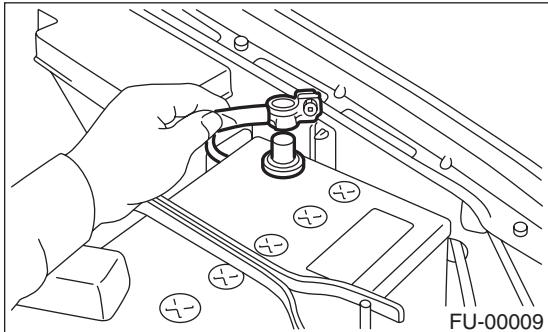


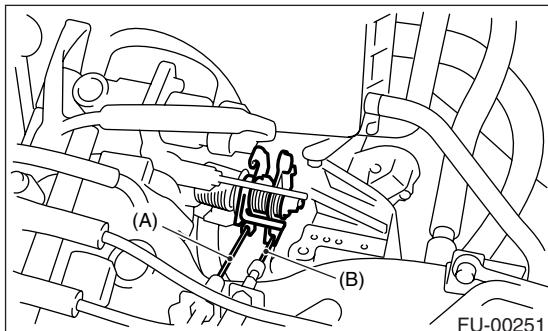
### 3. Intake Manifold

#### A: REMOVAL

- 1) Release fuel pressure. <Ref. to FU(H4SO)-51, RELEASING OF FUEL PRESSURE, OPERATION, Fuel.>
- 2) Open the fuel flap lid, and remove the fuel filler cap.
- 3) Disconnect the ground cable from battery.



- 4) Remove the air intake duct and air cleaner case. <Ref. to IN(H4SO)-7, REMOVAL, Air Intake Duct.> A <Ref. to IN(H4SO)-6, REMOVAL, Air Cleaner Case.>
- 5) Disconnect the accelerator cable (A).
- 6) Disconnect the cruise control cable (B). (vehicles with cruise control)

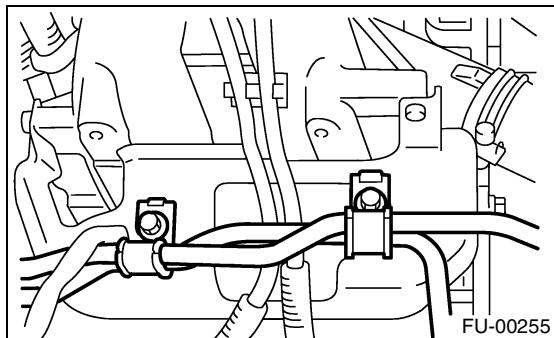


- 7) Remove the power steering pump and reservoir tank from bracket.

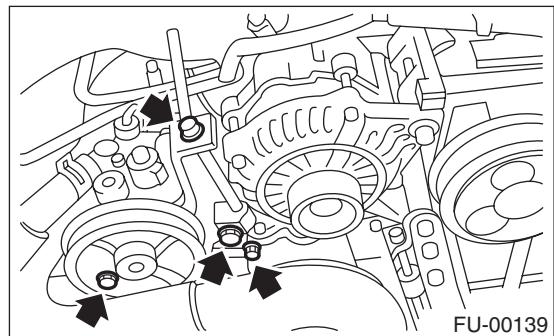
- (1) Remove the resonator chamber. <Ref. to IN(H4SO)-8, REMOVAL, Resonator Chamber.>
- (2) Remove the front side V-belt. <Ref. to ME(H4SO)-42, REMOVAL, V-belt.>
- (3) Remove the bolts which hold power steering pipes onto the intake manifold protector.

**NOTE:**

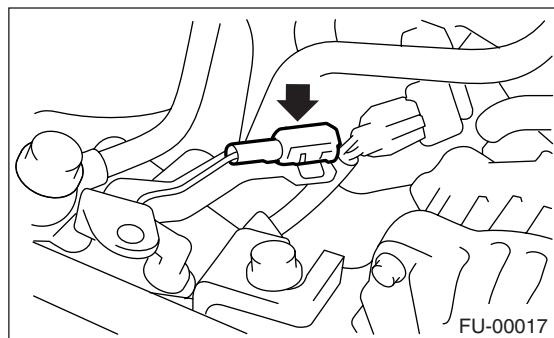
Do not disconnect the power steering hose.



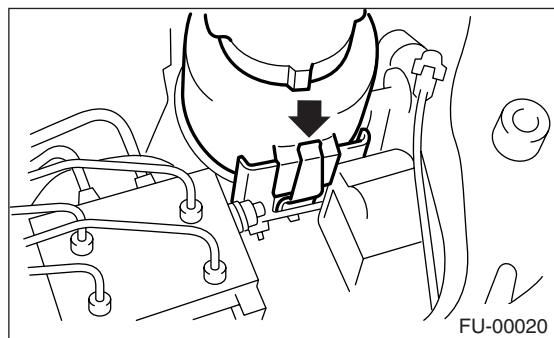
- (4) Remove the bolts which install power steering pump bracket.



- (5) Disconnect the connector from the power steering pump switch.



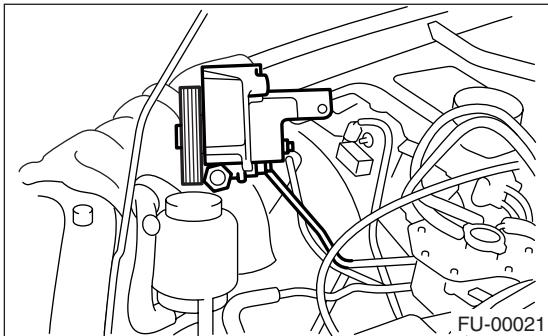
- (6) Remove the reservoir tank from the bracket by pulling it upwards.



# INTAKE MANIFOLD

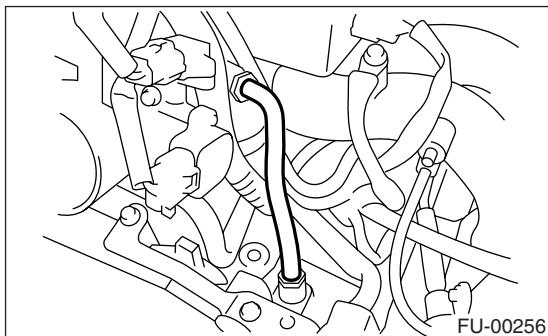
## FUEL INJECTION (FUEL SYSTEMS)

(7) Place the power steering pump on the right side wheel apron.

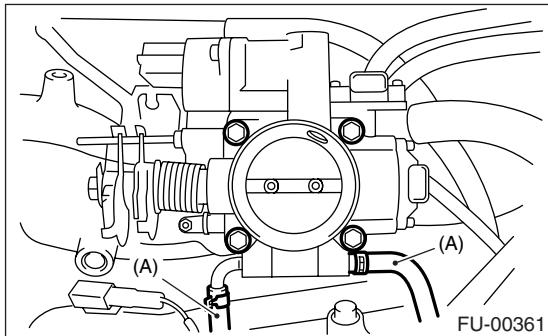


8) Disconnect the spark plug cords from the spark plugs.

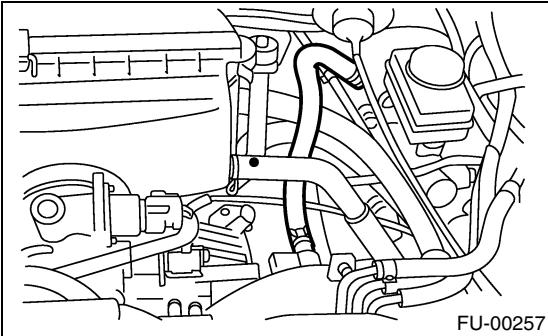
9) Disconnect the PCV hose from the intake manifold.



10) Disconnect the engine coolant hoses (A) from the throttle body.



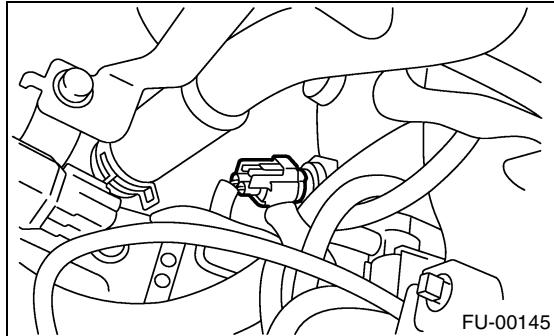
11) Disconnect the brake booster hose.



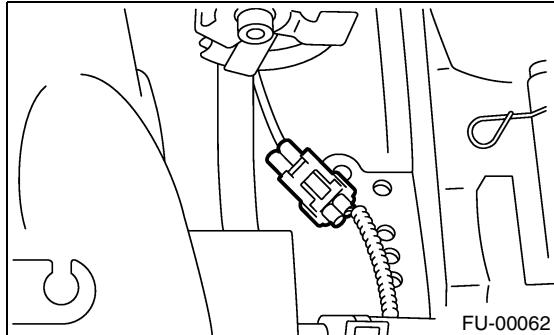
12) Remove the air cleaner case stay RH and engine harness bracket, and disconnect the engine harness connectors from the bulkhead harness connectors.



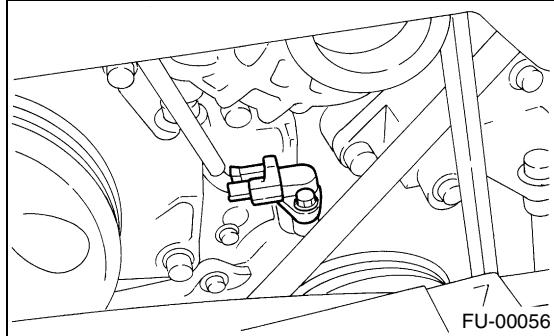
13) Disconnect the connector from engine coolant temperature sensor.



14) Disconnect the knock sensor connector.



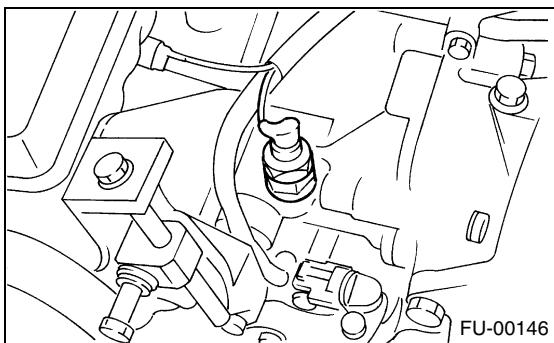
15) Disconnect the connector from crankshaft position sensor.



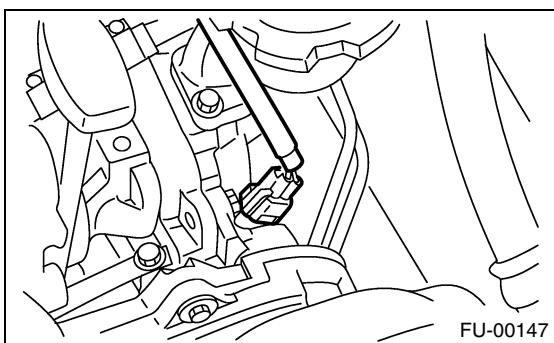
# INTAKE MANIFOLD

## FUEL INJECTION (FUEL SYSTEMS)

16) Disconnect the connector from oil pressure switch.



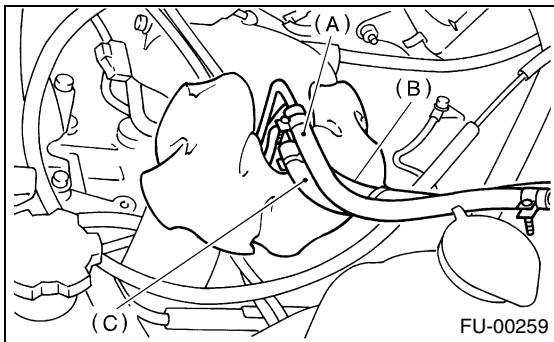
17) Disconnect the connector from the camshaft position sensor.



18) Disconnect the fuel hoses from the fuel pipes.

**WARNING:**

- Do not spill fuel.
- Catch fuel from hoses in a container or cloth.

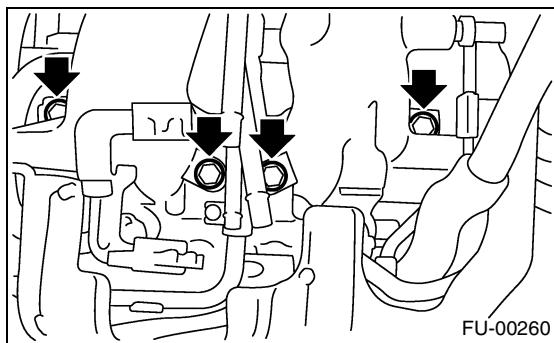


(A) Fuel delivery hose

(B) Return hose

(C) Evaporation hose

19) Remove the bolts which hold intake manifold onto the cylinder heads.



20) Remove the intake manifold.

# INTAKE MANIFOLD

## FUEL INJECTION (FUEL SYSTEMS)

### B: INSTALLATION

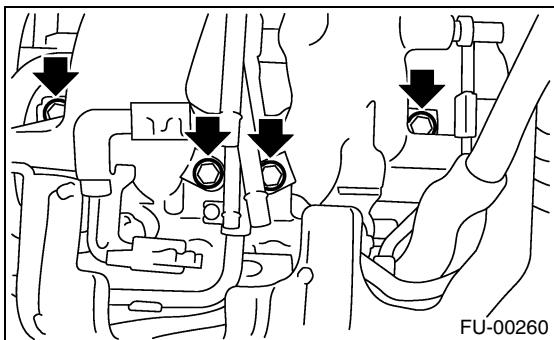
1) Install the intake manifold onto the cylinder heads.

NOTE:

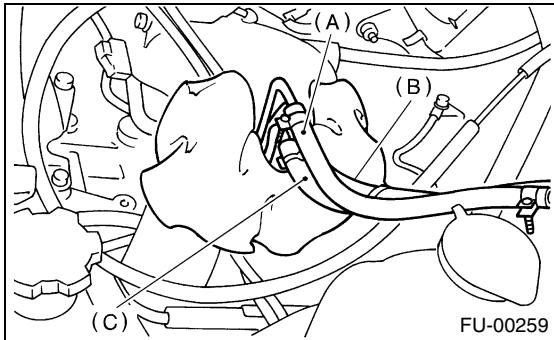
Replace the gaskets with new ones.

**Tightening torque:**

**25 N·m (2.5 kgf·m, 18.1 ft-lb)**



2) Connect the fuel hoses.

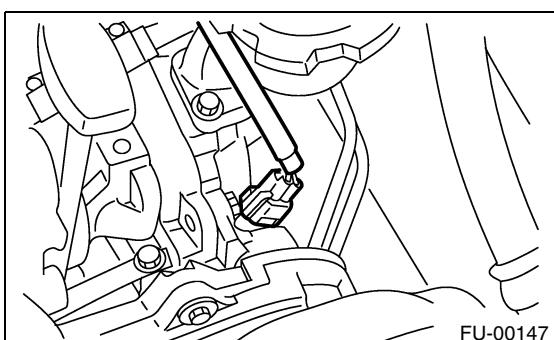


(A) Fuel delivery hose

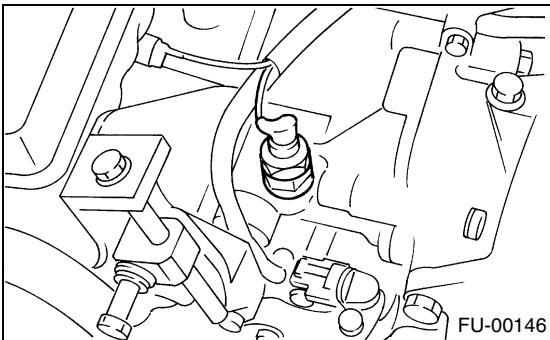
(B) Return hose

(C) Evaporation hose

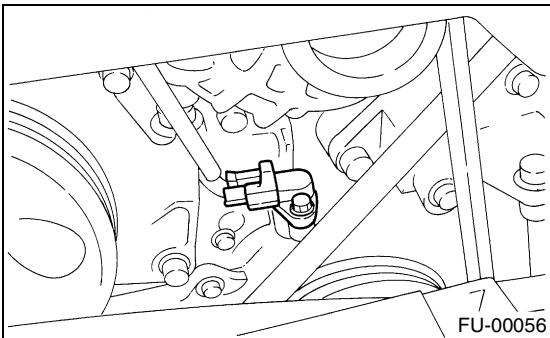
3) Connect the connector to the camshaft position sensor.



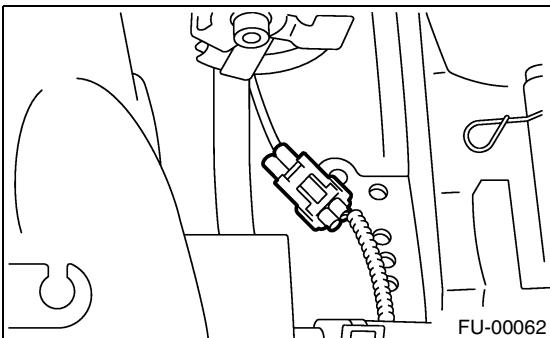
4) Connect the connector to the oil pressure switch.



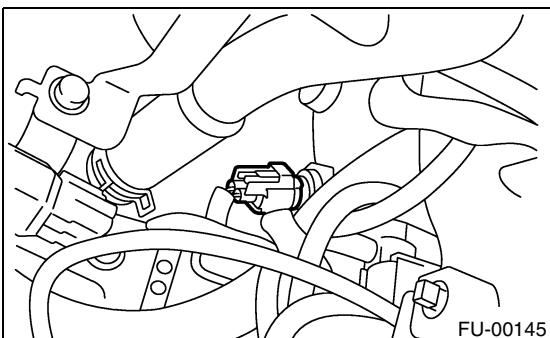
5) Connect the connector to the crankshaft position sensor.



6) Connect the knock sensor connector.



7) Connect the connectors to the engine coolant temperature sensor.



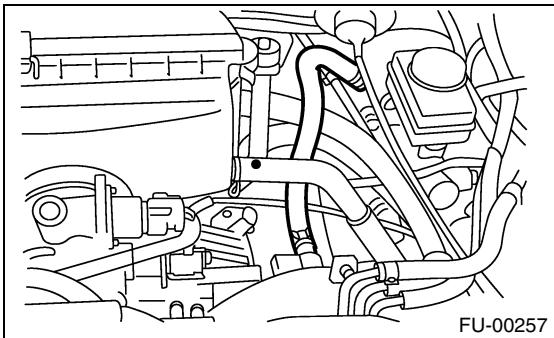
# INTAKE MANIFOLD

## FUEL INJECTION (FUEL SYSTEMS)

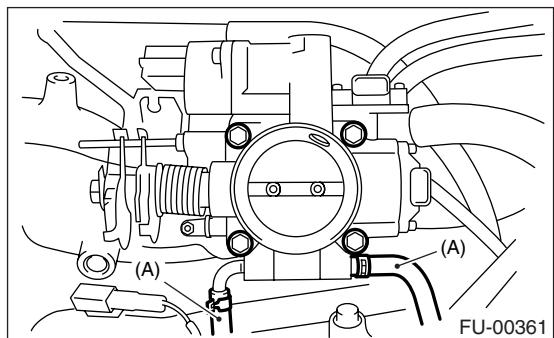
8) Install the air cleaner case stay RH and engine harness bracket, and connect the engine harness connectors to the bulkhead connectors.



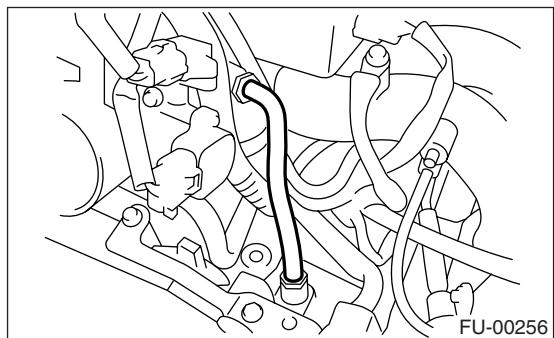
9) Connect the brake booster hose.



10) Connect the engine coolant hose (A) to the throttle body.



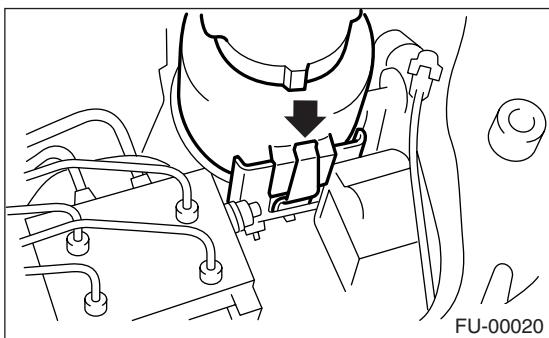
11) Connect the PCV hose to the intake manifold.



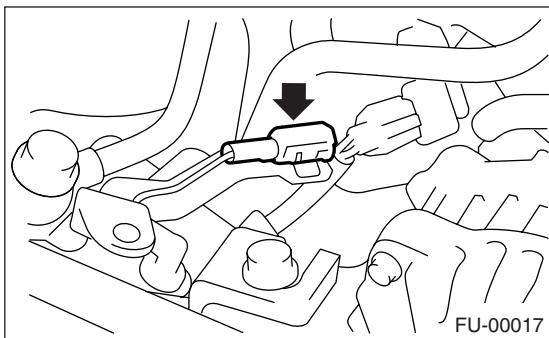
12) Connect the spark plug cords to the spark plugs.

13) Install the power steering pump and reservoir tank to bracket.

(1) Install the reservoir tank to bracket.



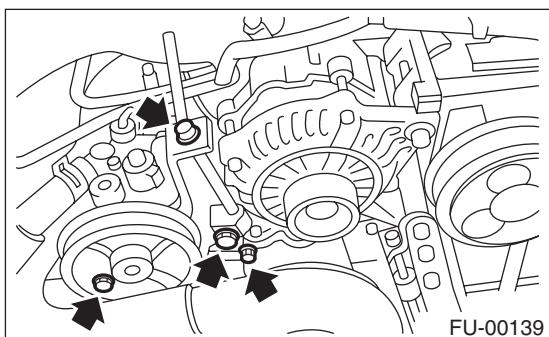
(2) Connect the connector to the power steering pump switch.



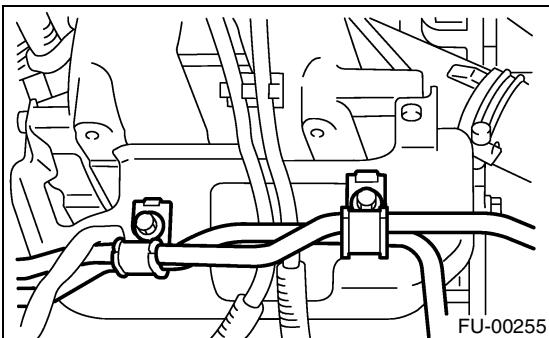
(3) Tighten the bolts which install power steering pump bracket.

### **Tightening torque:**

**22 N·m (2.2 kgf·m, 15.9 ft-lb)**



(4) Install the power steering pipes onto the right side intake manifold protector.



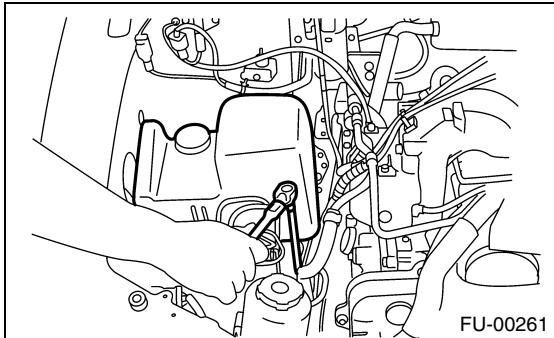
# INTAKE MANIFOLD

## FUEL INJECTION (FUEL SYSTEMS)

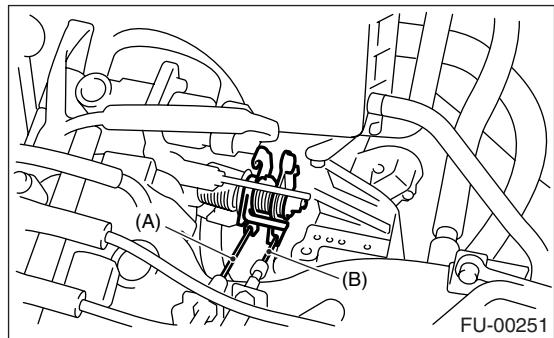
- (5) Install the front side V-belt. <Ref. to ME(H4SO)-42, INSTALLATION, V-belt.>
- (6) Install the resonator chamber.

### Tightening torque:

33 N·m (3.4 kgf·m, 24.6 ft·lb)



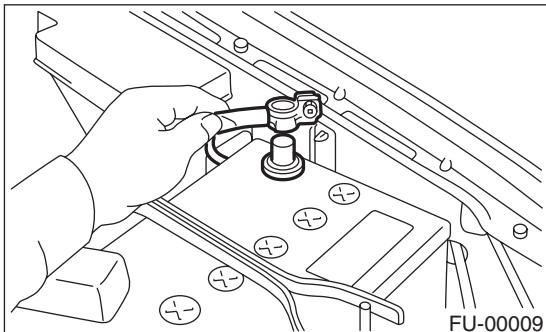
- 14) Connect the accelerator cable (A).
- 15) Connect the cruise control cable (B). (vehicles with cruise control)



- 16) Install the air intake duct and air cleaner case. <Ref. to IN(H4SO)-7, INSTALLATION, Air Intake Duct.>, <Ref. to IN(H4SO)-6, INSTALLATION, Air Cleaner Case.>
- 17) Connect the connector to the fuel pump relay.

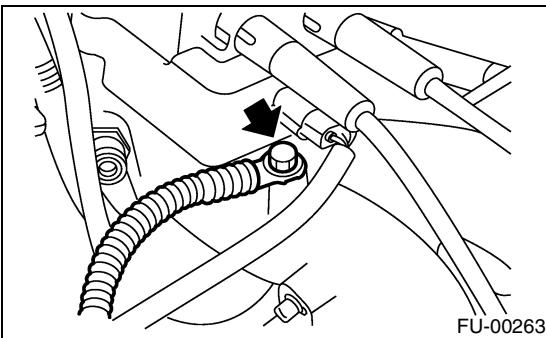


- 18) Connect the battery ground cable to battery.

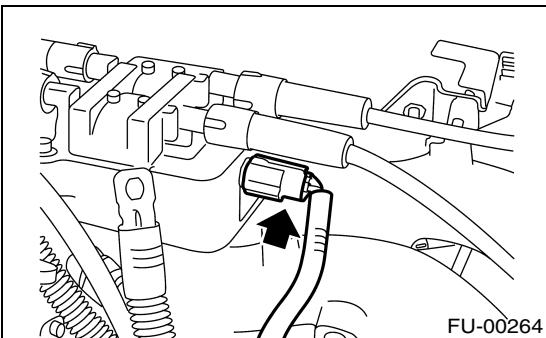


## C: DISASSEMBLY

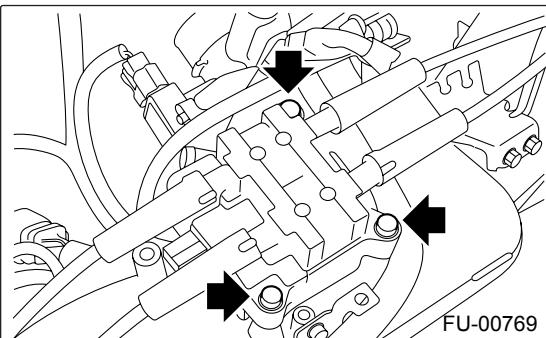
- 1) Disconnect the engine ground terminal from the intake manifold.



- 2) Disconnect the connector from the ignition coil and ignitor assembly.



- 3) Remove the ignition coil and ignitor assembly.

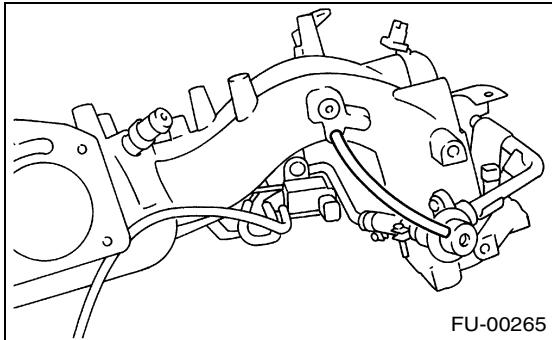


- 4) Remove the throttle body. <Ref. to FU(H4SO)-14, REMOVAL, Throttle Body.>

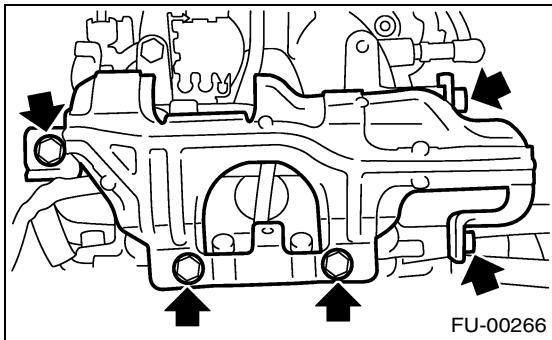
# INTAKE MANIFOLD

## FUEL INJECTION (FUEL SYSTEMS)

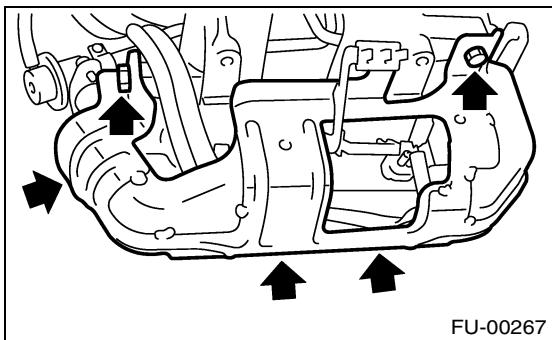
5) Remove the air assist injector solenoid valve from the intake manifold. <Ref. to FU(H4SO)-37, REMOVAL, Air Assist Injector Solenoid Valve.>  
6) Disconnect the pressure regulator vacuum hose from the intake manifold.



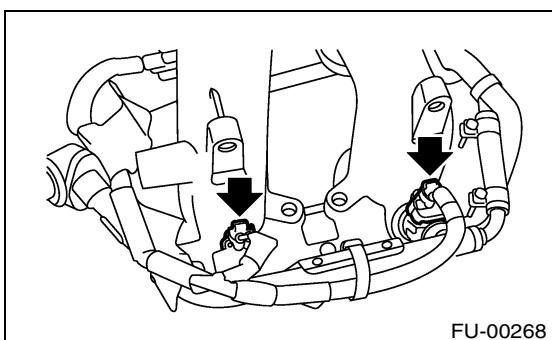
7) Remove the fuel pipe protector LH.



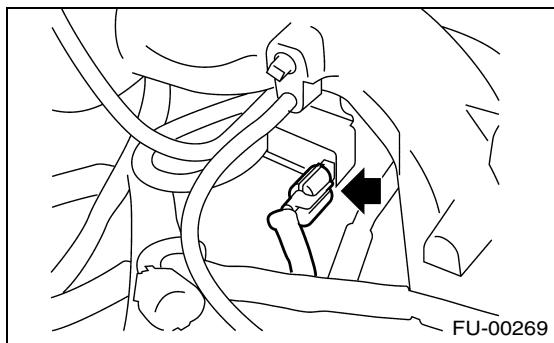
8) Remove the fuel pipe protector RH.



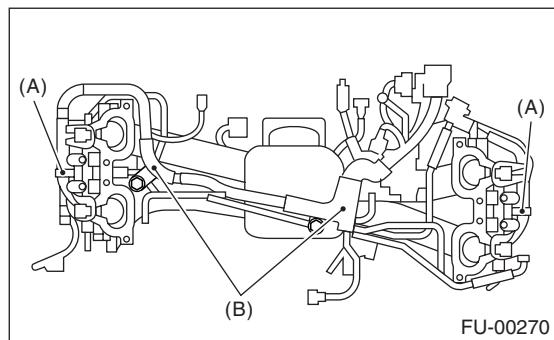
9) Disconnect the connectors from the fuel injectors.



10) Disconnect the connector from the purge control solenoid valve.

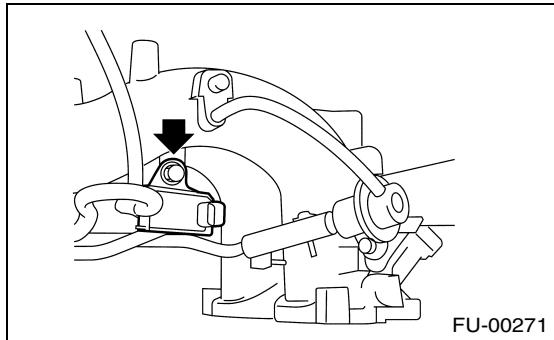


11) Disconnect the air by-pass hose from the purge control solenoid valve.  
12) Remove the harness bands (A) and harness bracket (B) which hold engine harness onto the intake manifold.



13) Remove the engine harness from the intake manifold.

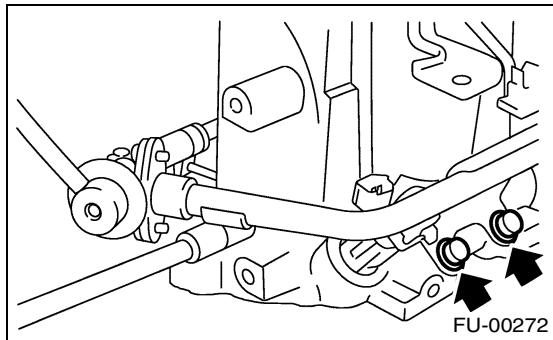
14) Remove the purge control solenoid valve.



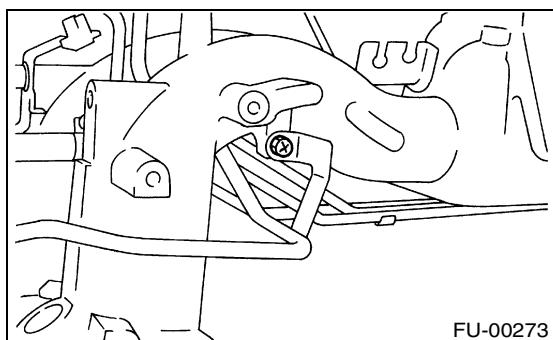
# INTAKE MANIFOLD

## FUEL INJECTION (FUEL SYSTEMS)

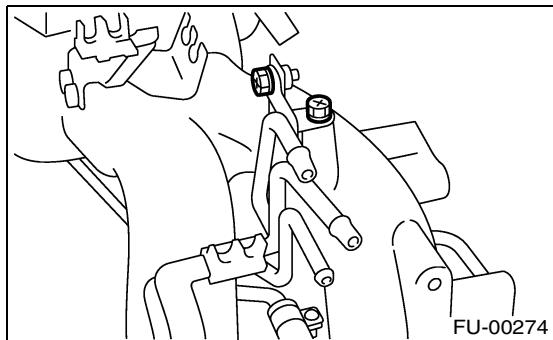
15) Remove the bolt which installs injector pipe on the intake manifold as shown in figure.



16) Remove the bolt which installs injector pipe on the intake manifold.

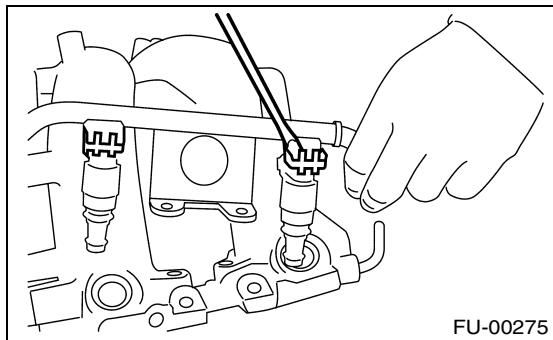


17) Remove the two bolts which hold fuel pipes on the left side of intake manifold.

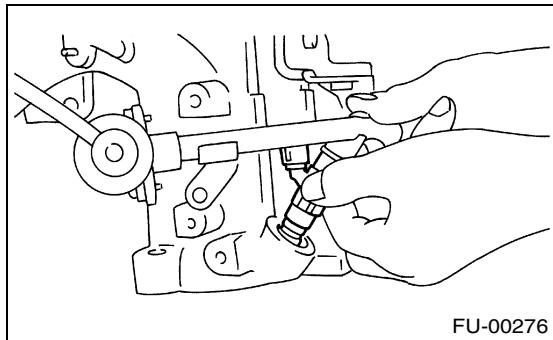


18) Remove the fuel injector.

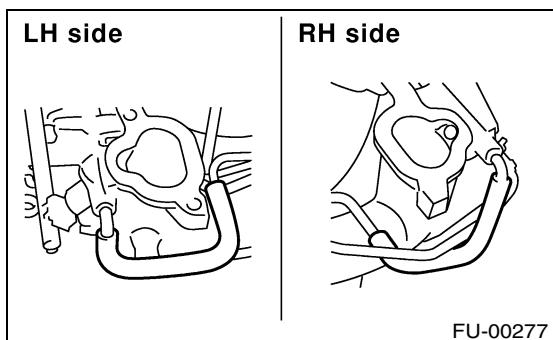
(1) Remove the fuel injector securing clip.



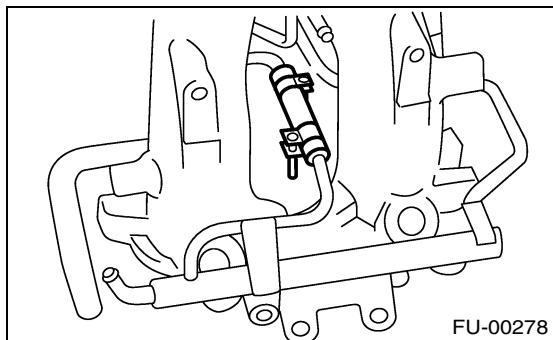
(2) Remove the fuel injector while lifting up the fuel injector pipe.



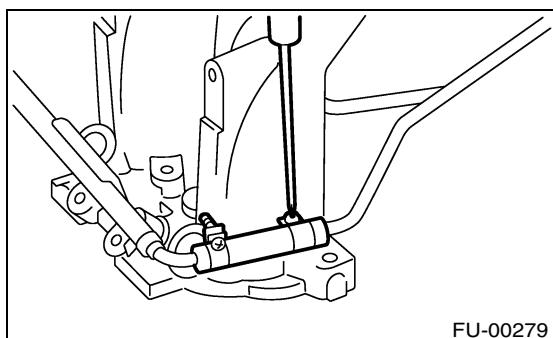
19) Disconnect the air by-pass hoses from the intake manifold.



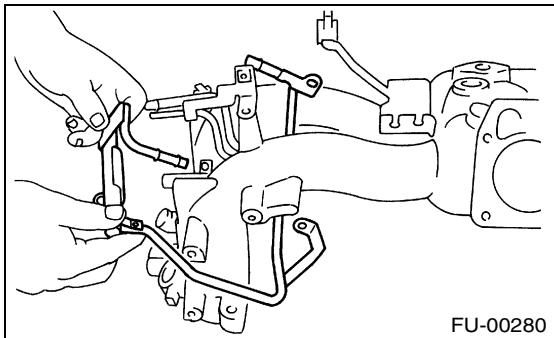
20) Loosen the clamp which holds the front left side fuel hose to the injector pipe and remove the pipe.



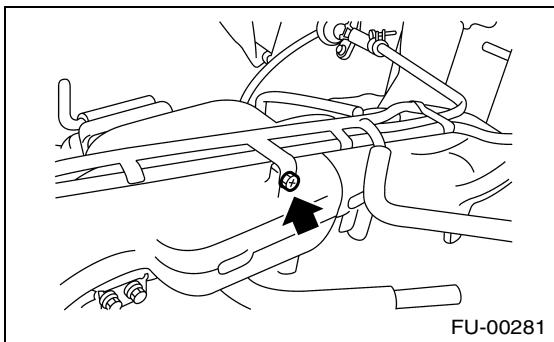
21) Loosen the clamp which holds the front right side fuel hose to the injector pipe and remove the pipe from fuel hose.



22) Remove the fuel injector pipe.



23) Remove the bolt which installs the fuel pipes on the intake manifold.



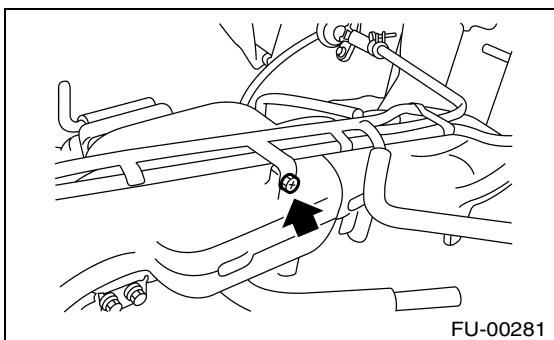
24) Remove the fuel pipe assembly and pressure regulator, from the intake manifold.

## D: ASSEMBLY

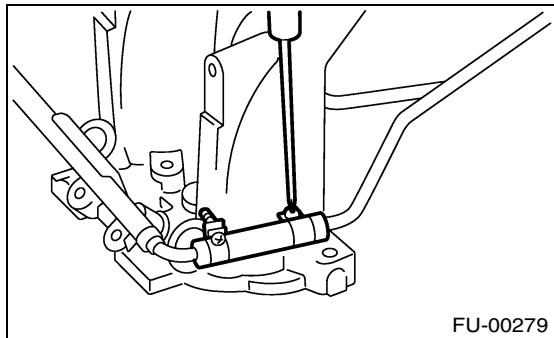
- 1) Install the fuel pipe assembly and pressure regulator, etc. to the intake manifold.
- 2) Tighten the bolt which installs the fuel pipes on the intake manifold.

### **Tightening torque:**

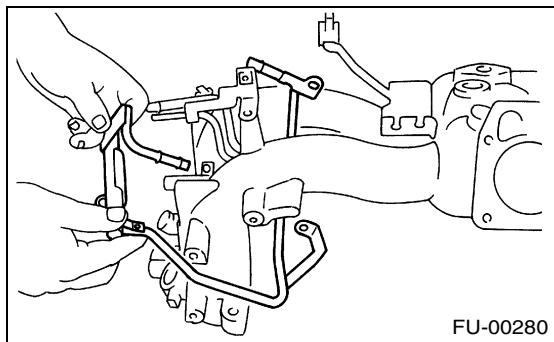
**5.0 N·m (0.51 kgf·m, 3.7 ft-lb)**



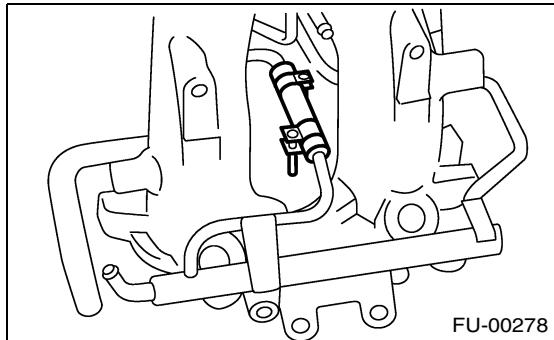
3) Connect the right side fuel hose to the injector pipe, and tighten the clamp screw.



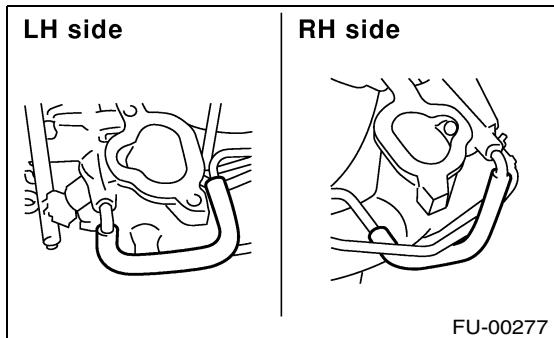
4) Install the fuel injector pipe.



5) Connect the left side fuel hose to the injector pipe, and tighten the clamp screw.



6) Connect the air assist hoses.



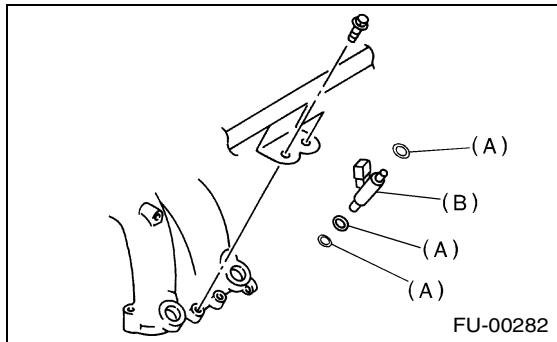
# INTAKE MANIFOLD

## FUEL INJECTION (FUEL SYSTEMS)

7) Install the fuel injectors.

NOTE:

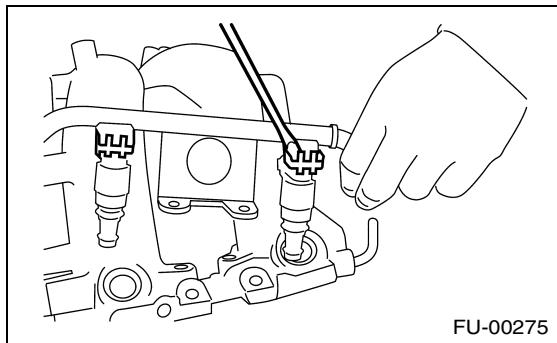
Replace the O-rings with new ones.



(A) O-ring  
(B) Fuel injector

NOTE:

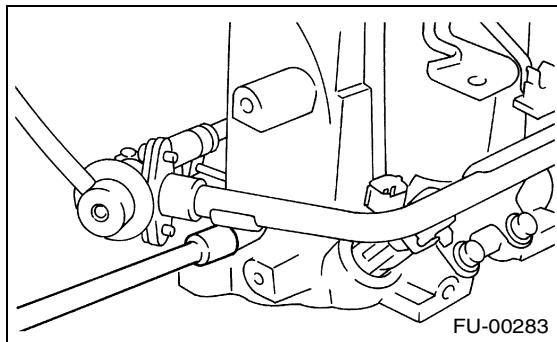
Do not forget to install the fuel injector securing clip.



8) Tighten the bolt which installs the injector pipe on the intake manifold.

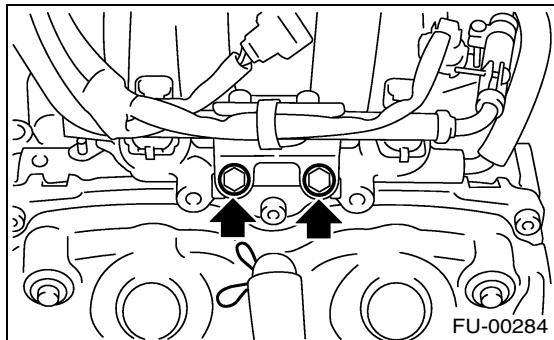
**Tightening torque:**

5.0 N·m (0.51 kgf·m, 3.7 ft-lb)



**Tightening torque:**

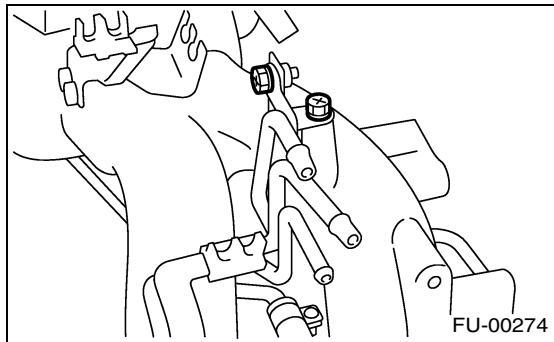
19 N·m (1.9 kgf·m, 13.7 ft-lb)



9) Tighten the two bolts which install the fuel pipes on the left side of intake manifold.

**Tightening torque:**

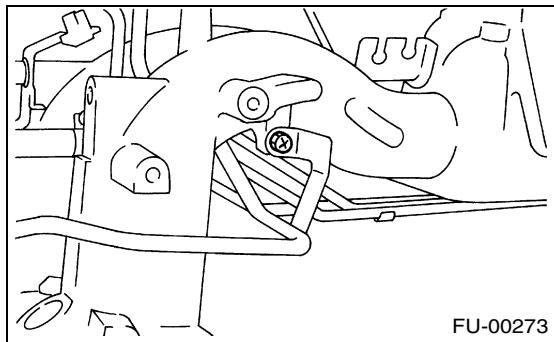
5.0 N·m (0.51 kgf·m, 3.7 ft-lb)



10) Tighten the bolt which installs the injector pipe on the intake manifold.

**Tightening torque:**

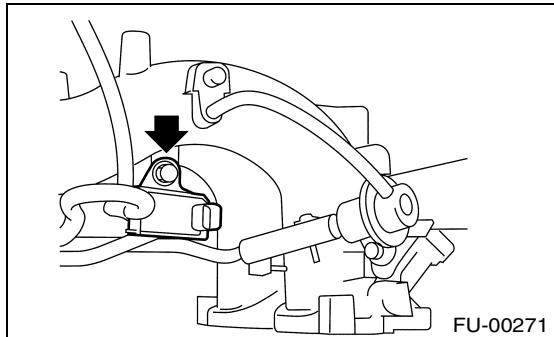
5.0 N·m (0.51 kgf·m, 3.7 ft-lb)



11) Install the purge control solenoid valve.

**Tightening torque:**

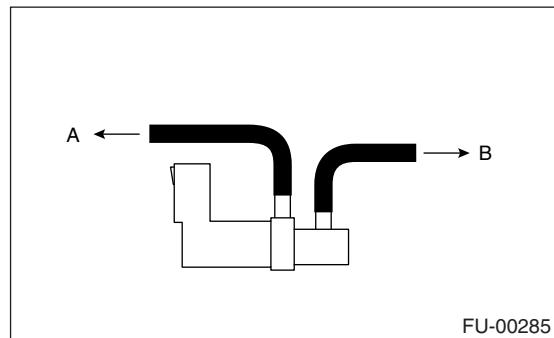
19 N·m (1.9 kgf-m, 13.7 ft-lb)



12) Connect the hoses to the purge control solenoid valve.

**CAUTION:**

Connect the evaporation hose as shown in the figure.



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

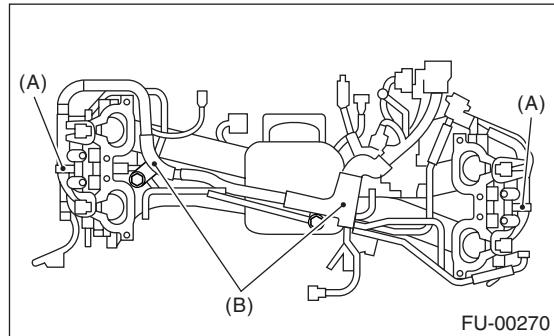
13) Install the engine harness onto the intake manifold.

**Tightening torque:**

16 N·m (1.6 kgf-m, 11.8 ft-lb)

14) Connect the connectors to the fuel injectors and purge control solenoid valve.

15) Hold the engine harness by harness band (A) and harness bracket (B).



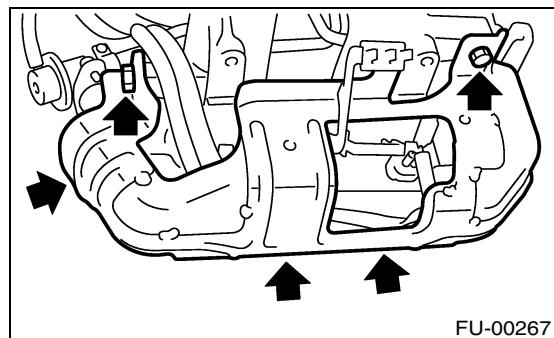
**NOTE:**

Do not use harness band on harnesses where they are supposed to be protected by the fuel pipe protector.

16) Install the fuel pipe protector RH.

**Tightening torque:**

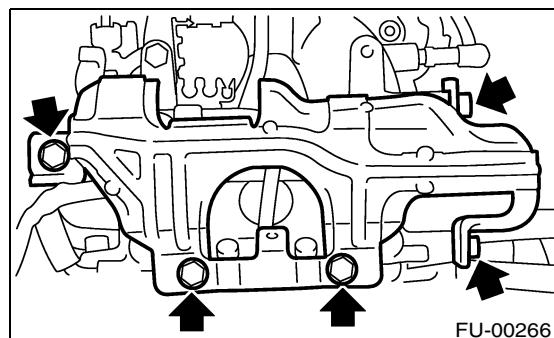
19 N·m (1.9 kgf-m, 13.7 ft-lb)



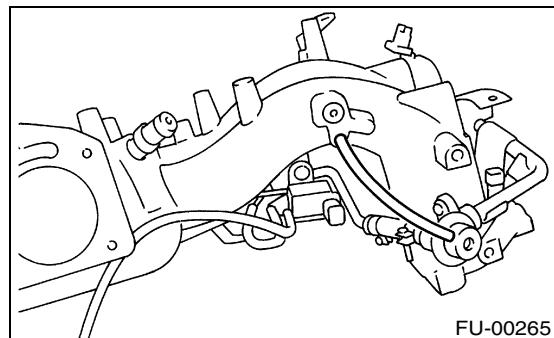
17) Install the fuel pipe protector LH.

**Tightening torque:**

19 N·m (1.9 kgf-m, 13.7 ft-lb)



18) Connect the pressure regulator vacuum hose to the intake manifold.



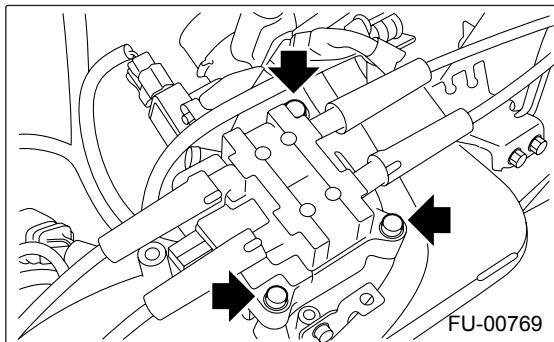
19) Install the air assist injector solenoid valve to the bracket. <Ref. to FU(H4SO)-37, INSTALLATION, Air Assist Injector Solenoid Valve.>

20) Install the throttle body to the intake manifold. <Ref. to FU(H4SO)-14, INSTALLATION, Throttle Body.>

# INTAKE MANIFOLD

## FUEL INJECTION (FUEL SYSTEMS)

21) Install the ignition coil and ignitor assembly.

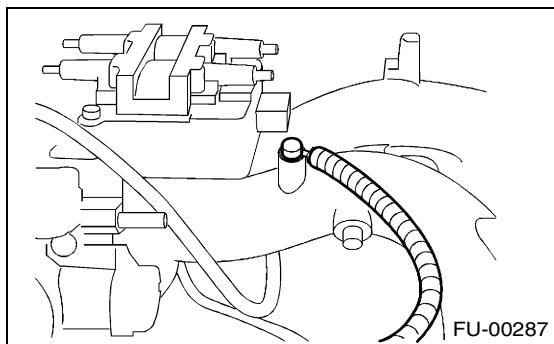


22) Connect the connector to the ignition coil and ignitor assembly.

23) Install the engine ground terminal to the intake manifold.

***Tightening torque:***

**19 N·m (1.9 kgf·m, 13.7 ft-lb)**



## E: INSPECTION

Make sure the fuel pipe and fuel hoses are not cracked and that connections are tight.