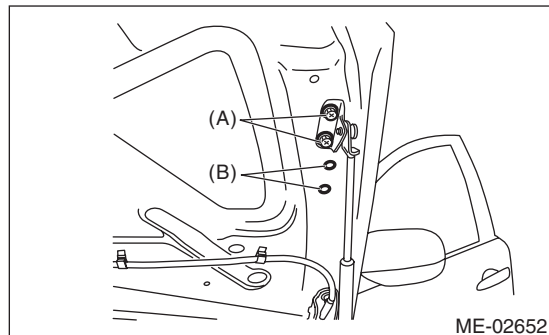


## 9. Engine Assembly

### A: REMOVAL

1) Change the bolt mounting position from (A) to (B), then completely open the front hood.



2) Remove the collector cover.

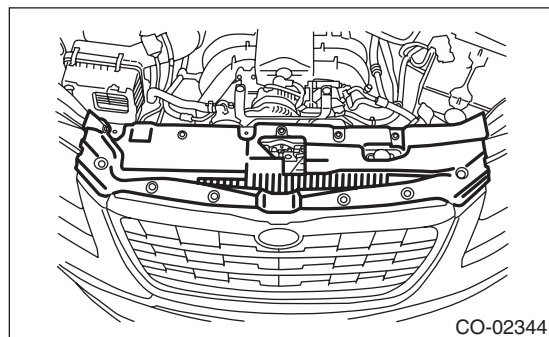
3) Collect the refrigerant from A/C system. <Ref. to AC-20, PROCEDURE, Refrigerant Recovery Procedure.>

4) Release the fuel pressure. <Ref. to FU(H6DO)-44, RELEASING OF FUEL PRESSURE, PROCEDURE, Fuel.>

5) Remove the battery from vehicle. <Ref. to SC(H6DO)-19, REMOVAL, Battery.>

6) Remove the air intake duct, air cleaner case and air intake chamber. <Ref. to IN(H6DO)-8, REMOVAL, Air Intake Duct.> <Ref. to IN(H6DO)-5, REMOVAL, Air Cleaner Case.> <Ref. to IN(H6DO)-7, REMOVAL, Air Intake Chamber.>

7) Remove the front upper cover.



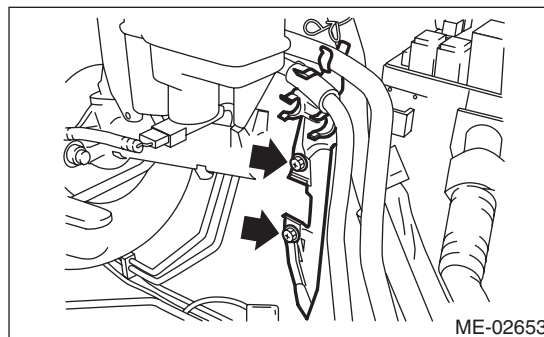
8) Remove the front bumper. <Ref. to EI-22, FRONT BUMPER FACE, REMOVAL, Front Bumper.>

9) Remove the radiator from vehicle. <Ref. to CO(H6DO)-16, REMOVAL, Radiator.>

#### NOTE:

Protect the condenser so that it will not be damaged.

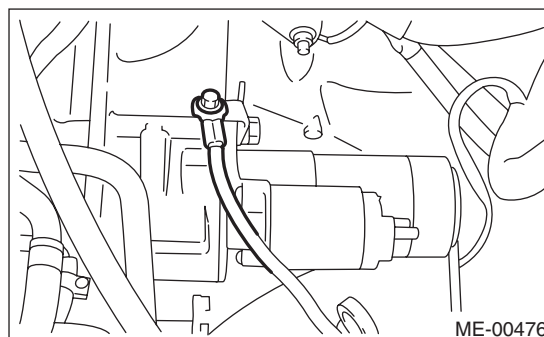
10) Remove the fuel hose bracket.



11) Remove the V-belts. <Ref. to ME(H6DO)-43, REMOVAL, V-belt.>

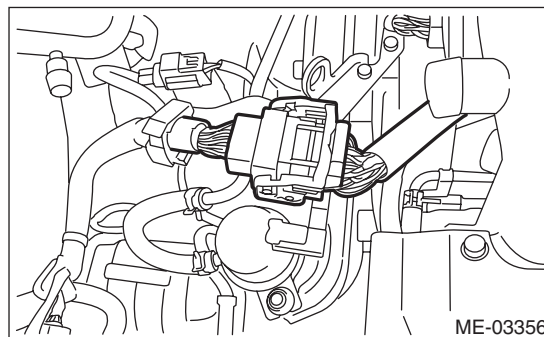
12) Disconnect the A/C pressure hoses from A/C compressor. <Ref. to AC-38, REMOVAL, Hose and Pipe.>

13) Disconnect the engine ground terminals.



14) Disconnect the following connector.

(1) Engine harness connectors



(2) Generator connector, terminal and A/C compressor connector

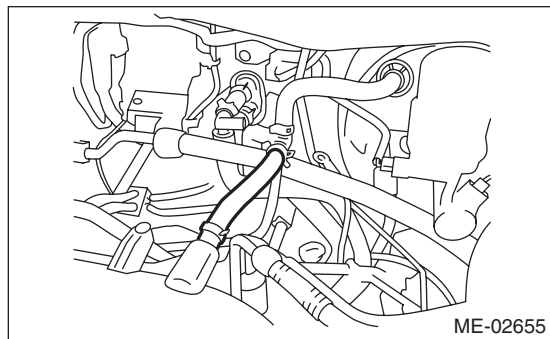
(3) Power steering switch connector

# Engine Assembly

## MECHANICAL

15) Disconnect the following hoses.

(1) Brake booster vacuum hose

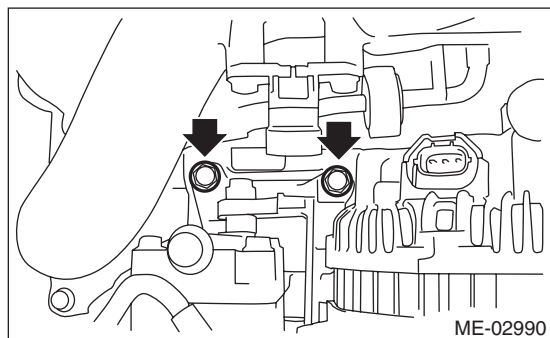
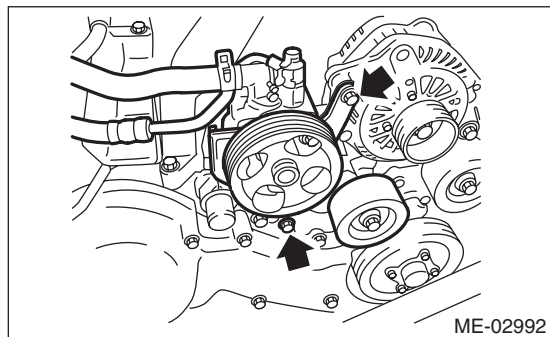


(2) Heater inlet and outlet hoses

16) Remove the power steering pump together with the bracket.

### NOTE:

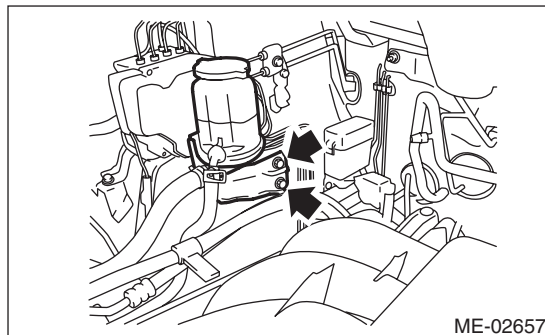
Do not disconnect the hose and pipe from the power steering pump body.



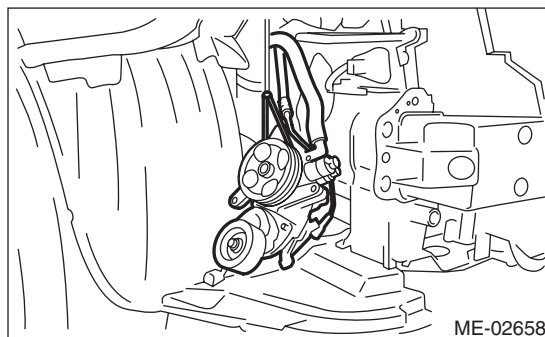
17) Remove the power reserve tank together with the bracket.

### NOTE:

Do not disconnect the hose from the reservoir tank body.



18) Suspend the power steering pump using wire, etc.



19) Remove the bolts which hold the vacuum pump bracket to the engine. <Ref. to BR-10, BRAKE VACUUM PUMP, COMPONENT, General Description.>

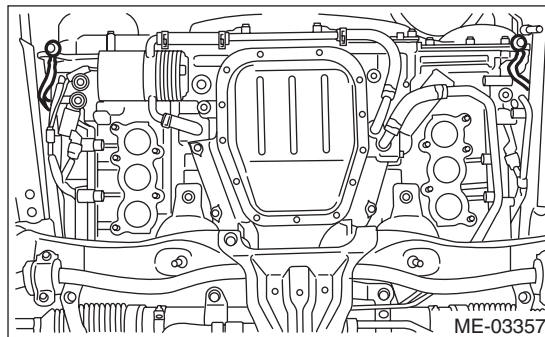
20) Lift up the vehicle.

21) Remove the front exhaust pipe. <Ref. to EX(H6DO)-4, REMOVAL, Front Exhaust Pipe.>

### NOTE:

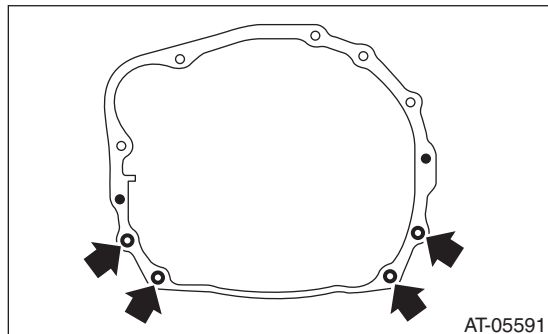
Be careful not to let the front exhaust pipe interfere with water pipes on engine side.

22) Remove the ground cable from the chain cover lower (left and right).

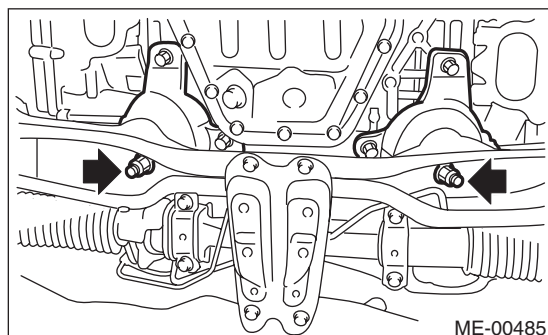


23) Remove the bolts which hold the vacuum pump bracket to the transmission, then remove the vacuum pump together with the bracket. <Ref. to BR-10, BRAKE VACUUM PUMP, COMPONENT, General Description.>

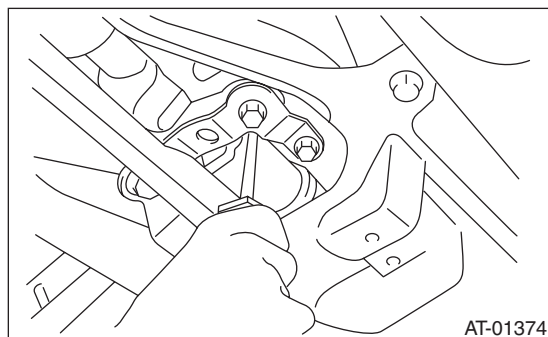
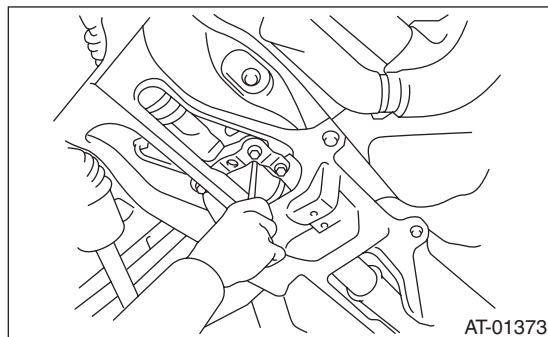
24) Remove the bolts and nuts which hold lower side of transmission to engine.



25) Remove the nuts which install front cushion rubber onto front crossmember.



26) Remove the two clutch housing securing bolts.



27) Lower the vehicle.

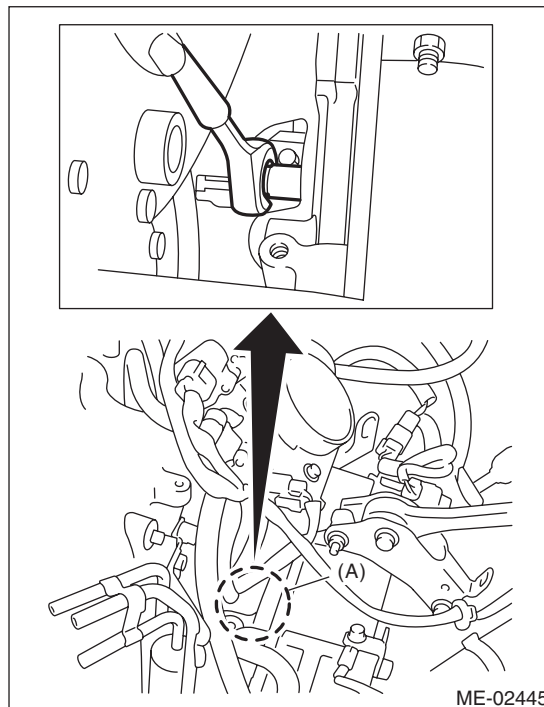
28) Separate the torque converter clutch from drive plate.

(1) Remove the throttle body securing bolts to and slide the throttle body over.

(2) Remove the service hole plug.

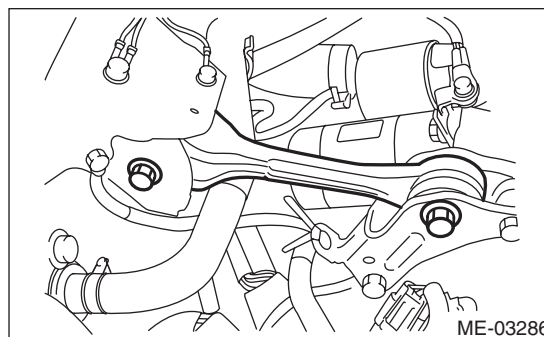
(3) Remove the bolts which hold torque converter clutch to drive plate.

(4) Remove other bolts while rotating the engine using a socket wrench.



(A) Service hole plug

29) Remove the pitching stopper.



30) Disconnect the fuel delivery hose and evaporation hose.

(1) Disconnect the connector of fuel pipe by pushing the ST in the direction of arrow.

ST 42099AE000 QUICK CONNECTOR RELEASE

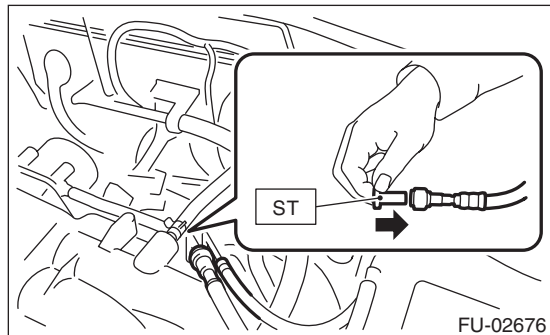
# Engine Assembly

## MECHANICAL

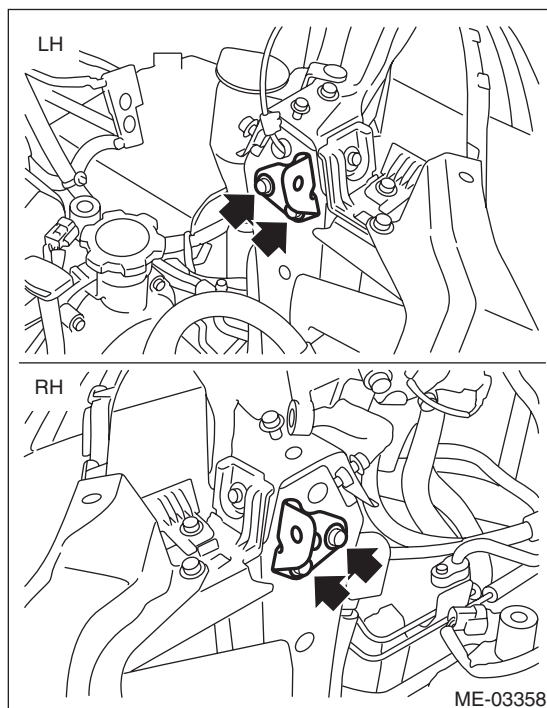
(2) Remove the clamp, and disconnect the evaporation hose from the pipe.

### CAUTION:

- Be careful not to spill fuel.
- Catch the fuel from hoses using a container or cloth.



31) Remove the radiator center bracket.

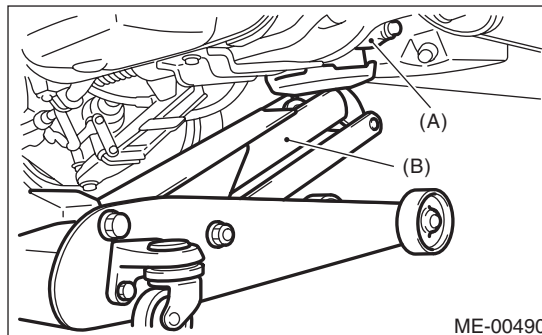


32) Support the engine with a lifting device and wire ropes.

33) Support the transmission with a garage jack.

### CAUTION:

Be sure to perform this procedure to prevent the transmission from lowering by its own weight.



(A) Transmission

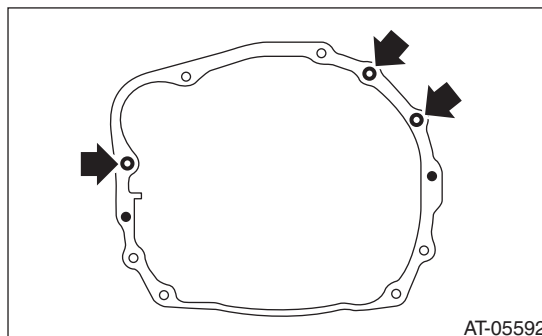
(B) Garage jack

34) Separate the engine and transmission.

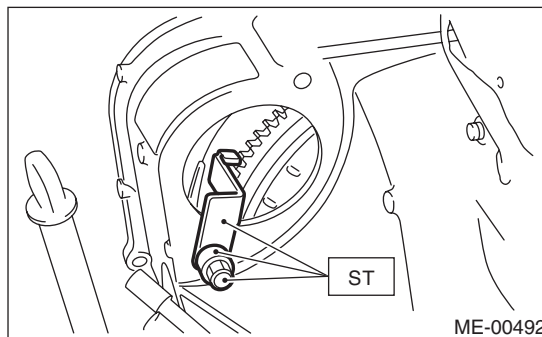
### CAUTION:

Before removing the engine away from transmission, check to be sure no work has been overlooked.

- (1) Remove the starter. <Ref. to SC(H6DO)-6, REMOVAL, Starter.>
- (2) Remove the bolts which hold upper side of transmission to engine.



35) Attach the ST to converter case.  
ST 498277200 STOPPER SET

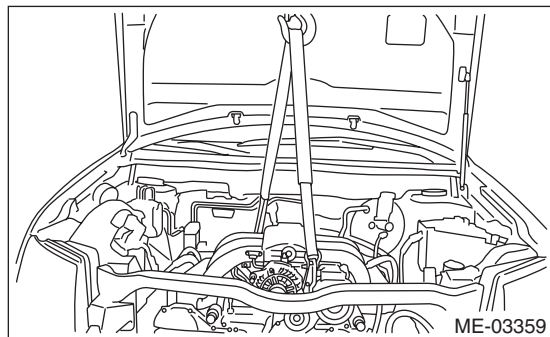




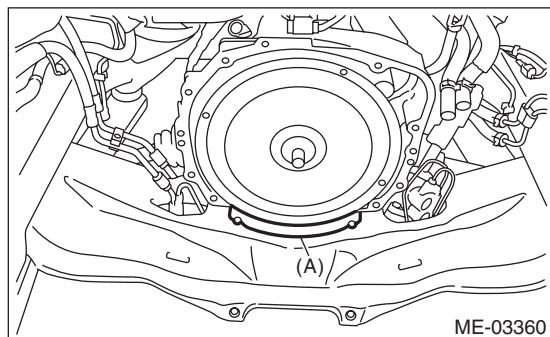
- 36) Remove the engine from vehicle.
  - (1) Slightly raise the engine.
  - (2) Raise the transmission with garage jack.
  - (3) Move the engine horizontally until main shaft is withdrawn from clutch cover.
  - (4) Slowly move the engine away from engine compartment.

**NOTE:**

Be careful not to damage adjacent parts or body panels with crank pulley, oil level gauge, etc.



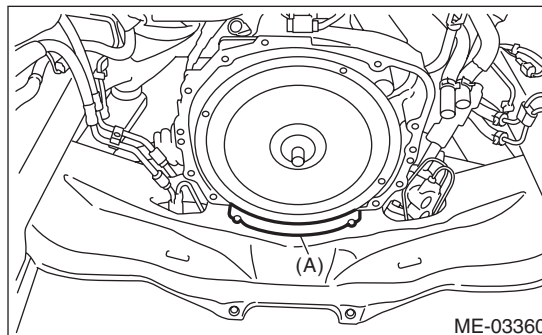
- 37) Remove the engine mounting.
- 38) Remove the clutch housing cover from vehicle.



(A) Clutch housing cover

## B: INSTALLATION

- 1) Set the clutch housing cover to the vehicle.



(A) Clutch housing cover

- 2) Install the engine mount.

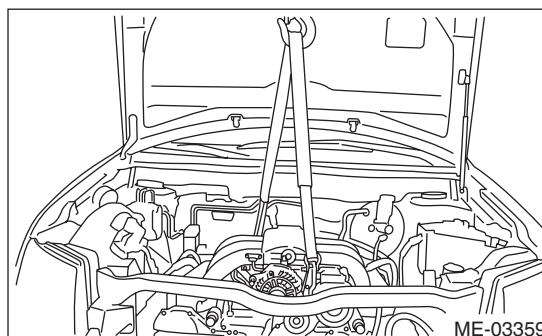
**Tightening torque:**

**35 N·m (3.6 kgf-m, 25.8 ft-lb)**

- 3) Position the engine in engine compartment and align it with transmission.

**NOTE:**

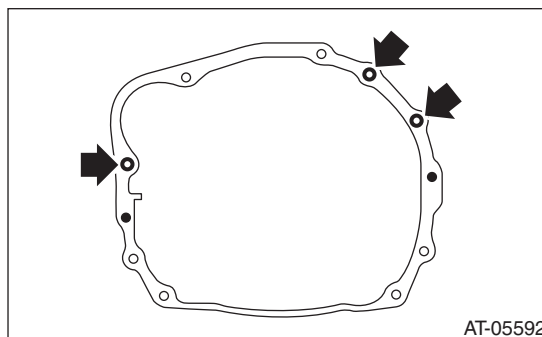
Be careful not to damage adjacent parts or body panels with crank pulley, oil level gauge, etc.



- 4) Tighten the bolts which hold upper side of transmission to engine.

**Tightening torque:**

**50 N·m (5.1 kgf-m, 36.9 ft-lb)**



- 5) Remove the lifting device and wire ropes.
- 6) Remove the garage jack.

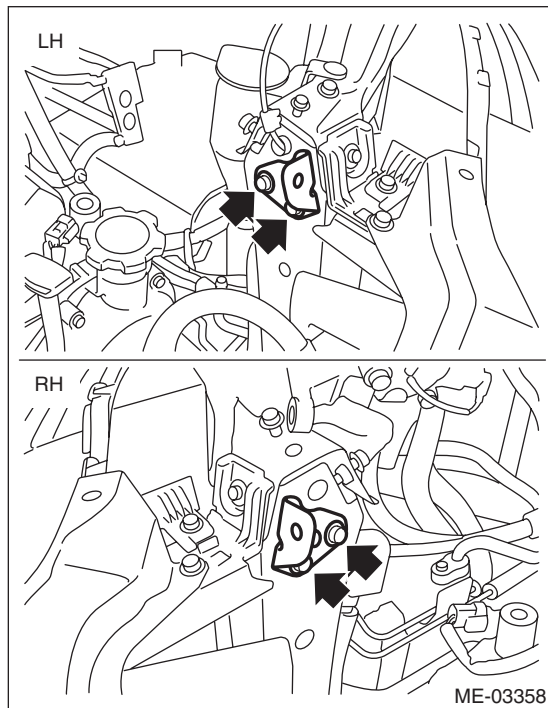
# Engine Assembly

## MECHANICAL

7) Install the radiator center bracket.

**Tightening torque:**

**18 N·m (1.8 kgf-m, 13.3 ft-lb)**

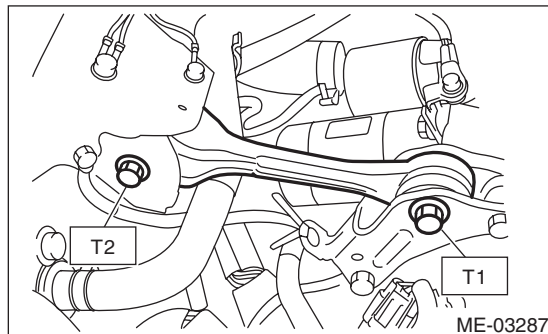


8) Install the pitching stopper.

**Tightening torque:**

**T1: 50 N·m (5.1 kgf-m, 36.9 ft-lb)**

**T2: 58 N·m (5.9 kgf-m, 42.8 ft-lb)**



9) Remove the ST from converter case.

**NOTE:**

Be careful not to drop the ST into the converter case when removing the ST.

ST 498277200 STOPPER SET

10) Install the starter. <Ref. to SC(H6DO)-6, INSTALLATION, Starter.>

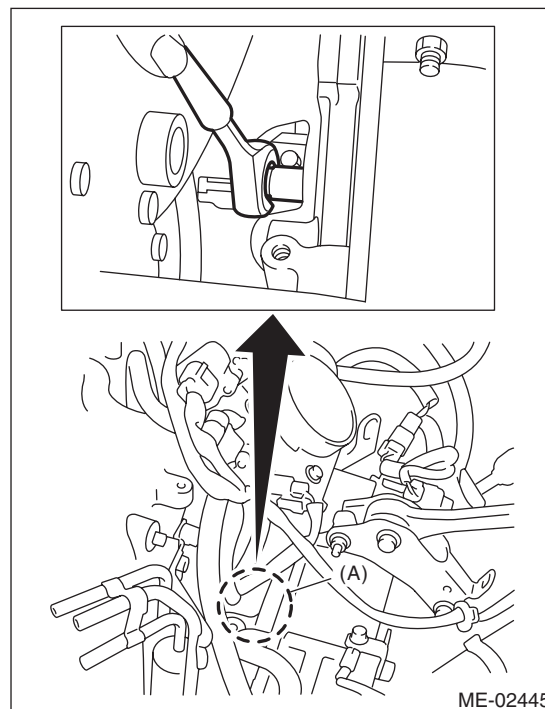
11) Install the torque converter clutch to drive plate.

(1) Tighten the bolts which hold torque converter clutch to drive plate.

(2) Tighten other bolts while rotating the engine using a socket wrench.

**Tightening torque:**

**25 N·m (2.5 kgf-m, 18.4 ft-lb)**



(A) Service hole plug

(3) Install the service hole plug to prevent foreign matter from being mixed.

(4) Install the throttle body to intake manifold.

**Tightening torque:**

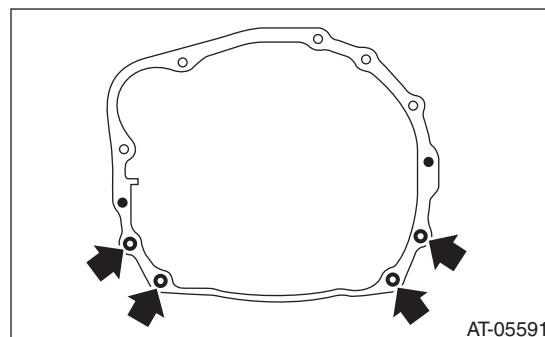
**8 N·m (0.8 kgf-m, 5.9 ft-lb)**

12) Lift up the vehicle.

13) Tighten the bolts and nuts which hold lower side of the transmission to engine.

**Tightening torque:**

**50 N·m (5.1 kgf-m, 36.9 ft-lb)**



14) Tighten the bolts which holds the vacuum pump bracket to the transmission. <Ref. to BR-10, BRAKE VACUUM PUMP, COMPONENT, General Description.>

**Tightening torque:**

**25 N·m (2.5 kgf-m, 18.4 ft-lb)**

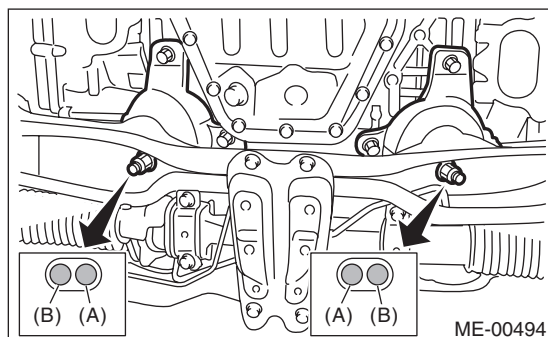
15) Tighten the nuts which install the front cushion rubber onto crossmember.

**Tightening torque:**

**75 N·m (7.6 kgf-m, 55.3 ft-lb)**

**NOTE:**

Make sure the front cushion rubber mounting bolts (A) and locator (B) are securely installed.

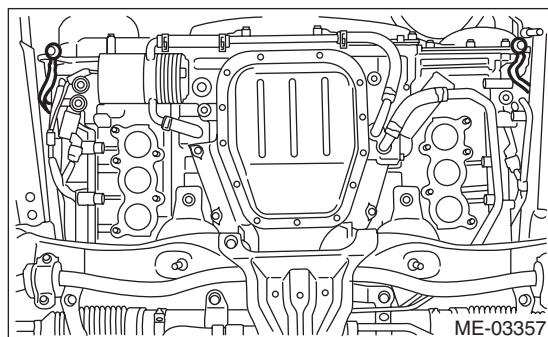


16) Install the front exhaust pipe. <Ref. to EX(H6DO)-5, INSTALLATION, Front Exhaust Pipe.>

**NOTE:**

- Be care not to let the front exhaust pipe interfere with water pipes and crossmember on engine side.
- Be care not to scratch the flange surface of front exhaust pipe with stud bolt on engine.

17) Connect the ground cable to the chain cover lower (left and right).

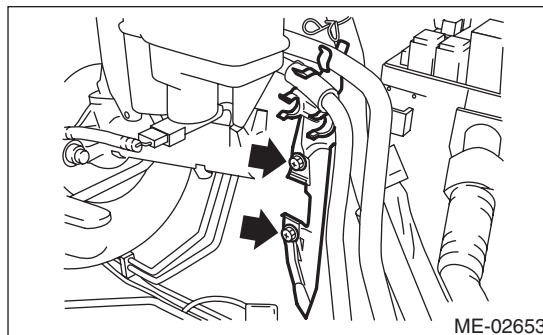


18) Lower the vehicle.

19) Install the fuel hose bracket.

**Tightening torque:**

**7.5 N·m (0.8 kgf-m, 5.5 ft-lb)**



20) Tighten the bolts which holds the vacuum pump bracket to the engine. <Ref. to BR-10, BRAKE VACUUM PUMP, COMPONENT, General Description.>

**Tightening torque:**

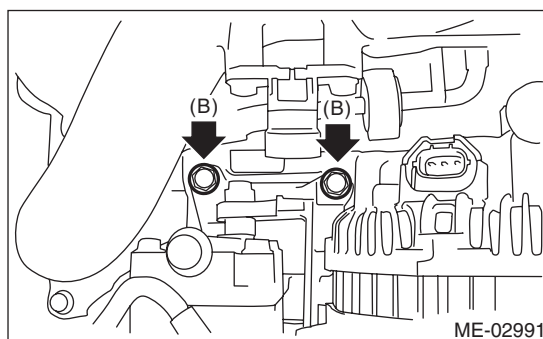
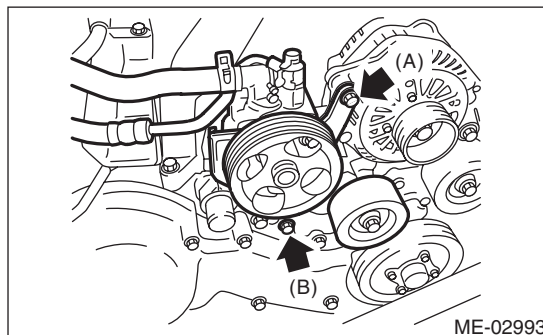
**25 N·m (2.5 kgf-m, 18.4 ft-lb)**

21) Install the power steering pump.

**Tightening torque:**

**(A) 25 N·m (2.5 kgf-m, 18.4 ft-lb)**

**(B) 33 N·m (3.4 kgf-m, 24.3 ft-lb)**



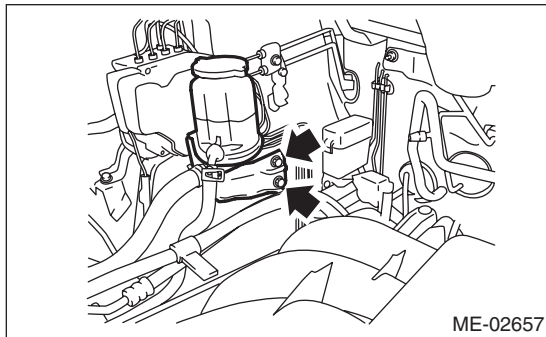
# Engine Assembly

## MECHANICAL

22) Install the reservoir tank.

### **Tightening torque:**

**33 N·m (3.4 kgf-m, 24.3 ft-lb)**

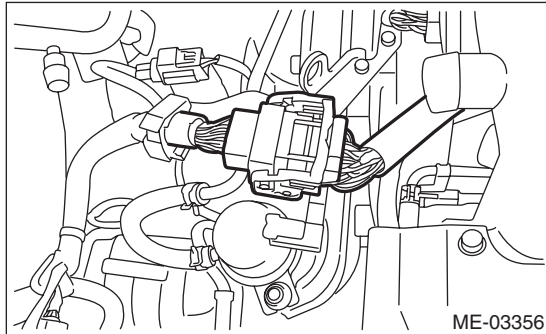


23) Connect the following hoses.

- (1) Fuel delivery hose and evaporation hose
- (2) Heater inlet and outlet hoses
- (3) Brake booster vacuum hose

24) Connect the following connectors.

- (1) Engine harness connectors

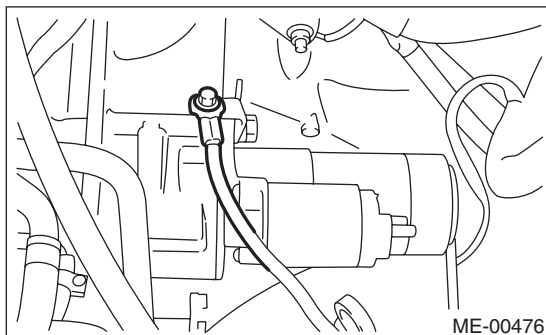


- (2) Generator connector and terminal
- (3) A/C compressor connector
- (4) Power steering switch connector

25) Connect the engine ground terminal.

### **Tightening torque:**

**14 N·m (1.4 kgf-m, 10.3 ft-lb)**



26) Install the A/C pressure hoses. <Ref. to AC-40, INSTALLATION, Hose and Pipe.>

27) Install the V-belts. <Ref. to ME(H6DO)-43, INSTALLATION, V-belt.>

28) Install the radiator to vehicle. <Ref. to CO(H6DO)-18, INSTALLATION, Radiator.>

29) Install the front bumper. <Ref. to EI-23, FRONT BUMPER FACE, INSTALLATION, Front Bumper.>

30) Install the fuse of fuel pump to the main fuse box.

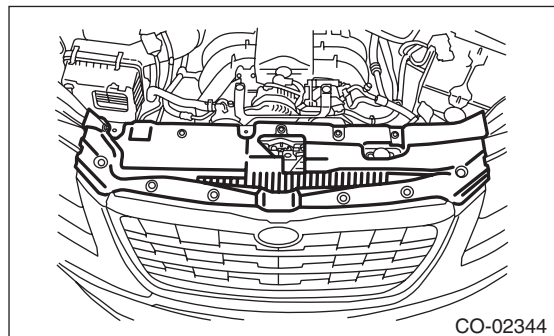
31) Install the battery to the vehicle. <Ref. to SC(H6DO)-19, INSTALLATION, Battery.>

32) Fill engine coolant. <Ref. to CO(H6DO)-11, FILLING OF ENGINE COOLANT, REPLACEMENT, Engine Coolant.>

33) Check the ATF level and replenish it if necessary. <Ref. to 5AT-29, INSPECTION, Automatic Transmission Fluid.>

34) Charge the A/C system with refrigerant. <Ref. to AC-21, PROCEDURE, Refrigerant Charging Procedure.>

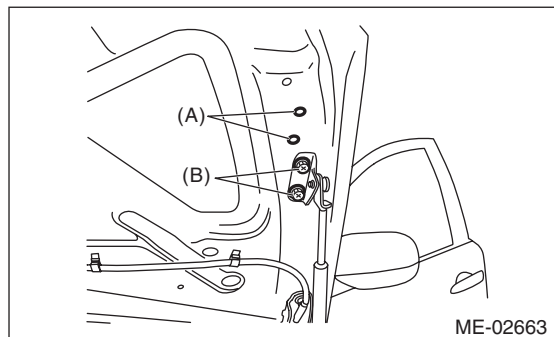
35) Install the front upper cover.



36) Install the air intake duct, air cleaner case and air intake chamber. <Ref. to IN(H6DO)-8, INSTALLATION, Air Intake Duct.> <Ref. to IN(H6DO)-5, INSTALLATION, Air Cleaner Case.> <Ref. to IN(H6DO)-7, INSTALLATION, Air Intake Chamber.>

37) Install the collector cover.

38) Change the bolt mounting position from (B) to (A), then close the front hood.



39) Lower the vehicle from lift.

## **C: INSPECTION**

- 1) Check the pipes and hoses are installed firmly.
- 2) Check the engine coolant and ATF are at specified levels.
- 3) Start the engine and check for leaks of fuel, exhaust gas, engine coolant, etc. Also check for noise and vibrations.