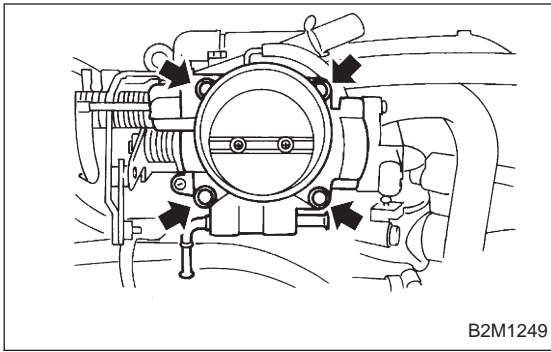


3. Throttle Body - 4. Intake Manifold



10) Remove bolts which install throttle body to intake manifold.

11) Installation is in the reverse order of removal.

CAUTION:

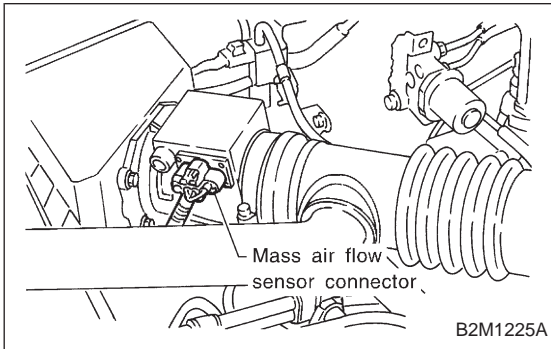
- Always use a new gasket.
- Before installing air cleaner upper cover, align holes with protruding portions of air cleaner lower case, then secure upper cover to lower case.

Tightening torque:**Throttle body:**

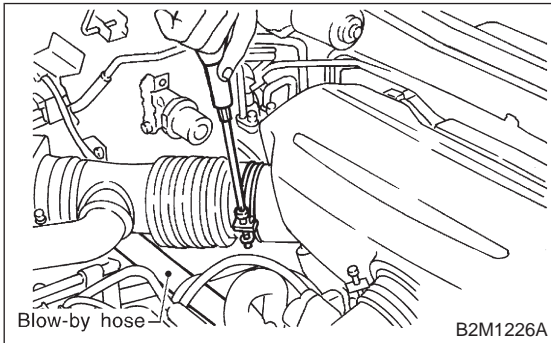
$22 \pm 2 \text{ N}\cdot\text{m}$ ($2.2 \pm 0.2 \text{ kg}\cdot\text{m}$, $15.9 \pm 1.4 \text{ ft}\cdot\text{lb}$)

Air intake chamber:

$4.9 \pm 0.5 \text{ N}\cdot\text{m}$ ($0.5 \pm 0.05 \text{ kg}\cdot\text{m}$, $3.6 \pm 0.4 \text{ ft}\cdot\text{lb}$)

**4. Intake Manifold****A: REMOVAL**

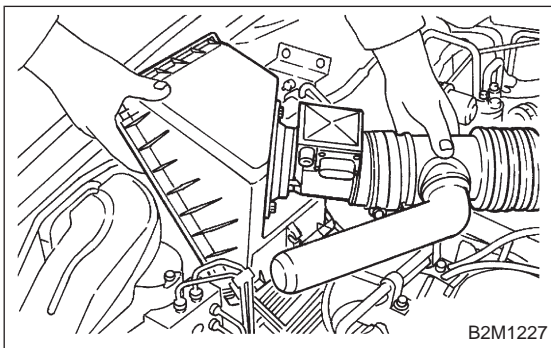
- 1) Release fuel pressure. <Ref. to 2-8 [W1A0].>
- 2) Disconnect connector from mass air flow sensor.



3) Loosen clamp which connects air intake duct to air intake chamber.

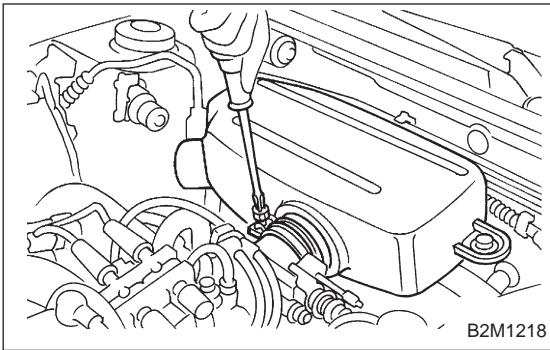
4) Remove two clips of air cleaner upper cover.

5) Disconnect blow-by hose from air intake duct.

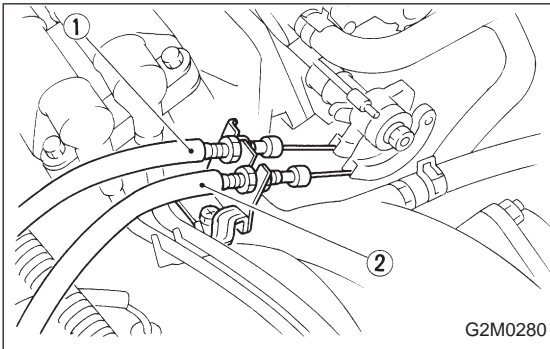


6) Remove air intake duct and air cleaner upper cover as a unit.

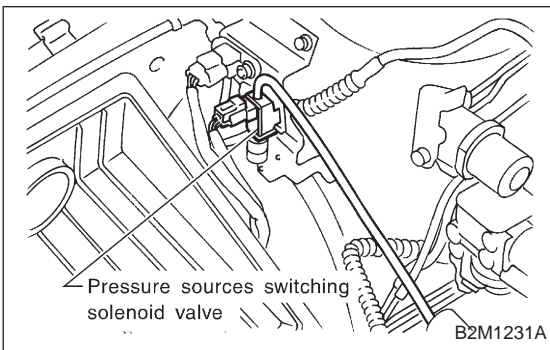
7) Remove air cleaner element.



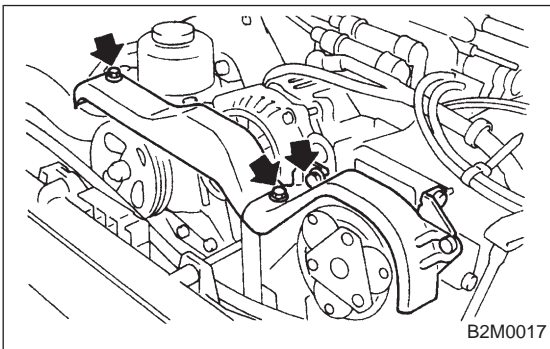
- 8) Loosen clamp which connects air intake chamber to throttle body.
- 9) Disconnect air hoses, and remove air intake chamber.



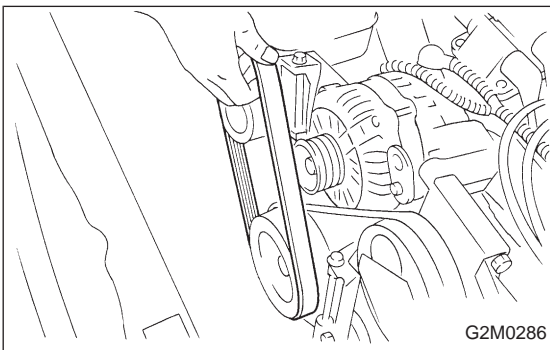
- 10) Disconnect accelerator cable ①.
- 11) Disconnect cruise control cable ②. (With cruise control model)



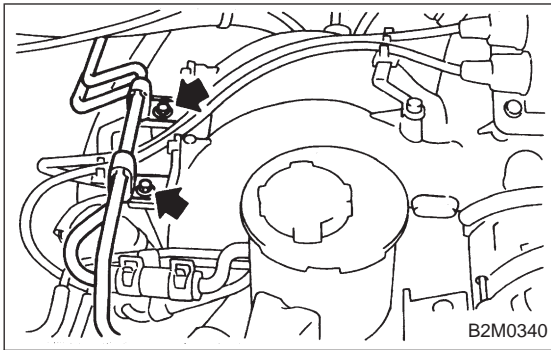
- 12) Disconnect vacuum hoses from pressure sources switching solenoid valve.



- 13) Remove power steering pump from bracket.
 - (1) Remove V-belt cover.



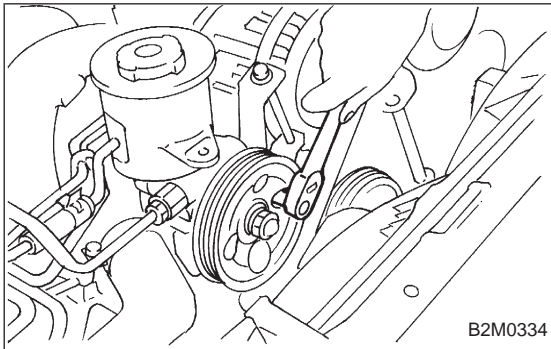
- (2) Loosen lock bolt and slider bolt, and remove power steering pump drive V-belt.



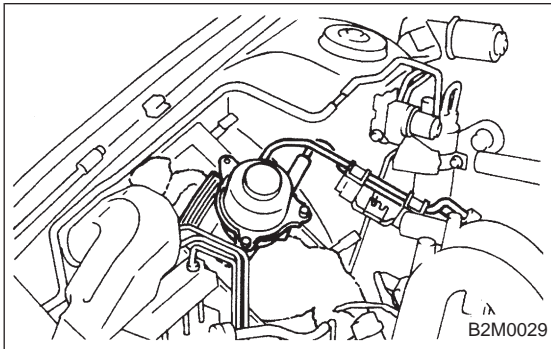
(3) Remove bolts which secure power steering pipe brackets to intake manifold.

NOTE:

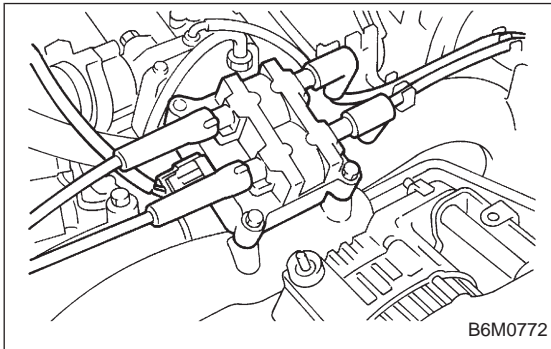
Do not disconnect power steering hose.



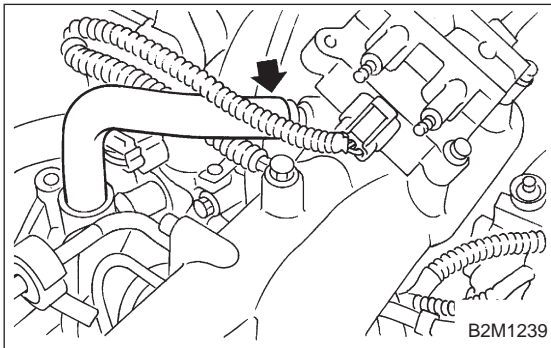
(4) Remove bolts which install power steering pump to bracket.



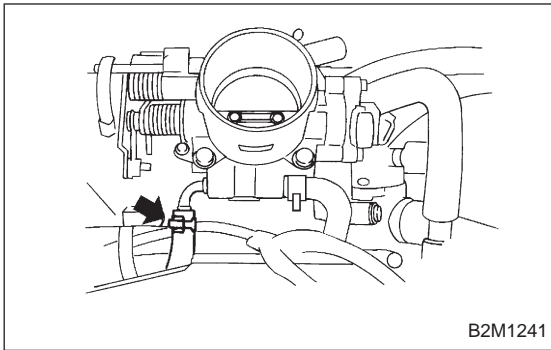
(5) Place power steering pump on the right side wheel apron.



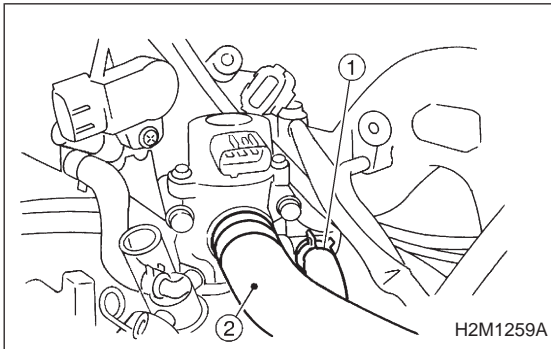
14) Disconnect spark plug cords from ignition coil.



15) Disconnect PCV hose from intake manifold.

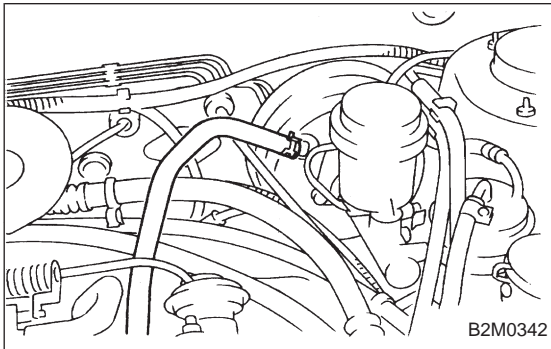


16) Disconnect engine coolant hose from throttle body.

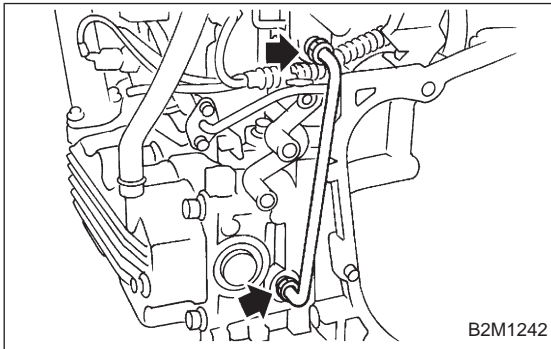


17) Disconnect engine coolant hose ① from idle air control solenoid valve.

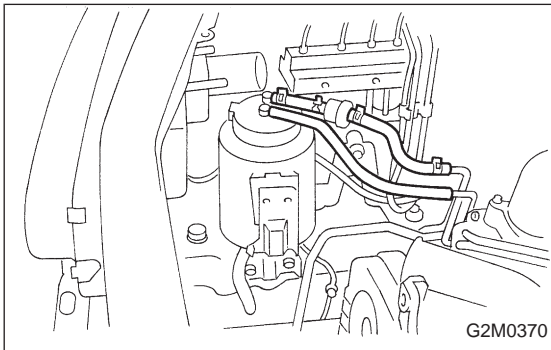
18) Disconnect air by-pass hose ② from idle air control solenoid valve.



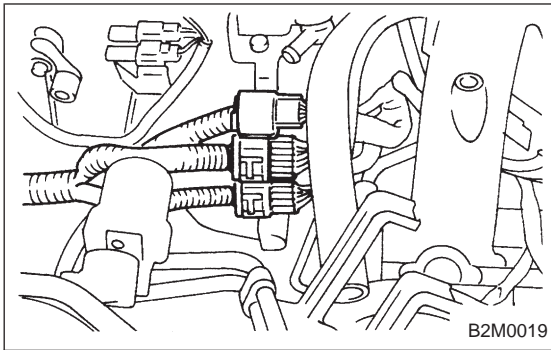
19) Disconnect brake booster hose.



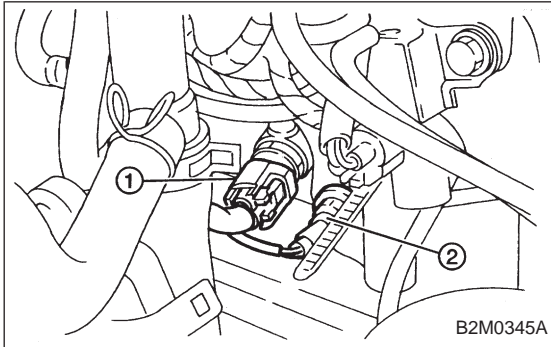
20) Remove EGR pipe.



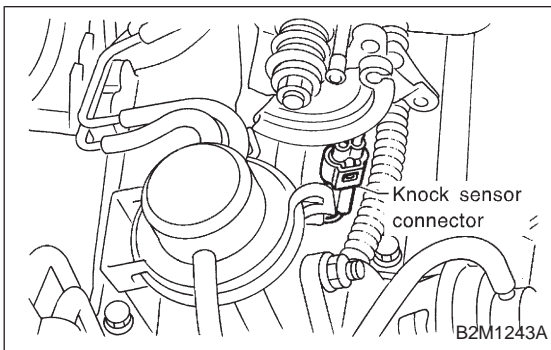
21) Disconnect canister hoses from pipes. (2500 cc, 2200 cc FWD and Taiwan spec. vehicles)



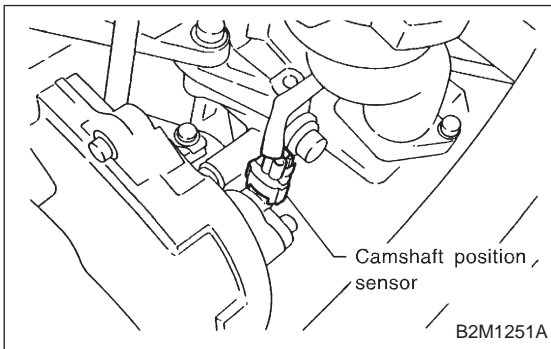
22) Disconnect engine harness connectors from bulkhead harness connectors, and remove engine harness connectors from bracket.



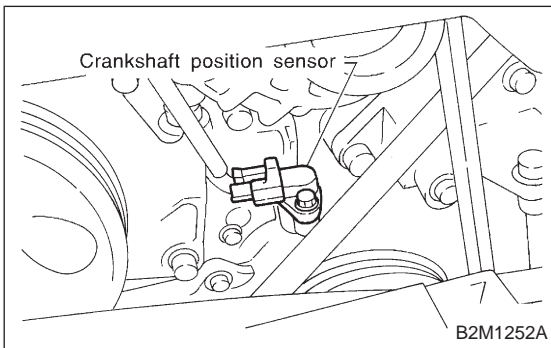
23) Disconnect connectors from engine coolant temperature sensor ① and thermometer ②.



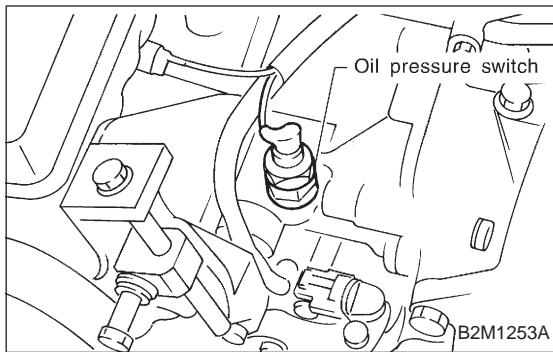
24) Disconnect knock sensor connector.



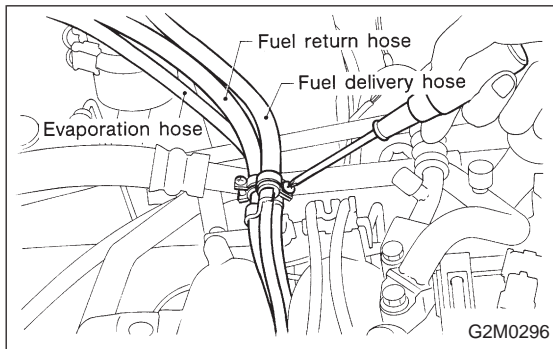
25) Disconnect connector from camshaft position sensor.



26) Disconnect connector from crankshaft position sensor.

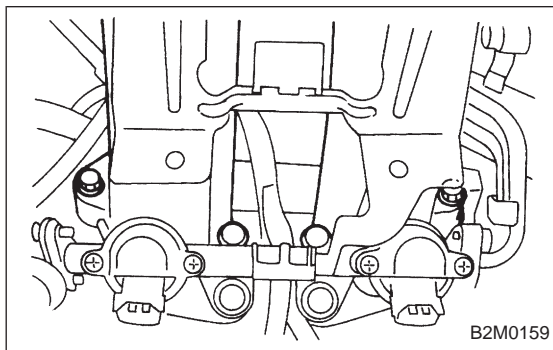


27) Disconnect connector from oil pressure switch.

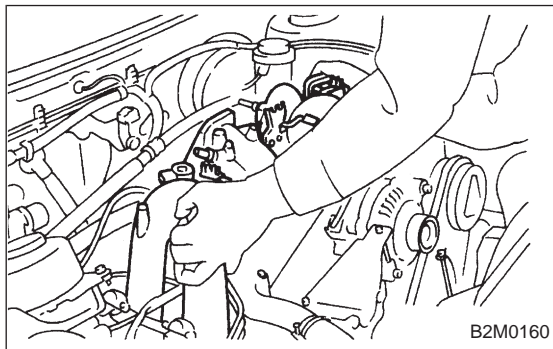


28) Disconnect fuel hoses from fuel pipes.

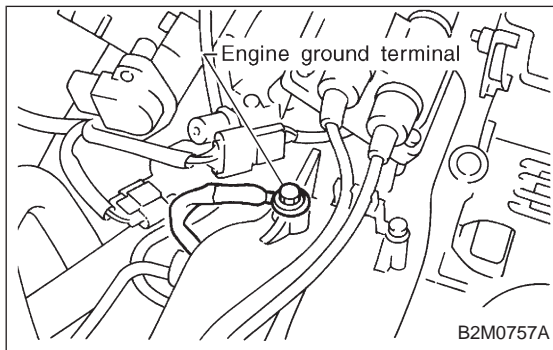
WARNING:
Catch fuel from hoses in a container.



29) Remove bolts which hold intake manifold onto cylinder heads.

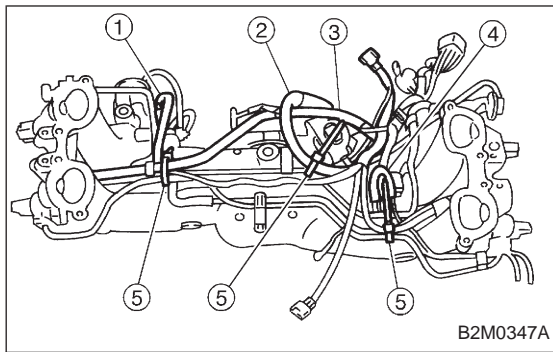


30) Remove intake manifold.



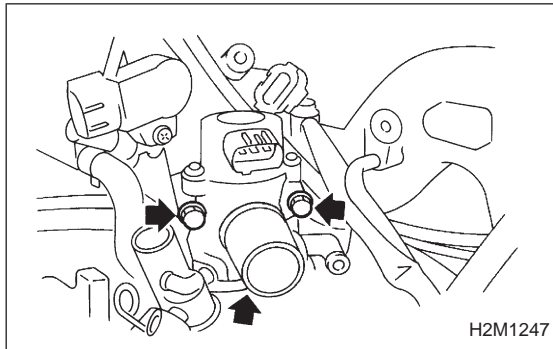
B: DISASSEMBLY

1) Disconnect engine ground terminal from intake manifold.

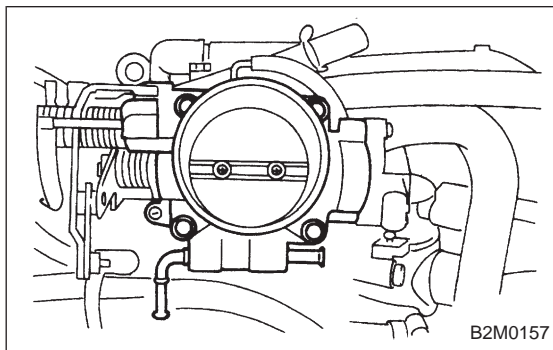


- 2) Disconnect connectors from throttle position sensor, ignition coil, fuel injectors, idle air control solenoid valve, purge control solenoid valve and EGR solenoid valve.
- 3) Remove engine harness from intake manifold.

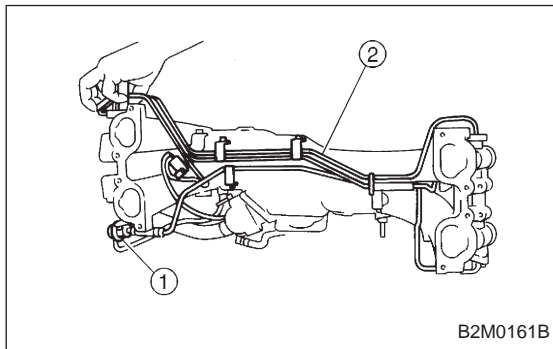
- ① EGR solenoid valve
- ② Throttle position sensor
- ③ Idle air control solenoid valve
- ④ Purge control solenoid valve
- ⑤ Harness band



- 4) Remove idle air control solenoid valve from intake manifold.



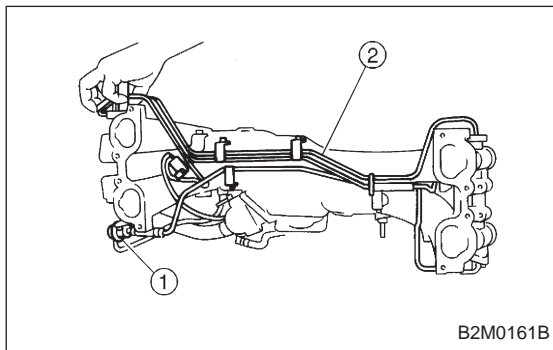
- 5) Remove throttle body from intake manifold.



- 6) Remove fuel pipes, etc. from intake manifold.

- ① Pressure regulator
- ② Fuel pipe ASSY

- 7) Remove EGR solenoid valve and purge control solenoid valve.

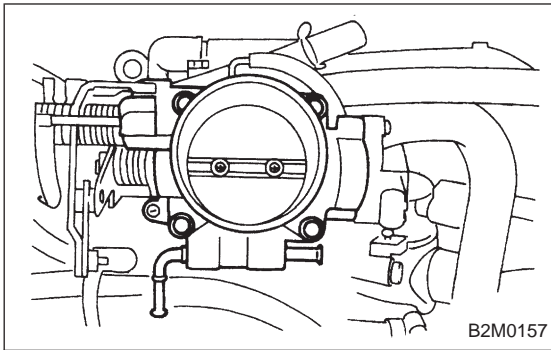


C: ASSEMBLY

- 1) Install EGR solenoid valve and purge control solenoid valve.

- 2) Assemble fuel pipes, etc. to intake manifold.

- ① Pressure regulator
- ② Fuel pipe ASSY



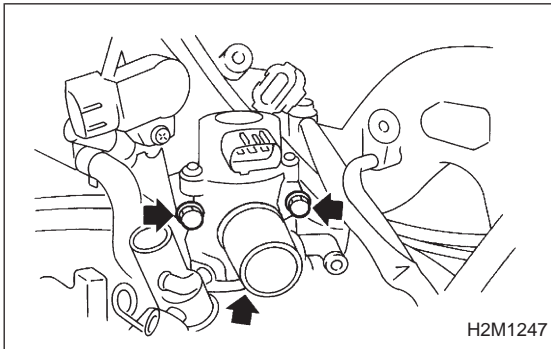
3) Assemble throttle body to intake manifold.

CAUTION:

Replace gasket with a new one.

Tightening torque:

22 ± 2 N·m (2.2 ± 0.2 kg·m, 15.9 ± 1.4 ft·lb)



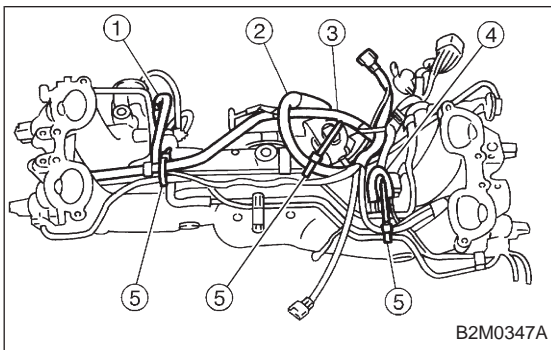
4) Install idle air control solenoid valve to intake manifold.

CAUTION:

Replace gasket with a new one.

Tightening torque:

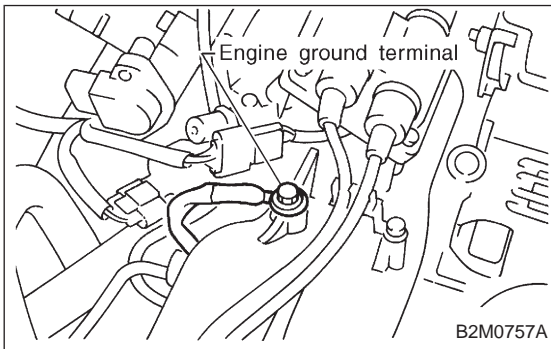
6.4 ± 0.5 N·m (0.65 ± 0.05 kg·m, 4.7 ± 0.4 ft·lb)



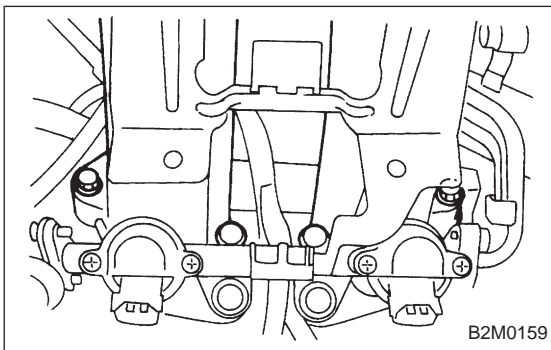
5) Install engine harness onto intake manifold.

6) Connect connectors to throttle position sensor, ignition coil, fuel injectors, idle air control solenoid valve, purge control solenoid valve and EGR solenoid valve.

- ① EGR solenoid valve
- ② Throttle position sensor
- ③ Idle air control solenoid valve
- ④ Purge control solenoid valve
- ⑤ Harness band



7) Connect engine ground terminal to intake manifold.



D: INSTALLATION

1) Install intake manifold onto cylinder heads.

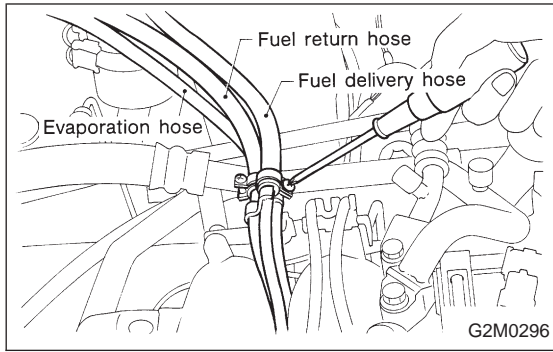
CAUTION:

Always use new gaskets.

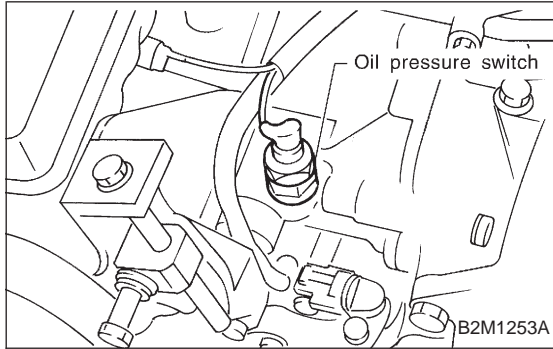
Tightening torque:

25 ± 2 N·m (2.5 ± 0.2 kg·m, 18.1 ± 1.4 ft·lb)

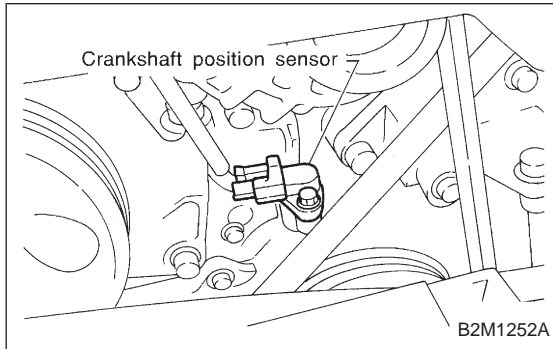
4. Intake Manifold



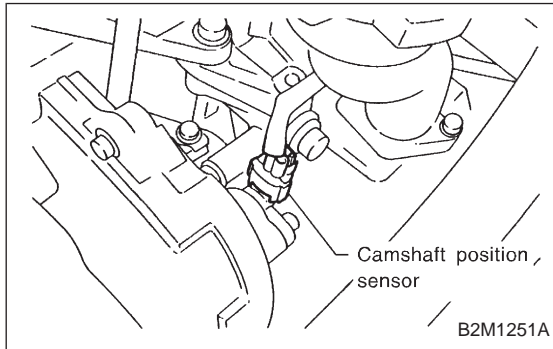
2) Connect fuel hoses.



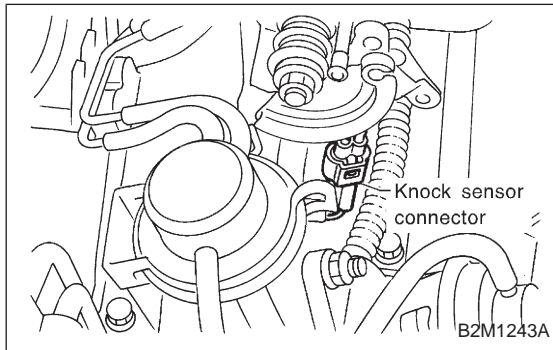
3) Connect connector to oil pressure switch.



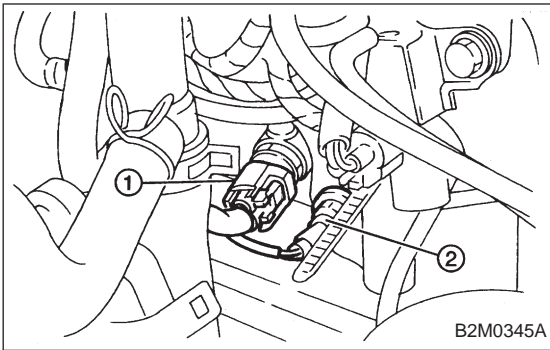
4) Connect connector to crankshaft position sensor.



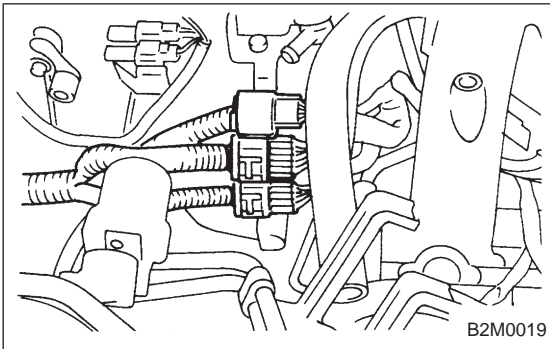
5) Connect connector to camshaft position sensor.



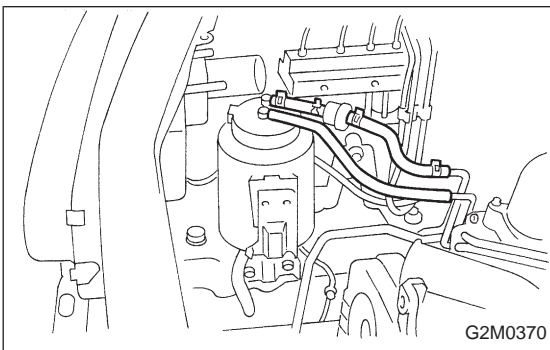
6) Connect knock sensor connector.



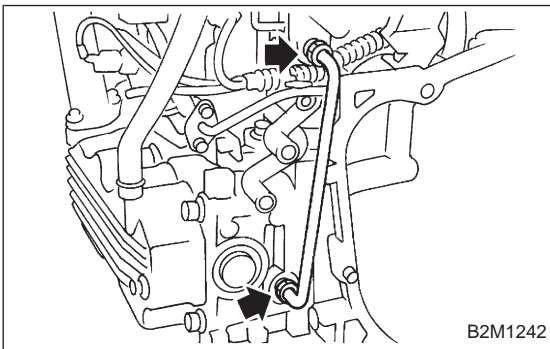
7) Connect connectors to engine coolant temperature sensor ① and thermometer ②.



8) Install engine harness connectors to bracket, and connect engine harness connectors to bulkhead connectors.



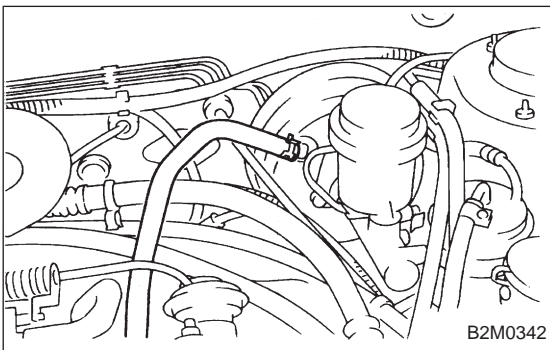
9) Connect canister hoses. (2500 cc, 2200 cc FWD and Taiwan spec. vehicles)



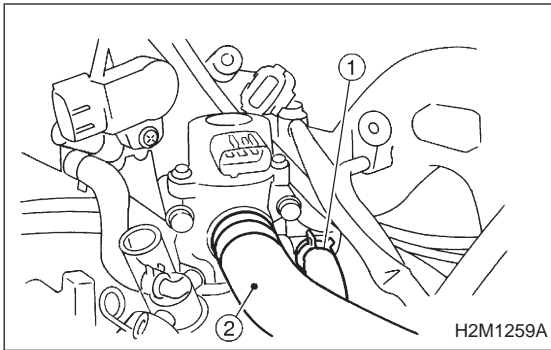
10) Install EGR pipe.

Tightening torque:

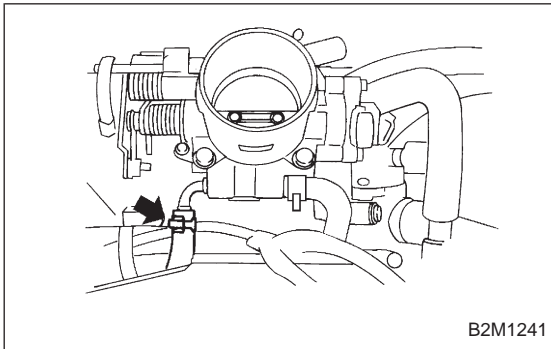
34 ± 2 N·m (3.5 ± 0.2 kg·m, 25.3 ± 1.4 ft·lb)



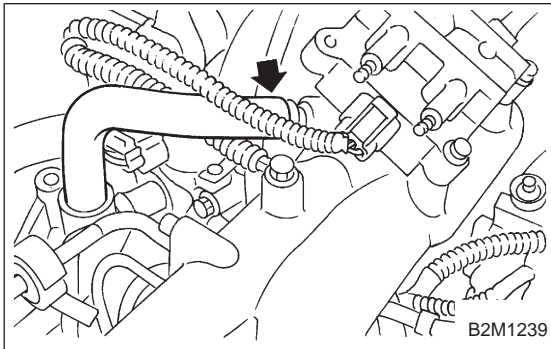
11) Connect brake booster hose.



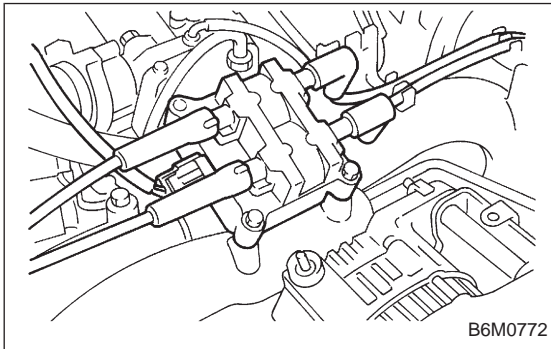
- 12) Connect engine coolant hose ① to idle air control solenoid valve.
 13) Connect air by-pass hose ② to idle air control solenoid valve.



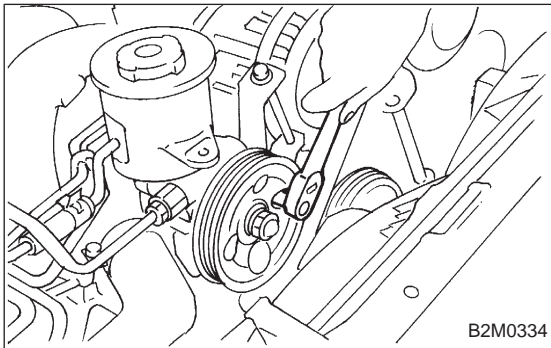
- 14) Connect engine coolant hose to throttle body.



- 15) Connect PCV hose to intake manifold.



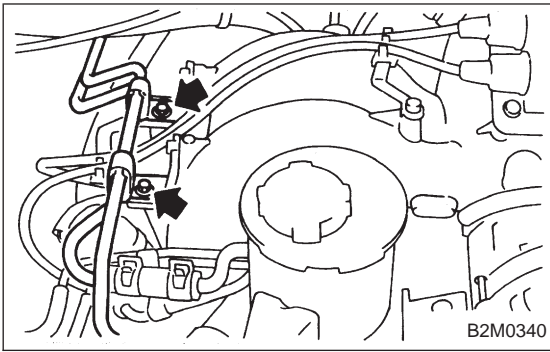
- 16) Connect spark plug cords to ignition coil.



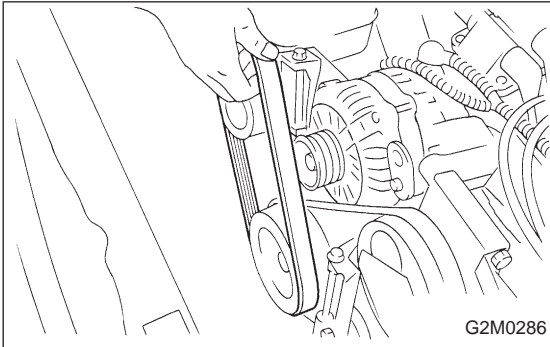
- 17) Install power steering pump on bracket.
 (1) Install power steering pump on bracket, and tighten bolts.

Tightening torque:

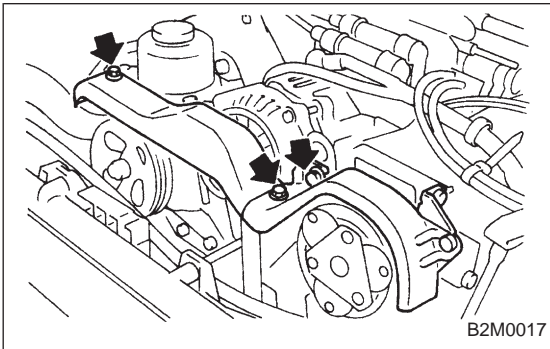
$20.1 \pm 2.5 \text{ N}\cdot\text{m}$ ($2.05 \pm 0.25 \text{ kg}\cdot\text{m}$, $14.8 \pm 1.8 \text{ ft}\cdot\text{lb}$)



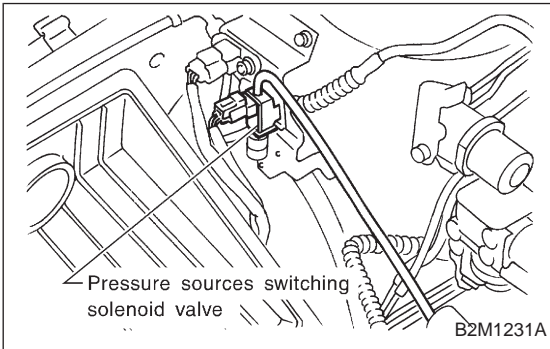
(2) Install power steering pipe brackets on right side intake manifold.



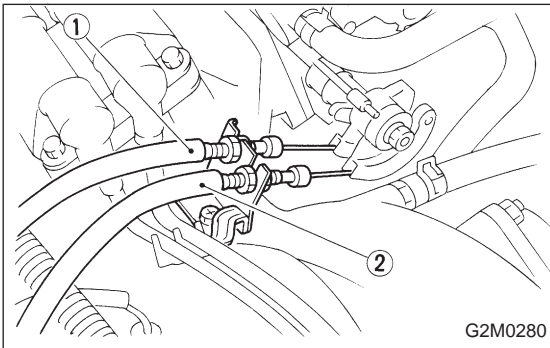
(3) Install power steering pump drive V-belt.
 (4) Adjust V-belt. <Ref. to 1-5 [01A0].>



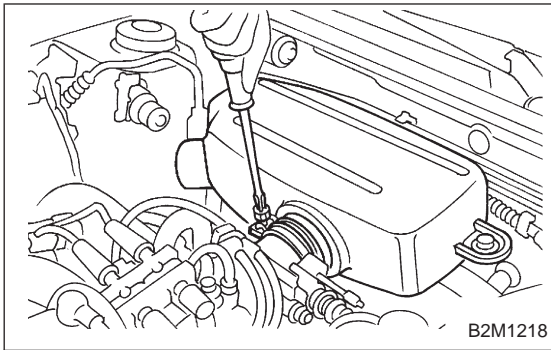
(5) Install V-belt cover.



18) Connect vacuum hoses to pressure sources switching solenoid valve.



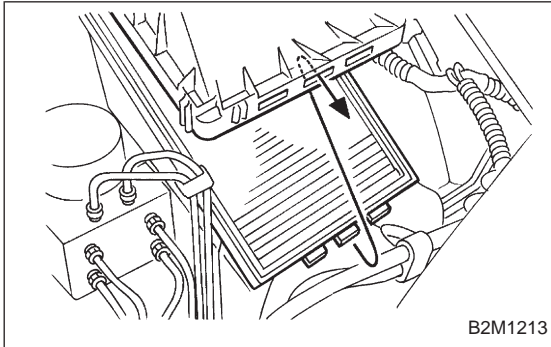
19) Connect accelerator cable ①.
 20) Connect cruise control cable ②. (With cruise control model)



21) Install air intake chamber and connect air hoses.

Tightening torque:

$4.9 \pm 0.5 \text{ N} \cdot \text{m}$ ($0.5 \pm 0.05 \text{ kg} \cdot \text{m}$, $3.6 \pm 0.4 \text{ ft} \cdot \text{lb}$)

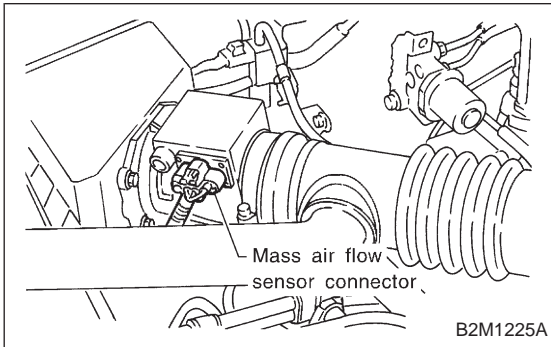


22) Install air cleaner element.

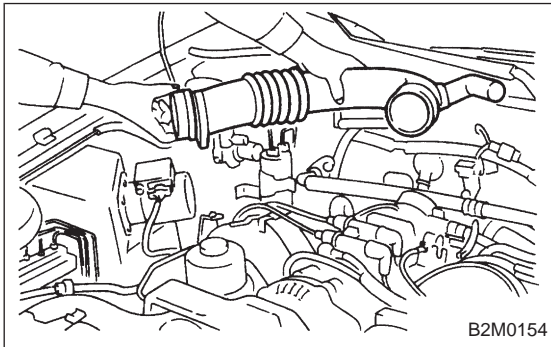
23) Install air cleaner upper cover and air intake duct as a unit.

CAUTION:

Before installing air cleaner upper cover, align holes with protruding portions of air cleaner lower case, then secure upper cover to lower case.



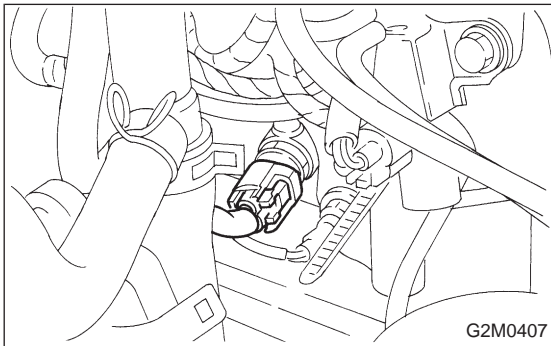
24) Connect connector to mass air flow sensor.



5. Engine Coolant Temperature Sensor

A: REMOVAL AND INSTALLATION

1) Remove air intake duct.



2) Disconnect connector from engine coolant temperature sensor.

3) Remove engine coolant temperature sensor.