

**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:*

**$22\pm 2$  N·m ( $2.2\pm 0.2$  kg·m,  $15.9\pm 1.4$  ft·lb)**

*Air intake chamber:*

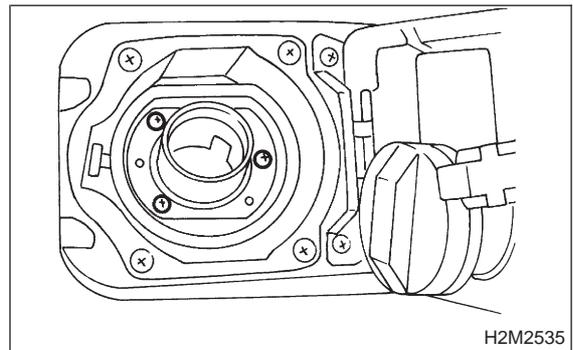
**$4.9\pm 0.5$  N·m ( $0.5\pm 0.05$  kg·m,  $3.6\pm 0.4$  ft·lb)**

## 4. Intake Manifold

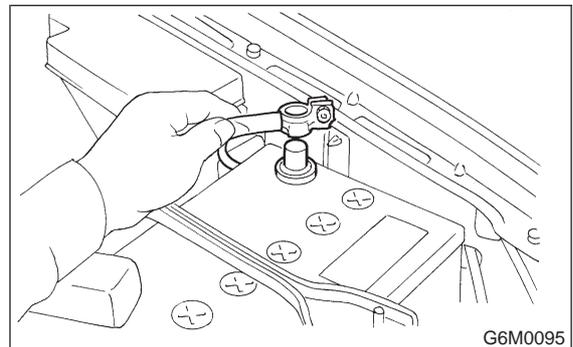
### A: REMOVAL

#### 1. 2200 cc CALIFORNIA SPEC. VEHICLES

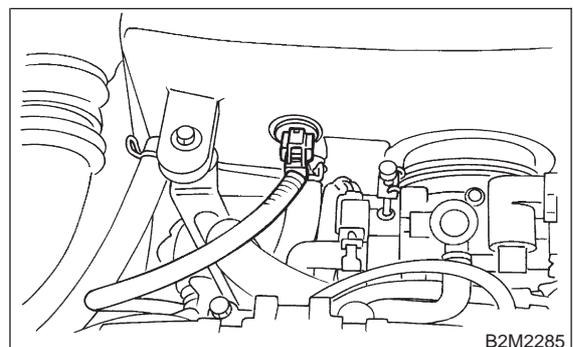
- 1) Release fuel pressure. <Ref. to 2-8 [W1B0].>
- 2) Open fuel flap lid, and remove fuel filler cap.



- 3) Disconnect battery ground cable.



- 4) Disconnect connector from intake air temperature sensor.

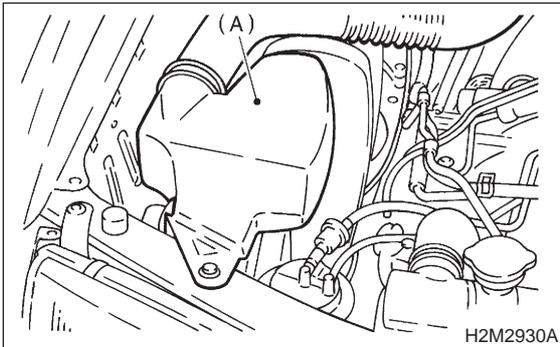


## 2-7 [W4A1]

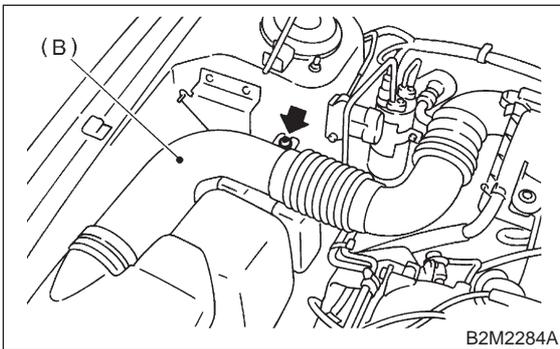
### 4. Intake Manifold

## SERVICE PROCEDURE

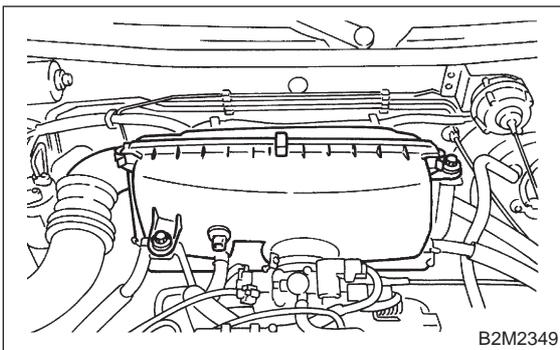
5) Remove bolt which installs air intake duct (A) on the front of body.



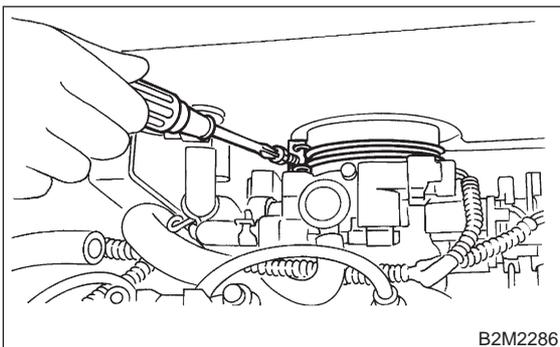
6) Remove bolt which installs air intake duct (B) on body.



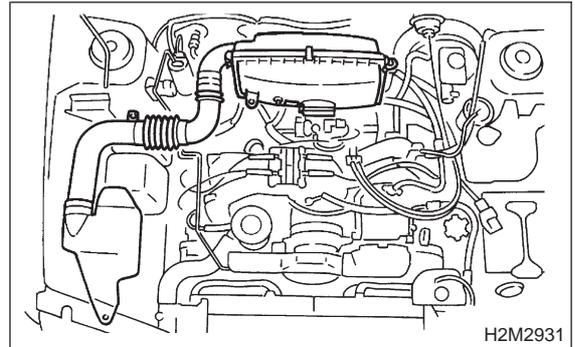
7) Remove bolts which install air cleaner case on stays.



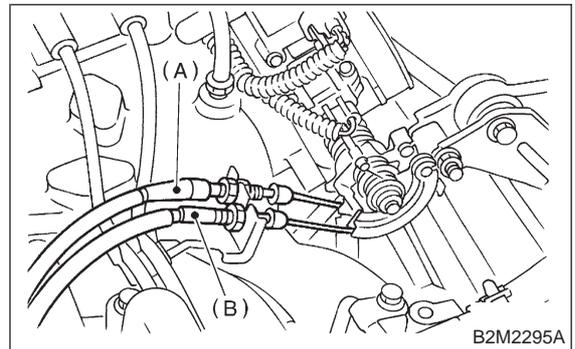
8) Loosen clamp which connects air intake chamber to throttle body.



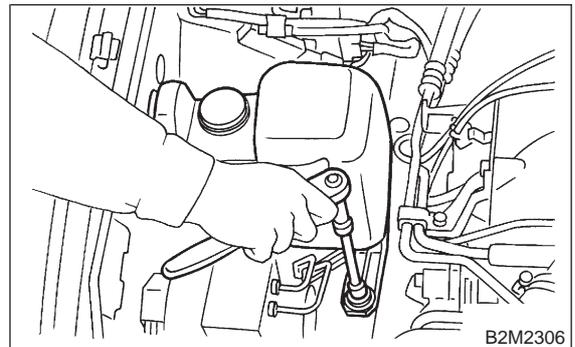
9) Disconnect blow-by hose from air cleaner case.  
10) Remove air intake duct (A), (B) and air cleaner assembly as a unit.



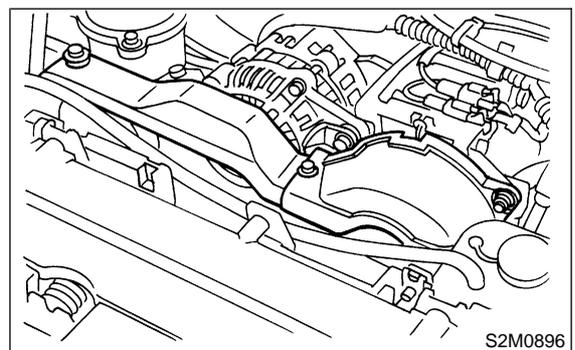
11) Disconnect accelerator cable (A).  
12) Disconnect cruise control cable (B). (With cruise control model)



13) Remove power steering pump from bracket.  
(1) Remove resonator chamber.



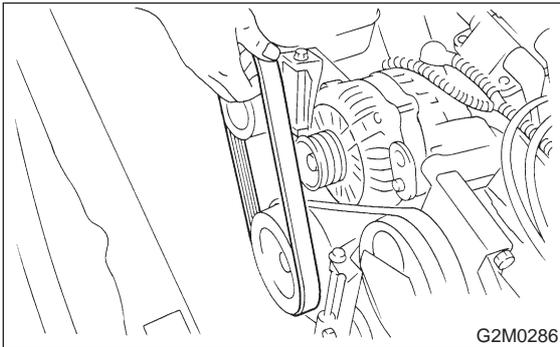
(2) Remove V-belt covers.



# SERVICE PROCEDURE

[W4A1] 2-7  
4. Intake Manifold

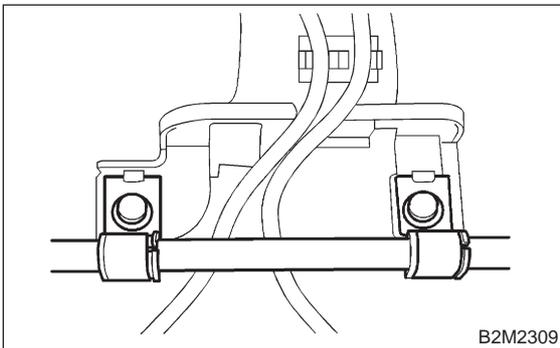
(3) Loosen lock bolt and slider bolt, and remove power steering pump drive V-belt.



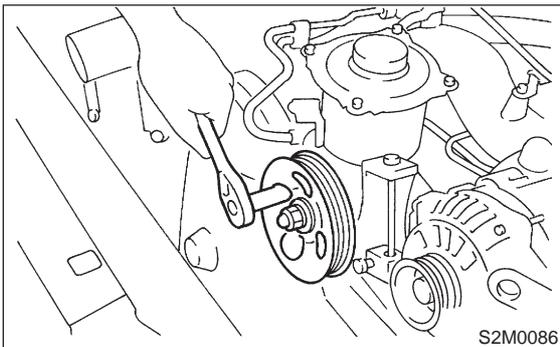
(4) Remove bolts which secure power steering pipe brackets to intake manifold.

**NOTE:**

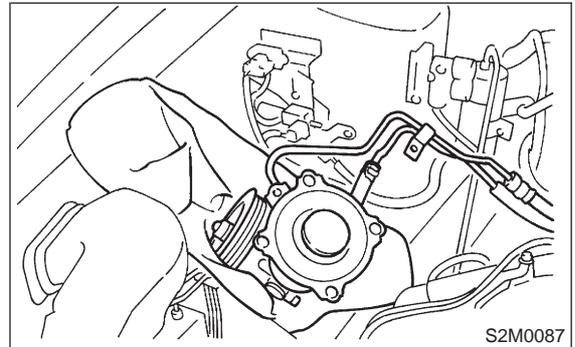
Do not disconnect power steering hose.



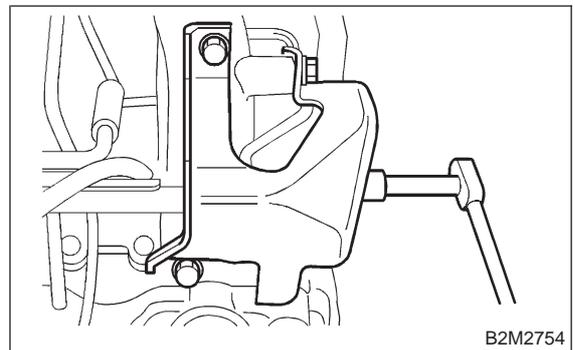
(5) Remove bolts which install power steering pump to bracket.



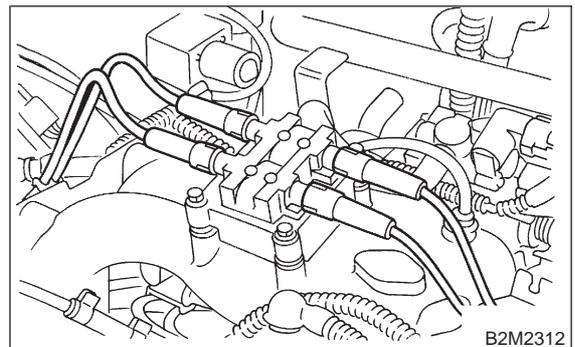
(6) Place power steering pump on the right side wheel apron.



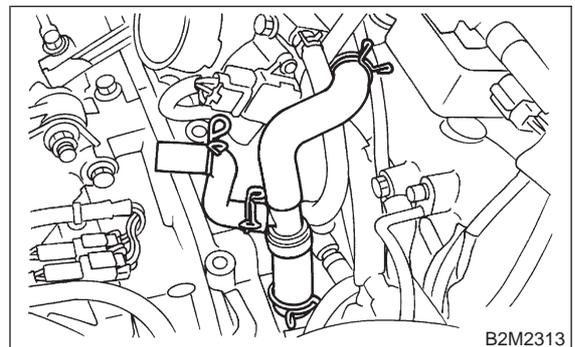
14) Remove fuel pipe protector.



15) Disconnect spark plug cords from ignition coil and ignitor assembly.



16) Disconnect PCV hose assembly from intake manifold.

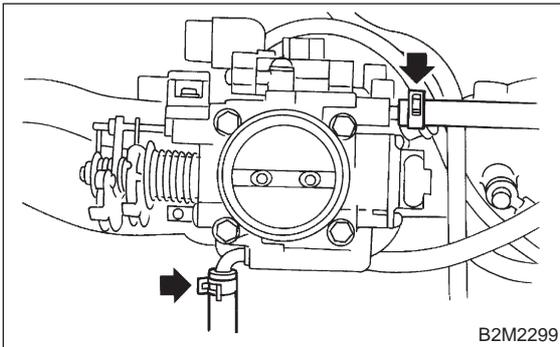


## 2-7 [W4A1]

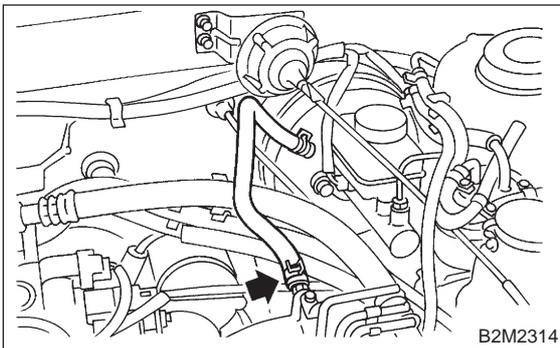
### 4. Intake Manifold

## SERVICE PROCEDURE

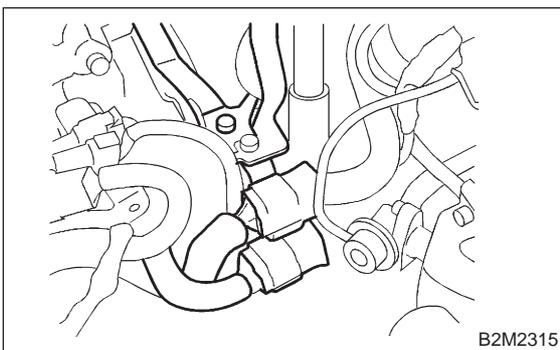
17) Disconnect engine coolant hoses from throttle body.



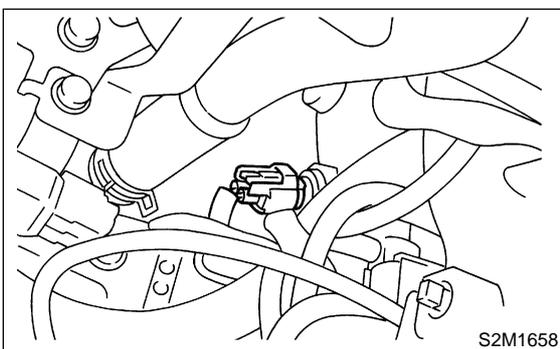
18) Disconnect brake booster hose.



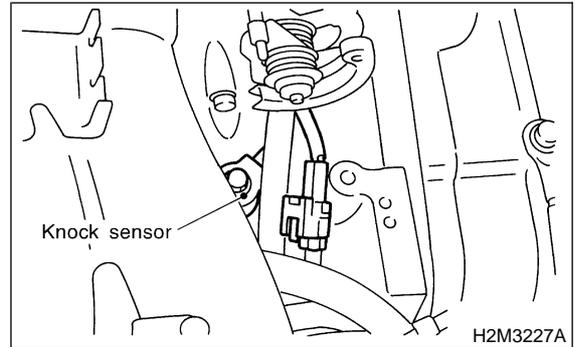
19) Remove air cleaner case stay RH and engine harness bracket, and disconnect engine harness connectors from bulkhead harness connectors.  
20) Pull out engine harness connector from bracket.



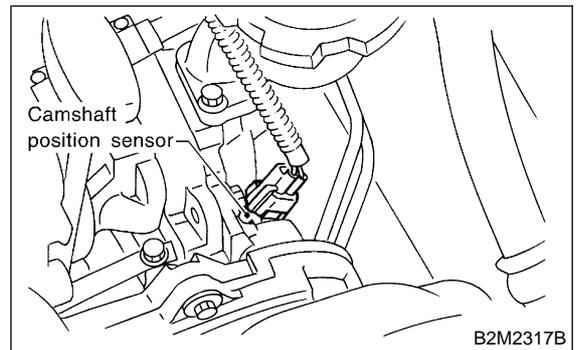
21) Disconnect connectors from engine coolant temperature sensor.



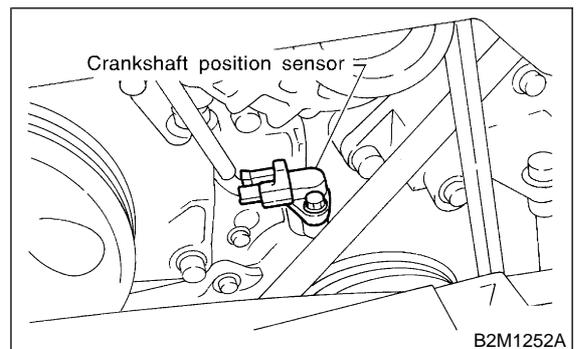
22) Disconnect knock sensor connector.



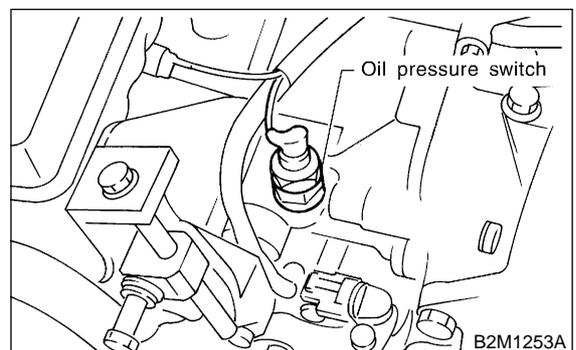
23) Disconnect connector from camshaft position sensor.



24) Disconnect connector from crankshaft position sensor.



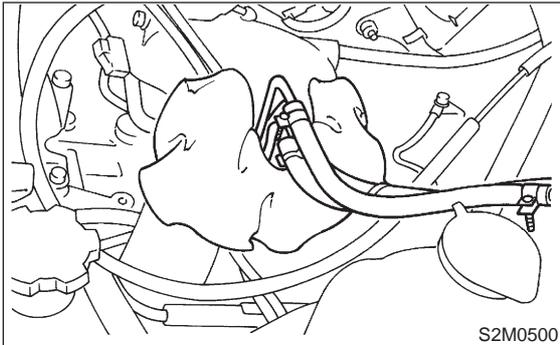
25) Disconnect connector from oil pressure switch.



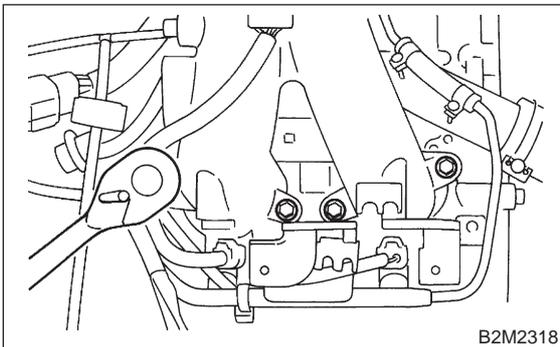
26) Disconnect fuel hoses from fuel pipes.

**WARNING:**

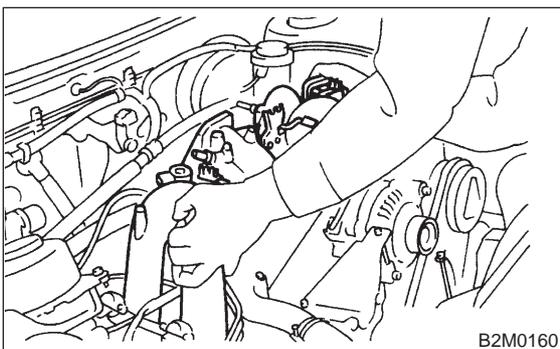
**Catch fuel from hoses in a container.**



27) Remove eight bolts which hold intake manifold onto cylinder heads.

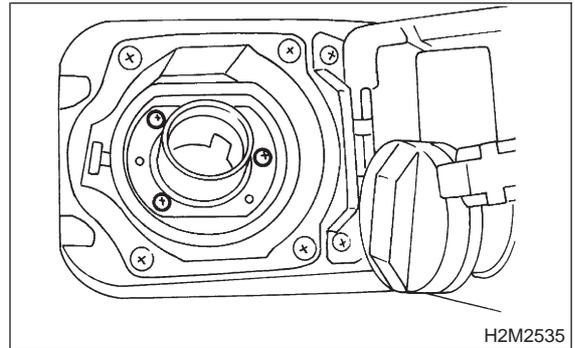


28) Remove intake manifold.

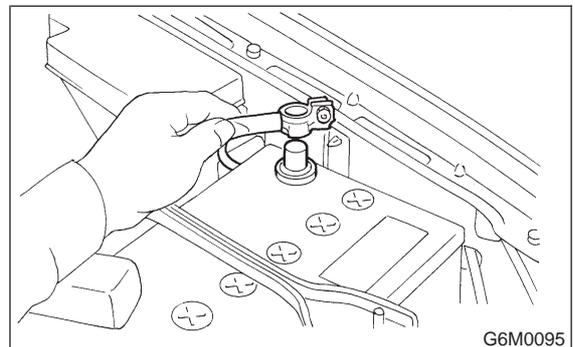


**2. EXCEPT 2200 cc CALIFORNIA SPEC. VEHICLES**

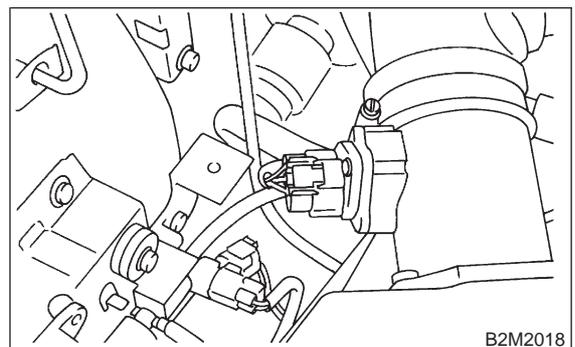
- 1) Release fuel pressure. <Ref. to 2-8 [W1B0].>
- 2) Open fuel flap lid, and remove fuel filler cap.



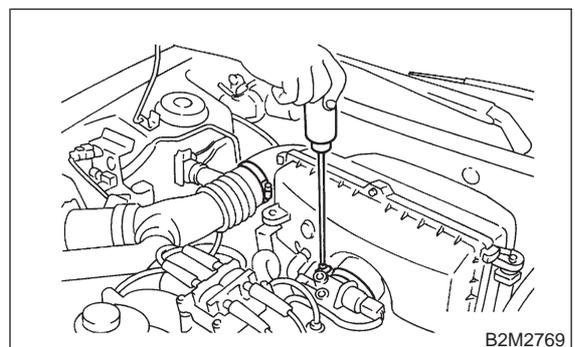
3) Disconnect battery ground cable.



4) Disconnect connector from mass air flow sensor.



5) Loosen clamp which connects air intake chamber to throttle body.

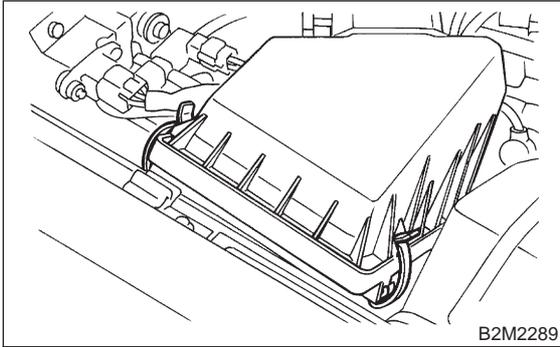


## 2-7 [W4A2]

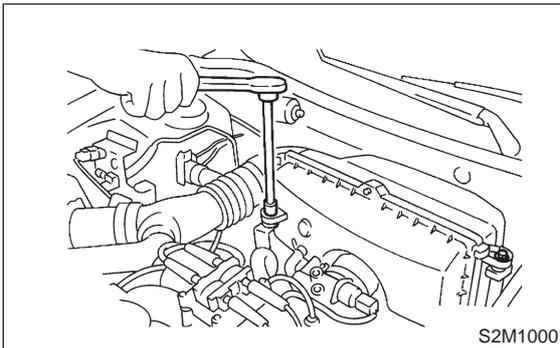
### 4. Intake Manifold

## SERVICE PROCEDURE

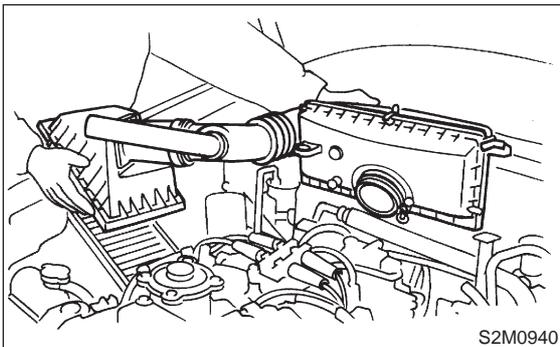
- 6) Remove two clips of air cleaner upper cover.



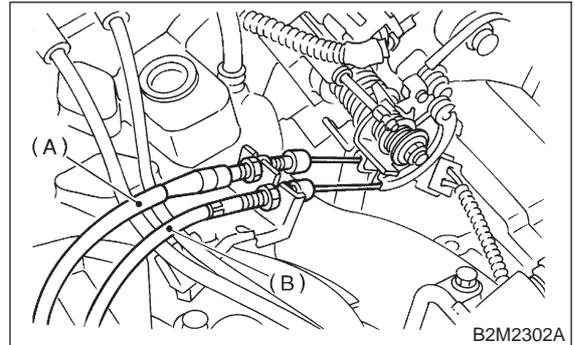
- 7) Remove bolts which install air intake chamber on stays.



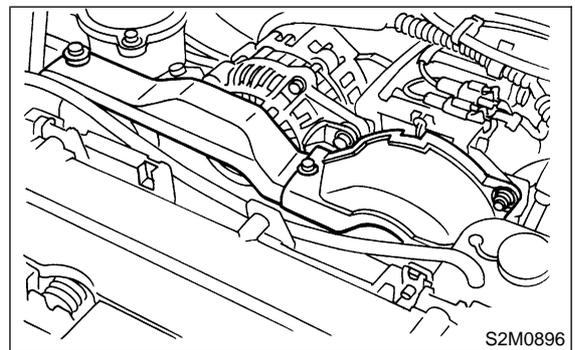
- 8) Disconnect blow-by hose from air intake chamber.  
9) Remove air intake duct, air cleaner upper cover and air intake chamber as a unit.  
10) Remove air cleaner element.



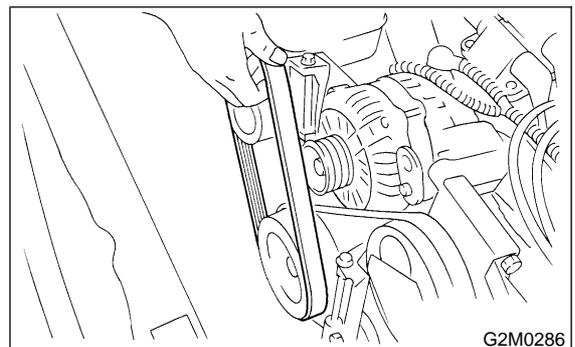
- 11) Disconnect accelerator cable (A).  
12) Disconnect cruise control cable (B). (With cruise control model)



- 13) Disconnect vacuum hoses from pressure sources switching solenoid valve.  
14) Remove power steering pump from bracket.  
(1) Remove V-belt cover.



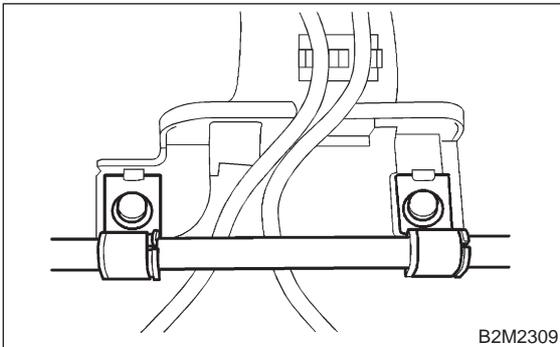
- (2) Loosen lock bolt and slider bolt, and remove power steering pump drive V-belt.



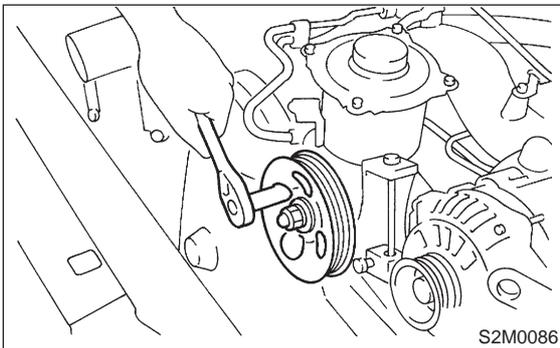
(3) Remove bolts which secure power steering pipe brackets to intake manifold.

**NOTE:**

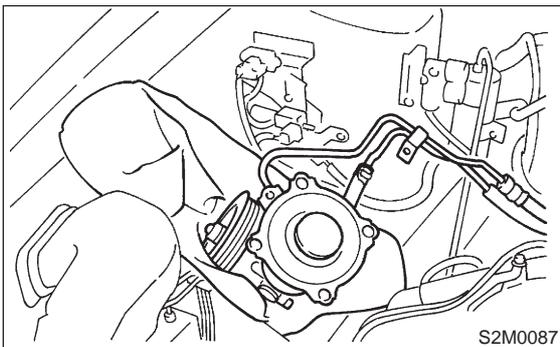
Do not disconnect power steering hose.



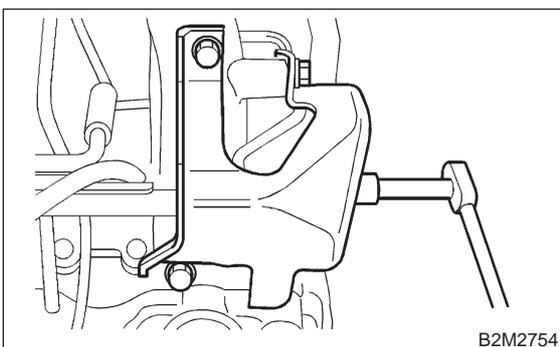
(4) Remove bolts which install power steering pump to bracket.



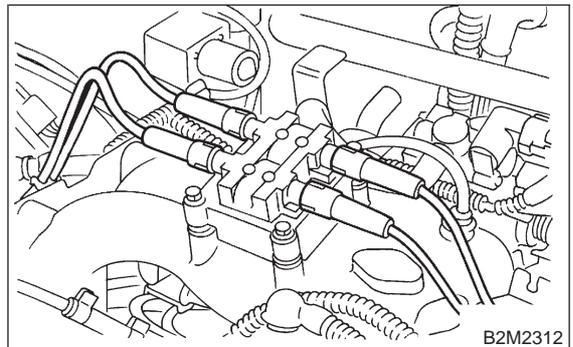
(5) Place power steering pump on the right side wheel apron.



15) Remove fuel pipe protector.

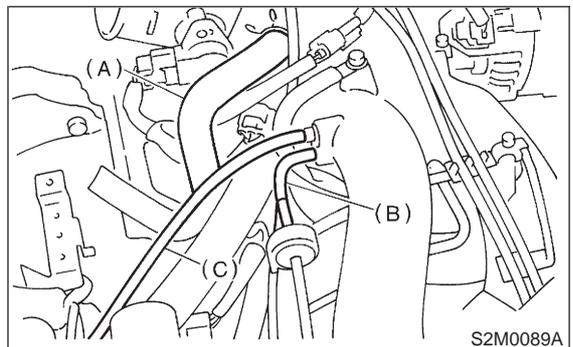


16) Disconnect spark plug cords from ignition coil and ignitor assembly.

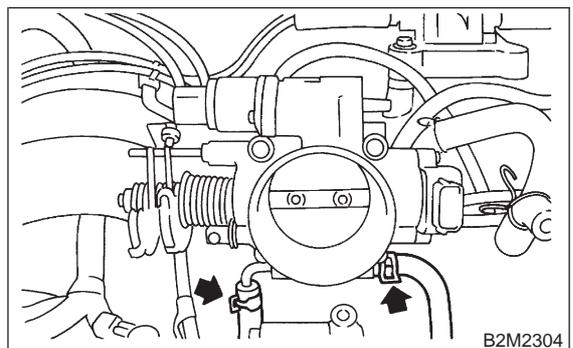


17) Disconnect PCV hose (A) and pressure regulator vacuum hose (B) from intake manifold.

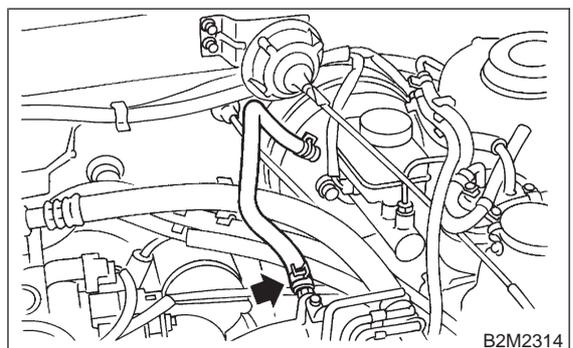
18) Disconnect vacuum hose (C) to cruise control diaphragm. (With cruise control models)



19) Disconnect engine coolant hose from throttle body.



20) Disconnect brake booster hose.

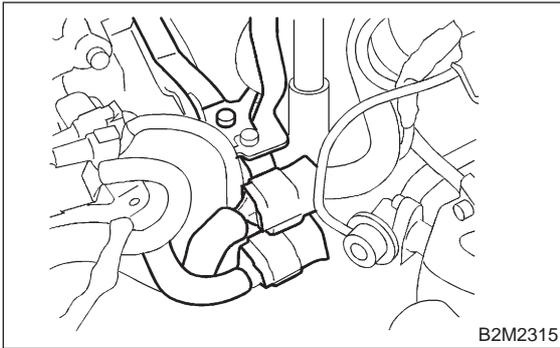


## 2-7 [W4A2]

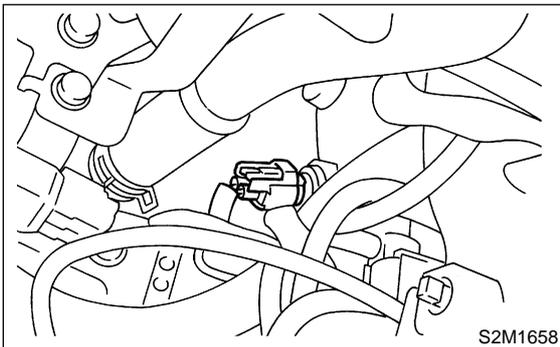
### 4. Intake Manifold

## SERVICE PROCEDURE

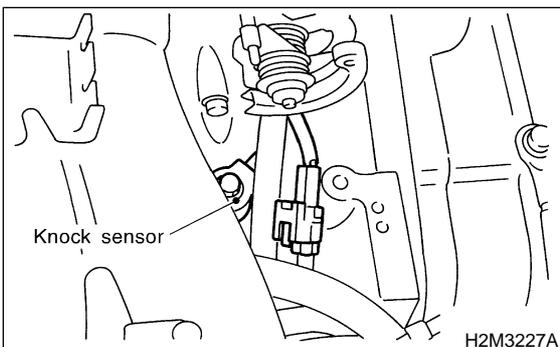
21) Remove air intake chamber stay RH, engine harness bracket from transmission housing, and disconnect engine harness connectors from bulk-head harness connectors.



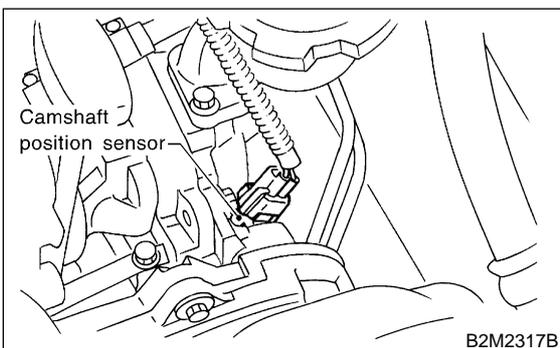
22) Disconnect connectors from engine coolant temperature sensor.



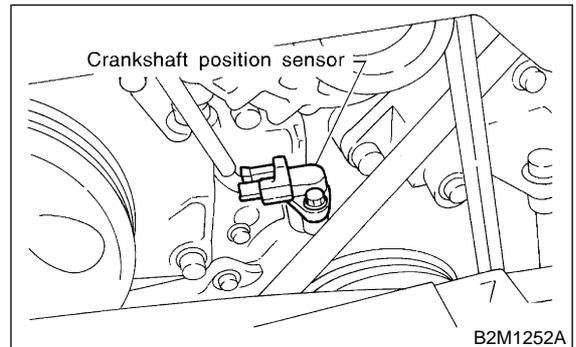
23) Disconnect knock sensor connector.



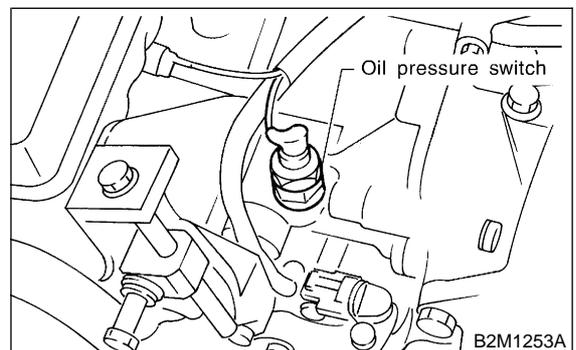
24) Disconnect connector from camshaft position sensor.



25) Disconnect connector from crankshaft position sensor.

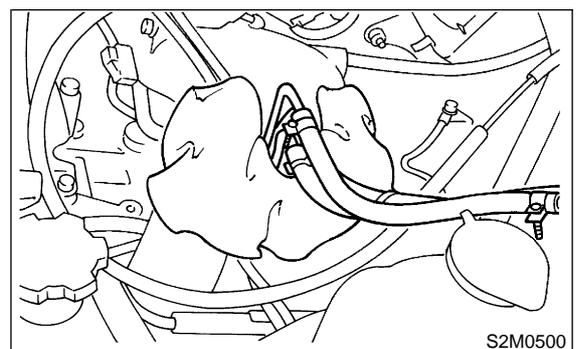


26) Disconnect connector from oil pressure switch.

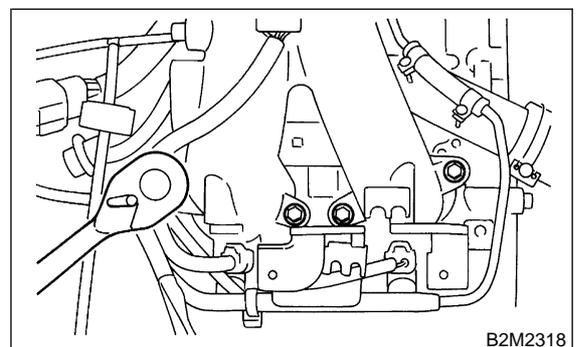


27) Disconnect fuel hoses from fuel pipes.

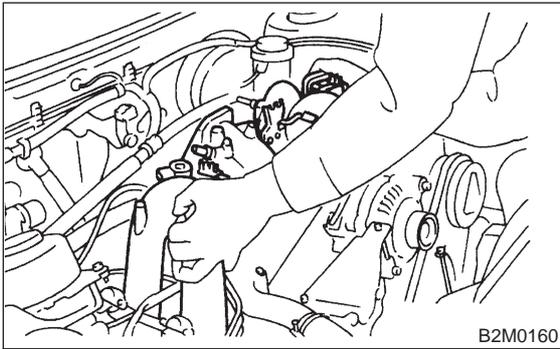
**WARNING:**  
Catch fuel from hoses in a container.



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



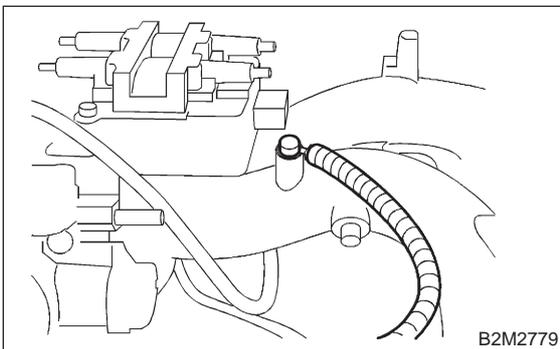
29) Remove intake manifold.



## B: DISASSEMBLY

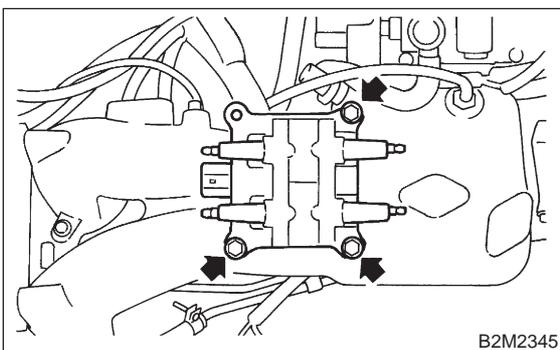
### 1. 2200 cc CALIFORNIA SPEC. VEHICLES

1) Disconnect engine ground terminal from intake manifold.



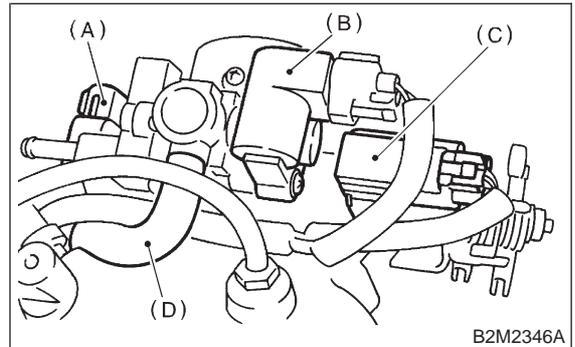
2) Disconnect connector from ignition coil and ignitor assembly.

3) Remove ignition coil and ignitor assembly.

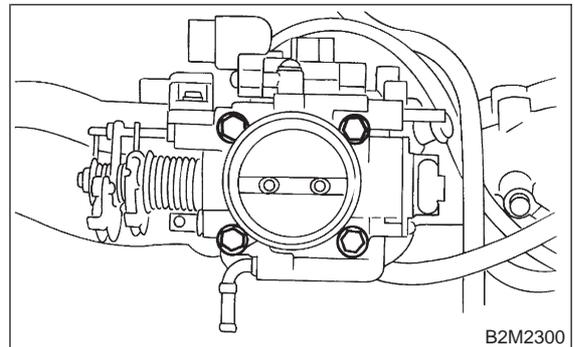


4) Disconnect connectors from throttle position sensor (A), idle air control solenoid valve (B) and intake manifold pressure sensor (C).

5) Disconnect air by-pass hose (D) from idle air control solenoid valve.



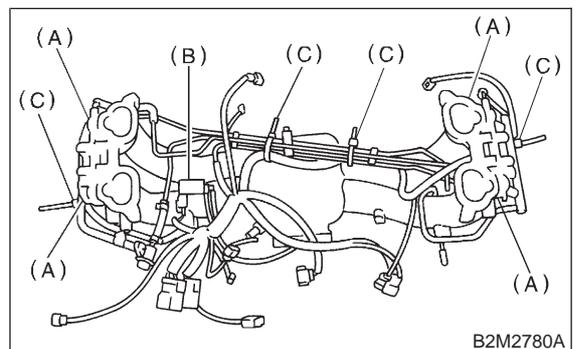
6) Remove throttle body.



7) Disconnect connectors from fuel injectors, and purge control solenoid valve.

8) Remove harness bands which hold engine harness onto intake manifold.

9) Remove engine harness from intake manifold.



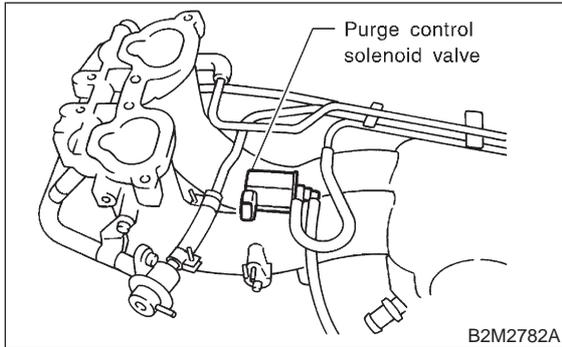
- (A) Fuel injector
- (B) Purge control solenoid valve
- (C) Harness band

## 2-7 [W4B1]

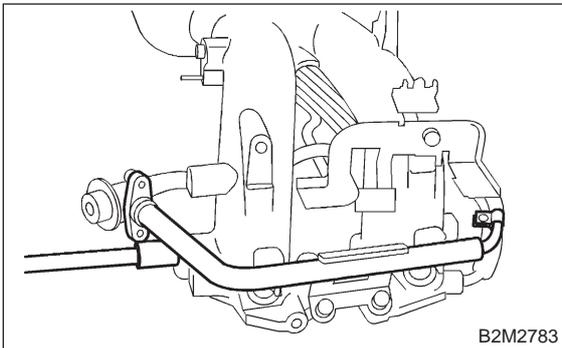
### 4. Intake Manifold

## SERVICE PROCEDURE

10) Remove purge control solenoid valve.

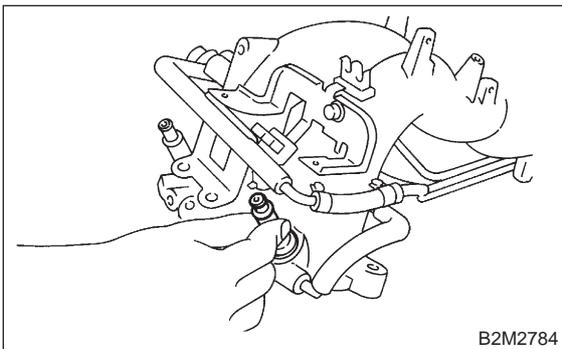


11) Remove bolts which install injector pipe on intake manifold.

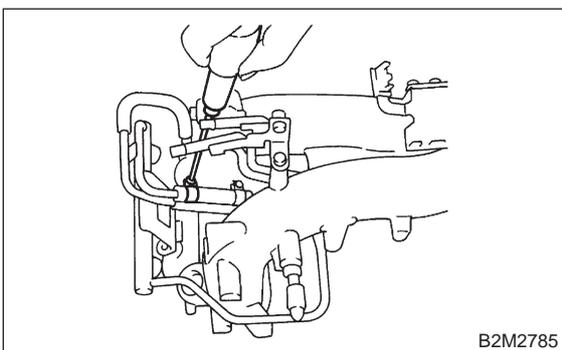


12) Remove fuel injectors.

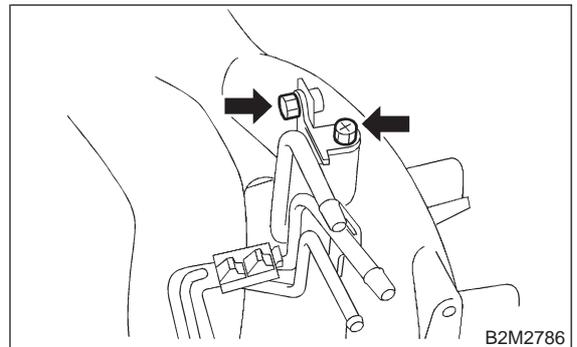
**CAUTION:**  
Replace o-rings and insulators with new ones.



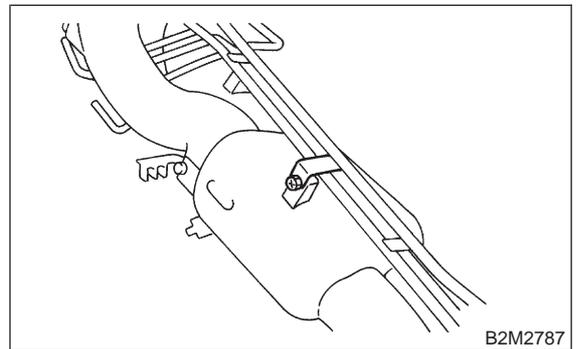
13) Loosen clamp which holds front left side fuel hose to injector pipe.



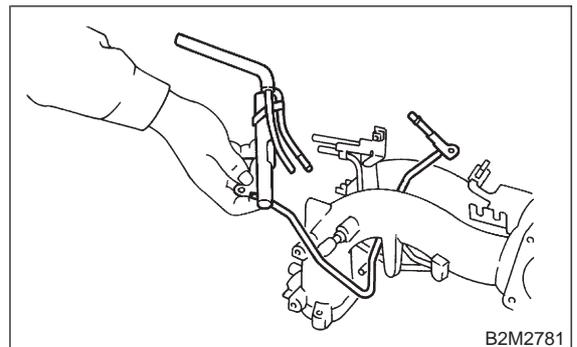
14) Remove bolts which hold fuel pipes on the left side of intake manifold.



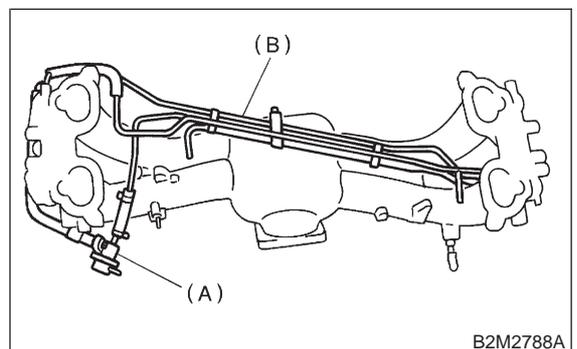
15) Remove two bolts which install fuel pipes on intake manifold.



16) Remove fuel injector pipe.



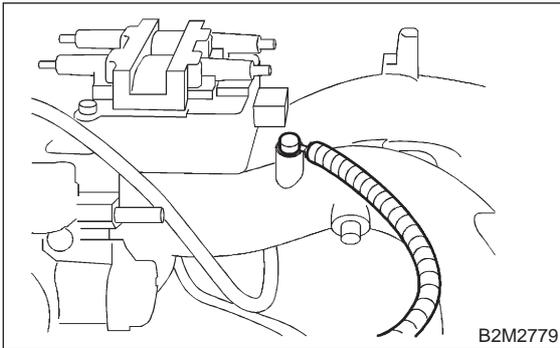
17) Remove fuel pipes, etc. from intake manifold.



(A) Pressure regulator  
(B) Fuel pipe ASSY

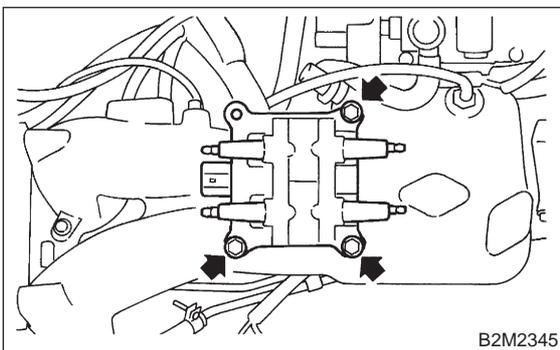
## 2. EXCEPT 2200 cc CALIFORNIA SPEC. VEHICLES

1) Remove engine ground terminal from intake manifold.

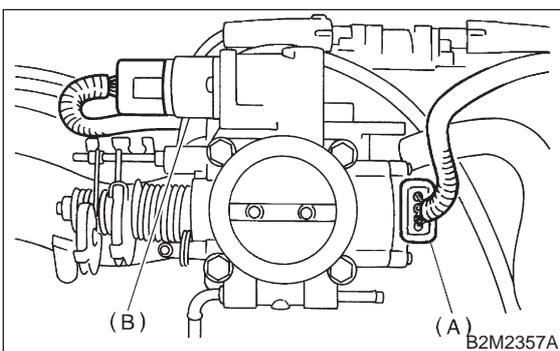


2) Disconnect connector from ignition coil and ignitor assembly.

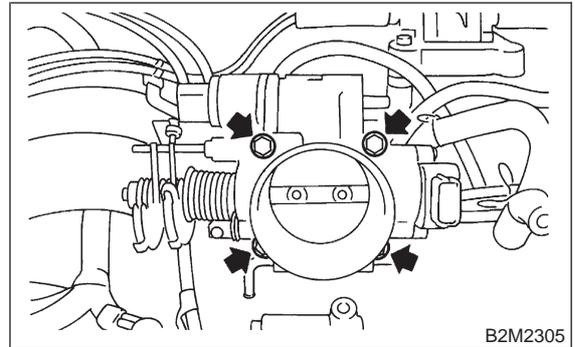
3) Remove ignition coil and ignitor assembly.



4) Disconnect connectors from throttle position sensor (A) and idle air control solenoid valve (B).



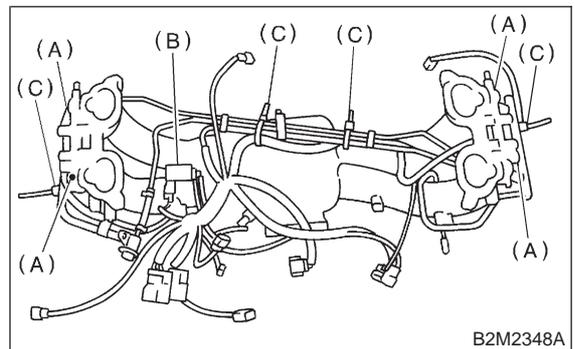
5) Remove throttle body.



6) Disconnect connectors from fuel injectors, and purge control solenoid valve.

7) Remove harness bands which hold engine harness onto intake manifold.

8) Remove engine harness from intake manifold.

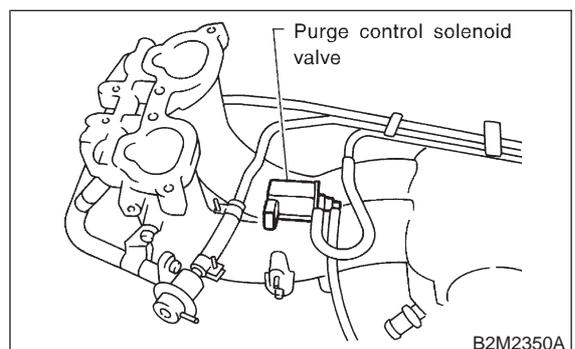


(A) Fuel injector

(B) Purge control solenoid valve

(C) Harness band

9) Remove purge control solenoid valve.

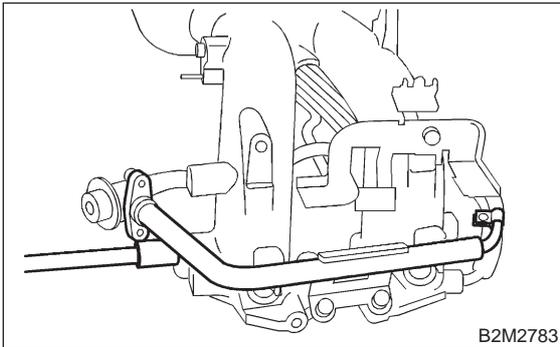


## 2-7 [W4B2]

### 4. Intake Manifold

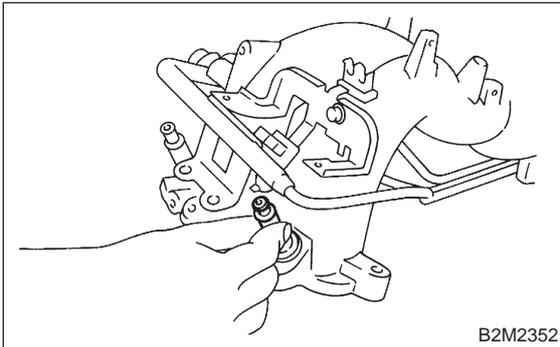
## SERVICE PROCEDURE

10) Remove bolts which install injector pipe on intake manifold.

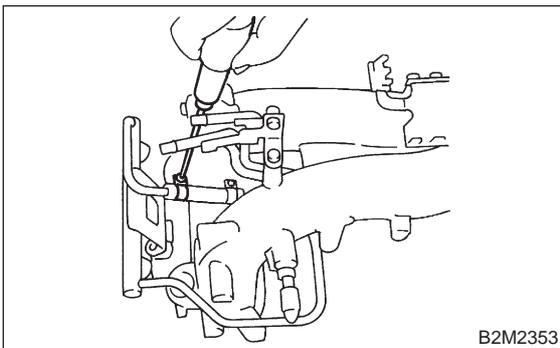


11) Remove fuel injectors.

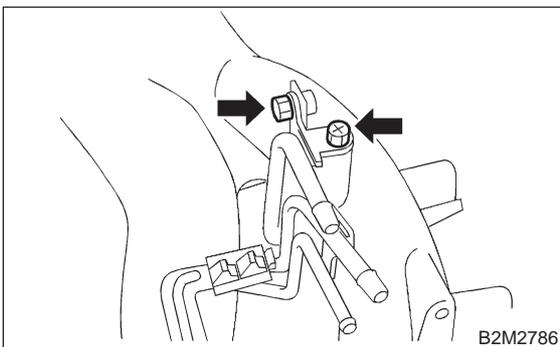
**CAUTION:**  
Replace o-rings and insulators with new ones.



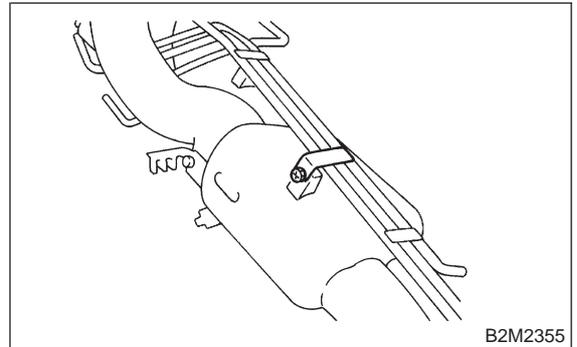
12) Loosen clamp which holds front left side fuel hose to injector pipe.



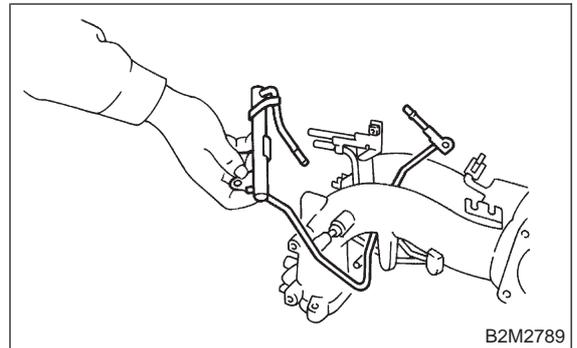
13) Remove bolts which hold fuel pipes on the left side of intake manifold.



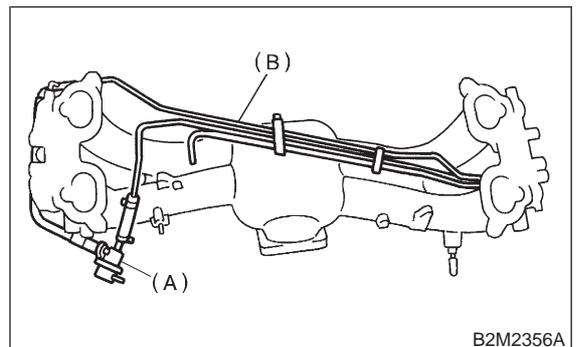
14) Remove two bolts which install fuel pipes on intake manifold.



15) Remove fuel injector pipe.



16) Remove fuel pipes, etc. from intake manifold.



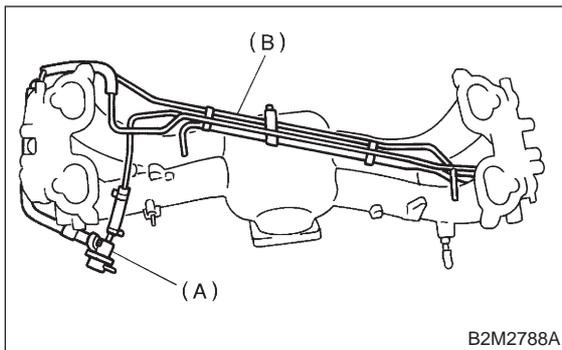
(A) Pressure regulator

(B) Fuel pipe ASSY

## C: ASSEMBLY

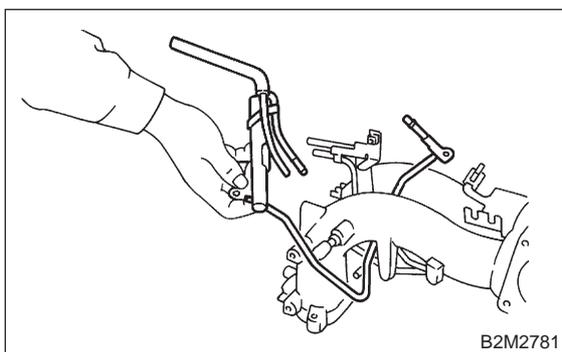
### 1. 2200 cc CALIFORNIA SPEC. VEHICLES

1) Assemble fuel pipes, etc. to intake manifold.

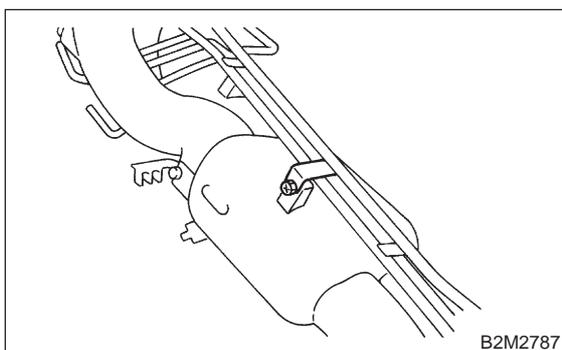


- (A) Pressure regulator
- (B) Fuel pipe ASSY

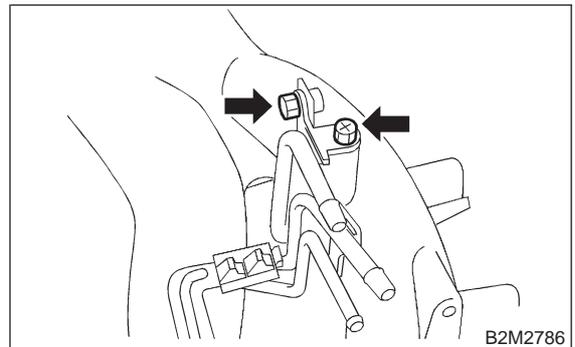
2) Install fuel injector pipe.



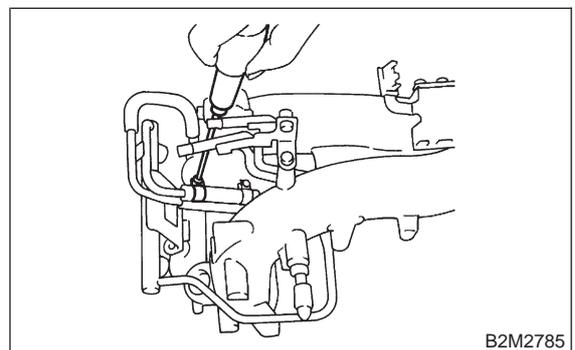
3) Tighten two bolts which install fuel pipes on intake manifold.



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

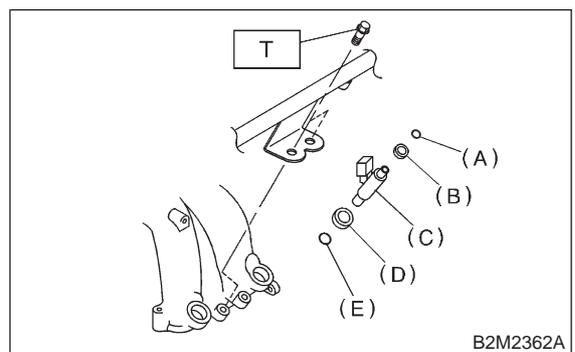


5) Connect left side fuel hose to injector pipe, and tighten clamp screw.



6) Install fuel injectors.

**CAUTION:**  
Always use new o-rings and insulators.



- (A) O-ring A
- (B) Insulator A
- (C) Fuel injector
- (D) Insulator B
- (E) O-ring B

## 2-7 [W4C1]

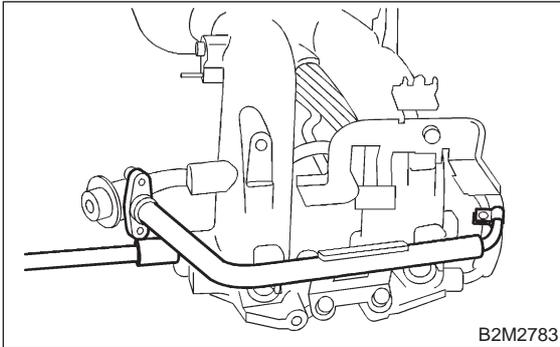
### 4. Intake Manifold

## SERVICE PROCEDURE

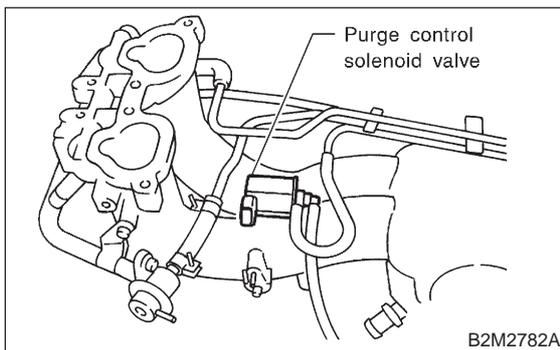
7) Tighten bolts which install injector pipe on intake manifold.

**Tightening torque:**

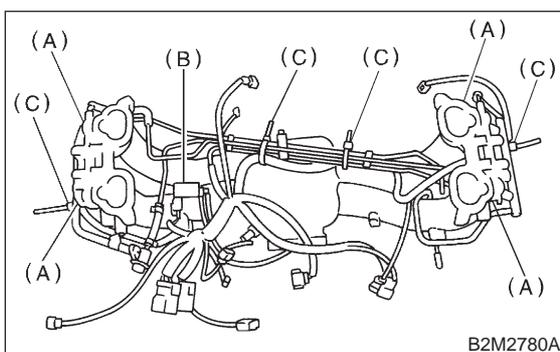
**$3.4\pm 0.5$  N·m ( $0.35\pm 0.05$  kg·m,  $2.5\pm 0.4$  ft·lb)**



8) Install purge control solenoid valve.



9) Install engine harness onto intake manifold.  
10) Connect connectors to fuel injectors and purge control solenoid valve.  
11) Hold engine harness by harness bands.



- (A) Fuel injector
- (B) Purge control solenoid valve
- (C) Harness band

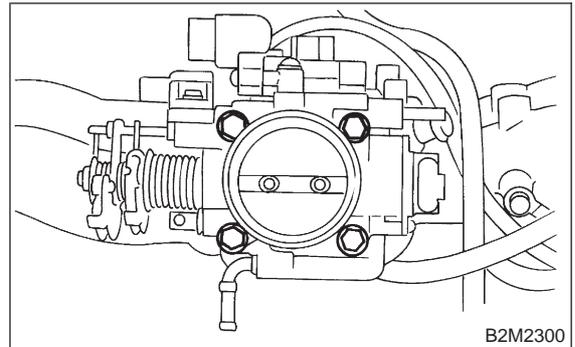
12) Assemble throttle body to intake manifold.

**CAUTION:**

**Replace gasket with a new one.**

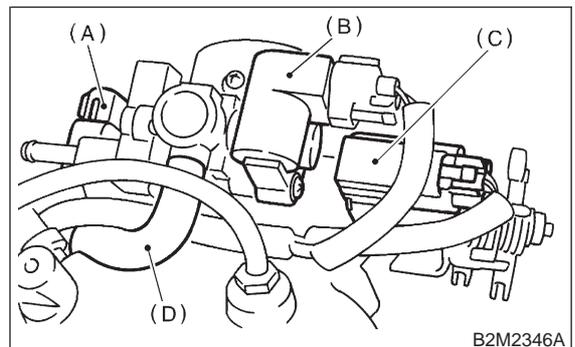
**Tightening torque:**

**$22\pm 2$  N·m ( $2.2\pm 0.2$  kg·m,  $15.9\pm 1.4$  ft·lb)**

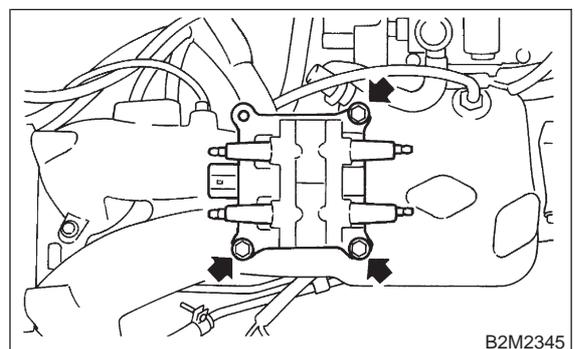


13) Connect connectors to throttle position sensor (A), idle air control solenoid valve (B) and intake manifold pressure sensor (C).

14) Connect air by-pass hose (D) to idle air control solenoid valve.



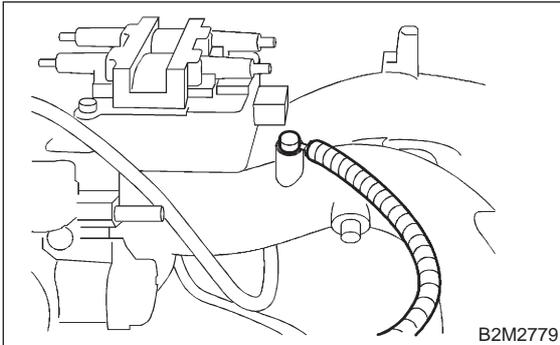
15) Install ignition coil and ignitor assembly.  
16) Connect connector to ignition coil and ignitor assembly.



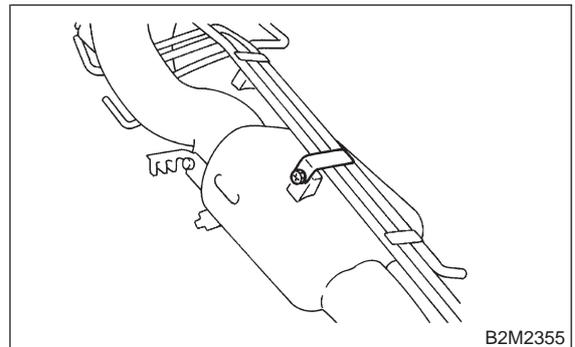
17) Install engine ground terminal to intake manifold.

**Tightening torque:**

**$18.6 \pm 1.5$  N·m ( $1.9 \pm 0.15$  kg·m,  $13.7 \pm 1.1$  ft·lb)**

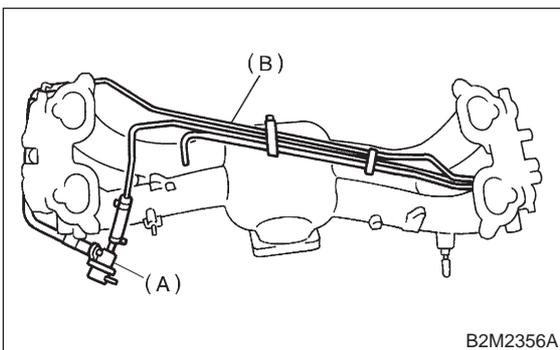


3) Tighten two bolts which install fuel pipes on intake manifold.



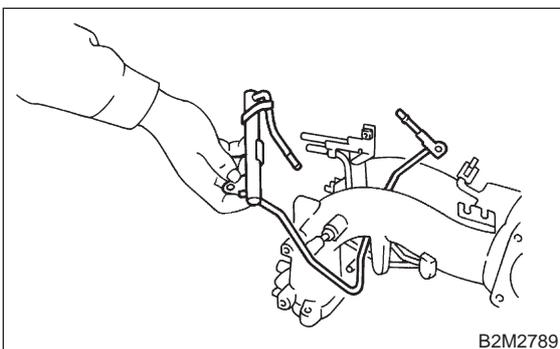
**2. EXCEPT 2200 cc CALIFORNIA SPEC. VEHICLES**

1) Assemble fuel pipes, etc. to intake manifold.

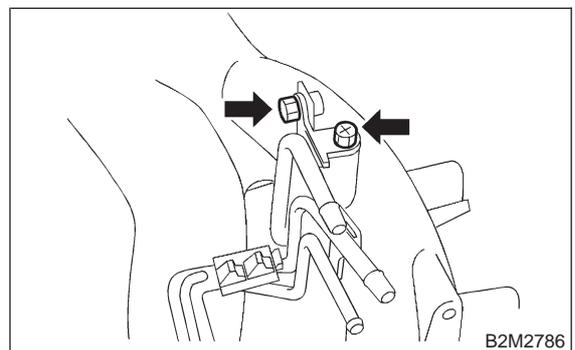


- (A) Pressure regulator
- (B) Fuel pipe ASSY

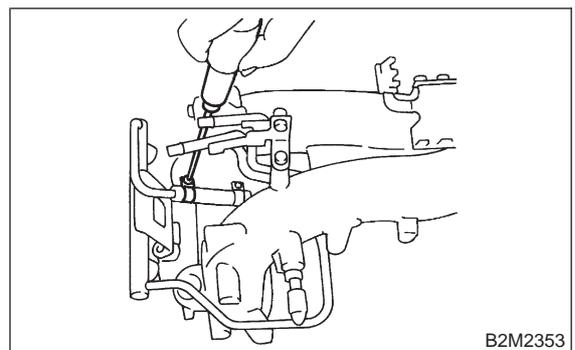
2) Install fuel injector pipe.



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



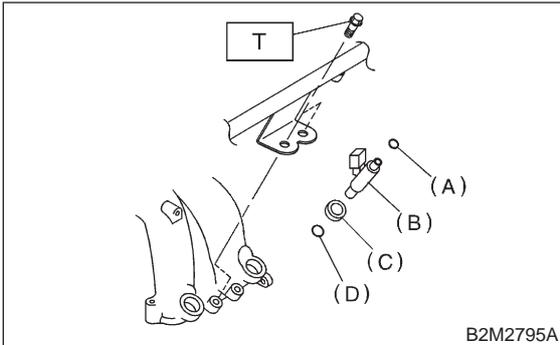
5) Connect left side fuel hose to injector pipe, and tighten clamp screw.



6) Install fuel injectors.

**CAUTION:**

**Always use new o-rings and insulators.**

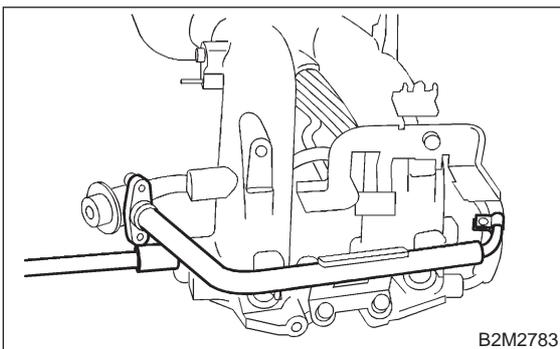


- (A) O-ring A
- (B) Fuel injector
- (C) Insulator
- (D) O-ring B

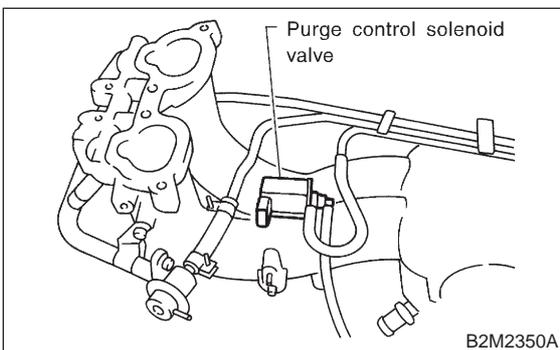
7) Tighten bolts which install injector pipe on intake manifold.

**Tightening torque:**

**$3.4 \pm 0.5 \text{ N}\cdot\text{m}$  ( $0.35 \pm 0.05 \text{ kg}\cdot\text{m}$ ,  $2.5 \pm 0.4 \text{ ft}\cdot\text{lb}$ )**



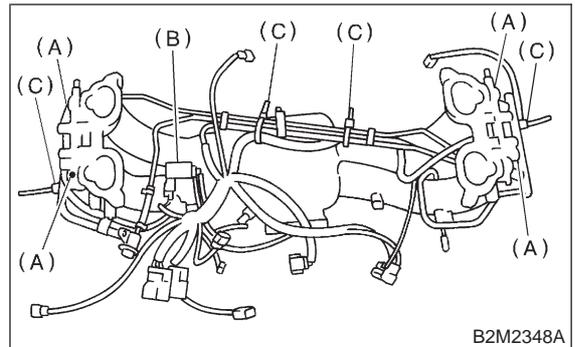
8) Install purge control solenoid valve.



9) Install engine harness onto intake manifold.

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

11) Hold engine harness by harness bands.



- (A) Fuel injector
- (B) Purge control solenoid valve
- (C) Harness band

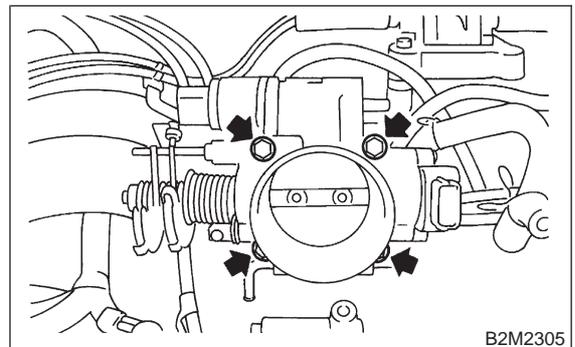
12) Assemble throttle body to intake manifold.

**CAUTION:**

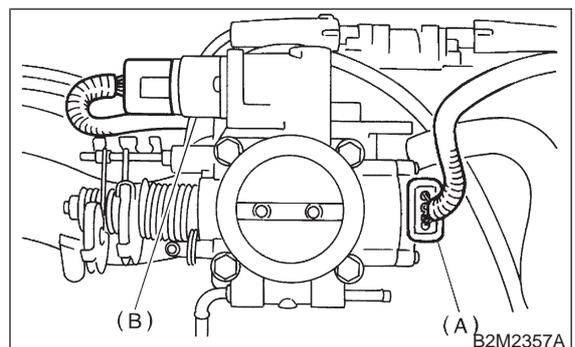
**Replace gasket with a new one.**

**Tightening torque:**

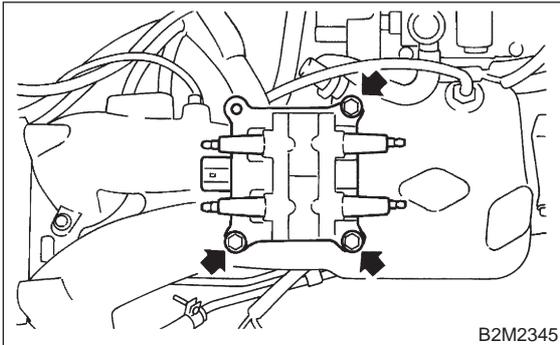
**$22 \pm 2 \text{ N}\cdot\text{m}$  ( $2.2 \pm 0.2 \text{ kg}\cdot\text{m}$ ,  $15.9 \pm 1.4 \text{ ft}\cdot\text{lb}$ )**



13) Connect connectors to throttle position sensor (A) and idle air control solenoid valve (B).



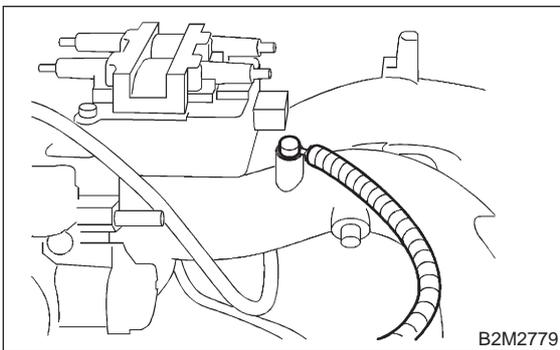
- 14) Install ignition coil and ignitor assembly.
- 15) Connect connector to ignition coil and ignitor assembly.



- 16) Install engine ground terminal to intake manifold.

**Tightening torque:**

**$18.6 \pm 1.5$  N·m ( $1.9 \pm 0.15$  kg·m,  $13.7 \pm 1.1$  ft·lb)**



## D: INSTALLATION

### 1. 2200 cc CALIFORNIA SPEC. VEHICLES

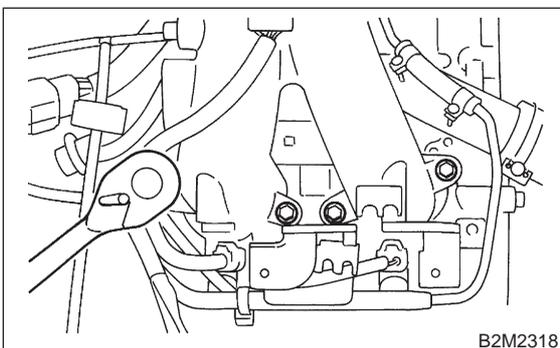
- 1) Install intake manifold onto cylinder heads.

**CAUTION:**

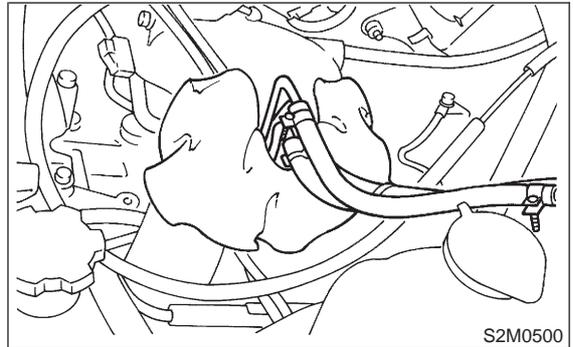
**Always use new gaskets.**

**Tightening torque:**

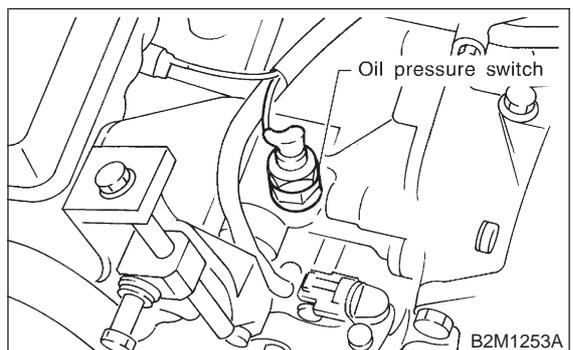
**$25 \pm 2$  N·m ( $2.5 \pm 0.2$  kg·m,  $18.1 \pm 1.4$  ft·lb)**



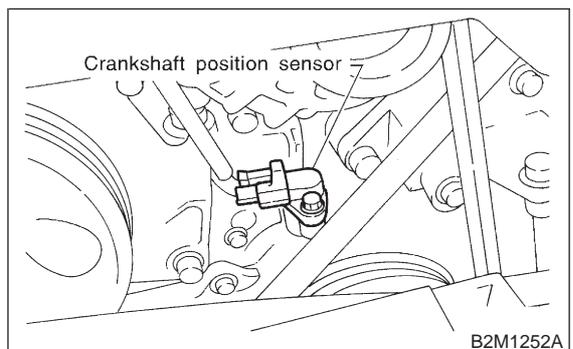
- 2) Connect fuel hoses.



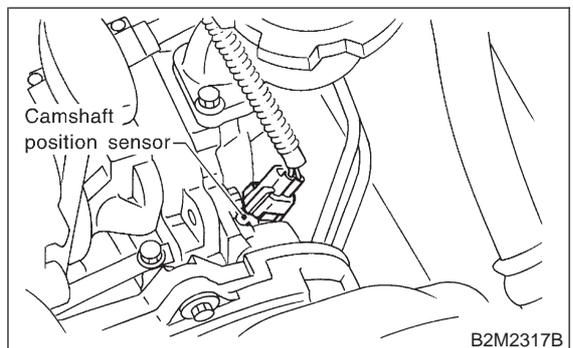
- 3) Connect connector to oil pressure switch.



- 4) Connect connector to crankshaft position sensor.



- 5) Connect connector to camshaft position sensor.

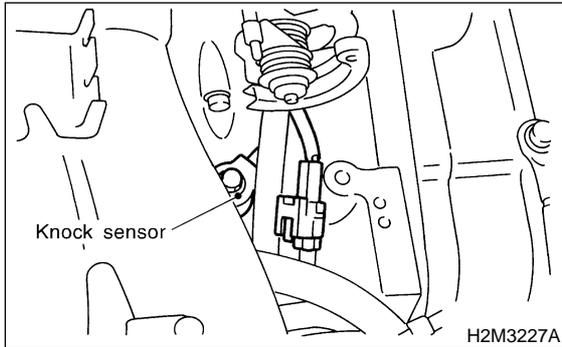


## 2-7 [W4D1]

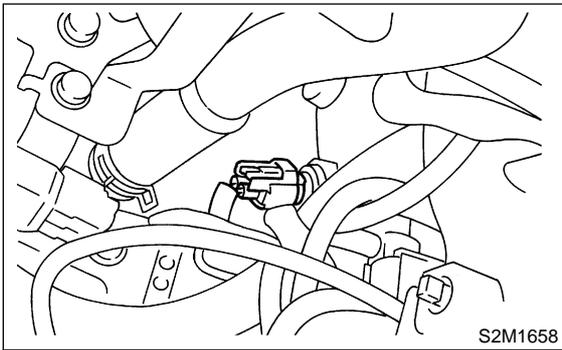
### 4. Intake Manifold

## SERVICE PROCEDURE

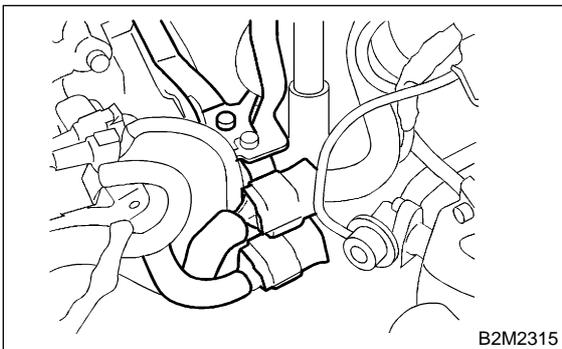
6) Connect knock sensor connector.



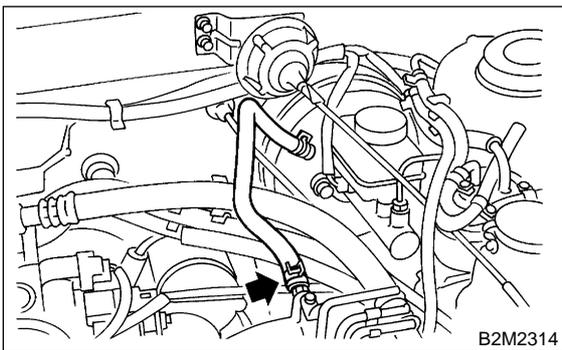
7) Connect connectors to engine coolant temperature sensor.



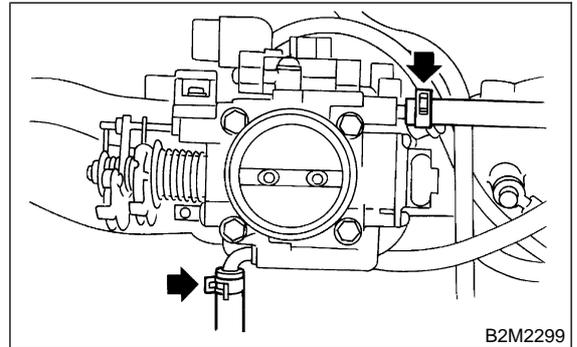
8) Hold engine harness connector onto bracket.  
9) Install air cleaner case stay RH and engine harness bracket, and connect engine harness connectors to bulkhead connectors.



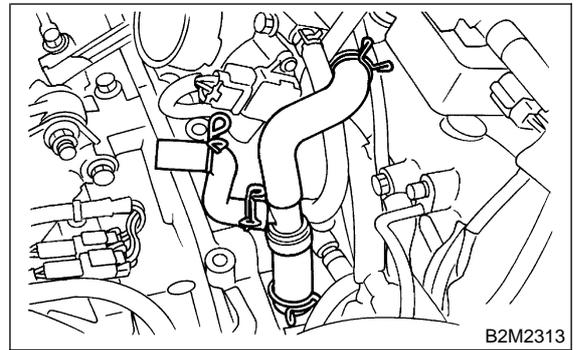
10) Connect brake booster hose.



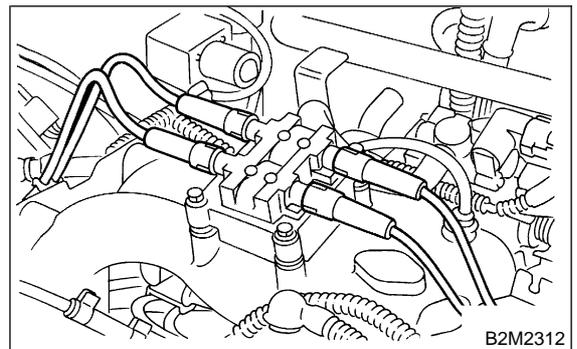
11) Connect engine coolant hose to throttle body.



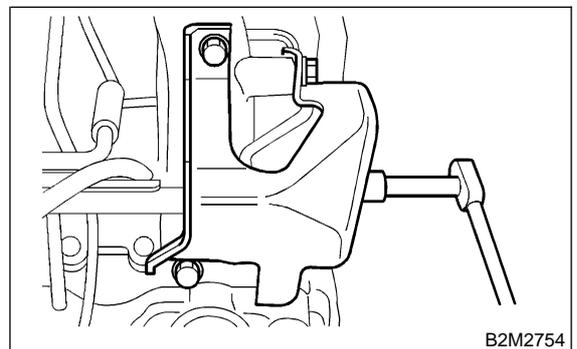
12) Connect PCV hose and pressure regulator vacuum hose to intake manifold.



13) Connect spark plug cords to ignition coil and ignitor assembly.



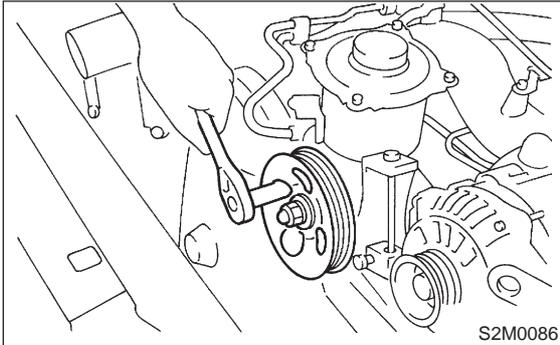
14) Install fuel protector.



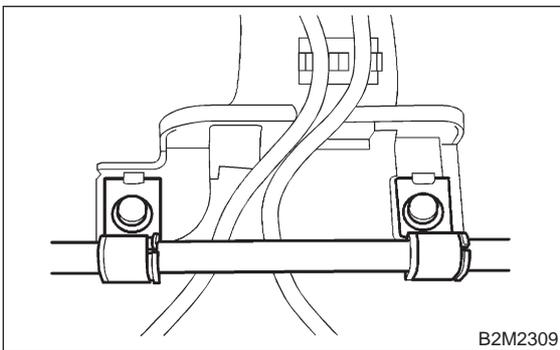
- 15) Install power steering pump on bracket.  
(1) Tighten bolts which install power steering pump on bracket.

**Tightening torque:**

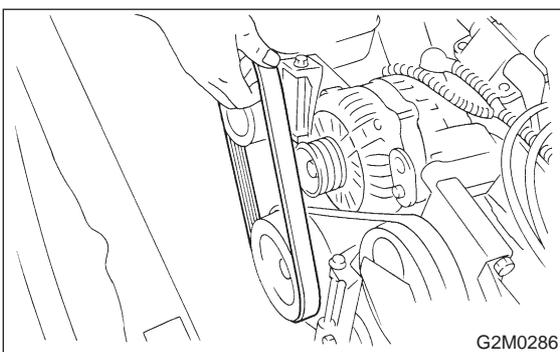
**20.1±2.5 N·m (2.05±0.25 kg-m, 14.8±1.8 ft-lb)**



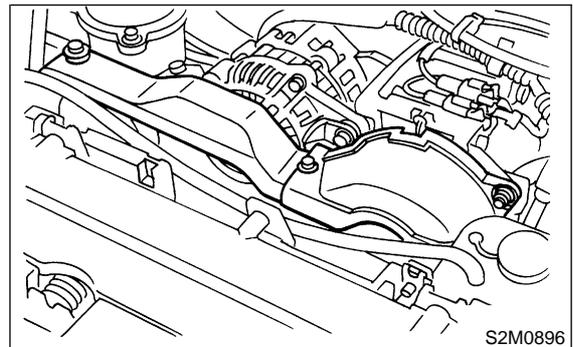
- (2) Install power steering pipe brackets on the right side of intake manifold.



- (3) Install power steering pump drive V-belt.



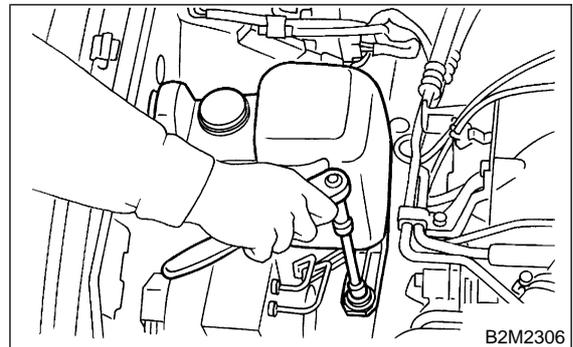
- (4) Adjust V-belt. <Ref. to 1-5 [G200].>  
(5) Install V-belt covers.



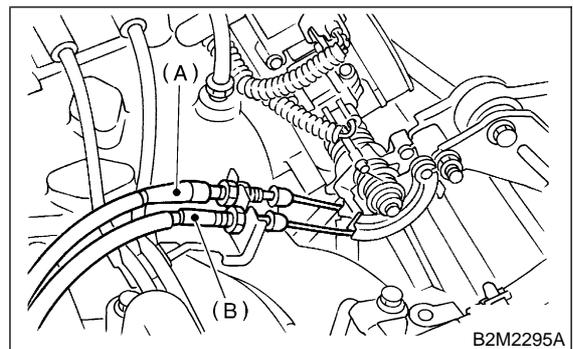
- (6) Install resonator chamber.

**Tightening torque:**

**7.4±2.0 N·m (0.75±0.2 kg-m, 5.4±1.4 ft-lb)**



- 16) Connect accelerator cable (A).  
17) Connect cruise control cable (B). (With cruise control models)

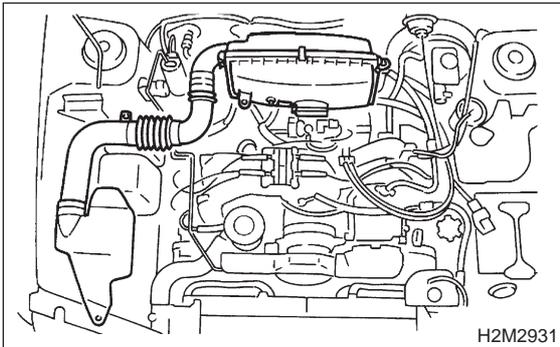


## 2-7 [W4D1]

### 4. Intake Manifold

## SERVICE PROCEDURE

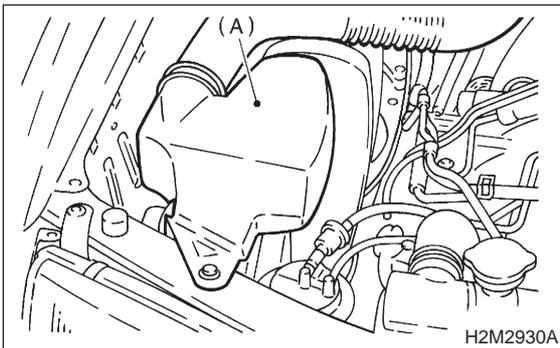
18) Install air cleaner case and air intake duct as a unit.



19) Tighten bolt which installs air intake duct (A) on the front side of body.

**Tightening torque:**

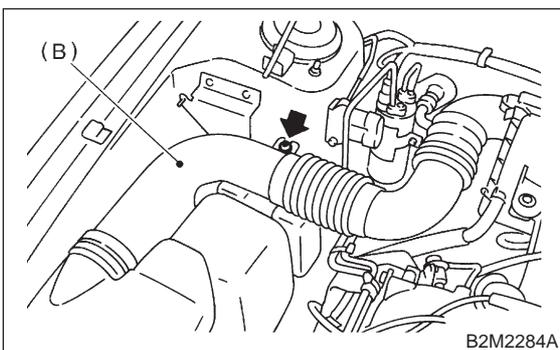
**$7.4 \pm 2.0 \text{ N-m}$  ( $0.75 \pm 0.2 \text{ kg-m}$ ,  $5.4 \pm 1.4 \text{ ft-lb}$ )**



20) Tighten bolt which installs air intake duct (B) on body.

**Tightening torque:**

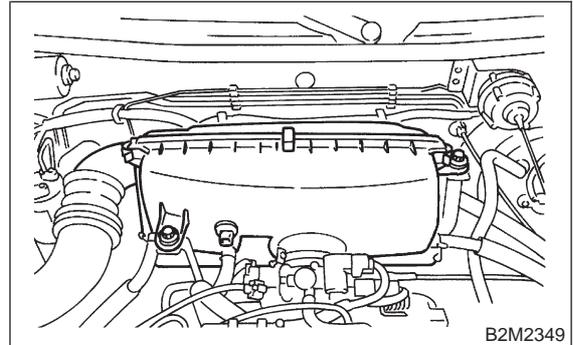
**$7.4 \pm 2.0 \text{ N-m}$  ( $0.75 \pm 0.2 \text{ kg-m}$ ,  $5.4 \pm 1.4 \text{ ft-lb}$ )**



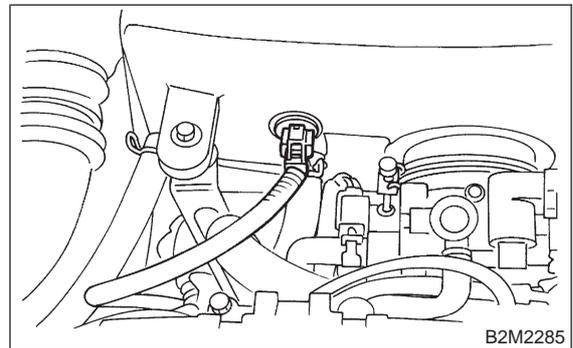
21) Tighten bolts which install air cleaner case to stays.

**Tightening torque:**

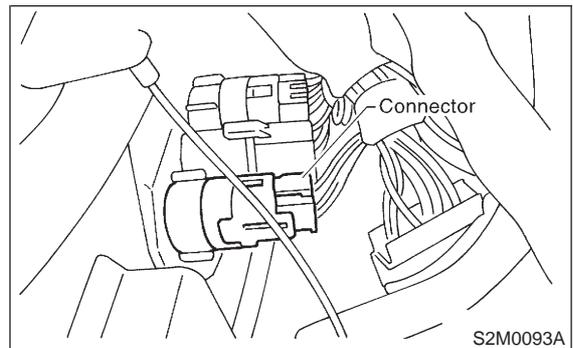
**$4.9 \pm 0.5 \text{ N-m}$  ( $0.5 \pm 0.05 \text{ kg-m}$ ,  $3.6 \pm 0.4 \text{ ft-lb}$ )**



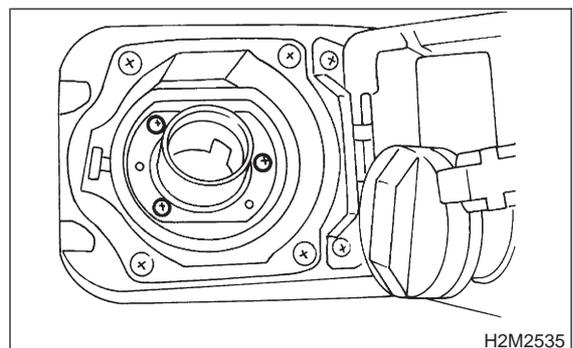
22) Connect connector to intake air temperature sensor.



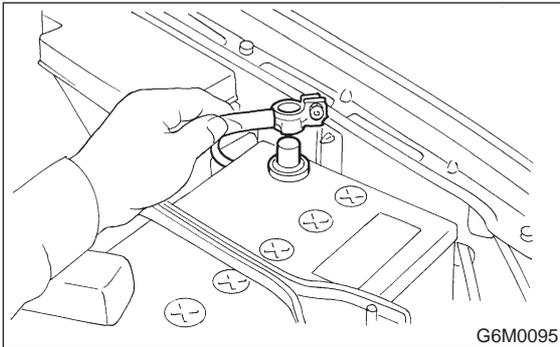
23) Connect connector to fuel pump relay.



24) Install fuel filler cap.



25) Connect battery ground cable.

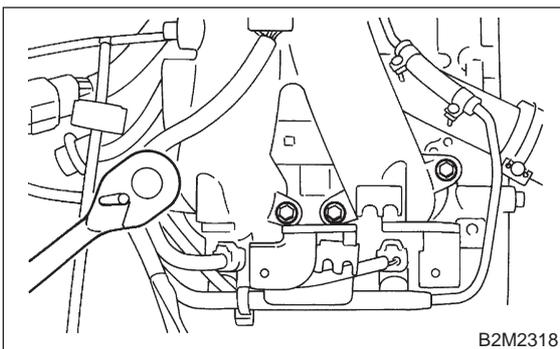


## 2. EXCEPT 2200 cc CALIFORNIA SPEC. VEHICLES

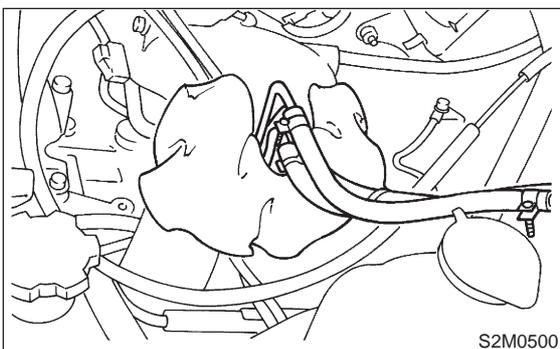
1) Install intake manifold onto cylinder heads.

**CAUTION:**  
Always use new gaskets.

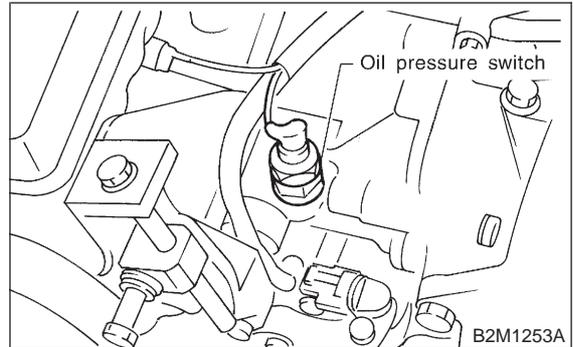
**Tightening torque:**  
 $25 \pm 2 \text{ N}\cdot\text{m}$  ( $2.5 \pm 0.2 \text{ kg}\cdot\text{m}$ ,  $18.1 \pm 1.4 \text{ ft}\cdot\text{lb}$ )



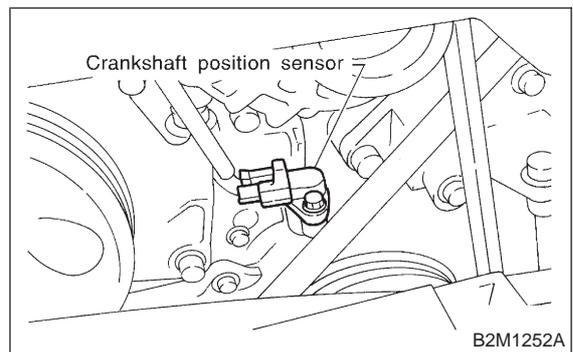
2) Connect fuel hoses.



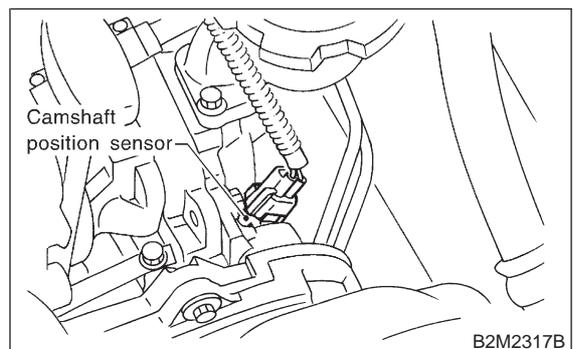
3) Connect connector to oil pressure switch.



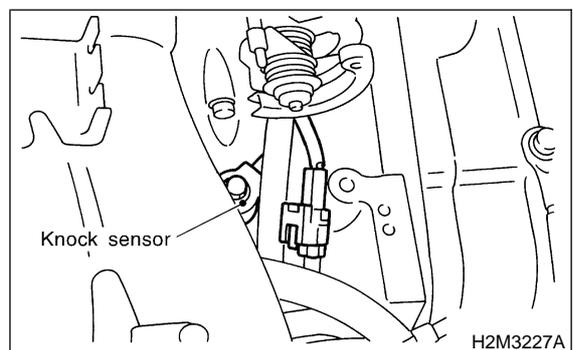
4) Connect connector to crankshaft position sensor.



5) Connect connector to camshaft position sensor.



6) Connect knock sensor connector.

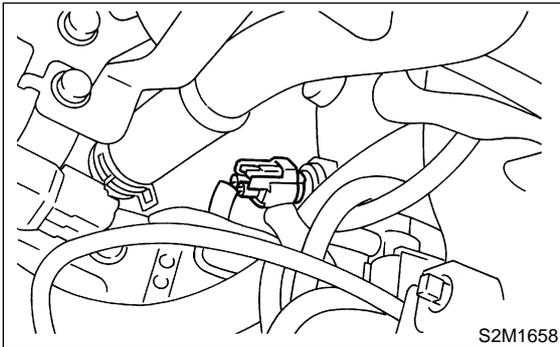


## 2-7 [W4D2]

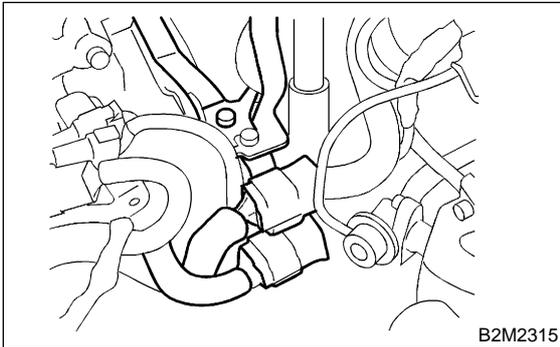
### 4. Intake Manifold

## SERVICE PROCEDURE

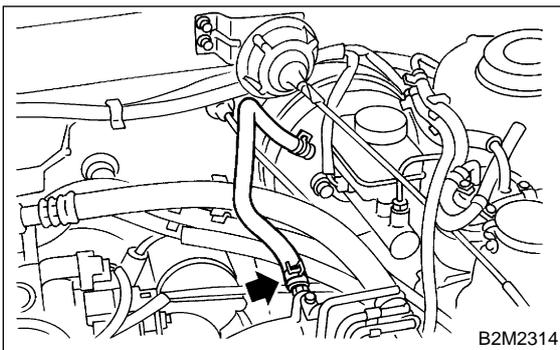
7) Connect connectors to engine coolant temperature sensor.



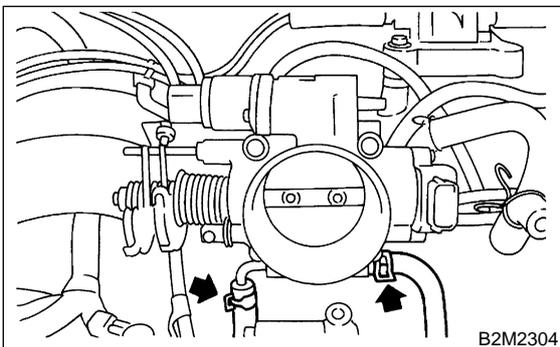
8) Install air intake chamber stay RH and engine harness bracket, and connect engine harness connectors to bulkhead connectors.



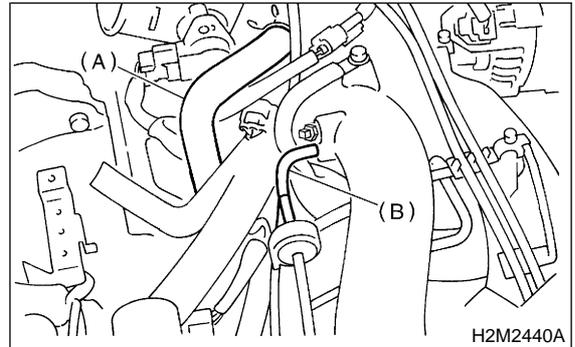
9) Connect brake booster hose.



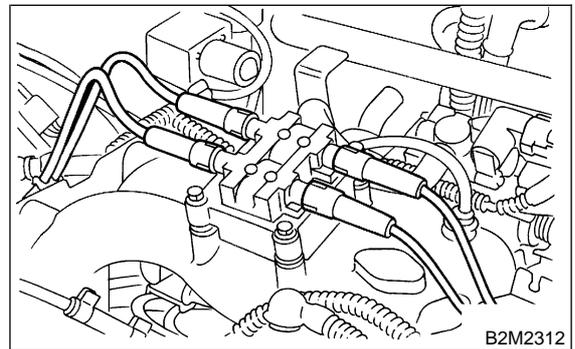
10) Connect engine coolant hose to throttle body.



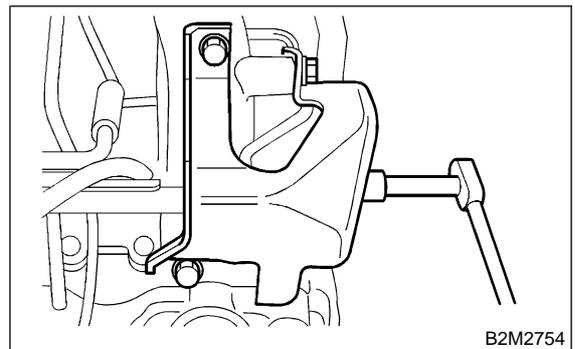
11) Connect PCV hose (A) and vacuum hose (B) to intake manifold.



12) Connect spark plug cords to ignition coil and ignitor assembly.



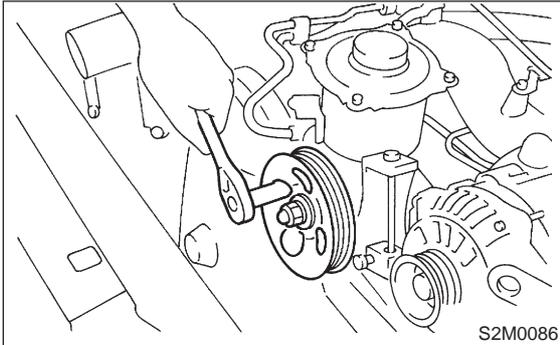
13) Install fuel pipe protector.



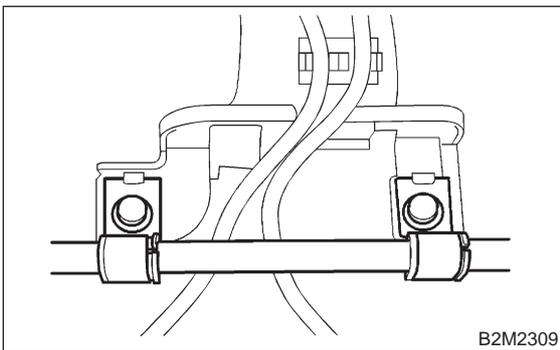
- 14) Install power steering pump on bracket.  
(1) Install power steering pump on bracket, and tighten bolts.

**Tightening torque:**

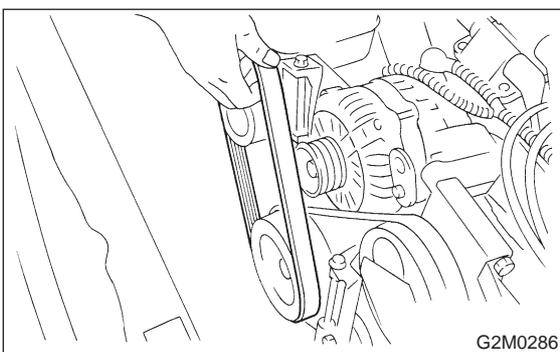
**20.1±2.5 N·m (2.05±0.25 kg·m, 14.8±1.8 ft·lb)**



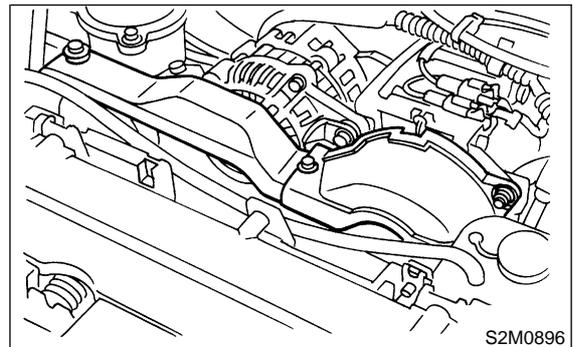
- (2) Install power steering pipe brackets on the right side of intake manifold.



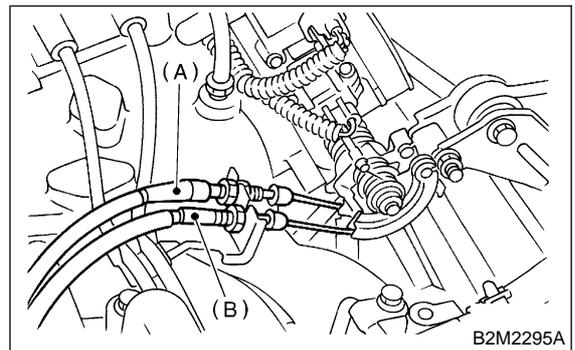
- (3) Install power steering pump drive V-belt.



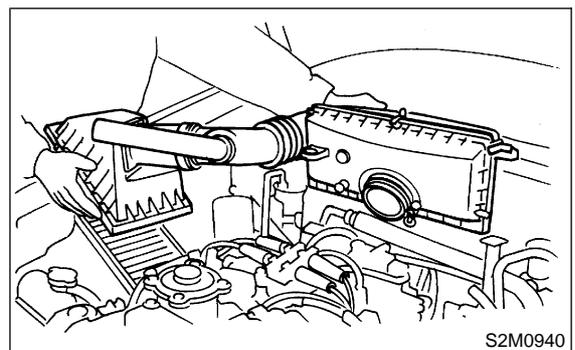
- (4) Adjust V-belt. <Ref. to 1-5 [G200].>  
(5) Install V-belt covers.



- 15) Connect accelerator cable.

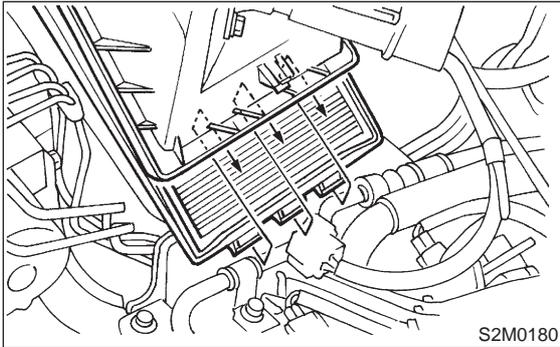


- 16) Install air cleaner element.  
17) Install air cleaner upper cover, air intake duct and air intake chamber as a unit.



**CAUTION:**

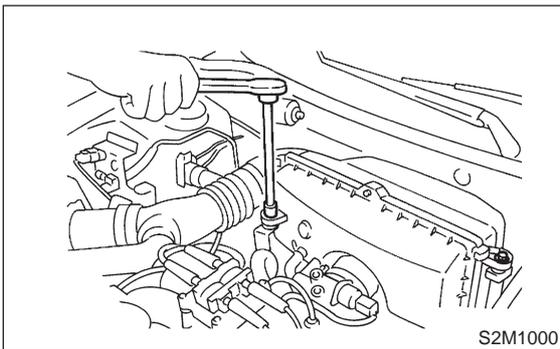
Before installing air cleaner upper cover, align holes with protruding portions of air cleaner lower case, then secure upper cover to lower case.



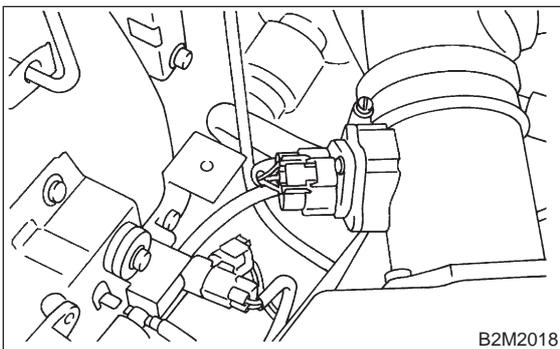
18) Tighten bolts which install air intake chamber to stays.

**Tightening torque:**

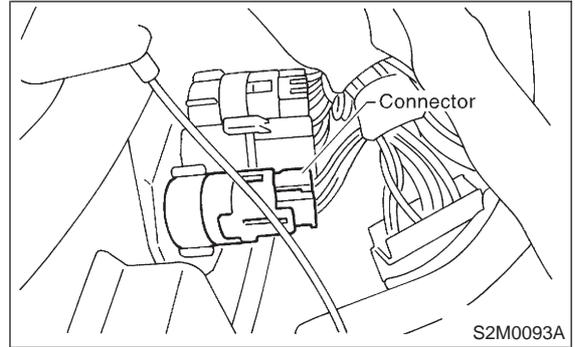
**$4.9 \pm 0.5 \text{ N}\cdot\text{m}$  ( $0.5 \pm 0.05 \text{ kg}\cdot\text{m}$ ,  $3.6 \pm 0.4 \text{ ft}\cdot\text{lb}$ )**



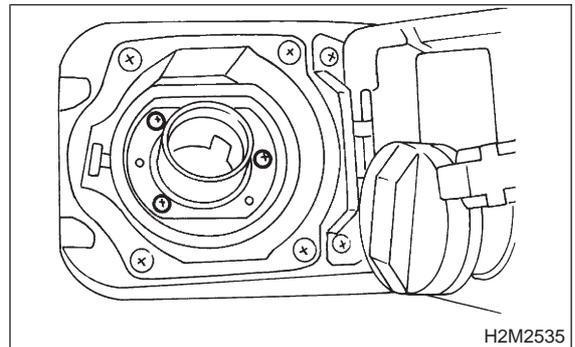
19) Connect connector to mass air flow sensor.



20) Connect connector to fuel pump relay.



21) Install fuel filler cap.



22) Connect battery ground cable.

