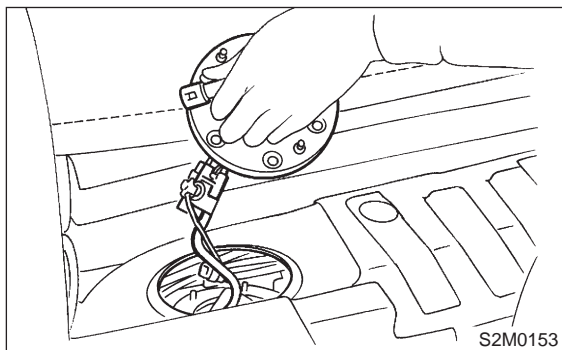


15. Vent Valve (2200 cc Model)

- 6) Remove bolts which install sub fuel level sensor on fuel tank.



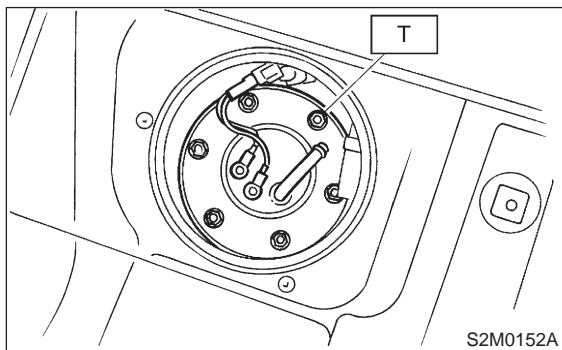
- 7) Remove sub fuel level sensor.



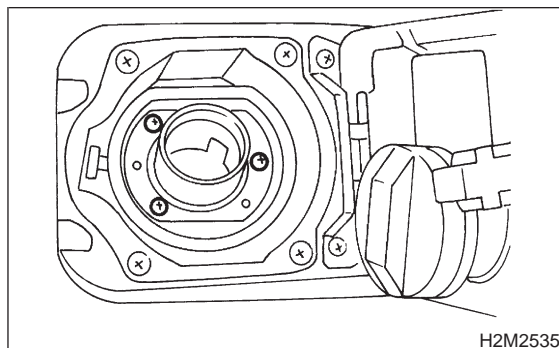
- 8) Installation is in the reverse order of removal.

Tightening torque:

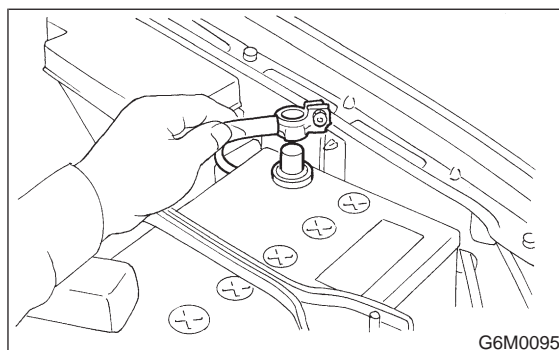
T: 4.4 ± 1.5 N·m (0.45 ± 0.15 kg·m, 3.3 ± 1.1 ft·lb)

**15. Vent Valve (2200 cc Model)****A: REMOVAL AND INSTALLATION**

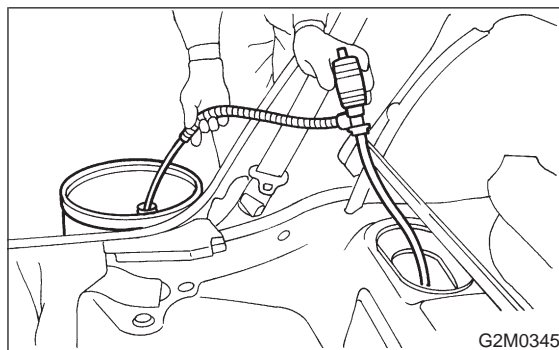
- 1) Release fuel pressure. <Ref. to 2-8 [W1B0].>
- 2) Open fuel flap lid, and remove fuel filler cap.



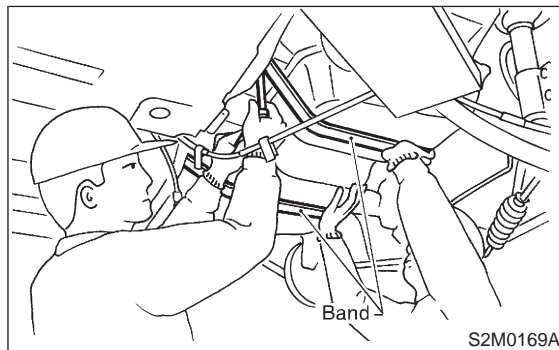
- 3) Disconnect battery ground cable.



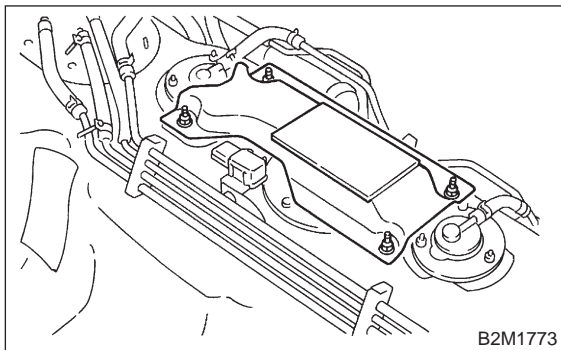
- 4) Drain fuel from fuel tank. <Ref. to 2-8 [W1C0].>



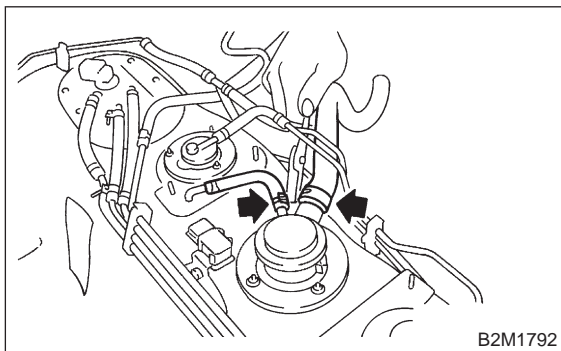
- 5) Remove fuel tank. <Ref. to 2-8 [W2A0].>



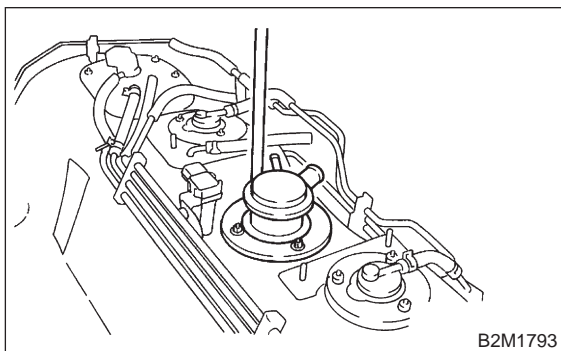
6) Remove protector cover.



7) Move clips, and disconnect hoses from vent valve.



8) Remove nuts which install vent valve on fuel tank.



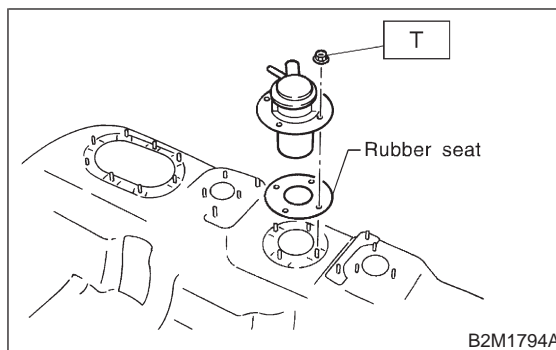
9) Installation is in the reverse order of removal.

CAUTION:

Replace rubber seat with a new one.

Tightening torque:

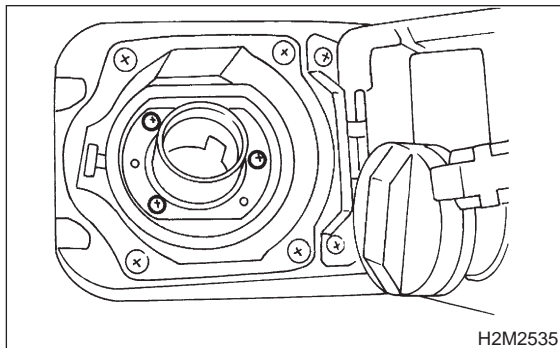
$4.4 \pm 1.5 \text{ N}\cdot\text{m}$ ($0.45 \pm 0.15 \text{ kg}\cdot\text{m}$, $3.3 \pm 1.1 \text{ ft}\cdot\text{lb}$)



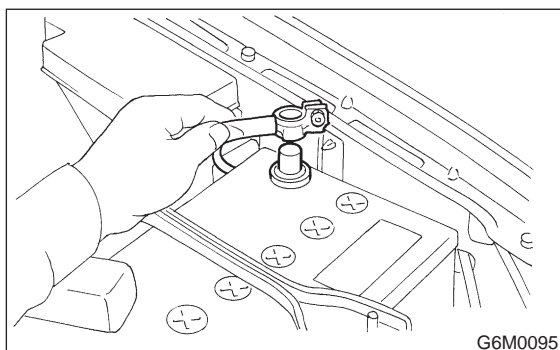
16. Shut Valve (2200 cc Model)

A: REMOVAL AND INSTALLATION

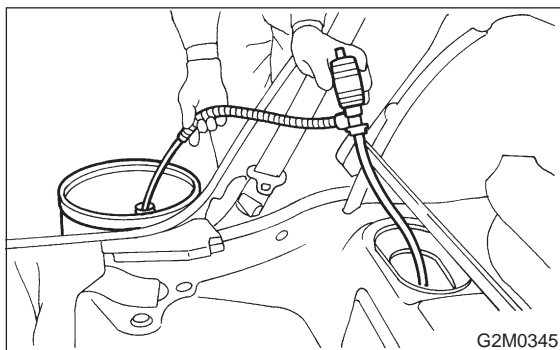
- 1) Release fuel pressure. <Ref. to 2-8 [W1B0].>
- 2) Open fuel flap lid, and remove fuel filler cap.



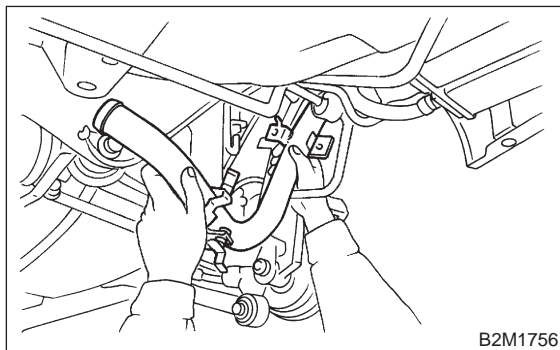
- 3) Disconnect battery ground cable.



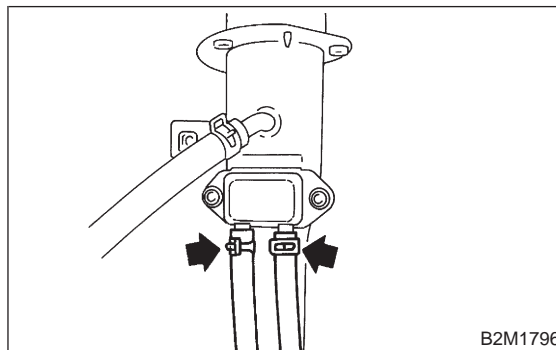
- 4) Drain fuel from fuel tank. <Ref. to 2-8 [W1C0].>



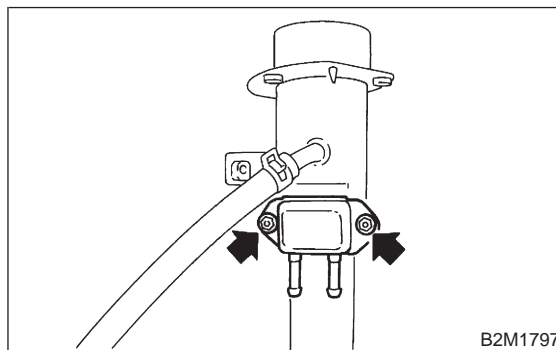
- 5) Remove fuel filler pipe. <Ref. to 2-8 [W3A0].>



- 6) Disconnect evaporation hoses from shut valve.



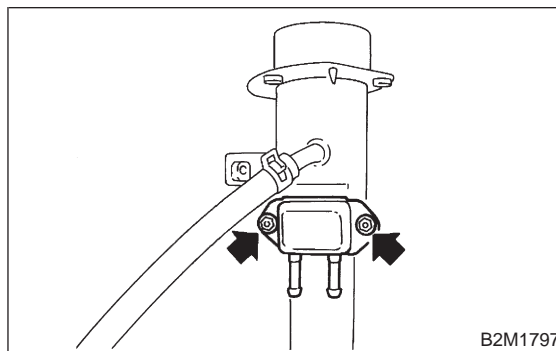
- 7) Remove shut valve from fuel filler pipe.



- 8) Installation is in the reverse order of removal.

Tightening torque:

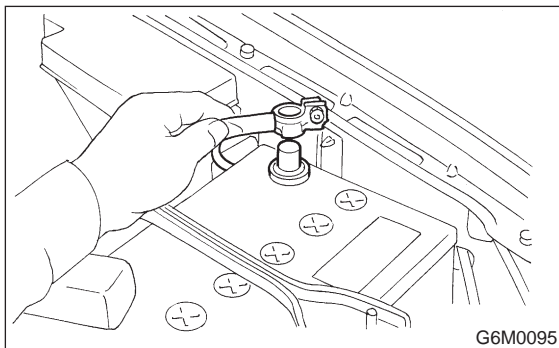
$4.4 \pm 1.5 \text{ N} \cdot \text{m}$ ($0.45 \pm 0.15 \text{ kg} \cdot \text{m}$, $3.3 \pm 1.1 \text{ ft} \cdot \text{lb}$)



17. Drain Valve (2200 cc Model)

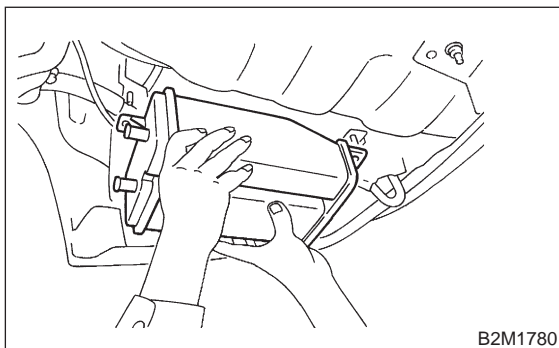
A: REMOVAL AND INSTALLATION

- 1) Disconnect battery ground cable.

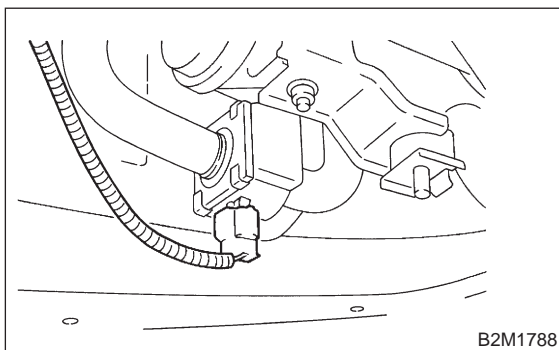


- 2) Lift-up the vehicle.

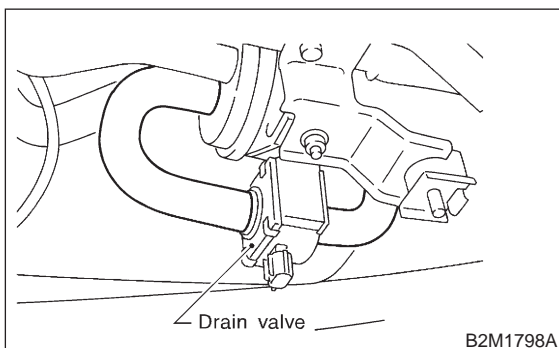
- 3) Remove canister. <Ref. to 2-1 [W3A0].>



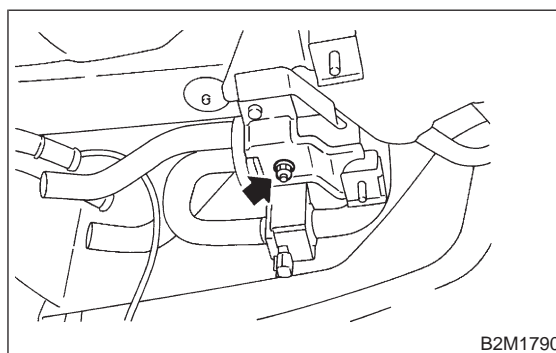
- 4) Disconnect connector from drain valve.



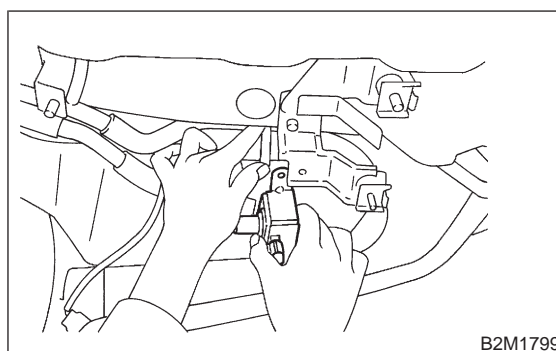
- 5) Disconnect evaporation hoses from drain valve.



- 6) Remove bolt which installs air filter and drain valve brackets on body.



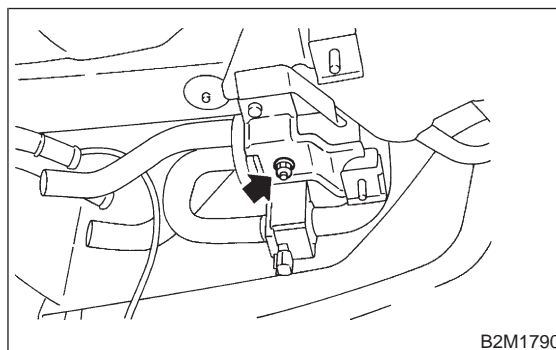
- 7) Move air filter to upper side, and remove drain valve with bracket.



- 8) Installation is in the reverse order of removal.

Tightening torque:

$22.5 \pm 7 \text{ N}\cdot\text{m}$ ($2.3 \pm 0.7 \text{ kg}\cdot\text{m}$, $16.6 \pm 5.1 \text{ ft}\cdot\text{lb}$)



MEMO: