

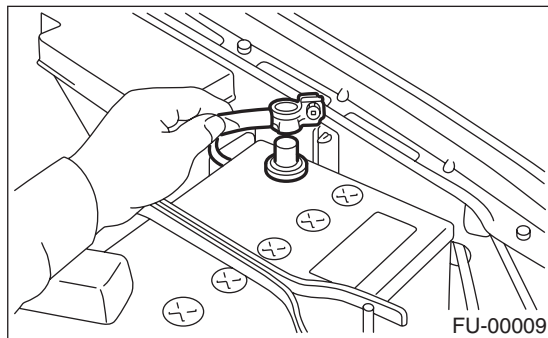
3. Intake Manifold

A: REMOVAL

1) Release the fuel pressure. <Ref. to FU(H4DOTC)-48, RELEASING OF FUEL PRESSURE, OPERATION, Fuel.>

2) Open the fuel filler lid and remove the fuel filler cap.

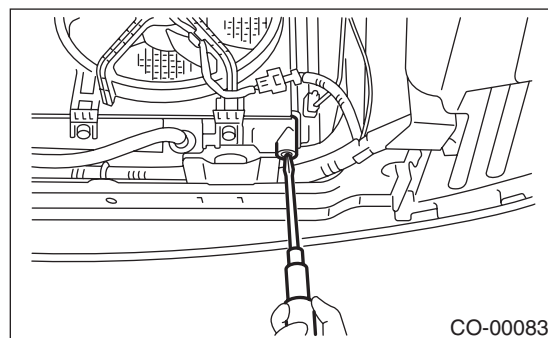
3) Disconnect the ground cable from battery.



4) Lift up the vehicle.

5) Remove the under cover.

6) Drain the engine coolant about 3.0 ℓ (3.2 US qt, 2.6 Imp qt).



7) Remove the air cleaner upper cover and air intake boot. <Ref. to IN(H4DOTC)-7, REMOVAL, Air Cleaner.>

8) Remove the air cleaner element.

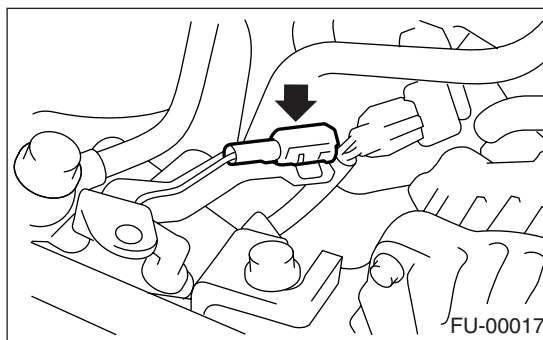
9) Remove the intercooler. <Ref. to IN(H4DOTC)-10, REMOVAL, Intercooler.>

10) Remove the coolant filler tank. <Ref. to CO(H4DOTC)-29, REMOVAL, Coolant Filler Tank.>

11) Remove the power steering pump.

(1) Remove the front side V-belt. <Ref. to ME(H4DOTC)-45, REMOVAL, V-belt.>

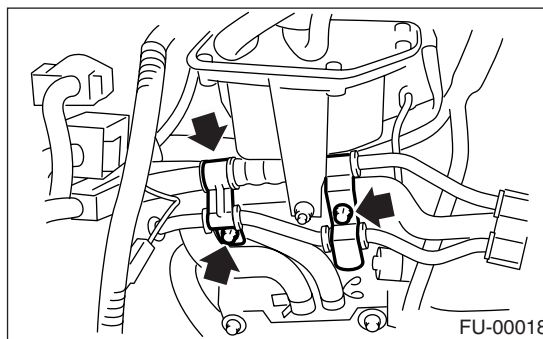
(2) Disconnect the power steering switch connector.



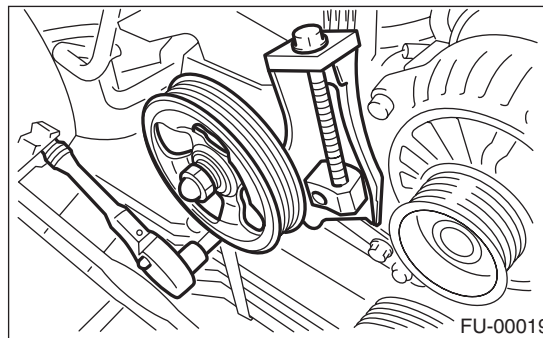
(3) Remove the bolts which secure the power steering pipe brackets to the intake manifold.

NOTE:

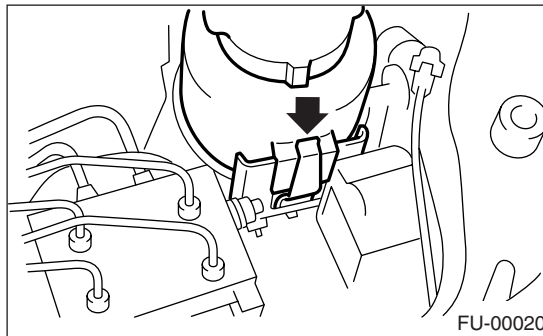
Do not disconnect the power steering hose.



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



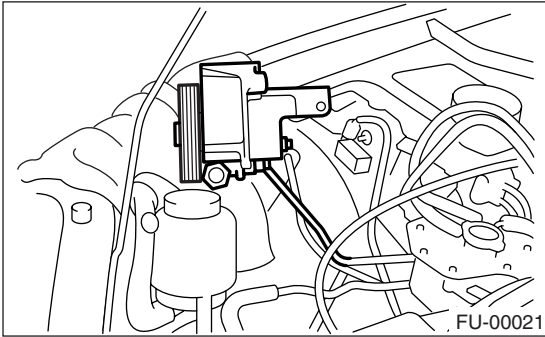
(5) Remove the power steering tank from the bracket by pulling it upward.



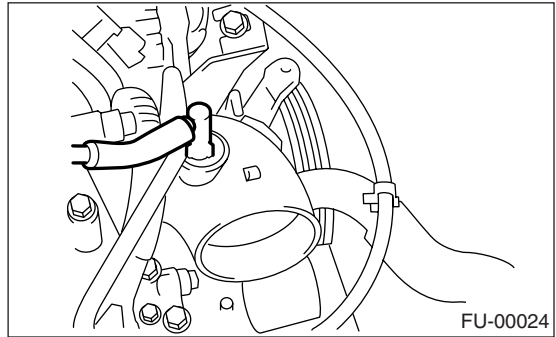
INTAKE MANIFOLD

FUEL INJECTION (FUEL SYSTEMS)

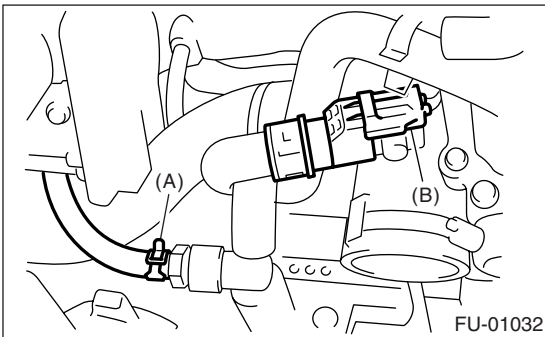
6) Place the power steering pump on the right side wheel apron.



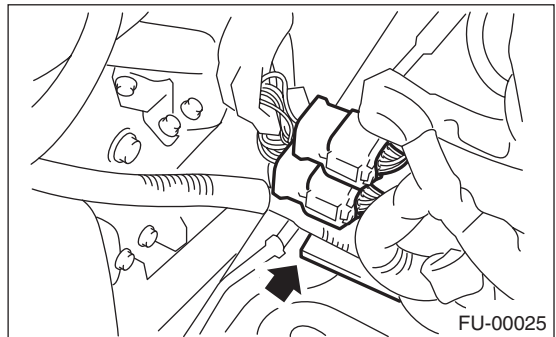
15) Disconnect the pressure hose from the intake duct.



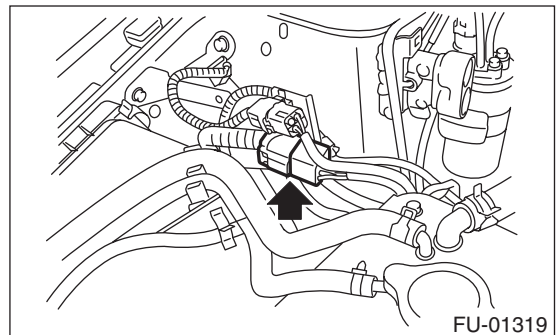
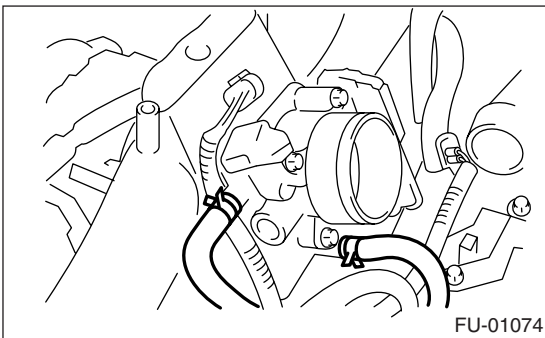
12) Disconnect the emission hose (A) and connector (B) from the PCV hose assembly.



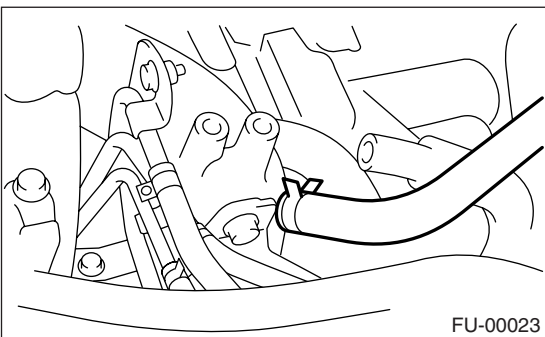
16) Disconnect the engine harness connectors from the bulkhead harness connectors.



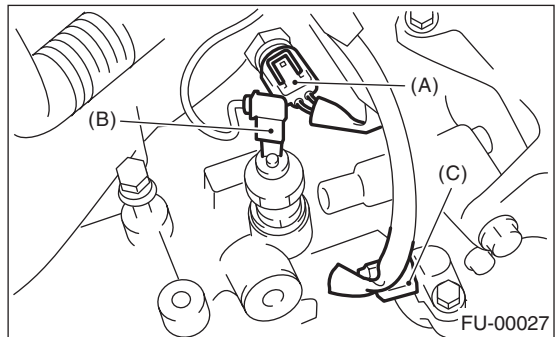
13) Disconnect the engine coolant hoses from the throttle body.



14) Disconnect the brake booster hose.



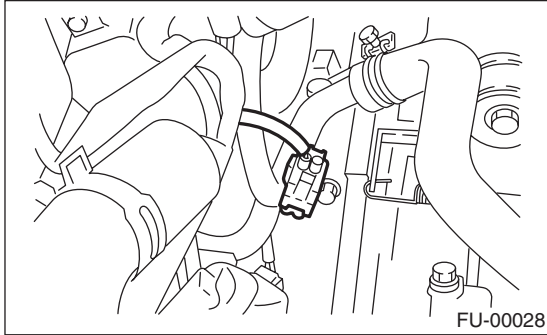
17) Disconnect the connectors from the engine coolant temperature sensor (A), oil pressure switch (B) and crankshaft position sensor (C).



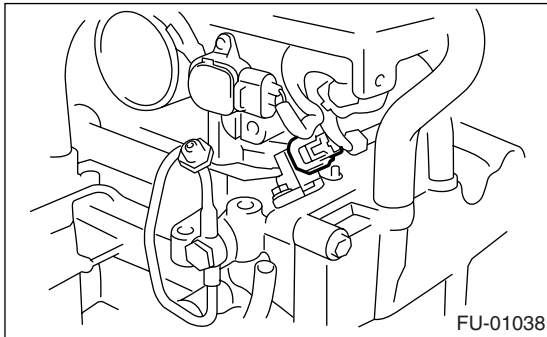
INTAKE MANIFOLD

FUEL INJECTION (FUEL SYSTEMS)

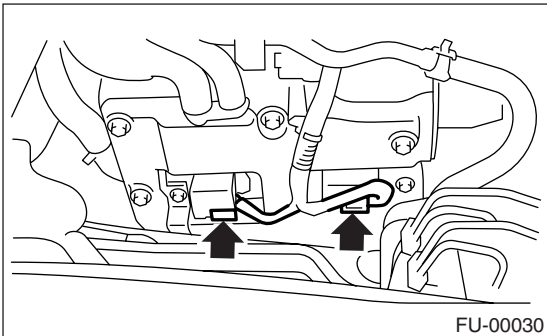
18) Disconnect the knock sensor connector.



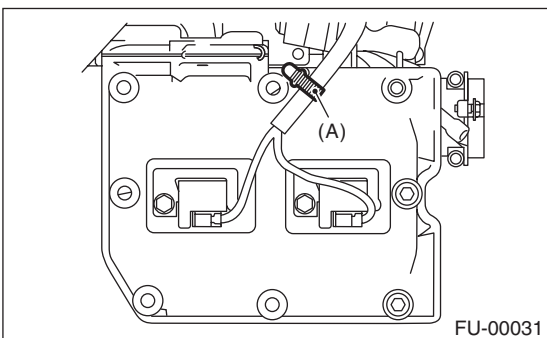
19) Disconnect the connector from the camshaft position sensor.



20) Disconnect the connector from the ignition coil.



21) Disconnect the engine harness fixed by clip (A) from the bracket.

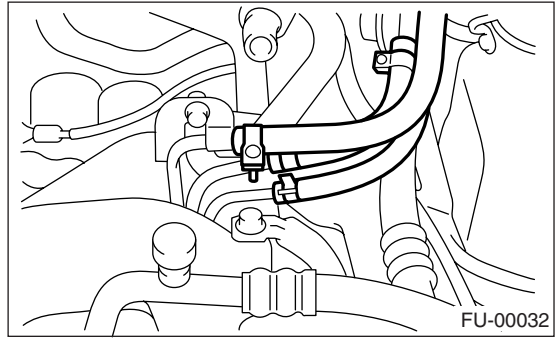


22) Disconnect the fuel delivery hose, return hose and evaporation hose.

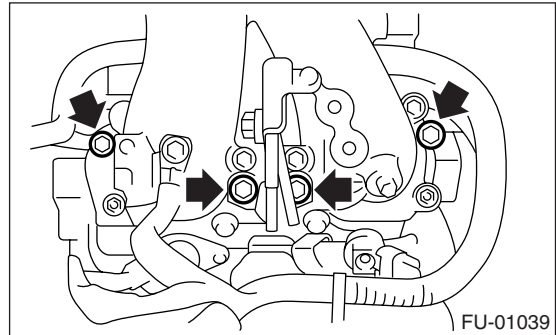
CAUTION:

- Do not spill fuel.

• Catch fuel from hoses in a container or cloth.



23) Remove the bolts which secure the intake manifold to the cylinder heads.



24) Remove the intake manifold.

B: INSTALLATION

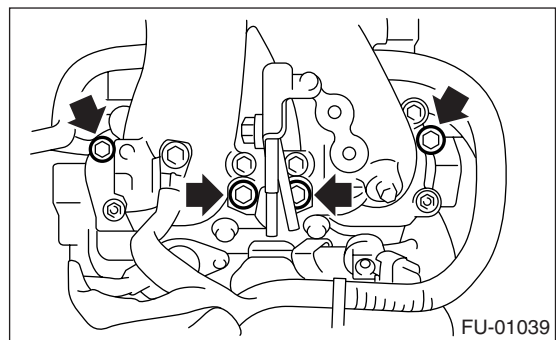
1) Install the intake manifold onto cylinder heads.

NOTE:

Always use new gaskets.

Tightening torque:

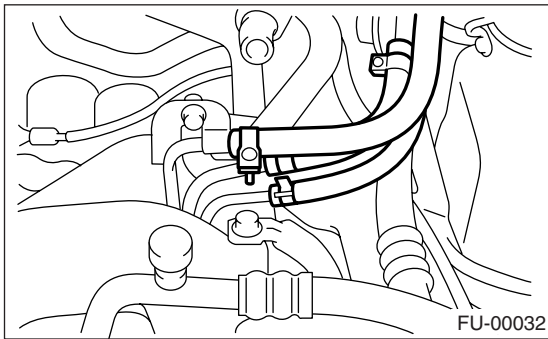
25 N·m (2.5 kgf-m, 18.1 ft-lb)



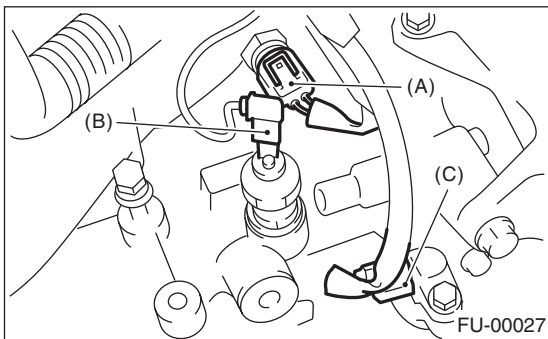
INTAKE MANIFOLD

FUEL INJECTION (FUEL SYSTEMS)

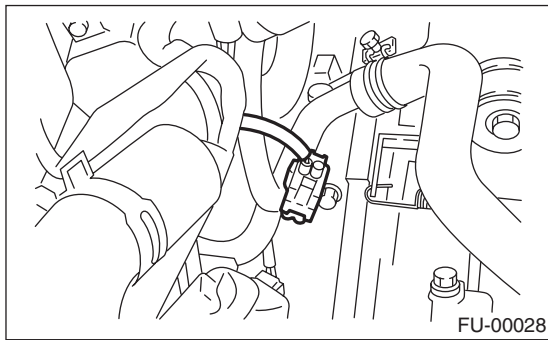
2) Connect the fuel delivery hose, return hose and evaporation hose.



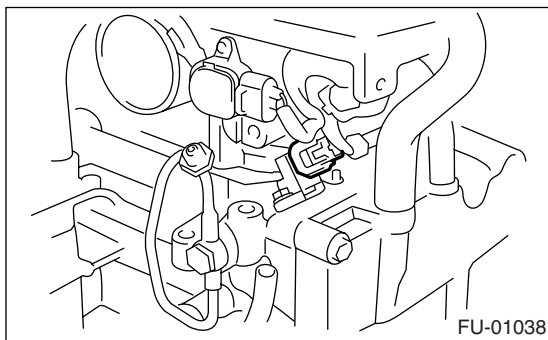
3) Connect the connector to the oil pressure switch (B), crankshaft position sensor (C) and engine coolant temperature sensor (A).



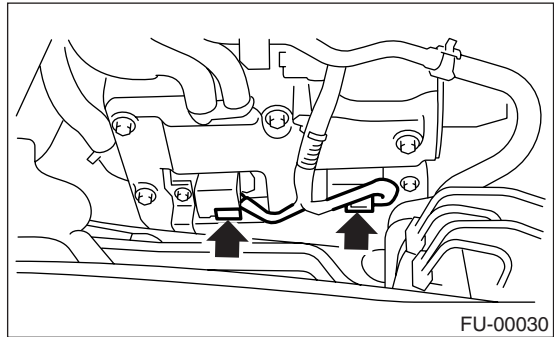
4) Connect the connector to the knock sensor.



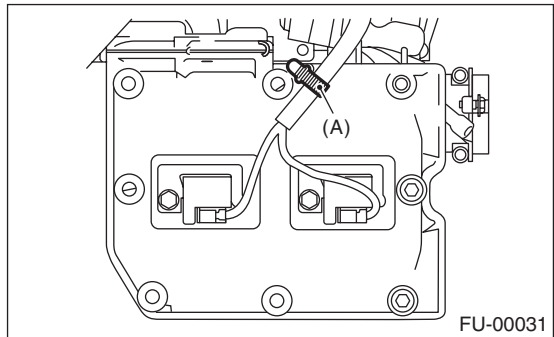
5) Connect the connector to the camshaft position sensor.



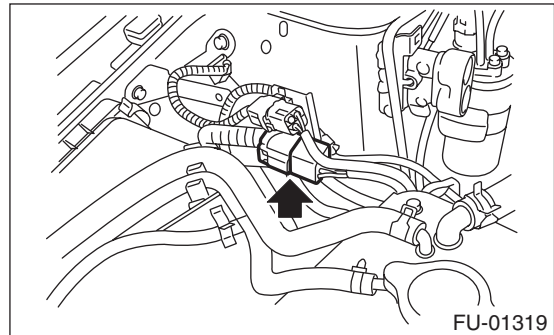
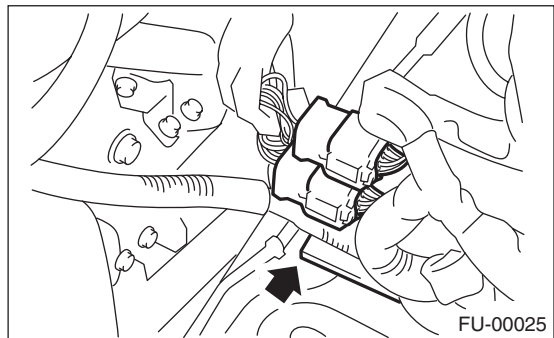
6) Connect the connector to the ignition coil.



7) Connect the engine harness with clip (A) to the bracket.



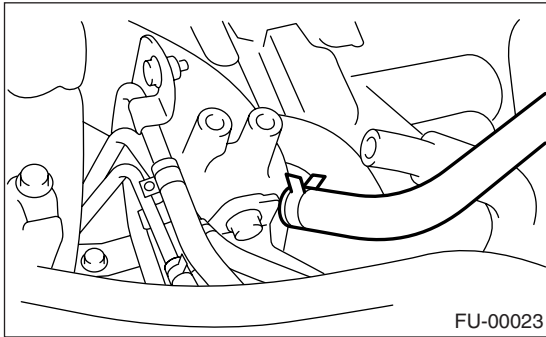
8) Connect the engine harness connector to the bulkhead harness connectors.



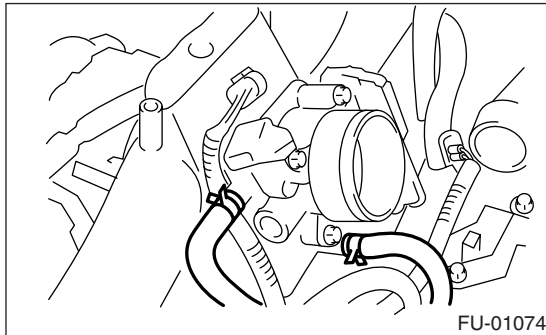
INTAKE MANIFOLD

FUEL INJECTION (FUEL SYSTEMS)

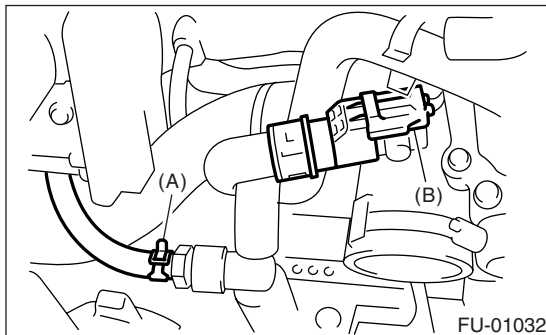
9) Connect the brake booster vacuum hose.



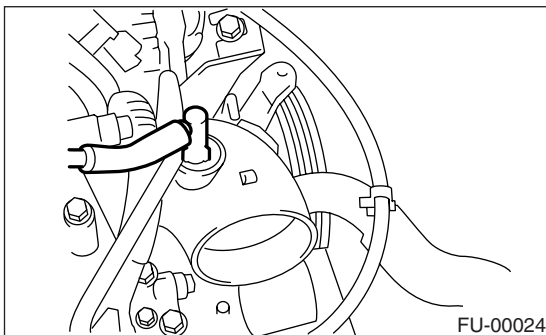
10) Connect the engine coolant hoses to the throttle body.



11) Connect the emission hose (A) and connector (B) to the PCV hose assembly.

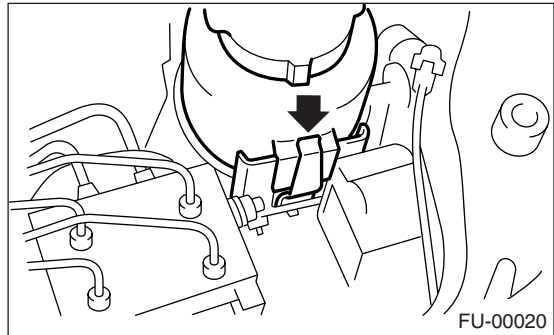


12) Connect the pressure hose to the intake duct.

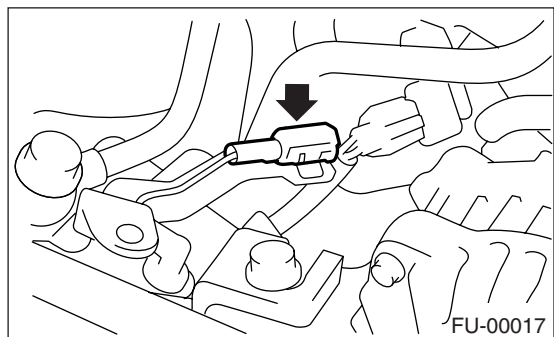


13) Install the power steering pump.

(1) Install the power steering tank on the bracket.



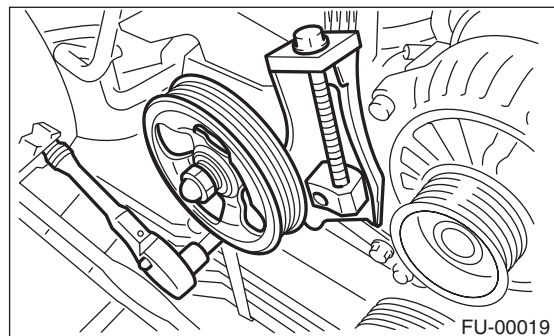
(2) Connect the connector to the power steering pump switch.



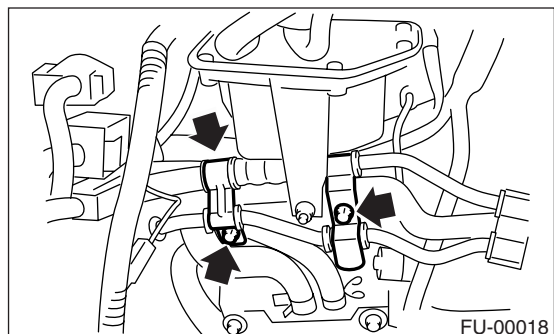
(3) Install the power steering pump, and tighten the bolts.

Tightening torque:

22 N·m (2.2 kgf-m, 15.9 ft-lb)



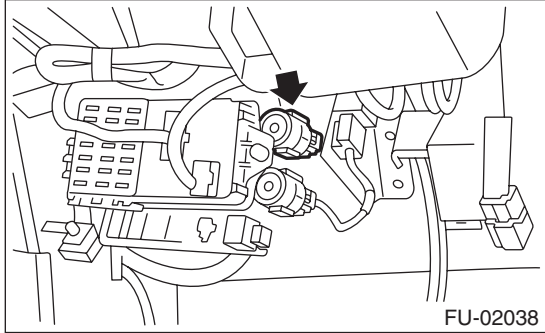
(4) Install the power steering pipe brackets on the intake manifold RH.



INTAKE MANIFOLD

FUEL INJECTION (FUEL SYSTEMS)

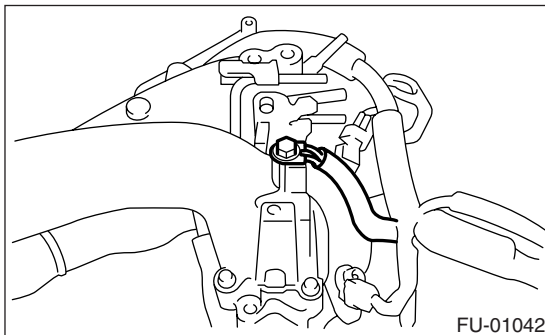
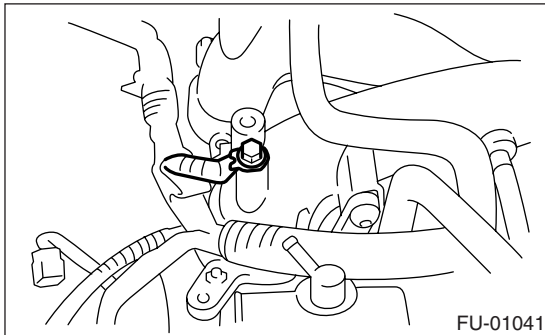
- (5) Install the front side V-belt. <Ref. to ME(H4DOTC)-45, REMOVAL, V-belt.>
- 14) Install the coolant filler tank. <Ref. to CO(H4DOTC)-29, INSTALLATION, Coolant Filler Tank.>
- 15) Install the intercooler. <Ref. to IN(H4DOTC)-11, INSTALLATION, Intercooler.>
- 16) Install the air cleaner element.
- 17) Install the air cleaner upper cover and air intake duct as a unit. <Ref. to IN(H4DOTC)-7, INSTALLATION, Air Cleaner.>
- 18) Connect the connector to the fuel pump relay.



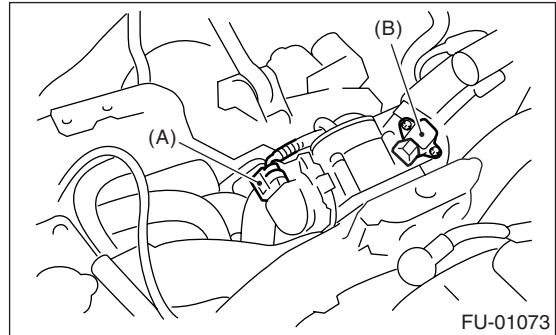
- 19) Connect the battery ground cable to battery.
- 20) Lift up the vehicle.
- 21) Install the under cover.
- 22) Fill the engine coolant. <Ref. to CO(H4DOTC)-13, FILLING OF ENGINE COOLANT, REPLACEMENT, Engine Coolant.>

C: DISASSEMBLY

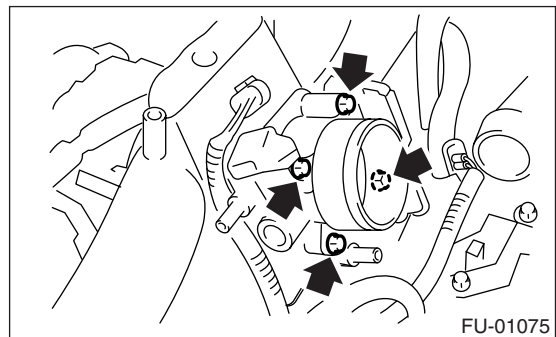
- 1) Remove the engine ground terminal from the intake manifold.



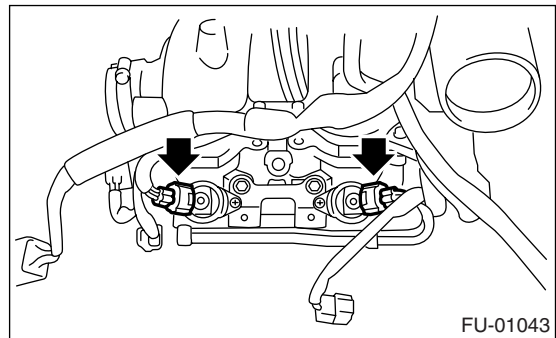
- 2) Disconnect the connector from the throttle position sensor (A) and manifold absolute pressure sensor (B).



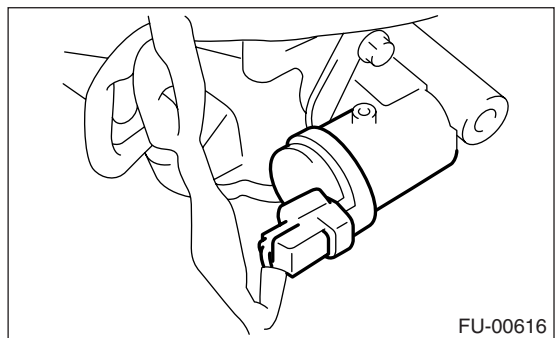
- 3) Remove the throttle body from the intake manifold.



- 4) Disconnect the connector from the fuel injector.



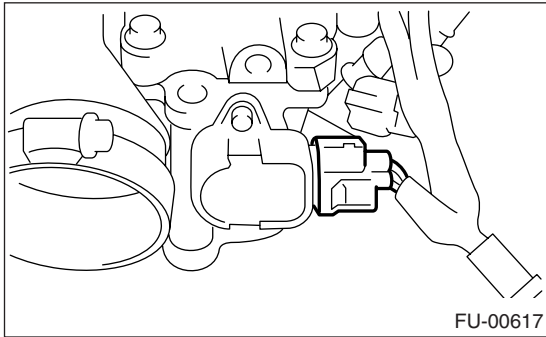
- 5) Disconnect the connector from the tumble generator valve actuator.



INTAKE MANIFOLD

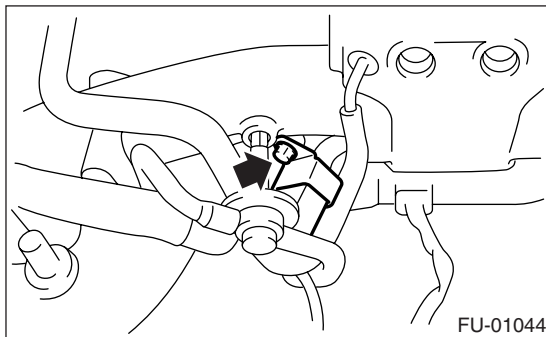
FUEL INJECTION (FUEL SYSTEMS)

6) Disconnect the connector from the tumble generator valve sensor.

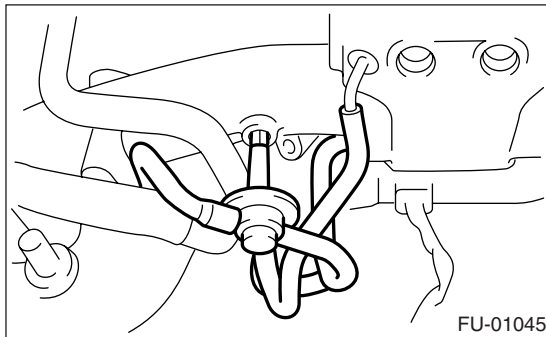


7) Disconnect the connector from the purge control solenoid valve.

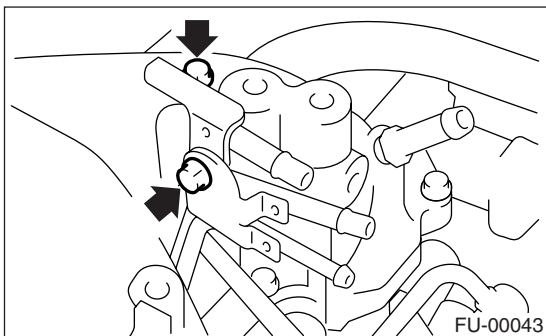
8) Remove the purge control solenoid valve.



9) Disconnect the evaporation hose and purge valve from the intake manifold.

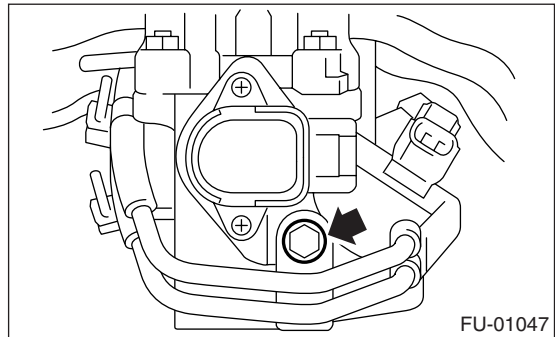
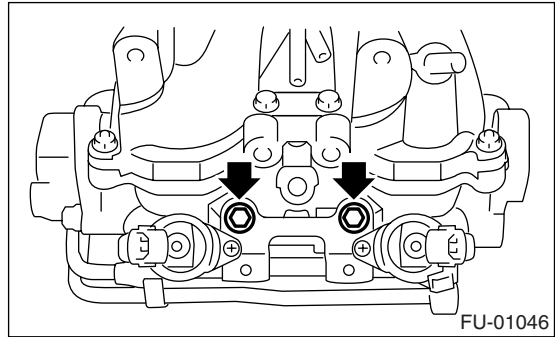


10) Remove the two bolts which hold the fuel pipes on the left side of intake manifold.

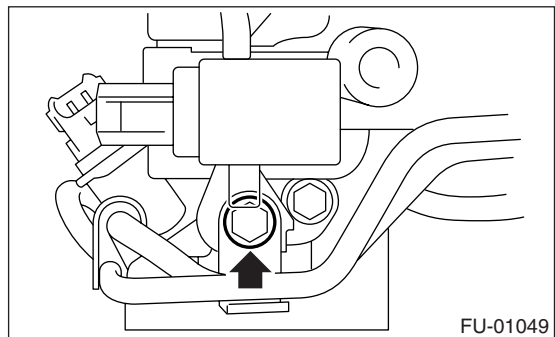
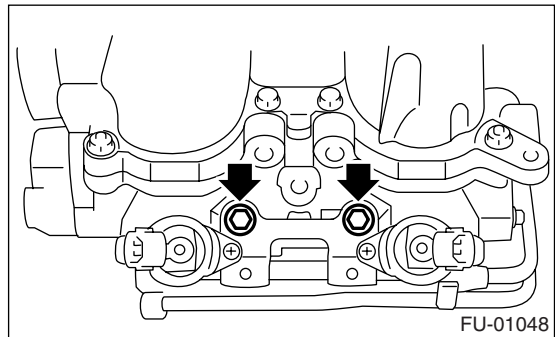


11) Remove the bolt which hold the fuel injector pipe onto intake manifold.

• LH SIDE



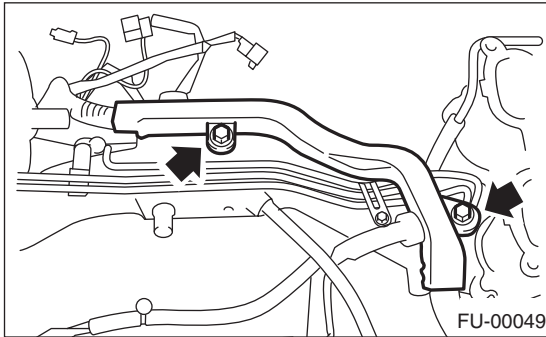
• RH SIDE



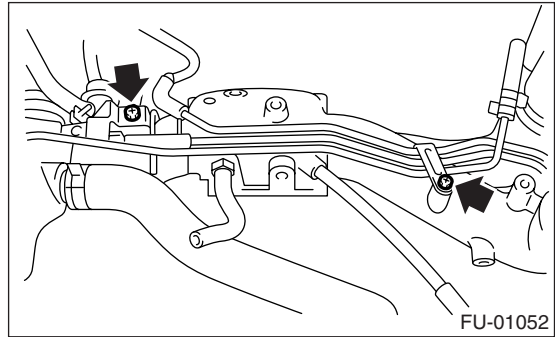
INTAKE MANIFOLD

FUEL INJECTION (FUEL SYSTEMS)

12) Remove the harness bracket which holds the engine harness onto intake manifold.

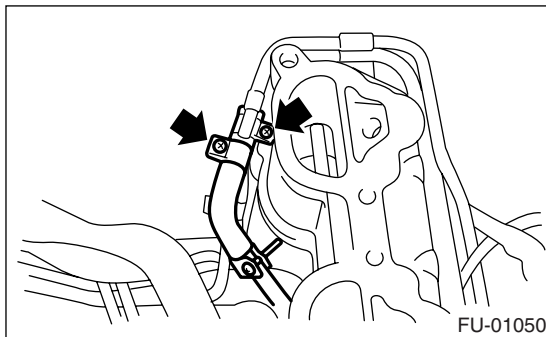


16) Remove the bolts which install the fuel pipe on intake manifold.



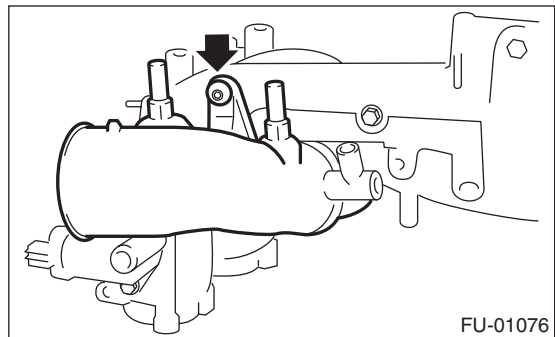
13) Remove the engine harness from the intake manifold.

14) Loosen the clamp which holds the front left side fuel hose to injector pipe, and then remove the pipe from clamp.

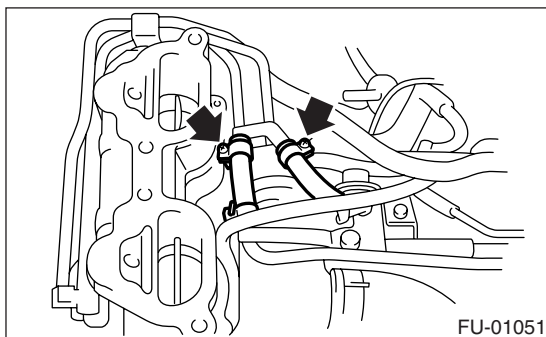


17) Remove the fuel pipe assembly and pressure regulator from the intake manifold.

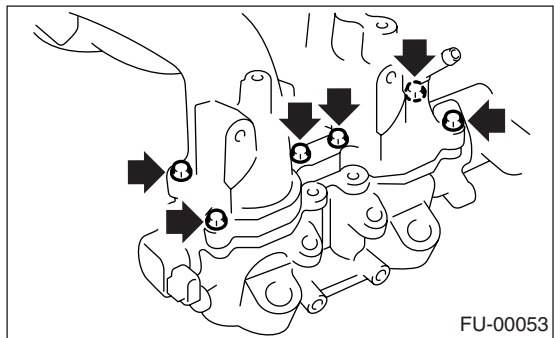
18) Remove the intake duct from the intake manifold.



15) Loosen the clamp which holds the right side fuel hose to injector pipe, and then remove the pipe from clamp.



19) Remove the tumble generator valve assembly from the intake manifold.



INTAKE MANIFOLD

FUEL INJECTION (FUEL SYSTEMS)

D: ASSEMBLY

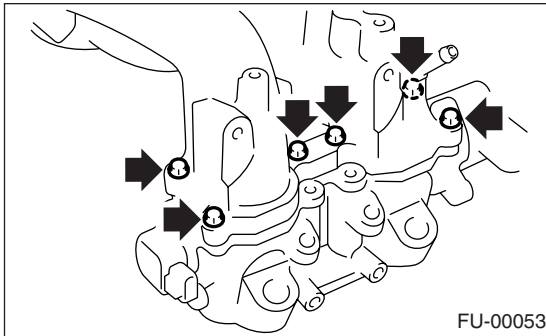
NOTE:

Replace the gasket with a new one.

1) Install the tumble generator valve assembly to the intake manifold.

Tightening torque:

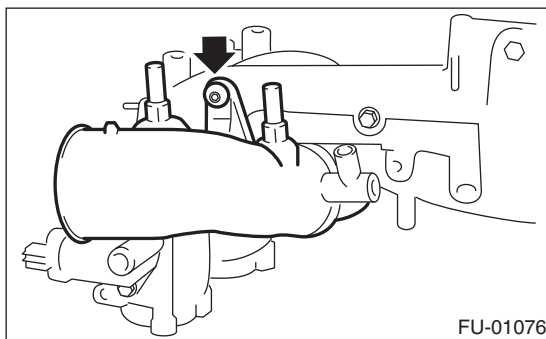
8.25 N·m (0.84 kgf-m, 6.1 ft-lb)



2) Install the air intake duct to the intake manifold.

Tightening torque:

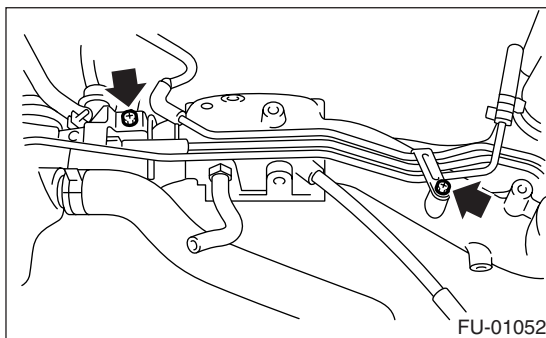
19 N·m (1.94 kgf-m, 13.7 ft-lb)



3) Install the fuel pipe assembly and pressure regulator to the intake manifold.

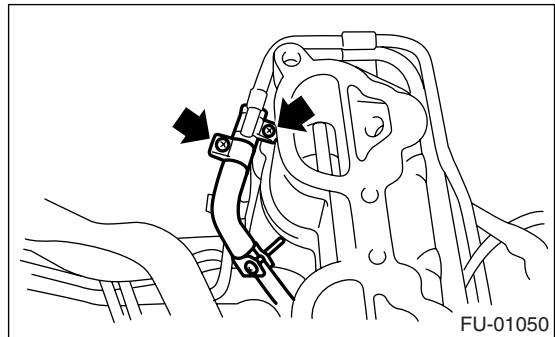
Tightening torque:

4.9 N·m (0.5 kgf-m, 3.6 ft-lb)



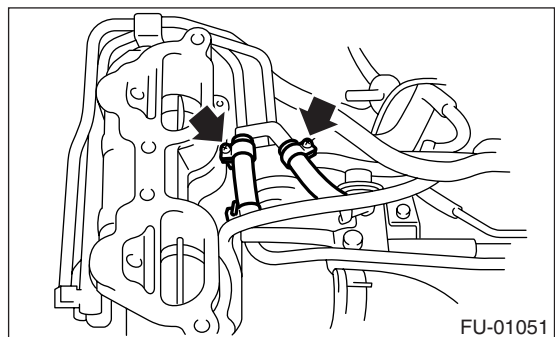
4) Install the fuel injector pipe LH.

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



6) Install the fuel injector pipe RH.

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

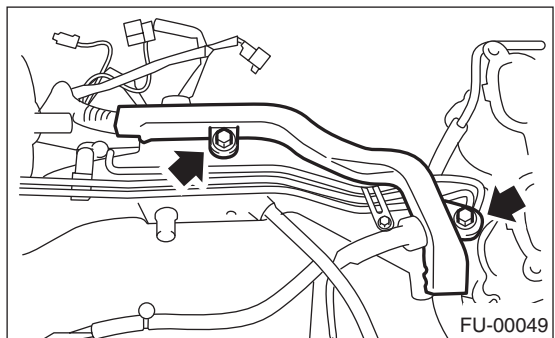


8) Install the engine harness to the intake manifold.

9) Install the harness bracket which holds the engine harness onto intake manifold.

Tightening torque:

19 N·m (1.94 kgf-m, 13.7 ft-lb)



10) Tighten the bolts which install the fuel injector pipe onto intake manifold.

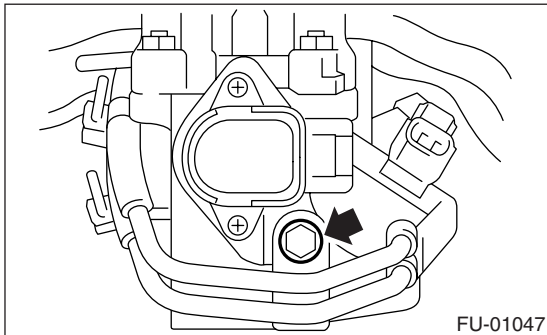
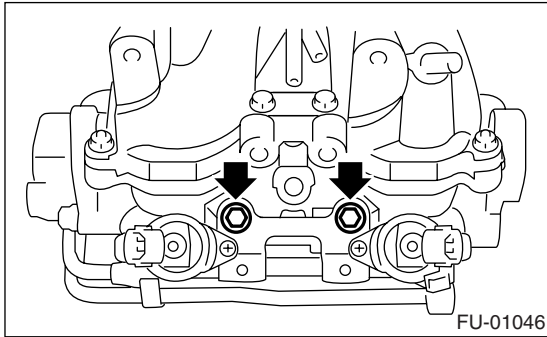
Tightening torque:

19 N·m (1.94 kgf-m, 13.7 ft-lb)

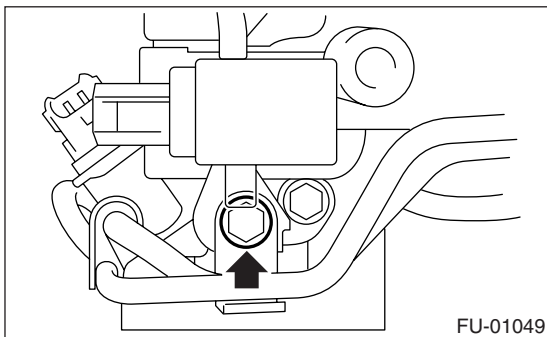
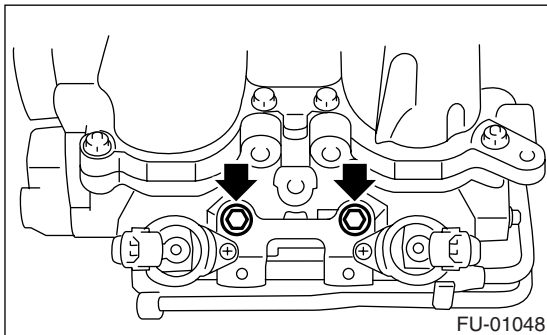
INTAKE MANIFOLD

FUEL INJECTION (FUEL SYSTEMS)

• LH SIDE



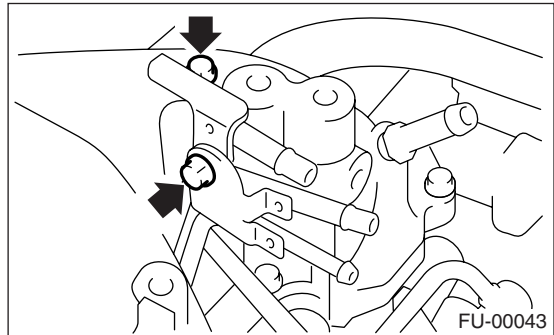
• RH SIDE



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

Tightening torque:

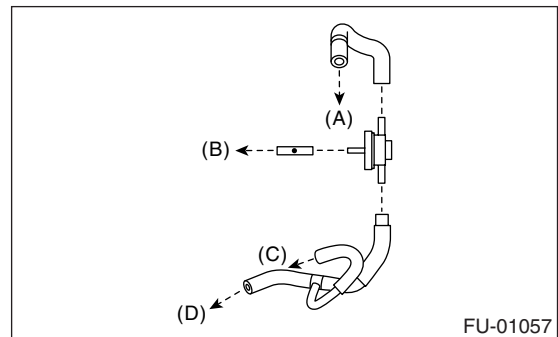
6.4 N·m (0.65 kgf·m, 4.8 ft·lb)



12) Connect the evaporation hoses to the purge valve.

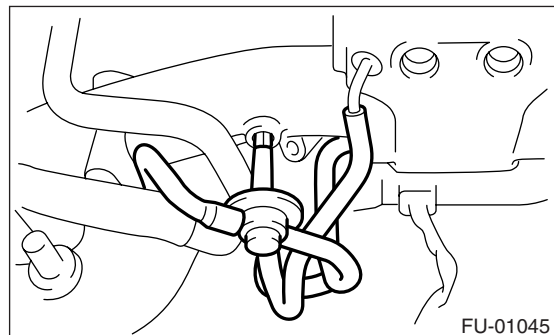
NOTE:

Connect the evaporation hoses as shown in the figure.



- (A) To intake duct
- (B) To intake manifold
- (C) To purge control solenoid valve
- (D) To fuel pipe ASSY

13) Connect the evaporation hose and purge valve to the intake manifold.



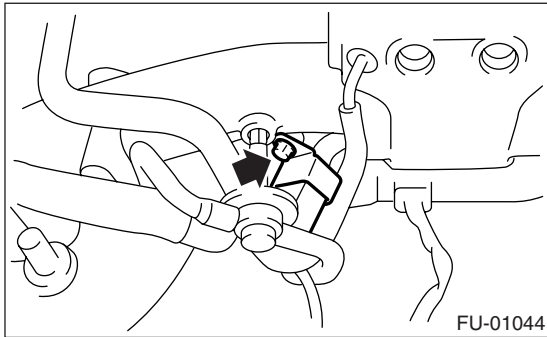
14) Install the purge control solenoid valve.

INTAKE MANIFOLD

FUEL INJECTION (FUEL SYSTEMS)

Tightening torque:

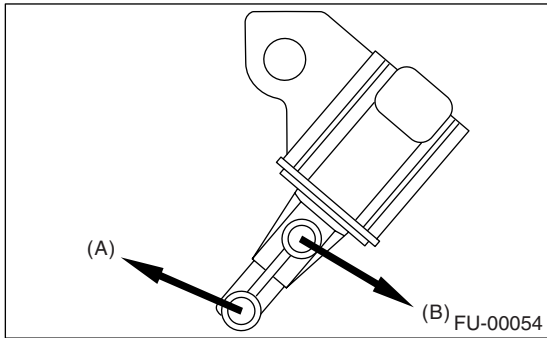
16 N·m (1.6 kgf·m, 11.8 ft·lb)



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

NOTE:

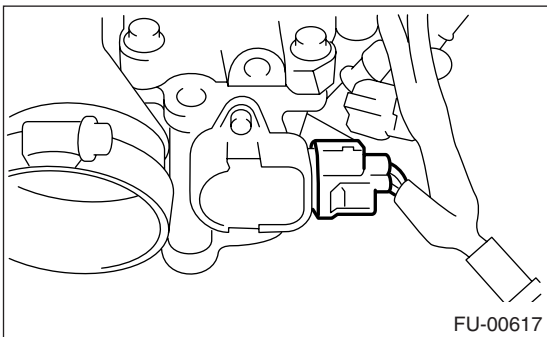
Connect the evaporation hoses as shown in the figure.



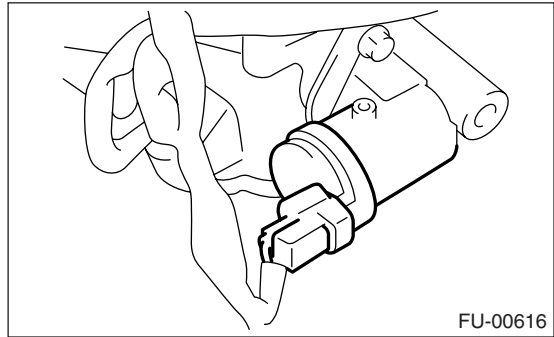
- (A) To purge valve
- (B) To intake manifold

16) Connect the connector to the purge control solenoid valve.

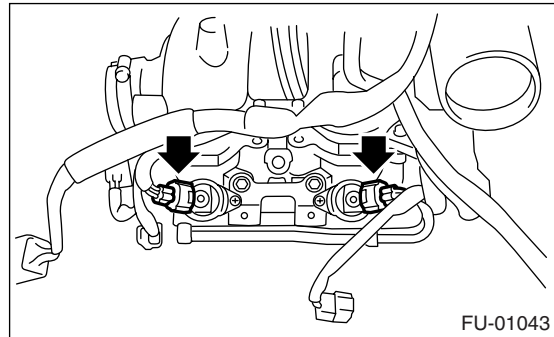
17) Connect the connector to the tumble generator valve sensor.



18) Connect the connector to the tumble generator valve actuator.



19) Connect the connector to the fuel injector.



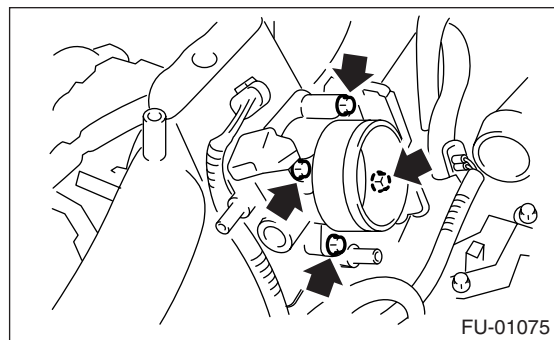
20) Install the throttle body to the intake manifold.

NOTE:

Replace the gasket with a new one.

Tightening torque:

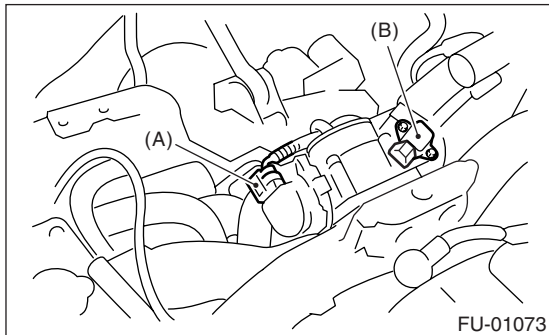
8 N·m (0.8 kgf·m, 5.8 ft·lb)



INTAKE MANIFOLD

FUEL INJECTION (FUEL SYSTEMS)

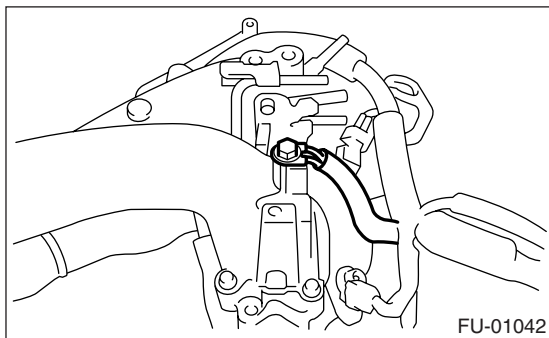
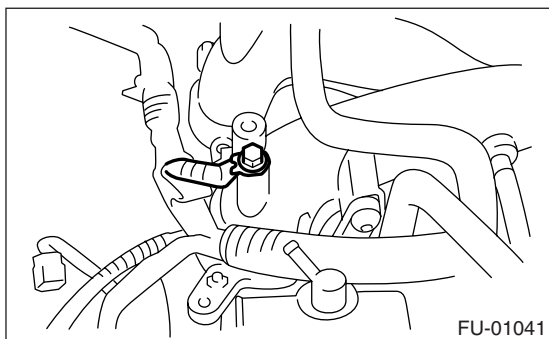
21) Connect the connector to the throttle position sensor (A) and manifold absolute pressure sensor (B).



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

Tightening torque:

19 N·m (1.94 kgf-m, 13.7 ft-lb)



E: INSPECTION

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