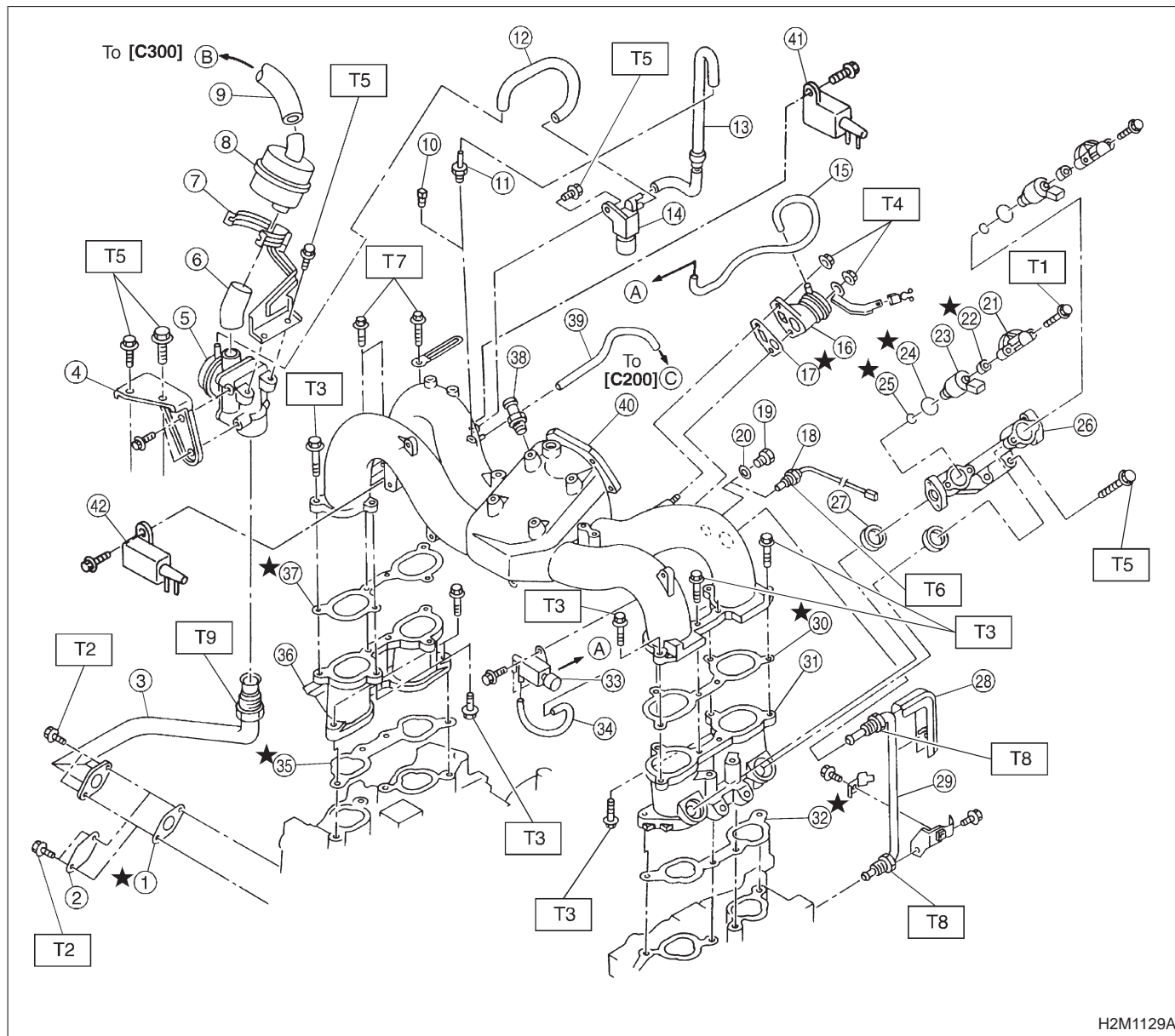


FUEL INJECTION SYSTEM **2-7**

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1. Collector Chamber and Intake Manifold

1. 1800 cc MODEL



H2M1129A

- ① Gasket
- ② Hole lid
- ③ Air suction pipe
- ④ Air suction valve bracket
- ⑤ Air suction valve
- ⑥ Air suction hose A
- ⑦ Air suction valve holder
- ⑧ Silencer
- ⑨ Air suction hose B
- ⑩ Plug
- ⑪ Nipple
- ⑫ Air suction solenoid valve hose A
- ⑬ Air suction solenoid valve hose B
- ⑭ Air suction solenoid valve
- ⑮ EGR valve hose
- ⑯ EGR valve
- ⑰ Gasket
- ⑱ Recirculation gas temperature sensor
- ⑲ Plug
- ⑳ Washer
- ㉑ Fuel injector cap
- ㉒ Insulator
- ㉓ Fuel injector
- ㉔ O-ring A
- ㉕ O-ring B
- ㉖ Fuel pipe
- ㉗ Washer

- ㉘ EGR pipe cover
- ㉙ EGR pipe
- ㉚ Collector chamber gasket RH
- ㉛ Intake manifold RH
- ㉜ Intake manifold gasket RH
- ㉝ EGR solenoid valve
- ㉞ EGR solenoid valve hose
- ㉟ Intake manifold gasket LH
- ㊱ Intake manifold LH
- ㊲ Collector chamber gasket LH
- ㊳ PCV valve
- ㊴ Air by-pass hose
- ㊵ Collector chamber
- ㊶ Purge control solenoid valve (except California)
- ㊷ Purge control solenoid valve (California)

Tightening torque: N·m (kg-m, ft-lb)

T1: 3.4±0.5 (0.35±0.05, 2.5±0.4)

T2: 8±2 (0.8±0.2, 5.8±1.4)

T3: 12±3 (1.2±0.3, 8.7±2.2)

T4: 19±1.5 (1.9±0.15, 13.7±1.1)

T5: 19±4.9 (1.9±0.5, 13.7±3.6)

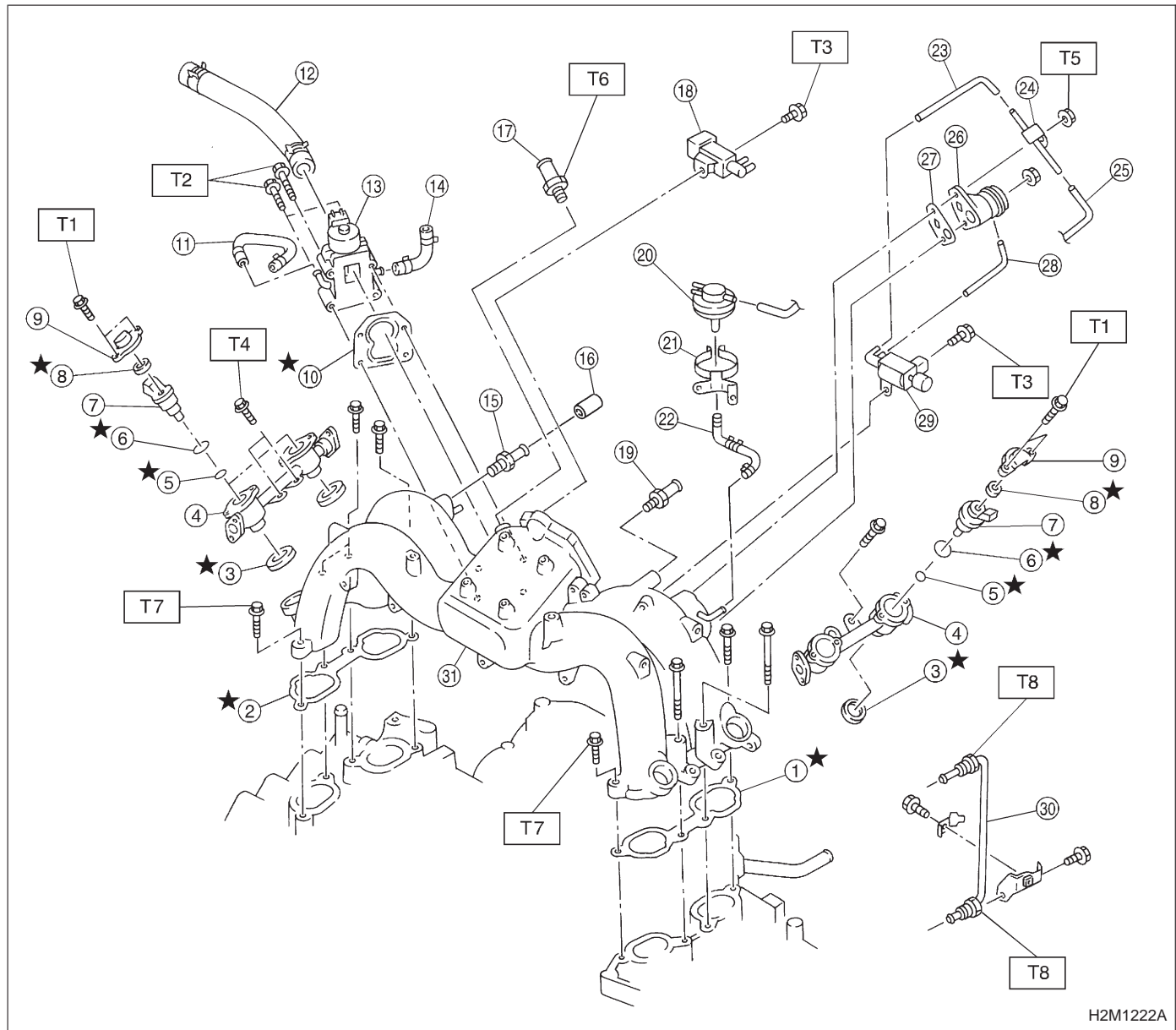
T6: 20±1 (2.0±0.1, 14.5±0.7)

T7: 27.0±7.4 (2.75±0.75, 19.9±5.4)

T8: 34±2 (3.5±0.2, 25.3±1.4)

T9: 39±5 (4.0±0.5, 28.9±3.6)

2. 2200 cc MODEL



H2M1222A

- | | |
|-----------------------------------|--------------------------------|
| ① Intake manifold gasket RH | ⑮ Nipple |
| ② Intake manifold gasket LH | ⑯ Rubber cap |
| ③ Fuel injector pipe insulator | ⑰ PCV valve |
| ④ Fuel injector pipe | ⑱ Purge control solenoid valve |
| ⑤ O-ring A | ⑲ Nipple |
| ⑥ O-ring B | ⑳ BPT |
| ⑦ Fuel injector | ㉑ BPT holder bracket |
| ⑧ Insulator | ㉒ Back pressure hose |
| ⑨ Fuel injector cap | ㉓ EGR vacuum hose A |
| ⑩ Gasket | ㉔ EGR vacuum pipe |
| ⑪ Engine coolant hose B | ㉕ EGR vacuum hose C |
| ⑫ Air by-pass hose | ㉖ EGR valve |
| ⑬ Idle air control solenoid valve | ㉗ Gasket |
| ⑭ Engine coolant hose A | ㉘ EGR vacuum hose B |

- | |
|----------------------|
| ㉙ EGR solenoid valve |
| ㉚ EGR pipe |
| ㉛ Intake manifold |

Tightening torque: N·m (kg-m, ft-lb)**T1: 3.4±0.5 (0.35±0.05, 2.5±0.4)****T2: 6.4±0.5 (0.65±0.05, 4.7±0.4)****T3: 16±1.5 (1.6±0.15, 11.6±1.1)****T4: 19±1 (1.9±0.1, 13.7±0.7)****T5: 19±1.5 (1.9±0.15, 13.7±1.1)****T6: 23±3 (2.3±0.3, 16.6±2.2)****T7: 25±2 (2.5±0.2, 18.1±1.4)****T8: 34±2 (3.5±0.2, 25.3±1.4)**

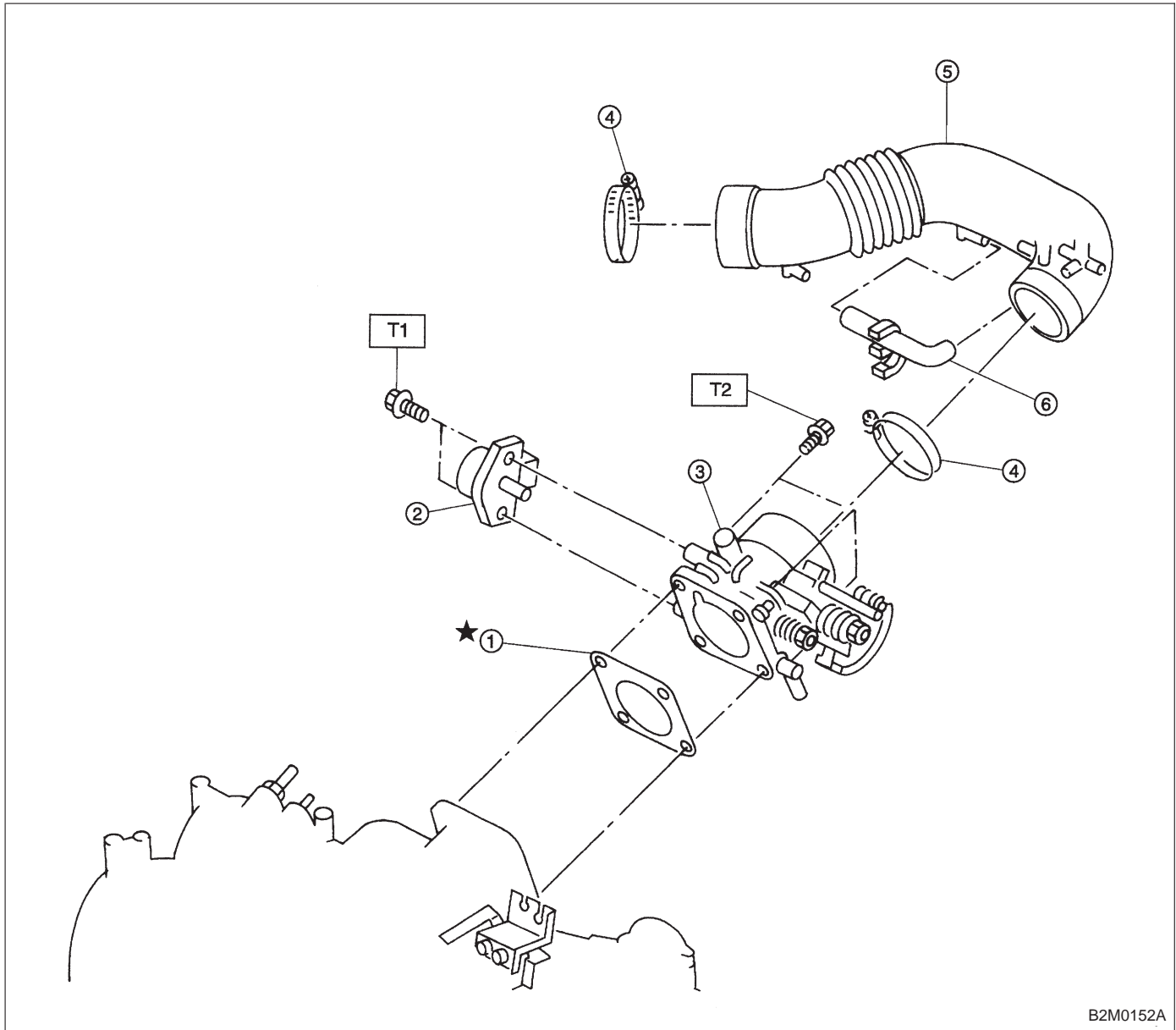
1. 1800 cc MODEL



- ⑨ By-pass hose
- ⑩ Throttle body

T3: 19±4.9 (1.9±0.5, 13.7±3.6)

2. 2200 cc MODEL



B2M0152A

- ① Gasket
- ② Throttle position sensor
- ③ Throttle body
- ④ Clamp
- ⑤ Air intake duct
- ⑥ By-pass hose

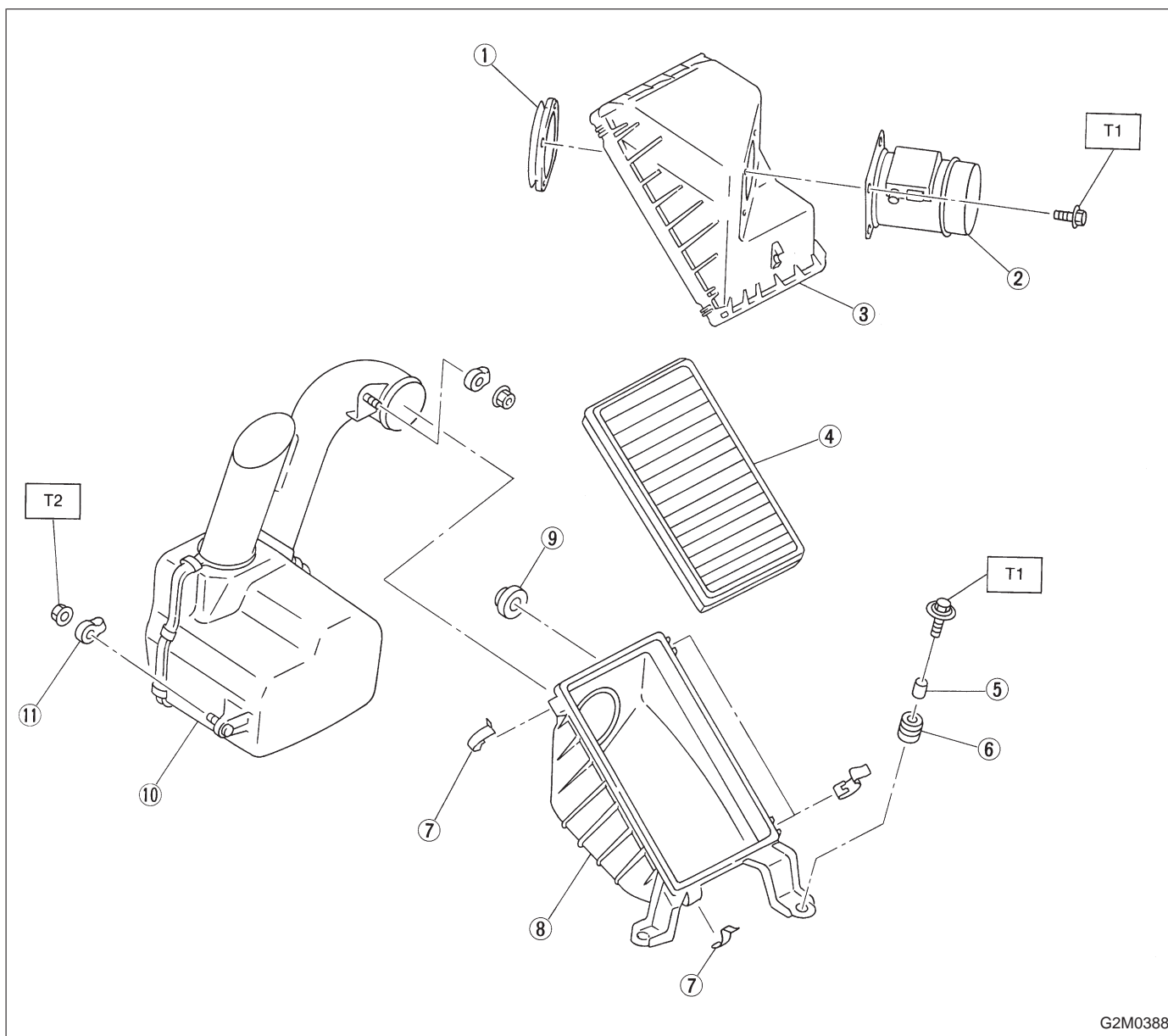
Tightening torque: N·m (kg-m, ft-lb)

T1: 2.2 ± 0.2 (0.22 ± 0.02 , 1.6 ± 0.1)

T2: 22 ± 2 (2.2 ± 0.2 , 15.9 ± 1.4)

3. Air Cleaner

1. 1800 cc MODEL



G2M0388

- ① Mass air flow sensor bracket
- ② Mass air flow sensor ASSY
- ③ Air cleaner upper cover
- ④ Air cleaner element
- ⑤ Spacer
- ⑥ Bush
- ⑦ Clip
- ⑧ Air cleaner case

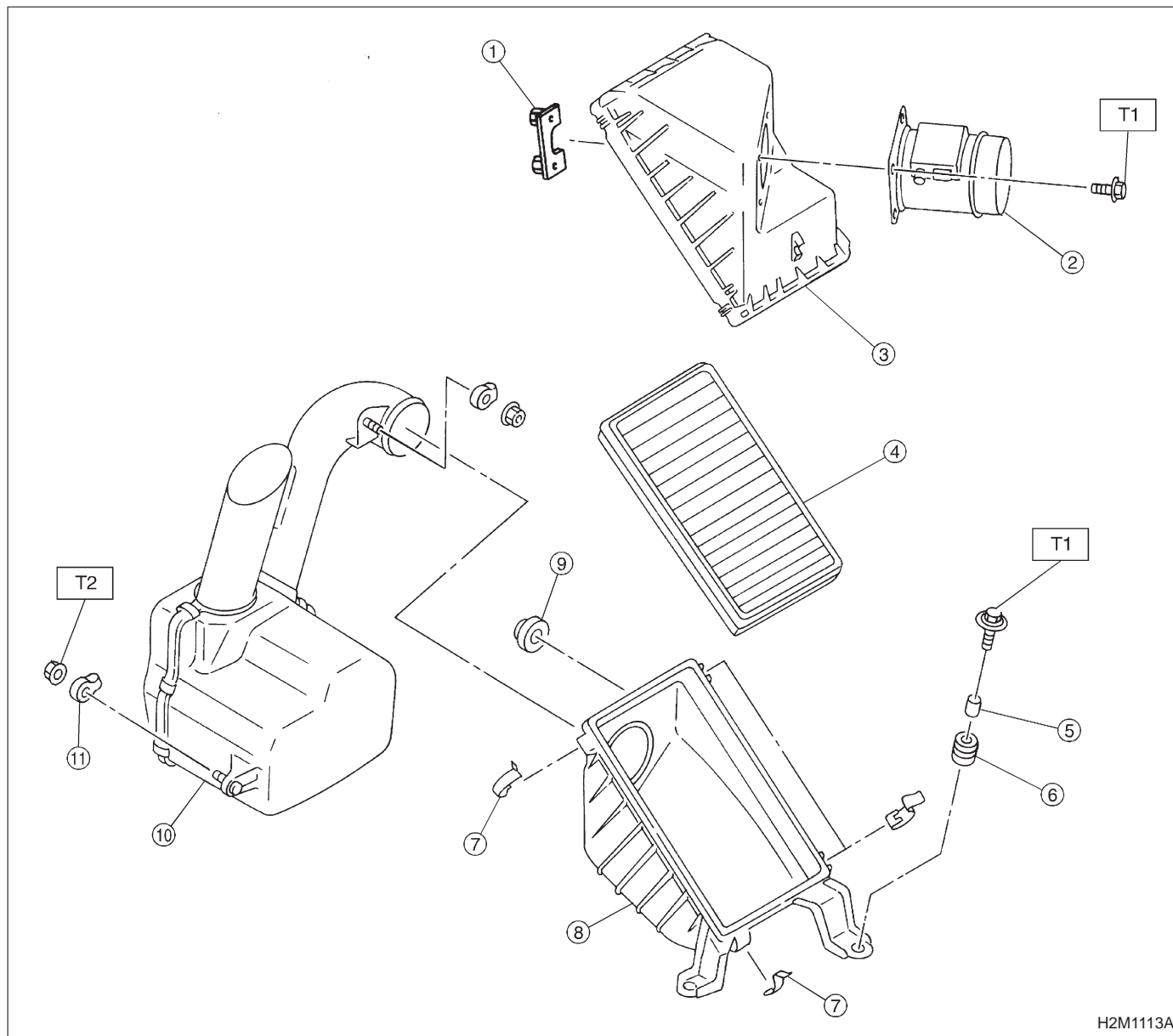
- ⑨ Cushion rubber
- ⑩ Resonator chamber ASSY
- ⑪ Clip

Tightening torque: N·m (kg·m, ft·lb)

T1: 7.4±2.0 (0.75±0.2, 5.4±1.4)

T2: 33±10 (3.4±1.0, 25±7)

2. 2200 cc MODEL



H2M1113A

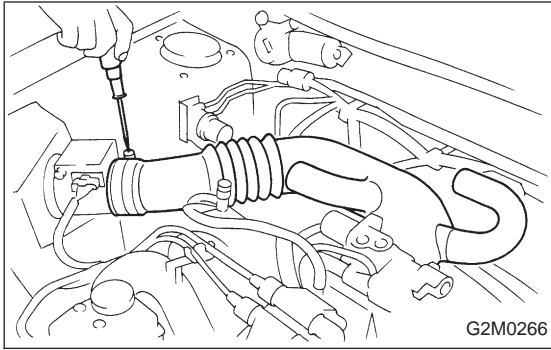
- ① Mass air flow sensor bracket
- ② Mass air flow sensor ASSY
- ③ Air cleaner upper cover
- ④ Air cleaner element
- ⑤ Spacer
- ⑥ Bush
- ⑦ Clip
- ⑧ Air cleaner case

- ⑨ Cushion rubber
- ⑩ Resonator chamber ASSY
- ⑪ Clip

Tightening torque: N·m (kg·m, ft·lb)

T1: 7.4±2.0 (0.75±0.2, 5.4±1.4)

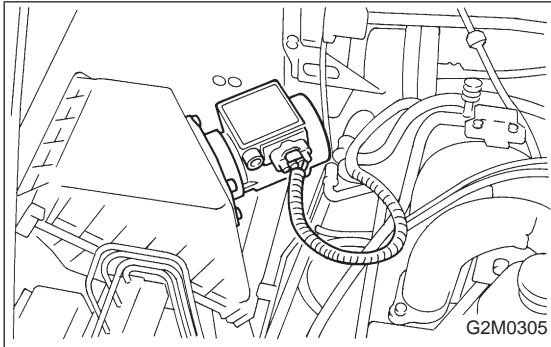
T2: 33±10 (3.4±1.0, 25±7)



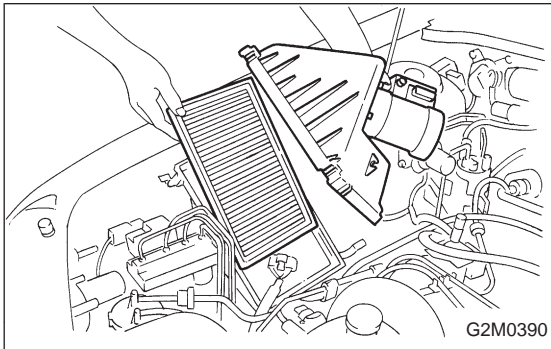
1. Air Cleaner and Air Intake Duct

A: REMOVAL AND INSTALLATION

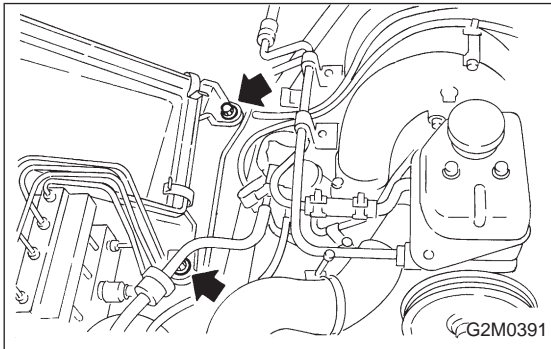
- 1) Loosen clamp which connect air intake duct to throttle body and mass air flow sensor.
- 2) Remove air intake duct.



- 3) Disconnect connector from mass air flow sensor.

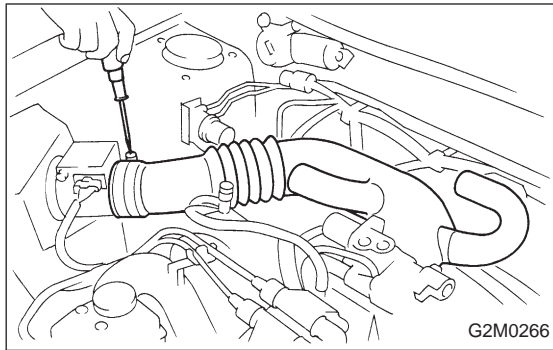


- 4) Remove clip of air cleaner upper cover.
- 5) Remove air cleaner element.



- 6) Remove air cleaner lower case.

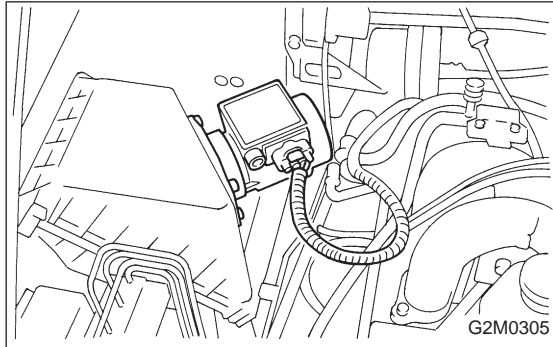
- 7) Installation is in the reverse order of removal.



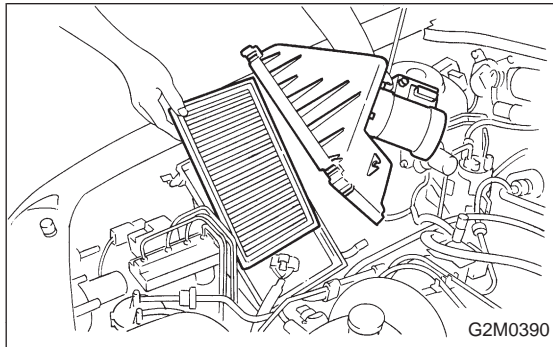
2. Mass Air Flow Sensor

A: REMOVAL AND INSTALLATION

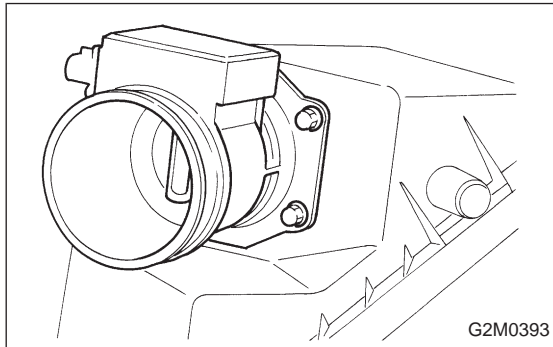
1) Remove air intake duct.



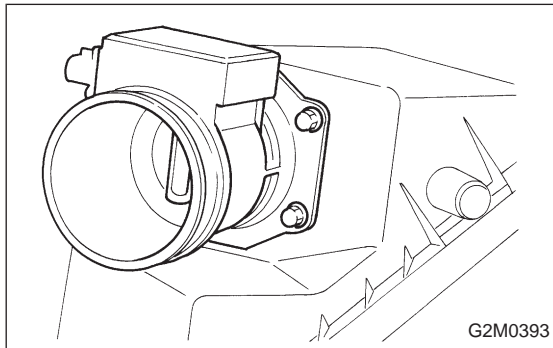
2) Disconnect connector from mass air flow sensor.



3) Remove air cleaner upper cover.



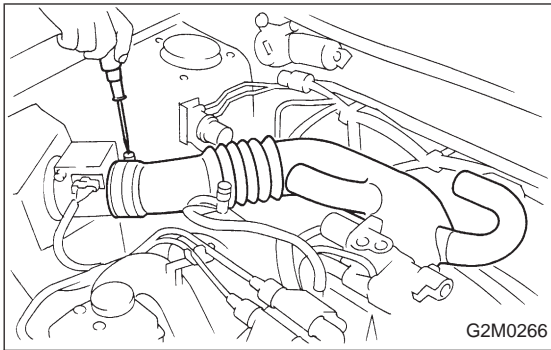
4) Remove mass air flow sensor from air cleaner upper cover.



5) Installation is in the reverse order of removal.

Tightening torque:

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

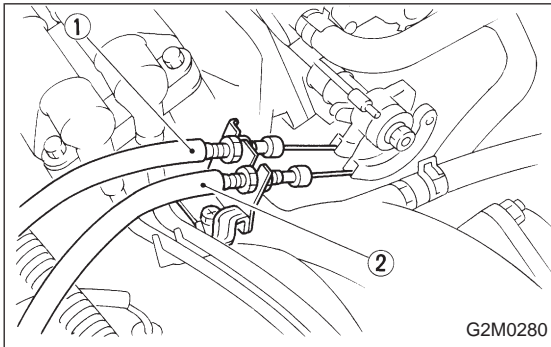


3. Throttle Body

A: REMOVAL AND INSTALLATION

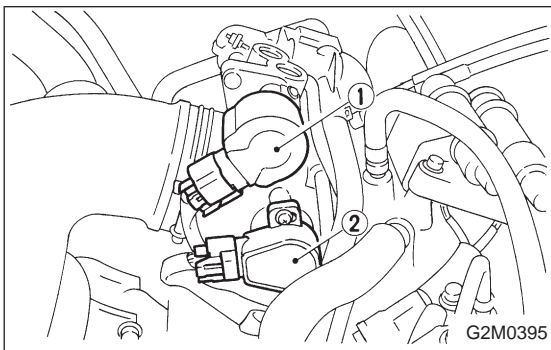
1. 1800 cc MODEL

1) Remove air intake duct.



2) Disconnect accelerator cable (2).

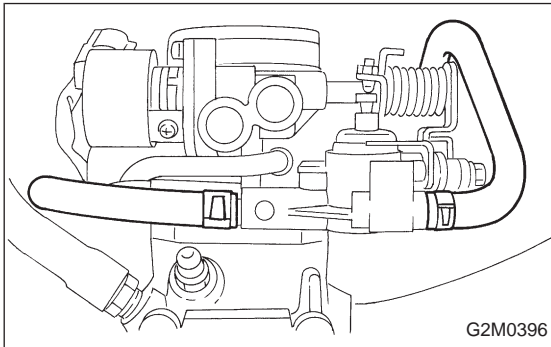
3) Disconnect cruise control cable (1). (With cruise control)



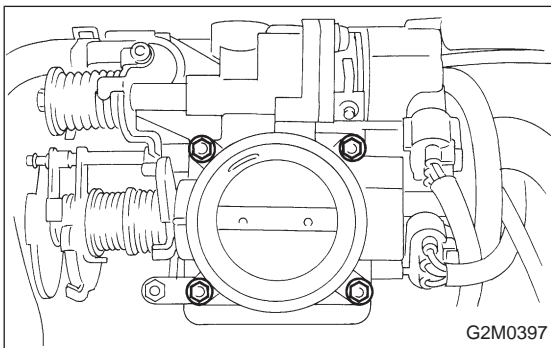
4) Disconnect connectors from idle air control solenoid valve and throttle position sensor.

① Idle air control solenoid valve

② Throttle position sensor

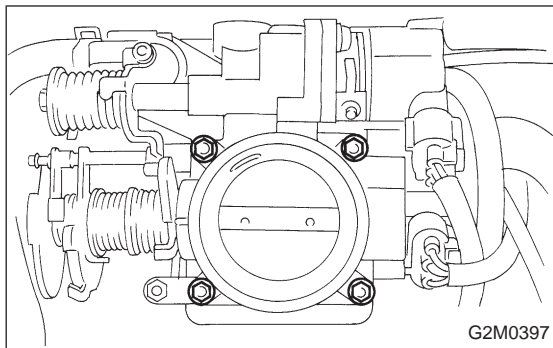


5) Disconnect water hoses from throttle body.



6) Remove bolts which install throttle body to collector chamber.

3. Throttle Body



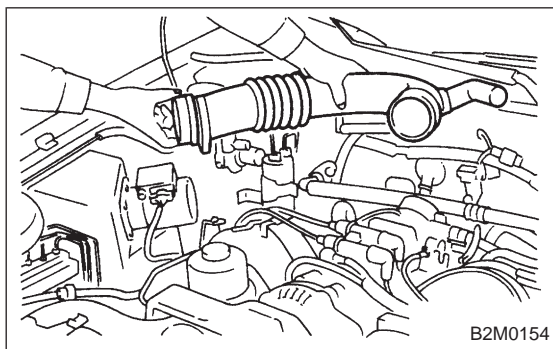
7) Installation is in the reverse order of removal.

CAUTION:

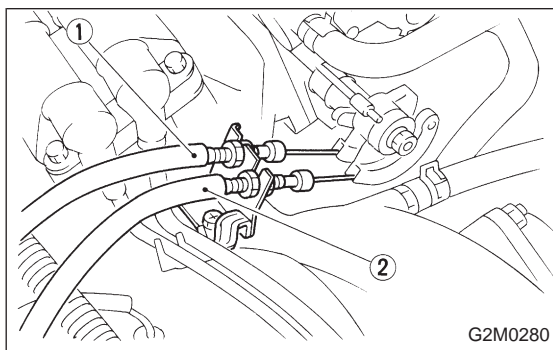
Always use a new gasket.

Tightening torque:

$19 \pm 4.9 \text{ N} \cdot \text{m}$ ($1.9 \pm 0.5 \text{ kg} \cdot \text{m}$, $13.7 \pm 3.6 \text{ ft} \cdot \text{lb}$)

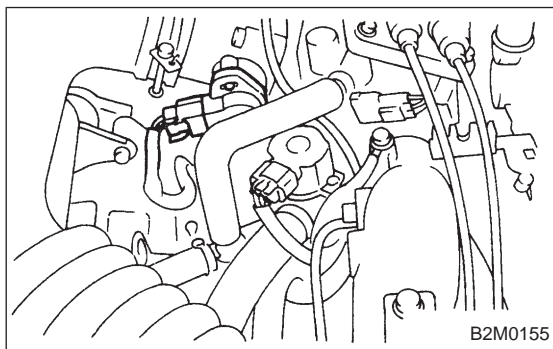
**2. 2200 cc MODEL**

1) Remove air intake duct.

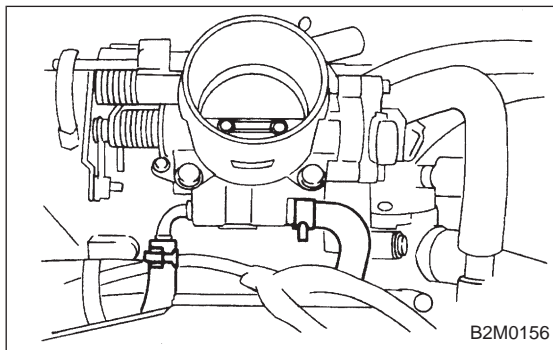


2) Disconnect accelerator cable ①.

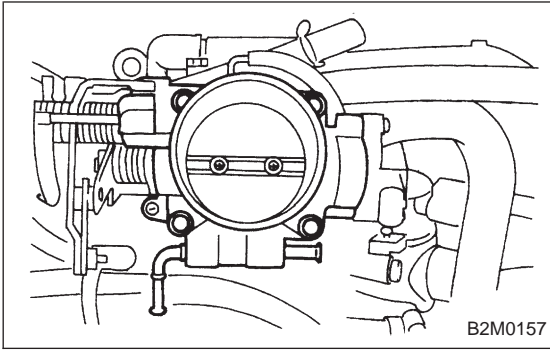
3) Disconnect cruise control cable ②. (With cruise control model)



4) Disconnect connector from throttle position sensor.



5) Disconnect engine coolant hoses from throttle body.



6) Remove bolts which install throttle body to collector chamber.

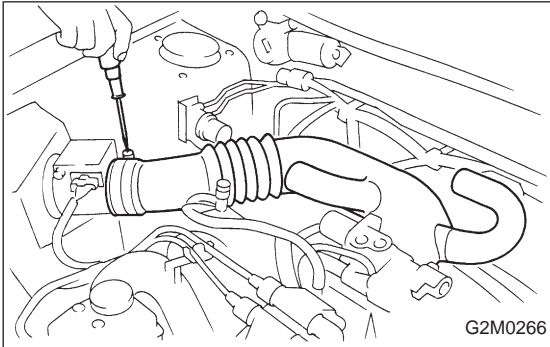
7) Installation is in the reverse order of removal.

CAUTION:

Always use a new gasket.

Tightening torque:

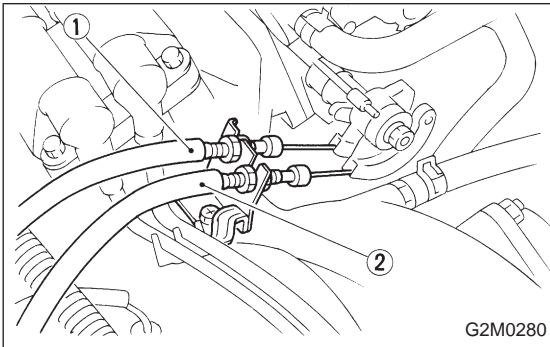
22 ± 2 N·m (2.2 ± 0.2 kg·m, 15.9 ± 1.4 ft·lb)



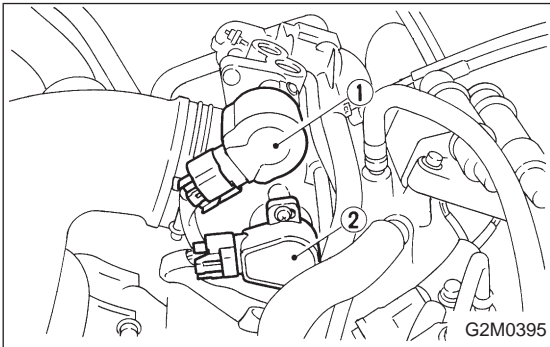
4. Collector Chamber and Intake Manifold

A: REMOVAL

- 1) Release fuel pressure. <Ref. to 2-8 [W1A0].>
- 2) Remove air intake duct.

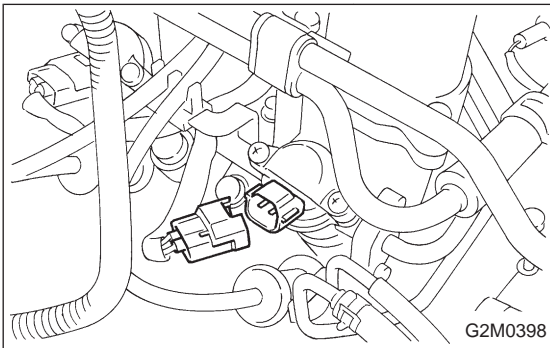


- 3) Disconnect accelerator cable ②.
- 4) Disconnect cruise control cable ①. (With cruise control)



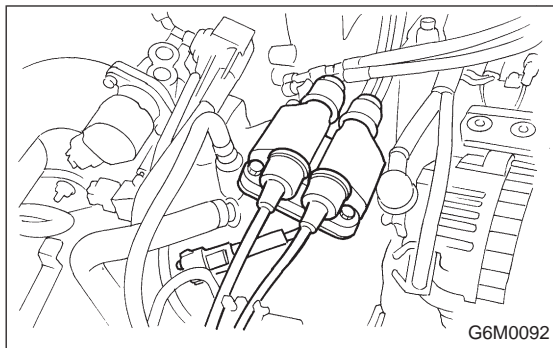
5) Disconnect connectors from idle air control solenoid valve and throttle position sensor.

- ① Idle air control solenoid valve
- ② Throttle position sensor

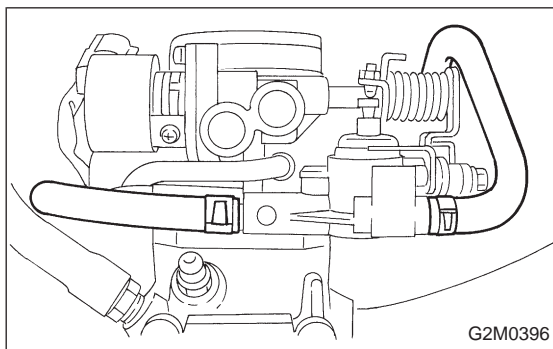


6) Disconnect connectors from fuel injectors.

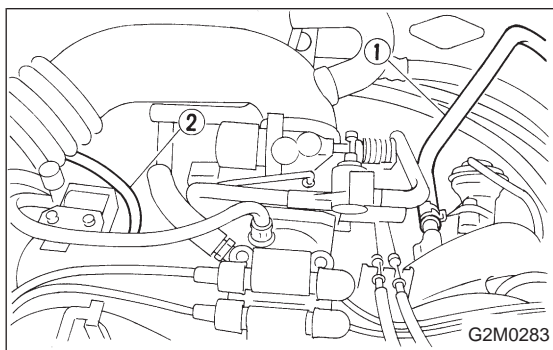
4. Collector Chamber and Intake Manifold



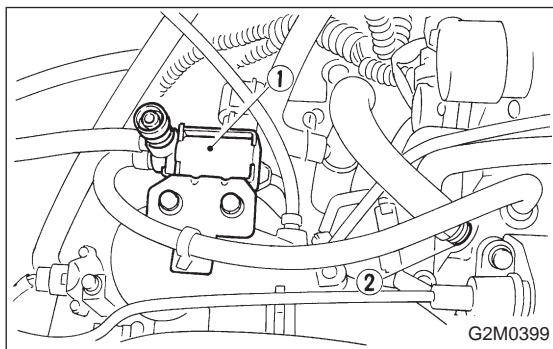
- 7) Disconnect spark plug cords from ignition coil.
- 8) Disconnect connector from ignition coil.



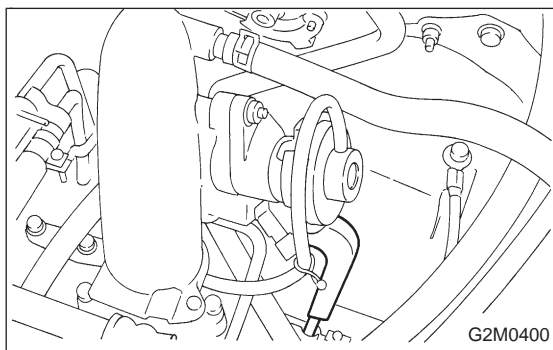
- 9) Disconnect water hose from throttle body.



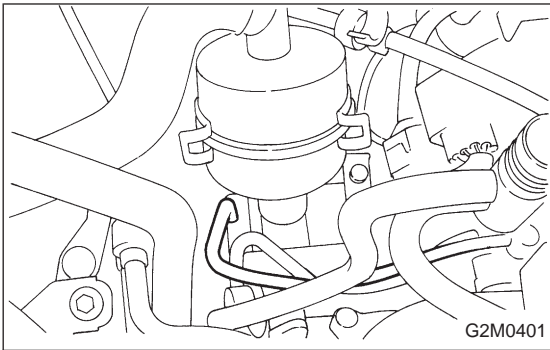
- 10) Disconnect brake booster hose ①.
- 11) Disconnect cruise control vacuum hose ②. (With cruise control)



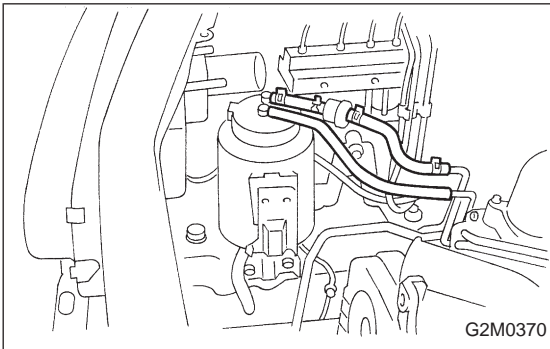
- 12) Disconnect air by-pass hose from FICD solenoid valve. (With A/C)
- 13) Disconnect emission hose from PCV valve.
- ① FICD solenoid valve
- ② PCV valve



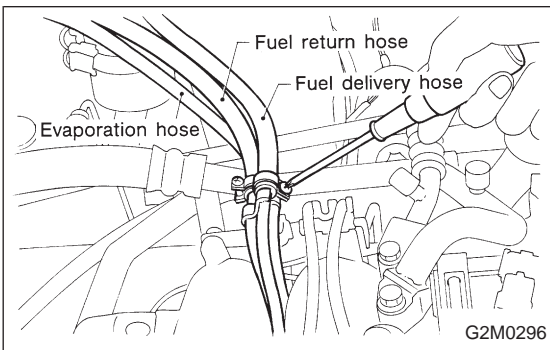
- 14) Remove cover, and disconnect pipe from EGR valve.



15) Disconnect hose from air suction valve.

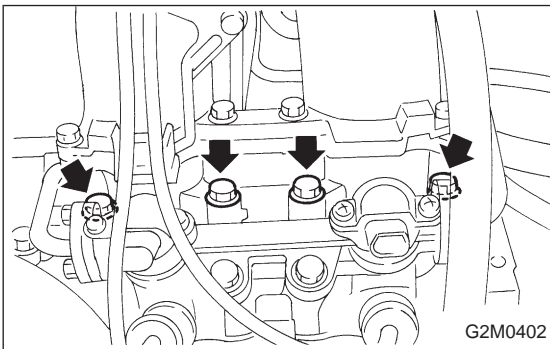


16) Disconnect canister hose from pipe.



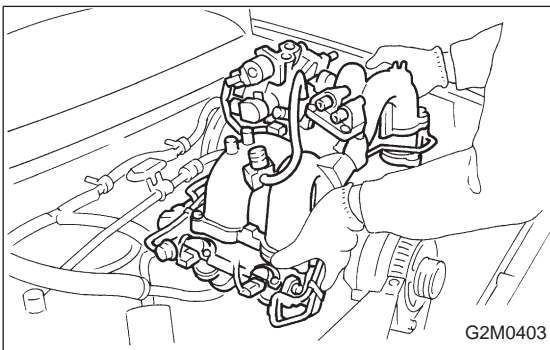
17) Disconnect fuel hoses from pipes.

WARNING:
Catch fuel from hoses in a container.



18) Remove bolts which hold power steering pipe bracket onto intake manifold.

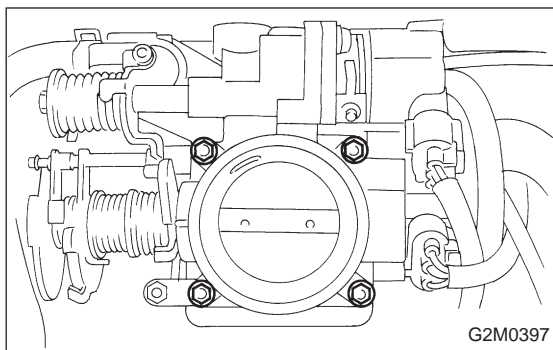
19) Remove bolts which hold intake manifold onto cylinder heads.



20) Disconnect the following connectors on inner side of collector chamber.

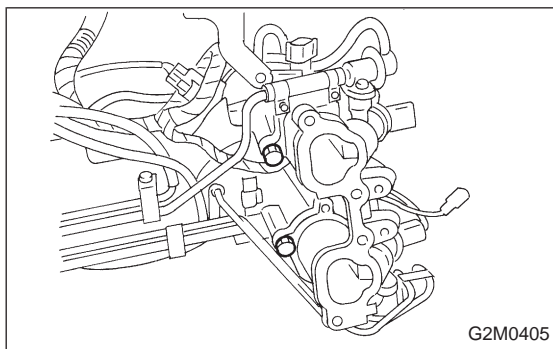
- ① Purge control solenoid valve
- ② EGR solenoid valve
- ③ Air suction solenoid valve

21) Remove collector chamber and intake manifold.

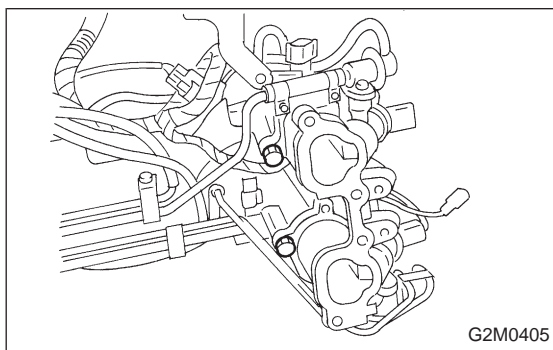


B: DISASSEMBLY

1) Remove throttle body from collector chamber.



2) Remove intake manifold from collector chamber.



C: ASSEMBLY

1) Assemble intake manifold from collector chamber.

CAUTION:

Replace gaskets with new ones.

Tightening torque:

1800 cc model:

$12 \pm 3 \text{ N} \cdot \text{m}$ ($1.2 \pm 0.3 \text{ kg} \cdot \text{m}$, $8.7 \pm 2.2 \text{ ft} \cdot \text{lb}$)

2) Assemble throttle body from collector chamber.

CAUTION:

Replace gasket with a new one.

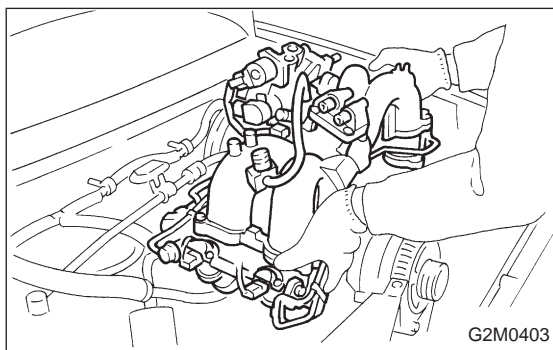
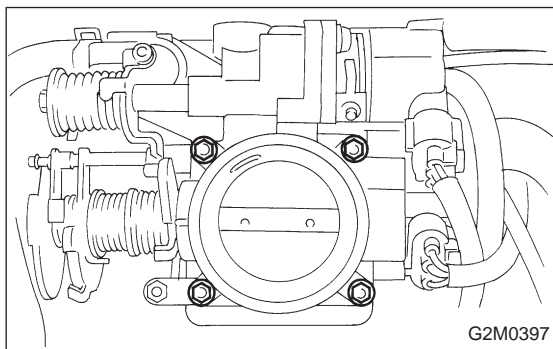
Tightening torque:

1800 cc model:

$19 \pm 4.9 \text{ N} \cdot \text{m}$ ($1.9 \pm 0.5 \text{ kg} \cdot \text{m}$, $13.7 \pm 3.6 \text{ ft} \cdot \text{lb}$)

2200 cc model:

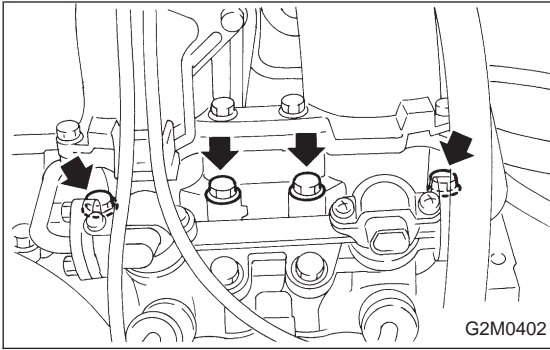
$22 \pm 2 \text{ N} \cdot \text{m}$ ($2.2 \pm 0.2 \text{ kg} \cdot \text{m}$, $15.9 \pm 1.4 \text{ ft} \cdot \text{lb}$)



D: INSTALLATION

1) Connect following connectors on inner side of collector chamber.

- Purge control solenoid valve
- EGR solenoid valve
- Air suction solenoid valve



2) Install intake manifold and collector chamber onto cylinder heads.

CAUTION:

Always use new gaskets.

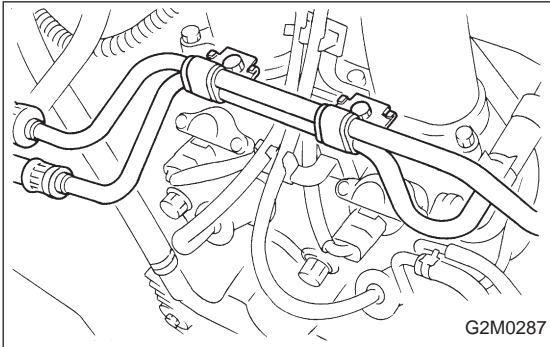
Tightening torque:

1800 cc model:

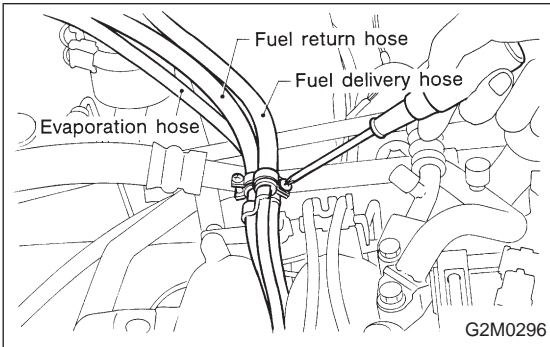
27.0 ± 7.4 N·m (2.75 ± 0.75 kg-m, 19.9 ± 5.4 ft-lb)

2200 cc model:

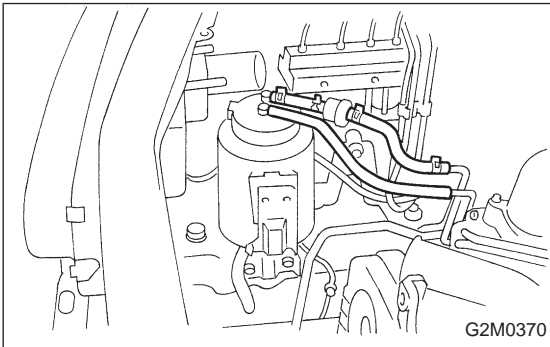
25 ± 2 N·m (2.5 ± 0.2 kg-m, 18.1 ± 1.4 ft-lb)



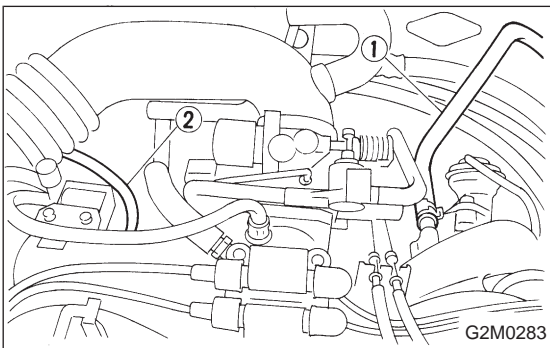
3) Install power steering pipe bracket onto intake manifold.



4) Connect fuel hoses.



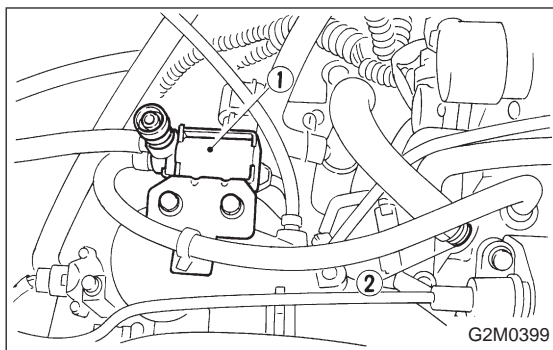
5) Connect canister hoses.



6) Connect cruise control vacuum hose ②. (With cruise control)

7) Connect brake booster vacuum hose ①.

4. Collector Chamber and Intake Manifold

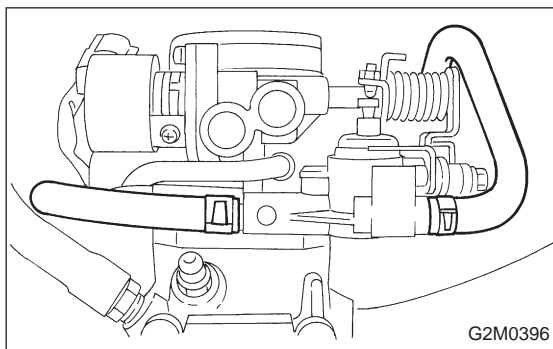


8) Connect air by-pass hose to FICD solenoid valve. (With A/C)

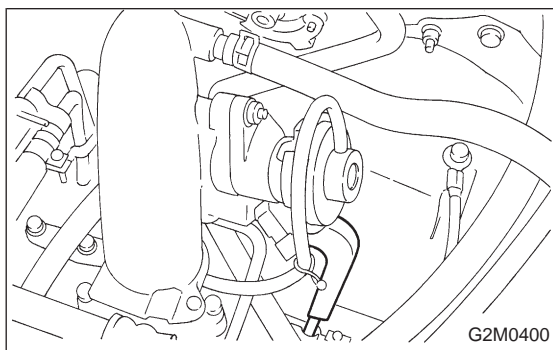
9) Connect emission hose to PCV valve.

① FICD solenoid valve

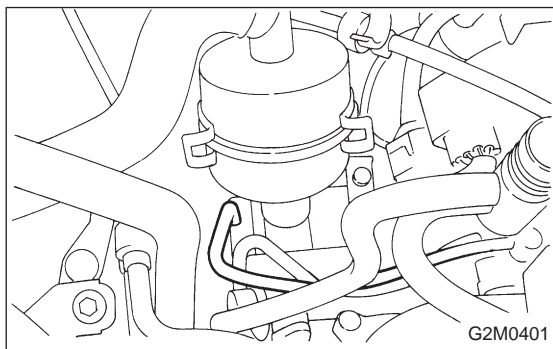
② PCV valve



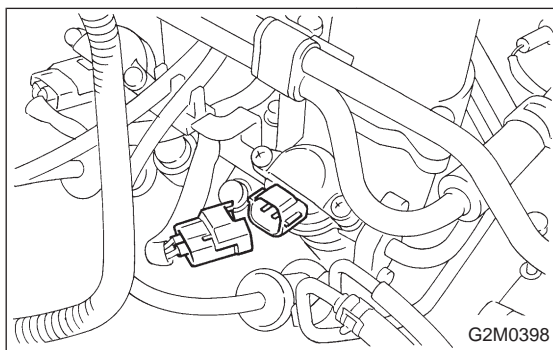
10) Connect engine coolant hoses to throttle body.



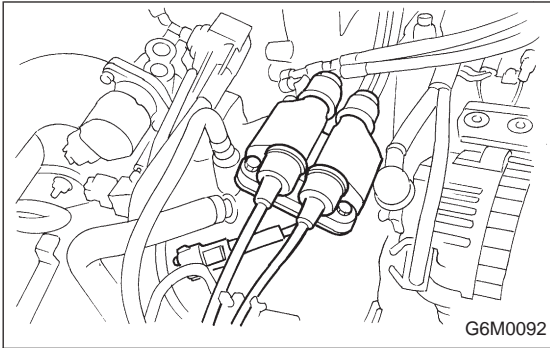
11) Connect pipe to EGR valve, and install cover.



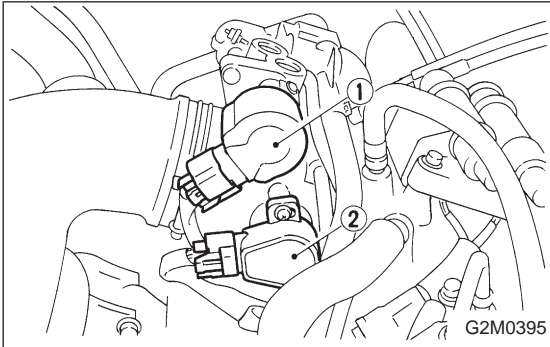
12) Connect hose to air suction valve.



13) Connect connectors to fuel injectors.

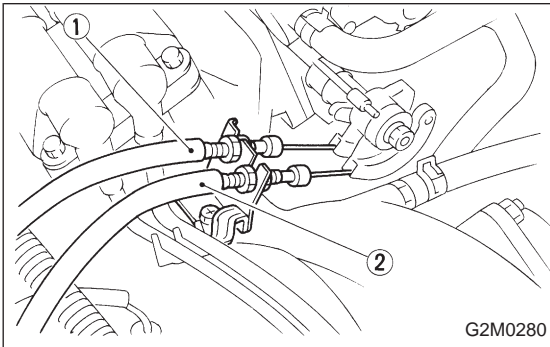


- 14) Connect spark plug cords to ignition coil.
- 15) Connect connector to ignition coil.

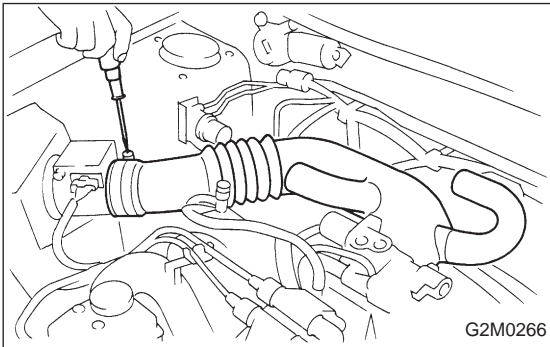


- 16) Connect connectors to throttle position sensor and idle air control solenoid valve.

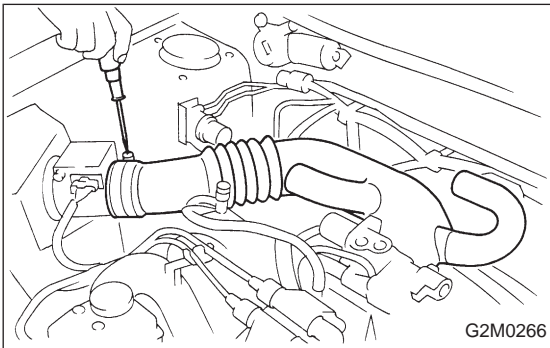
- ① Idle air control solenoid valve
- ② Throttle position sensor



- 17) Connect accelerator cable ②.
- 18) Connect cruise control cable ①. (With cruise control)



- 19) Install air intake duct.

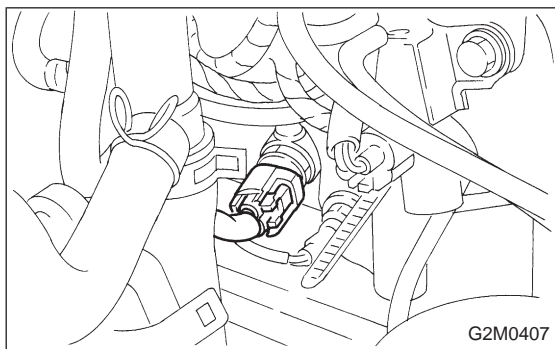


5. Engine Coolant Temperature Sensor

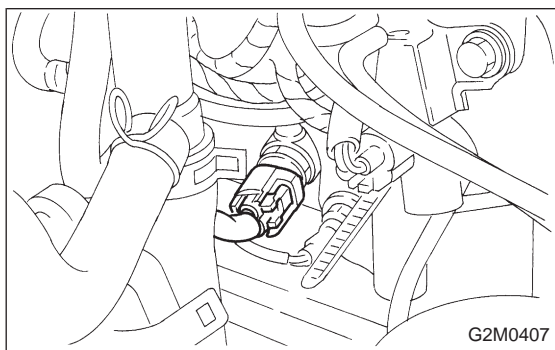
A: REMOVAL AND INSTALLATION

- 1) Remove air intake duct.

- 2) Disconnect connector from engine coolant temperature sensor.



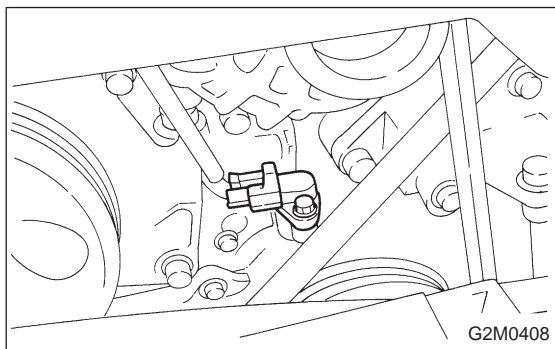
- 3) Remove engine coolant temperature sensor.



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

Tightening torque:

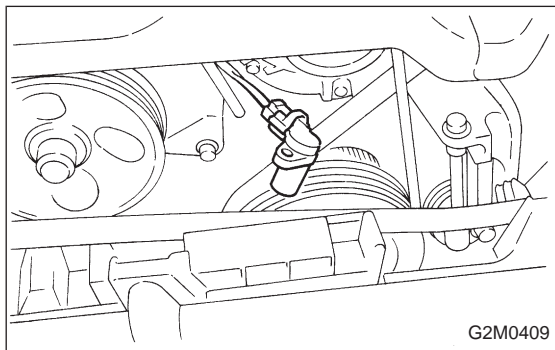
25 ± 3 N·m (2.5 ± 0.3 kg-m, 18.1 ± 2.2 ft-lb)



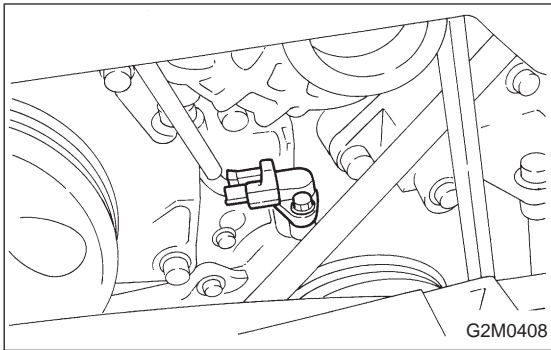
6. Crankshaft Position Sensor

A: REMOVAL AND INSTALLATION

- 1) Remove bolt which install crankshaft position sensor to cylinder block.



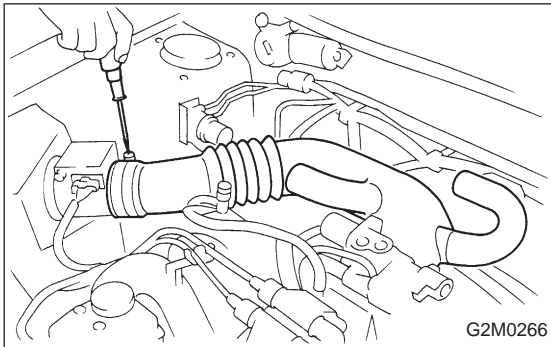
- 2) Remove crankshaft position sensor, and disconnect connector from it.



3) Installation is in the reverse order of removal.

Tightening torque:

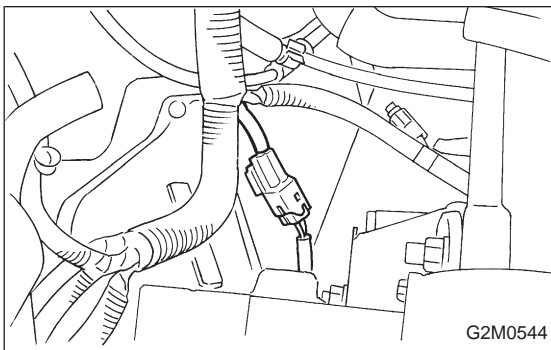
49 N·m (5.0 kg-m, 36 ft-lb)



7. Front Oxygen Sensor

A: REMOVAL

1) Remove air intake duct.

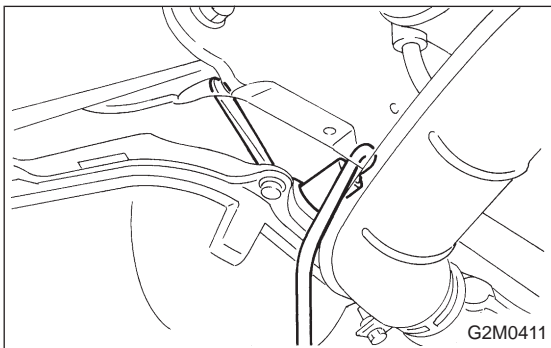


2) Disconnect connector from front oxygen sensor.

3) Lift up the vehicle.

4) Apply SUBARU CRC or its equivalent to threaded portion of oxygen sensor, and leave it for one minute or more.

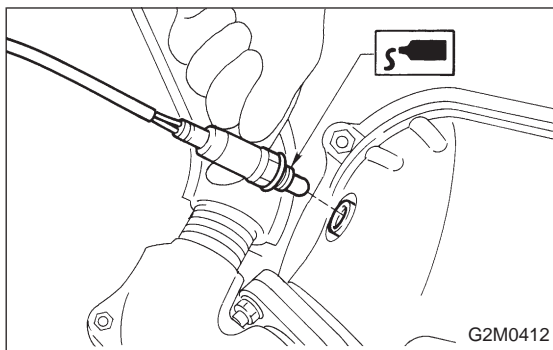
SUBARU CRC (Part No. 004301003)



5) Remove front oxygen sensor.

CAUTION:

When removing front oxygen sensor, do not force oxygen sensor especially when exhaust pipe is cold, otherwise it will damage exhaust pipe.



B: INSTALLATION

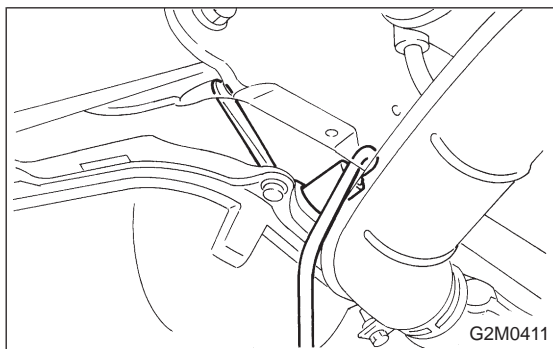
1) Before installing front oxygen sensor, apply anti-seize compound only to threaded portion of oxygen sensor to make the next removal easier.

Anti-seize compound:

SS-30 by JET LUBE

CAUTION:

Never apply anti-seize compound to protector of oxygen sensor.



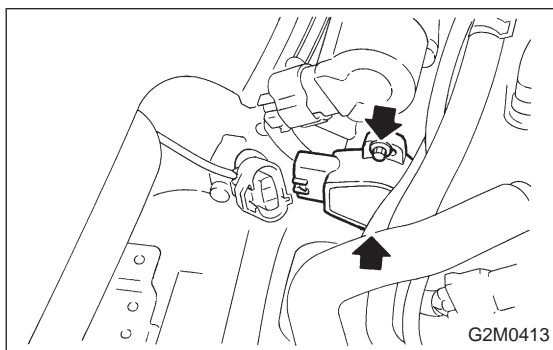
2) Install front oxygen sensor.

Tightening torque:

$21 \pm 3 \text{ N}\cdot\text{m}$ ($2.1 \pm 0.3 \text{ kg}\cdot\text{m}$, $15.2 \pm 2.2 \text{ ft}\cdot\text{lb}$)

3) Connect connector of front oxygen sensor.

4) Install air intake duct.



8. Throttle Position Sensor

A: REMOVAL AND INSTALLATION

1. 1800 cc MODEL

1) Disconnect connector from throttle position sensor.

2) Remove throttle position sensor holding screws, and remove it.

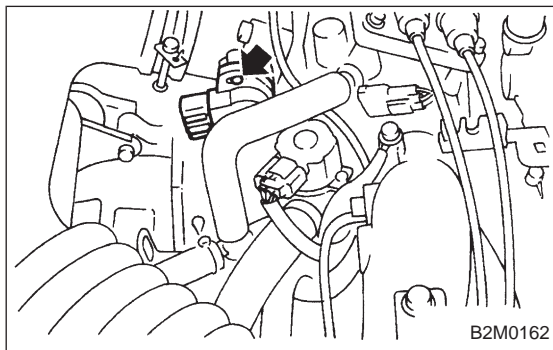
3) Installation is in the reverse order of removal.

Tightening torque:

$2.2 \pm 0.2 \text{ N}\cdot\text{m}$ ($0.22 \pm 0.02 \text{ kg}\cdot\text{m}$, $1.6 \pm 0.1 \text{ ft}\cdot\text{lb}$)

CAUTION:

When installing throttle position sensor, adjust to the specified data.



2. 2200 cc MODEL

1) Disconnect connector from throttle position sensor.

2) Remove throttle position sensor holding screws, and remove it.

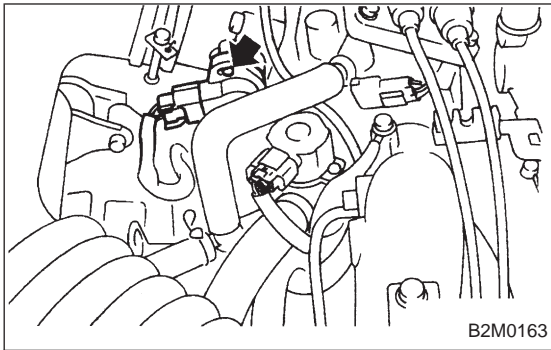
3) Installation is in the reverse order of removal.

Tightening torque:

$2.2 \pm 0.2 \text{ N}\cdot\text{m}$ ($0.22 \pm 0.02 \text{ kg}\cdot\text{m}$, $1.6 \pm 0.1 \text{ ft}\cdot\text{lb}$)

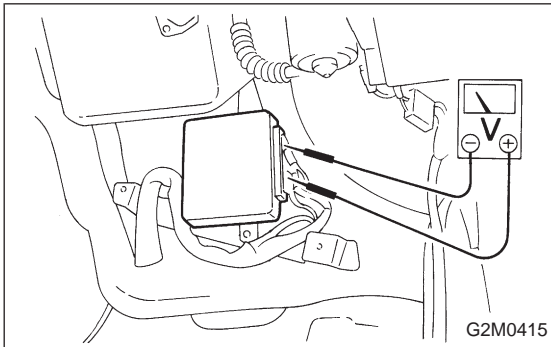
CAUTION:

When installing throttle position sensor, adjust to the specified data.



B: ADJUSTMENT

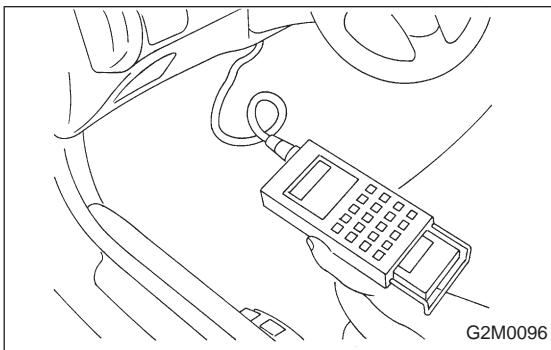
- 1) Turn ignition switch to OFF.
- 2) Loosen throttle position sensor holding screws.



- 3) When using voltage meter;
 - (1) Take out ECM.
 - (2) Turn ignition switch to ON.
 - (3) Adjust throttle position sensor so that signal voltage to ECM may be in specification.

Connector & Terminal / Specified voltage
(E29) No. 24 — (E29) No. 22 / 0.45 — 0.55 V
[Fully closed.]

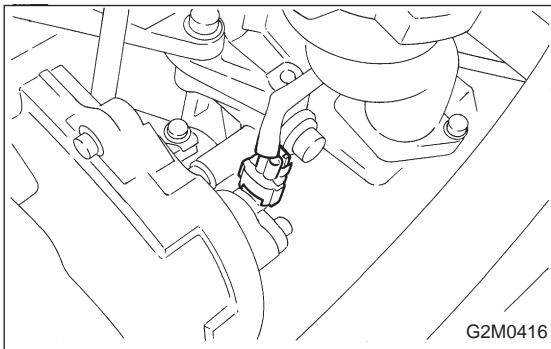
- (4) Tighten throttle position sensor holding screws.



- 4) When using Subaru Select Monitor;
 - (1) Connect Subaru Select Monitor to the data link connector.
 - (2) Turn ignition switch to ON and SSM switch to ON.
 - (3) Select mode "F10".
 - (4) Adjust throttle position sensor to specified data.

Condition / Specified data.
Throttle fully closed / 0.50 V

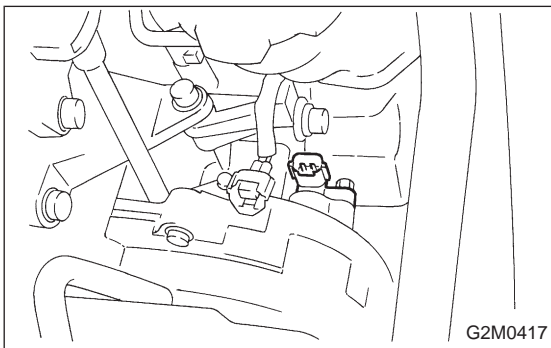
- (5) Tighten throttle position sensor holding screws.



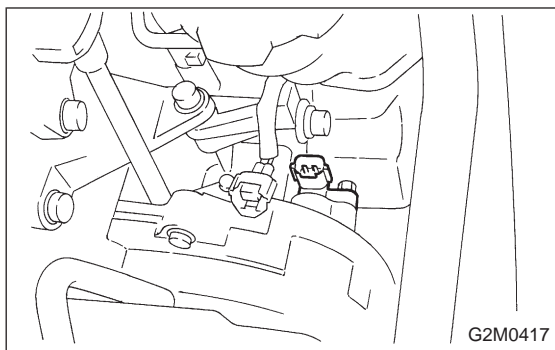
9. Camshaft Position Sensor

A: REMOVAL AND INSTALLATION

- 1) Disconnect connector from camshaft position sensor.



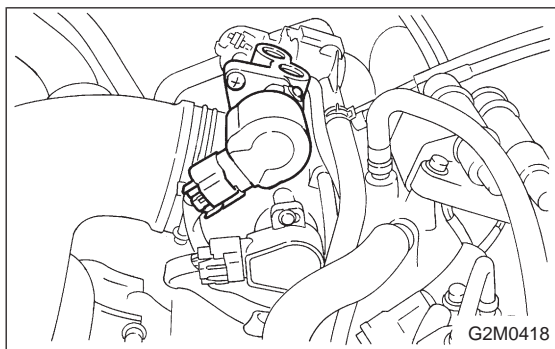
- 2) Remove camshaft position sensor from camshaft support LH.



3) Installation is in the reverse order of removal.

Tightening torque:

49 N·m (5.0 kg-m, 36 ft-lb)

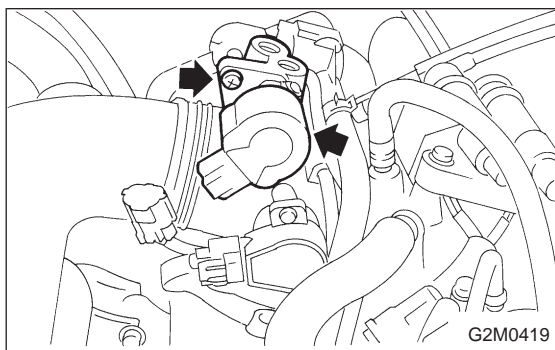


10. Idle Air Control Solenoid Valve

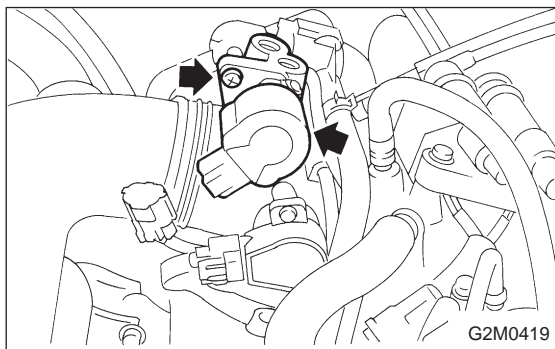
A: REMOVAL AND INSTALLATION

1. 1800 cc MODEL

1) Disconnect connector from idle air control solenoid valve.



2) Remove idle air control solenoid valve from throttle body.



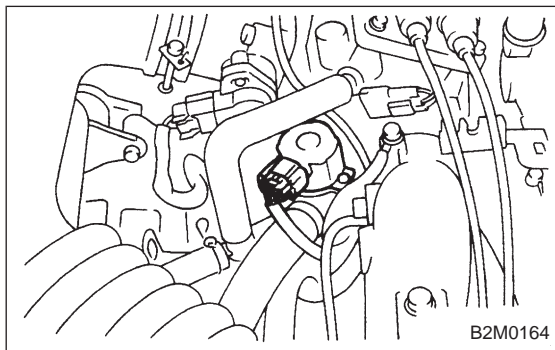
3) Installation is in the reverse order of removal.

CAUTION:

Replace gasket with a new one.

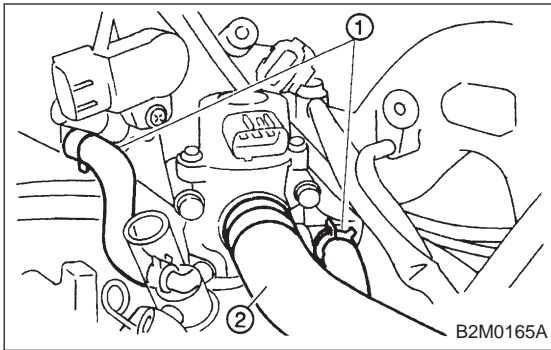
Tightening torque:

6.0±0.8 N·m (0.61±0.08 kg-m, 4.4±0.6 ft-lb)

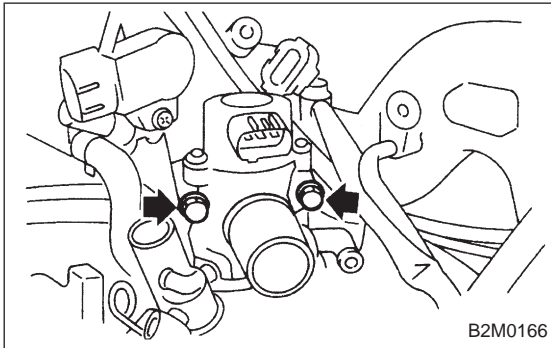


2. 2200 cc MODEL

1) Disconnect connector from idle air control solenoid valve.



- 2) Disconnect engine coolant hoses ① from idle air control solenoid valve.
- 3) Disconnect air by-pass hose ② from idle air control solenoid valve.



- 4) Remove idle air control solenoid valve from throttle body.

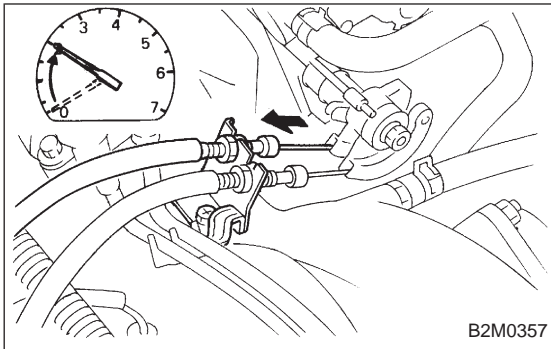
- 5) Installation is in the reverse order of removal.

CAUTION:

Replace gasket with a new one.

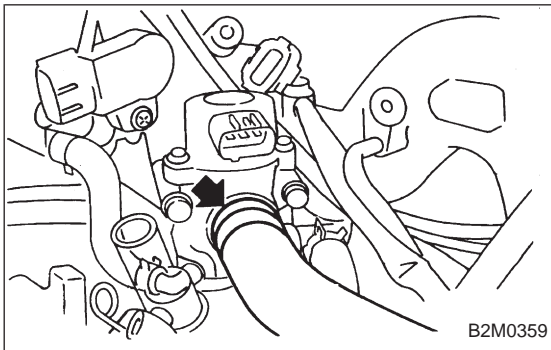
Tightening torque:

$6.4 \pm 0.5 \text{ N} \cdot \text{m}$ ($0.65 \pm 0.05 \text{ kg} \cdot \text{m}$, $4.7 \pm 0.4 \text{ ft} \cdot \text{lb}$)

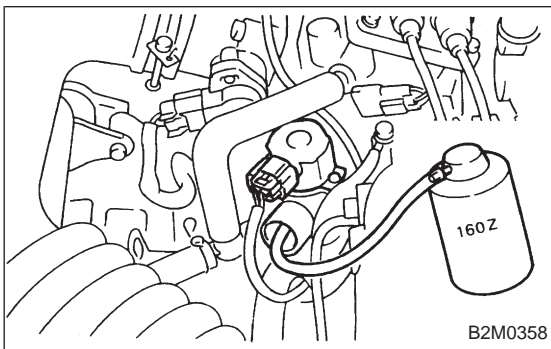


B: CLEANING (2200 cc MODEL)

- 1) Start and warm-up the engine until radiator fan operates.
- 2) Hold throttle valve so that engine speed is at 2,000 rpm.



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



- 4) Slowly pour one can (16 oz) of cleaner into by-pass air hole.

Cleaner:

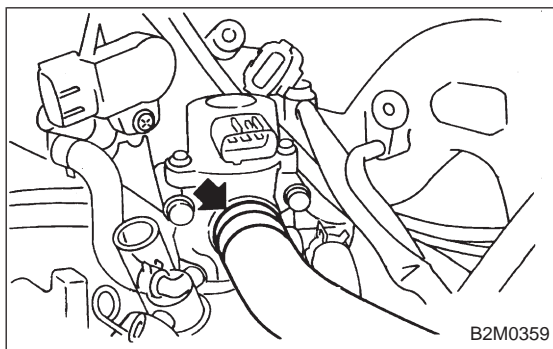
- Part No. 1050002 GM Top Engine Cleaner
- Part No. X66-A AC Delco Carburetor Tune-up Conditioner

- 5) Leave the engine running for five minutes.

NOTE:

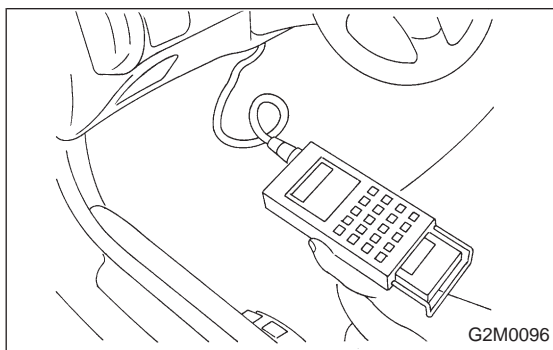
White smoke comes out of the muffler until the cleaner is used up.

6) Stop the engine.



7) Release the throttle valve.

8) Connect by-pass hose to idle air control solenoid valve.



9) Check duty ratio of idle air control solenoid valve with Subaru Select Monitor.

(1) Connect Subaru Select Monitor to the data link connector.

(2) Start the engine and turn Subaru Select Monitor switch to ON.

(3) Select mode "F12".

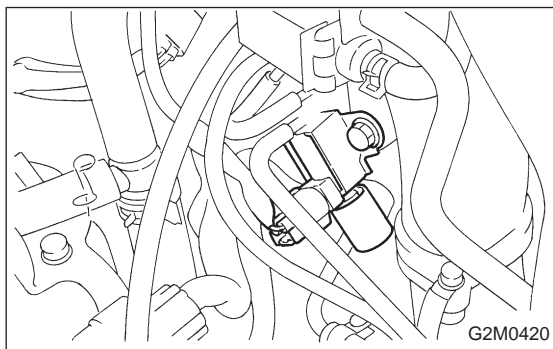
(4) Make sure duty ratio on radiator fan and electric load is OFF.

Specified data: 25 — 40%

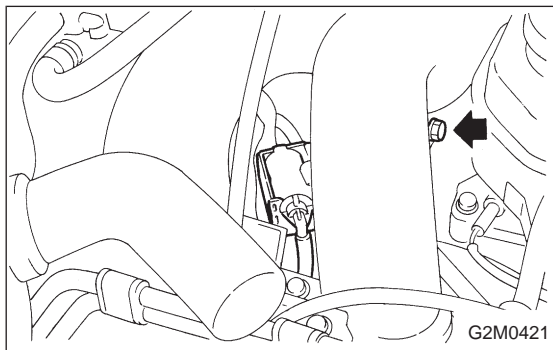
11. Purge Control Solenoid Valve

A: REMOVAL

1) Remove air suction solenoid valve.



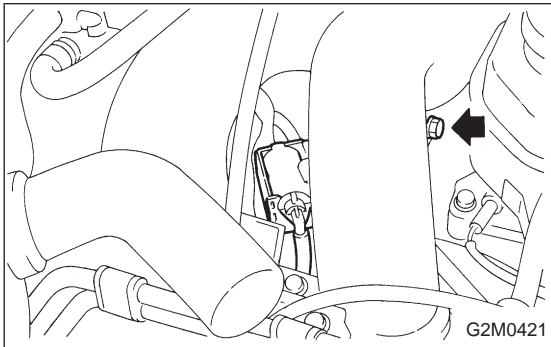
2) Remove bolt which installs bracket of purge control solenoid valve onto collector chamber.



- 3) Take out purge control solenoid valve with bracket through the bottom of the collector chamber.
- 4) Disconnect connector and hoses from purge control solenoid valve.

B: INSTALLATION

- 1) Connect hoses and connector to purge control solenoid valve.
- 2) Install purge control solenoid valve with bracket through collector chamber.



- 3) Tighten bolt which installs bracket of purge control solenoid valve onto collector chamber.

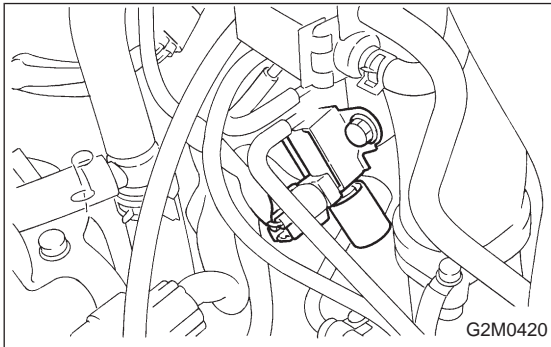
Tightening torque:

1800 cc model:

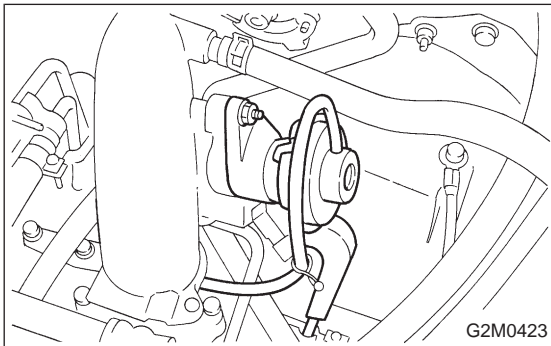
$19 \pm 4.9 \text{ N} \cdot \text{m}$ ($1.9 \pm 0.5 \text{ kg} \cdot \text{m}$, $13.7 \pm 3.6 \text{ ft} \cdot \text{lb}$)

2200 cc model:

$16 \pm 1.5 \text{ N} \cdot \text{m}$ ($1.6 \pm 0.15 \text{ kg} \cdot \text{m}$, $11.6 \pm 1.1 \text{ ft} \cdot \text{lb}$)



- 4) Install air suction solenoid valve.



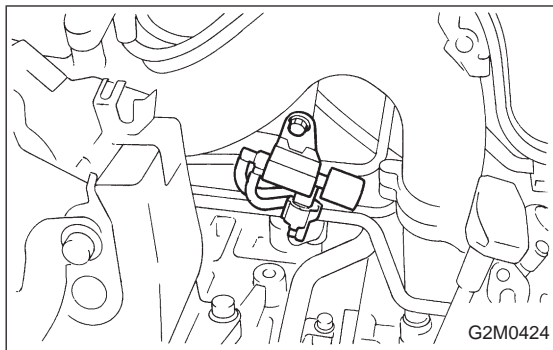
12. EGR Valve

A: REMOVAL AND INSTALLATION

- 1) Disconnect vacuum hose form EGR valve.
- 2) Remove bolts which install EGR valve onto collector chamber.
- 3) Installation is in the reverse order of removal.

Tightening torque:

$19 \pm 1.5 \text{ N} \cdot \text{m}$ ($1.9 \pm 0.15 \text{ kg} \cdot \text{m}$, $13.7 \pm 1.1 \text{ ft} \cdot \text{lb}$)



13. EGR Solenoid Valve

A: REMOVAL AND INSTALLATION

- 1) Remove bolt which installs EGR solenoid valve onto collector chamber.
- 2) Disconnect hoses and connector from EGR solenoid valve.

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

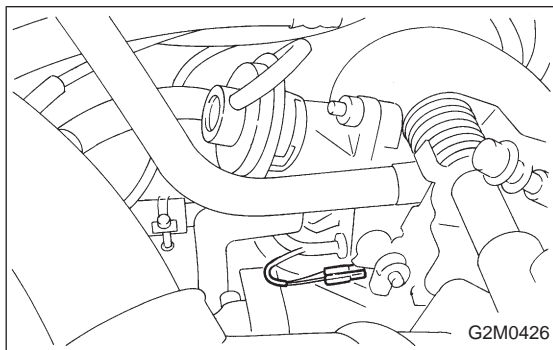
Tightening torque:

1800 cc model:

$19 \pm 4.9 \text{ N} \cdot \text{m}$ ($1.9 \pm 0.5 \text{ kg} \cdot \text{m}$, $13.7 \pm 3.6 \text{ ft} \cdot \text{lb}$)

2200 cc model:

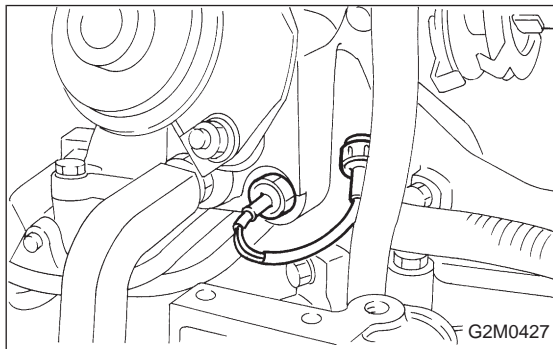
$16 \pm 1.5 \text{ N} \cdot \text{m}$ ($1.6 \pm 0.15 \text{ kg} \cdot \text{m}$, $11.6 \pm 1.1 \text{ ft} \cdot \text{lb}$)



14. Recirculation Gas Temperature Sensor

A: REMOVAL AND INSTALLATION

- 1) Disconnect connectors from recirculation gas temperature sensor.



- 2) Apply SUBARU CRC or its equivalent to threaded portion of recirculation gas temperature sensor and leave it for one minute or more.

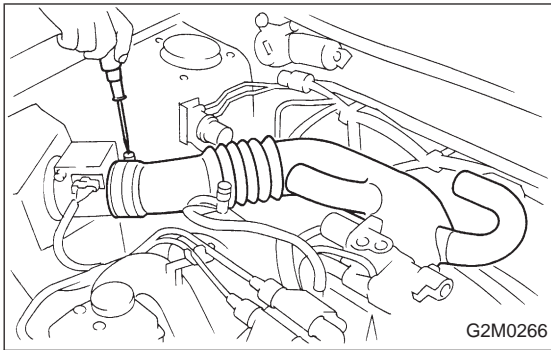
SUBARU CRC (Part No. 004301003)

- 3) Remove recirculation gas temperature sensor from collector chamber.

CAUTION:

When removing recirculation gas temperature sensor, do not force it excessively.

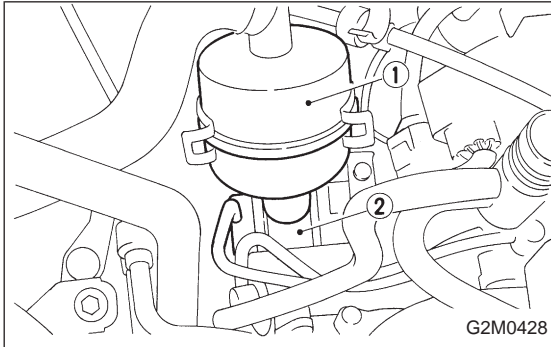
- 4) Installation is in the reverse order of removal.



15. Air Suction Valve

A: REMOVAL

1) Remove air intake duct.

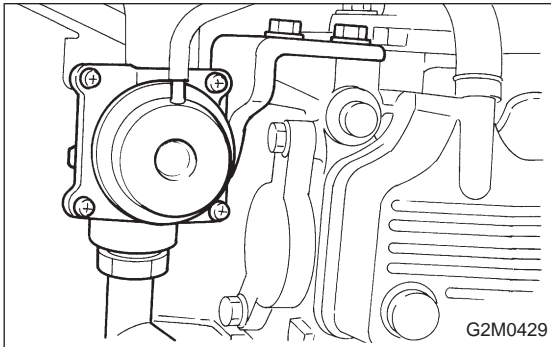


2) Remove hose from air suction valve.

3) Remove air suction valve.

① Silencer

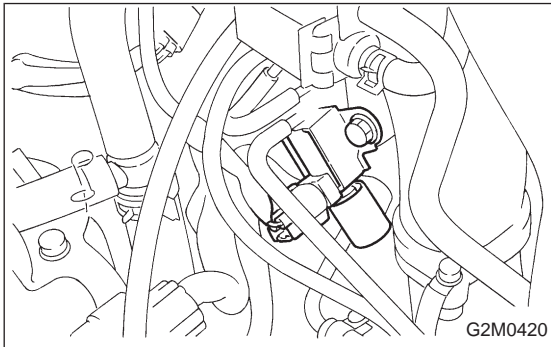
② Air suction valve



4) Installation is in the reverse order of removal.

Tightening torque:

$19 \pm 4.9 \text{ N} \cdot \text{m}$ ($1.9 \pm 0.5 \text{ kg} \cdot \text{m}$, $13.7 \pm 3.6 \text{ ft} \cdot \text{lb}$)

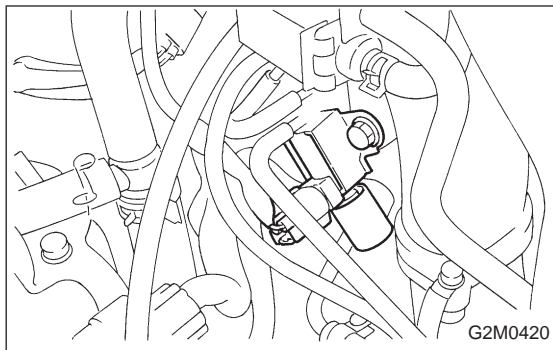


16. Air Suction Solenoid Valve

A: REMOVAL AND INSTALLATION

1) Disconnect connector and hoses from air suction solenoid valve.

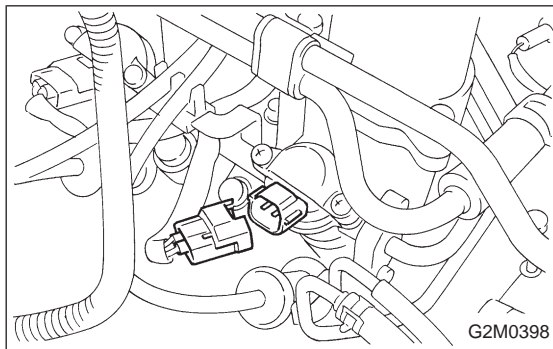
2) Remove air suction solenoid valve.



3) Installation is in the reverse order of removal.

Tightening torque:

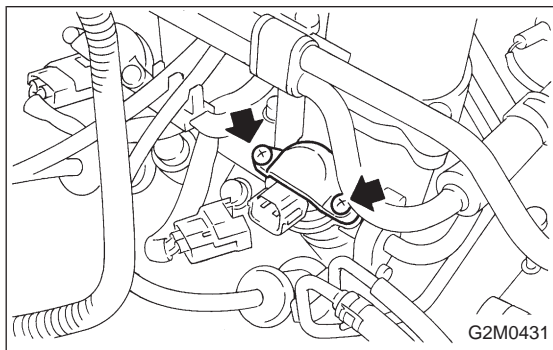
$19 \pm 4.9 \text{ N} \cdot \text{m}$ ($1.9 \pm 0.5 \text{ kg} \cdot \text{m}$, $13.7 \pm 3.6 \text{ ft} \cdot \text{lb}$)



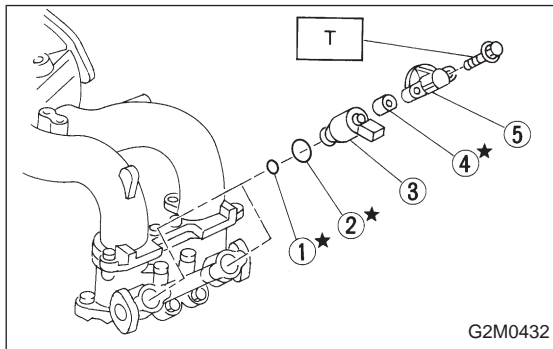
17. Fuel Injector

A: REMOVAL AND INSTALLATION

- 1) Release fuel pressure.
- 2) Disconnect connector from fuel injector.



3) Remove fuel injector from fuel pipe assembly.



4) Installation is in the reverse order of removal.

CAUTION:

Replace O-rings and insulator.

Tightening torque:

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

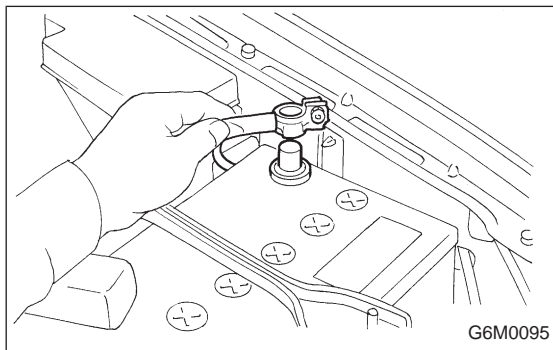
- ① O-ring B
- ② O-ring A
- ③ Fuel injector
- ④ Insulator
- ⑤ Fuel injector cup

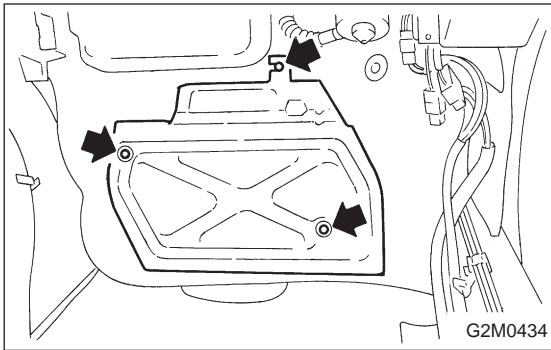
18. Engine Control Module

A: REMOVAL AND INSTALLATION

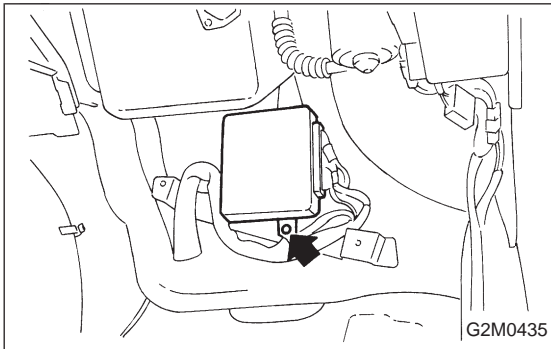
1. 1800 cc MODEL

- 1) Disconnect battery ground cable.



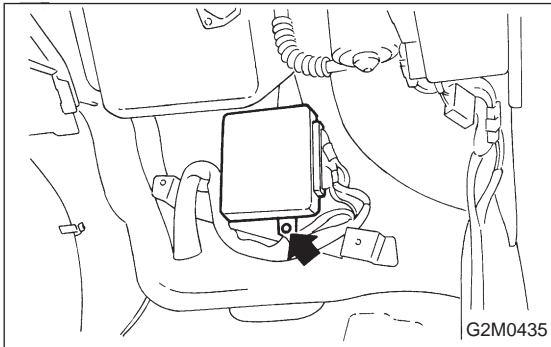


- 2) Detach floor mat of front passenger seat.
- 3) Remove protect cover.

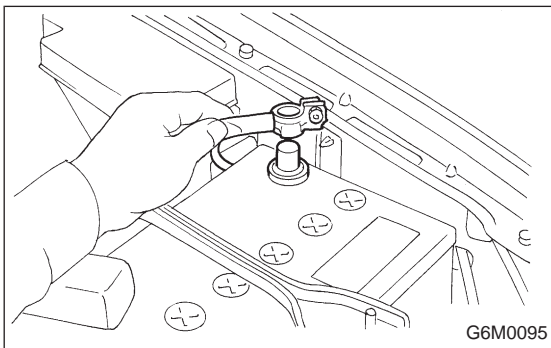


- 4) Remove nuts which install ECM onto body.

- 5) Take out ECM and disconnect connector from it.

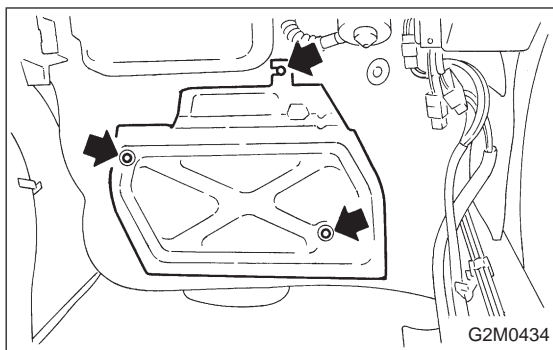


- 6) Installation is in the reverse order of removal.

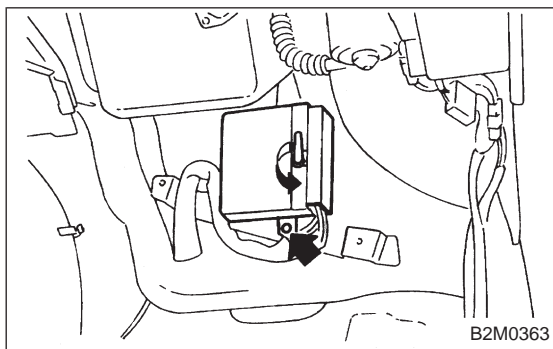


2. 2200 cc MODEL

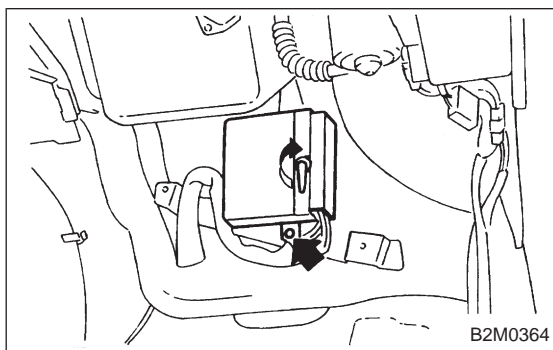
- 1) Disconnect battery ground cable.



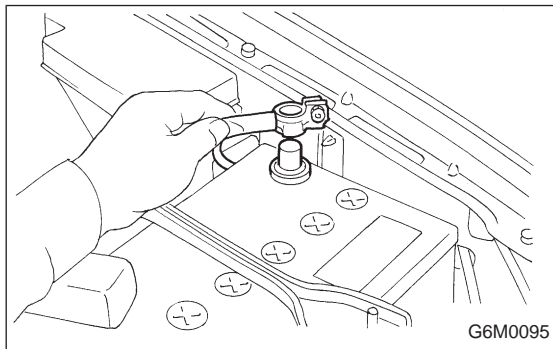
- 2) Detach floor mat of front passenger seat.
- 3) Remove protect cover.



- 4) Release the lock of ECM connector and disconnect it.
- 5) Remove nuts which install ECM onto body.
- 6) Take out ECM.



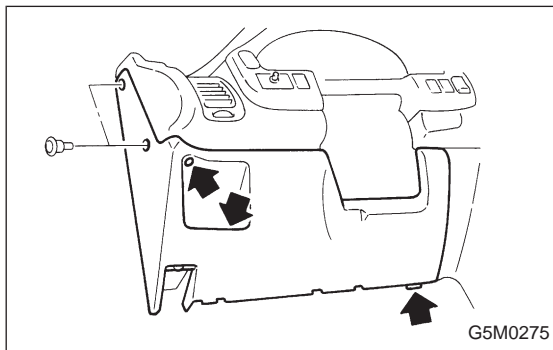
- 7) Connect ECM connector and lock it.
- 8) Installation is in the reverse order of removal.



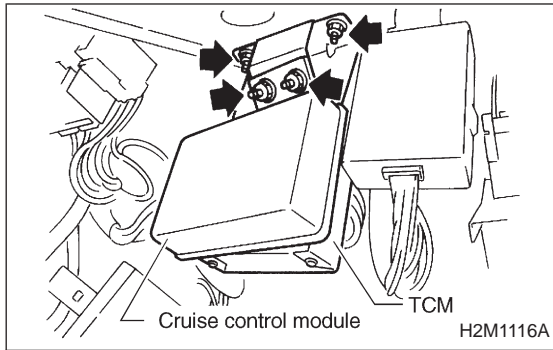
19. Main Relay and Fuel Pump Relay

A: REMOVAL AND INSTALLATION

- 1) Disconnect battery ground cable.



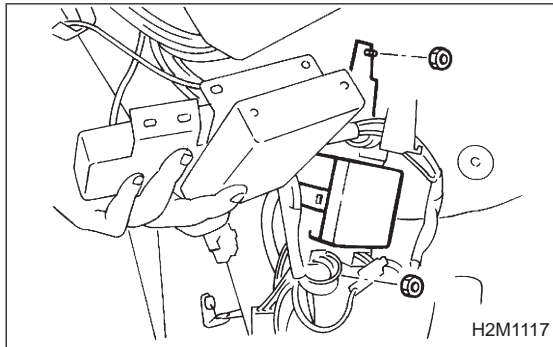
- 2) Remove steering lower cover.
- 3) Remove front pillar lower trim.



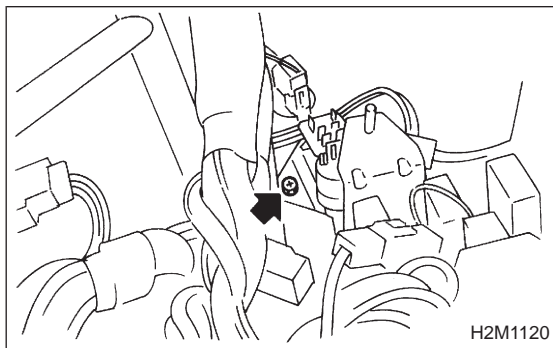
4) Remove bolts which install TCM and cruise control module on bracket.

NOTE:

It is not necessary to disconnect connectors from TCM and cruise control module.



5) Remove fuse and relay box from bracket.

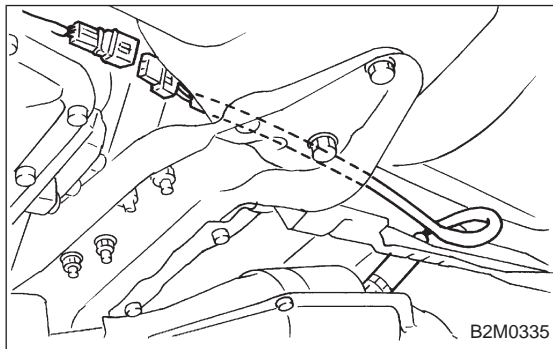


6) Disconnect connector from horn relay.

7) Remove all relays with bracket from body.

8) Remove main relay and fuel pump relay from bracket.

9) Installation is in the reverse order of removal.



20. Rear Oxygen Sensor (2200 cc Model)

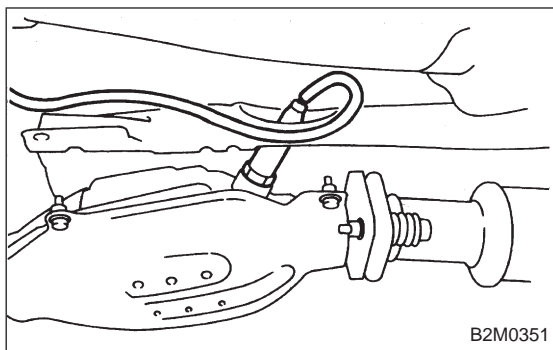
A: REMOVAL

1) Lift-up the vehicle.

2) Disconnect connector from rear oxygen sensor.

3) Apply SUBARU CRC or its equivalent to threaded portion of rear oxygen sensor, and leave it for one minute or more.

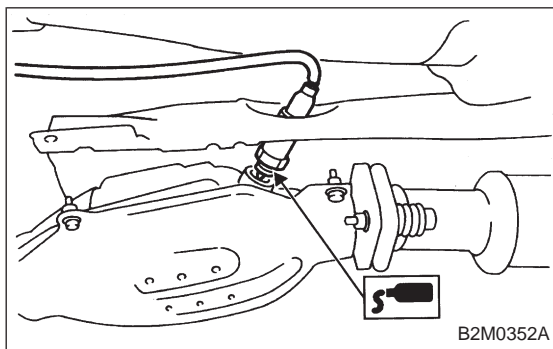
SUBARU CRC (Part No. 004301003)



- 4) Remove rear oxygen sensor.

CAUTION:

When removing rear oxygen sensor, do not force rear oxygen sensor especially when exhaust pipe is cold, otherwise it will damage exhaust pipe.



B: INSTALLATION

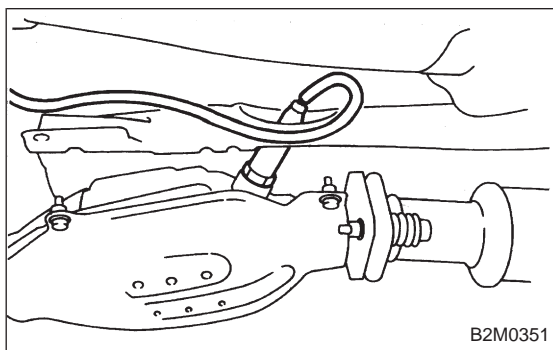
- 1) Before installing rear oxygen sensor, apply anti-seize compound only to threaded portion of rear oxygen sensor to make the next removal easier.

Anti-seize compound:

SS-30 by JET LUBE

CAUTION:

Never apply anti-seize compound to protector of rear oxygen sensor.

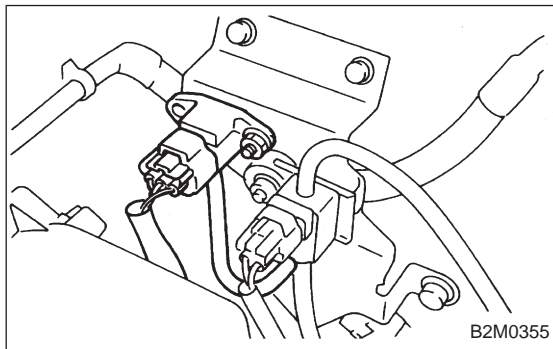


- 2) Install rear oxygen sensor.

Tightening torque:

$21 \pm 3 \text{ N}\cdot\text{m}$ ($2.1 \pm 0.3 \text{ kg}\cdot\text{m}$, $15.2 \pm 2.2 \text{ ft}\cdot\text{lb}$)

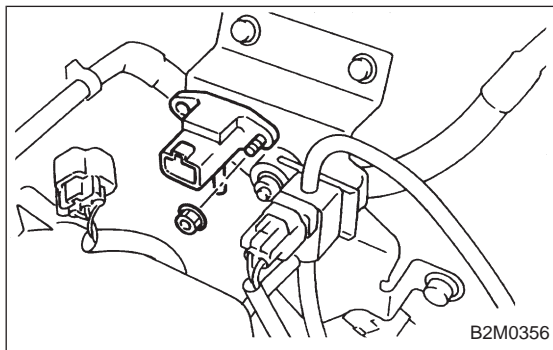
- 3) Connect connector of rear oxygen sensor.
4) Lower the vehicle.



21. Pressure Sensor (2200 cc Model)

A: REMOVAL AND INSTALLATION

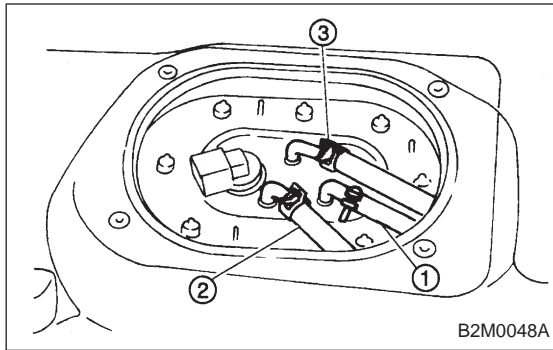
- 1) Disconnect connector from pressure sensor.
2) Disconnect hose from pressure sensor.



- 3) Remove pressure sensor from bracket.
4) Installation is in the reverse order of removal.

Tightening torque:

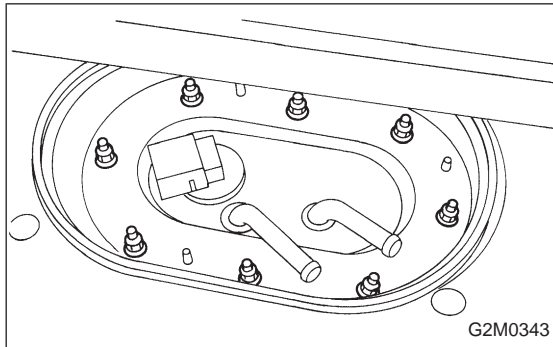
$6.4 \pm 0.5 \text{ N}\cdot\text{m}$ ($0.65 \pm 0.05 \text{ kg}\cdot\text{m}$, $4.7 \pm 0.4 \text{ ft}\cdot\text{lb}$)



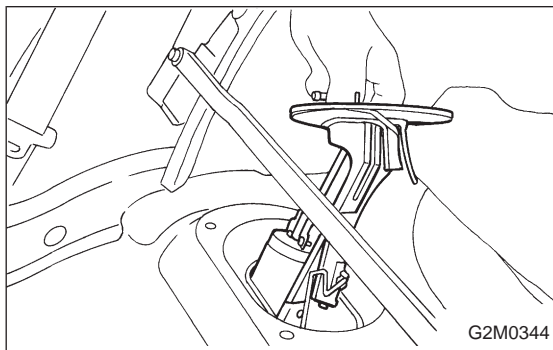
22. Fuel Temperature Sensor (California FWD Model)

A: REMOVAL

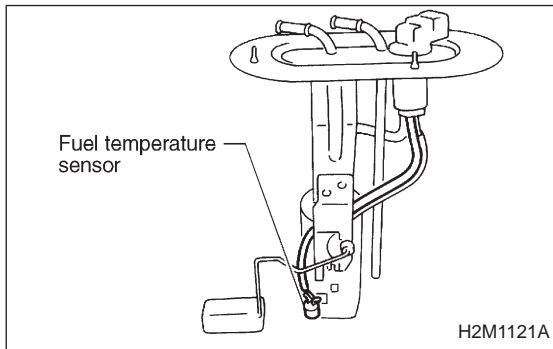
- 1) Release fuel pressure. <Ref. to 2-8 [W1A0].>
- 2) Disconnect fuel delivery hose ① and return hose ②.



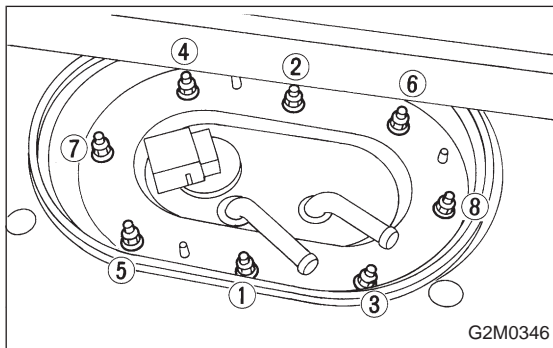
- 3) Remove nuts which install fuel pump assembly onto fuel tank.



- 4) Take off fuel pump from fuel tank.



- 5) Remove fuel temperature sensor from fuel pump assembly.



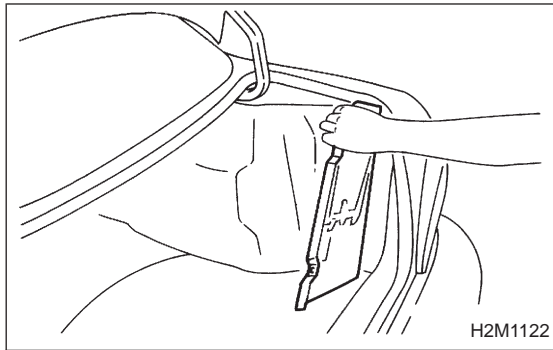
B: INSTALLATION

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

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

Tightening torque:

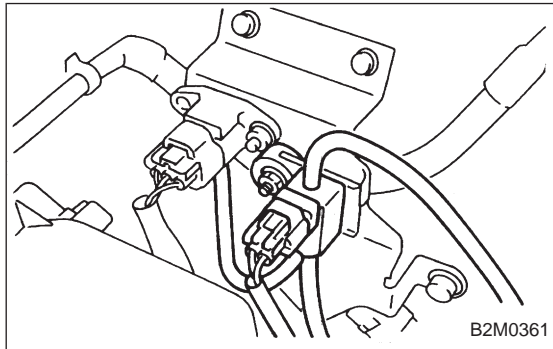
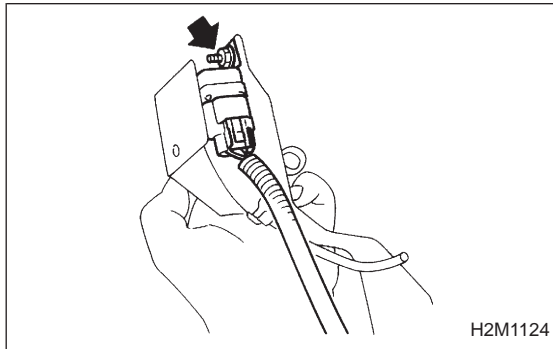
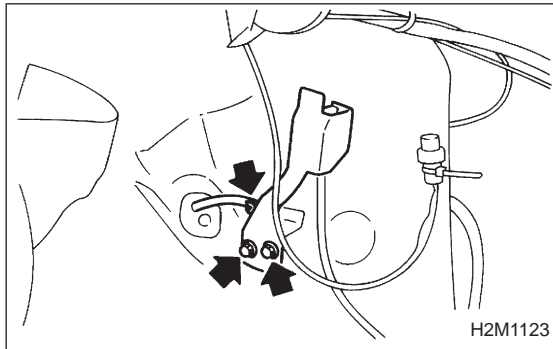
$4.4 \pm 1.5 \text{ N} \cdot \text{m}$ ($0.45 \pm 0.15 \text{ kg} \cdot \text{m}$, $3.3 \pm 1.1 \text{ ft} \cdot \text{lb}$)



23. Fuel Tank Pressure Sensor (California FWD Model)

A: REMOVAL AND INSTALLATION

- 1) Remove right side rear quarter trim.
- 2) Disconnect hose from connection pipe.
- 3) Remove bolts which install fuel tank pressure sensor bracket on body.
- 4) Disconnect connector from fuel tank pressure sensor.
- 5) Remove fuel tank pressure sensor from bracket.
- 6) Disconnect hose from fuel tank pressure sensor.
- 7) Installation is in the reverse order of removal.



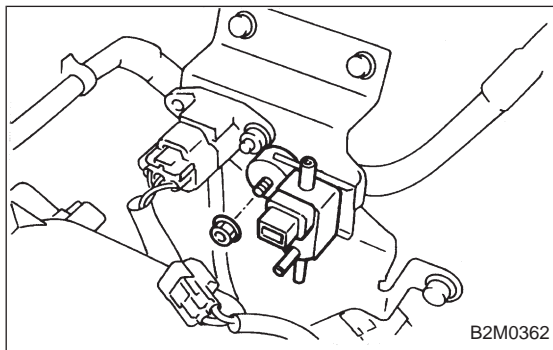
24. Pressure Sources Switching Solenoid Valve (2200 cc Model)

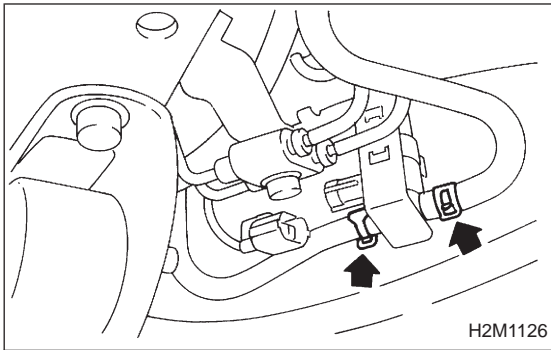
A: REMOVAL AND INSTALLATION

- 1) Disconnect connector from pressure sources switching solenoid valve.
- 2) Disconnect hoses from pressure sources switching solenoid valve.
- 3) Remove pressure sources switching solenoid valve from bracket.
- 4) Installation is in the reverse order of removal.

Tightening torque:

$6.4 \pm 0.5 \text{ N} \cdot \text{m}$ ($0.65 \pm 0.05 \text{ kg} \cdot \text{m}$, $4.7 \pm 0.4 \text{ ft} \cdot \text{lb}$)

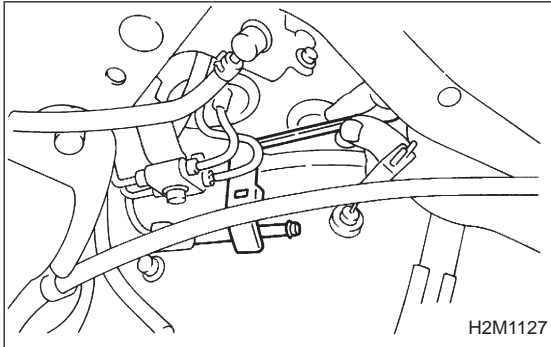




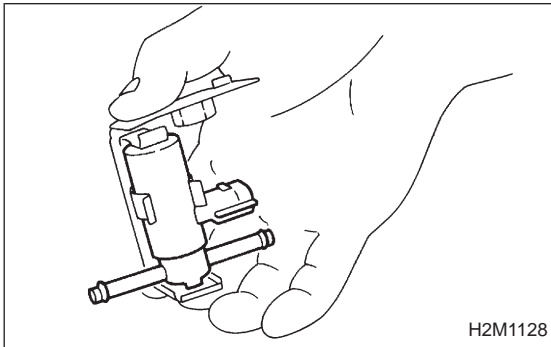
25. Pressure Control Valve (California FWD Model)

A: REMOVAL AND INSTALLATION

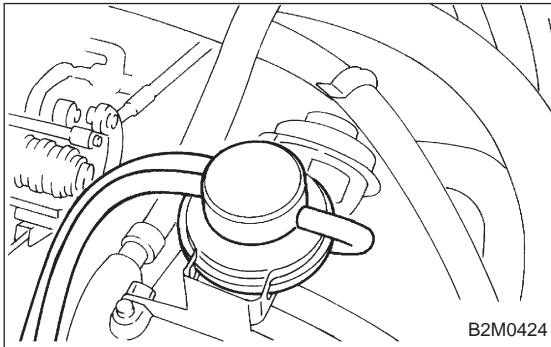
- 1) Disconnect evaporation hoses from pressure control valve.
- 2) Disconnect connector from pressure control valve.



- 3) Remove pressure control valve with bracket.



- 4) Remove pressure control valve from bracket.
- 5) Installation is in the reverse order of removal.



26. Back-Pressure Transducer [BPT] (2200 cc Model)

A: REMOVAL AND INSTALLATION

- 1) Disconnect vacuum hoses from BPT.
- 2) Remove BPT from bracket.
- 3) Installation is in the reverse order of removal.