

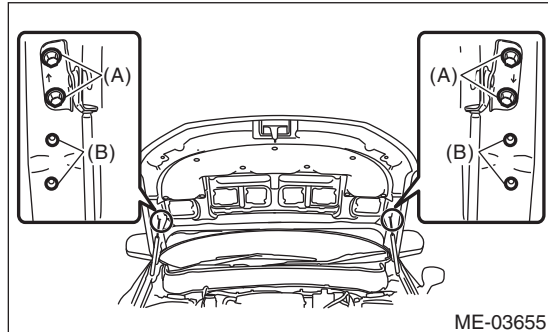
9. Engine Assembly

A: REMOVAL

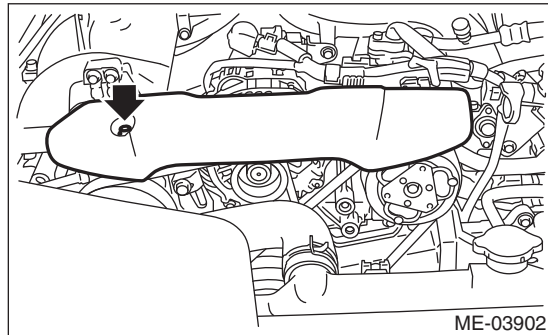
- 1) Set the vehicle on a lift.
- 2) Change the bolt mounting position from (A) to (B), and completely open the front hood.

Tightening torque:

7.5 N·m (0.8 kgf-m, 5.5 ft-lb)

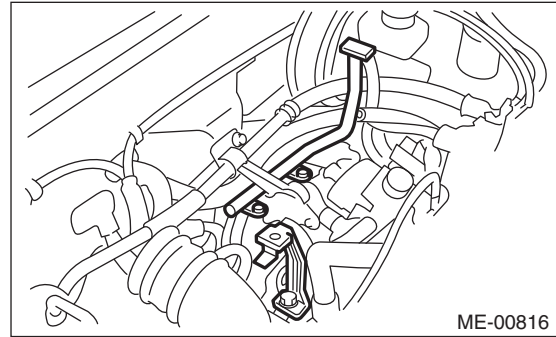


- 3) Remove the V-belt cover.



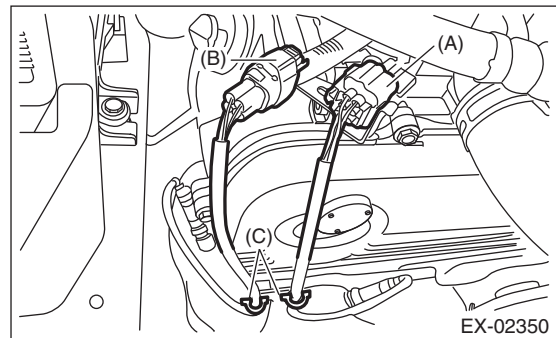
- 4) Collect the refrigerant from the A/C system.
<Ref. to AC-17, PROCEDURE, Refrigerant Recovery Procedure.>
- 5) Release the fuel pressure.
<Ref. to FU(H4SO)-43, RELEASING OF FUEL PRESSURE, PROCEDURE, Fuel.>
- 6) Disconnect the battery cable, and then remove the battery from the vehicle body.
- 7) Remove the air intake duct (rear), air cleaner case and air intake chamber.
<Ref. to IN(H4SO)-8, REMOVAL, Air Intake Duct.>
<Ref. to IN(H4SO)-5, REMOVAL, Air Cleaner Case.>
<Ref. to IN(H4SO)-7, REMOVAL, Air Intake Chamber.>
- 8) Remove the under cover.
- 9) Remove the radiator from the vehicle. <Ref. to CO(H4SO)-19, REMOVAL, Radiator.>
- 10) Disconnect the A/C pressure hoses from A/C compressor.

- 11) Remove the air intake chamber stay.



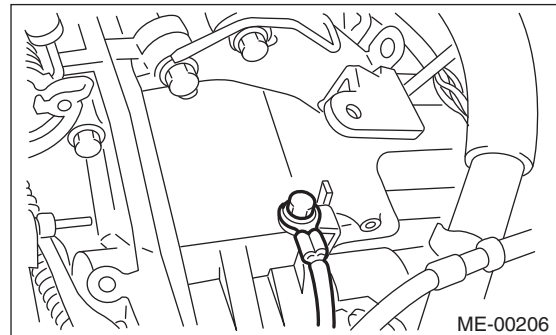
- 12) Disconnect the following connectors and cables.

- (1) Front oxygen (A/F) sensor connector
- (2) Rear oxygen sensor connector

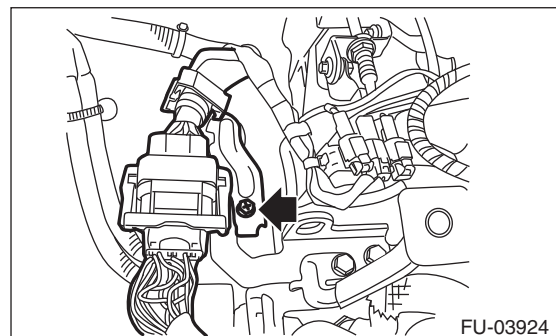


- (A) Front oxygen (A/F) sensor connector
- (B) Rear oxygen sensor connector
- (C) Clip

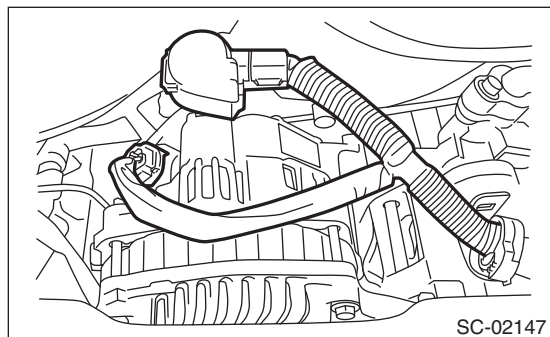
- (3) Engine ground terminal



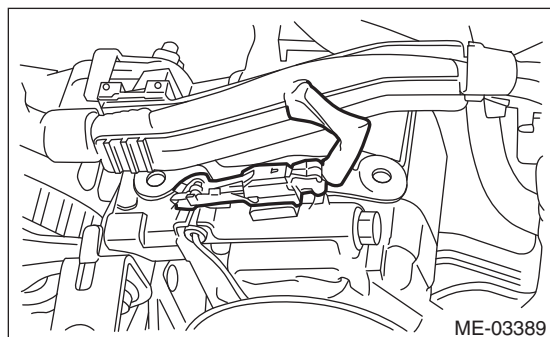
- (4) Remove the bolt, and disconnect the engine harness connector from the bulk head harness connector and rear engine hanger.



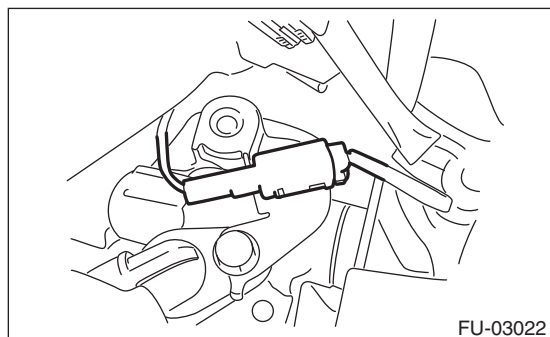
(5) Generator connector and terminal



(6) A/C compressor connector

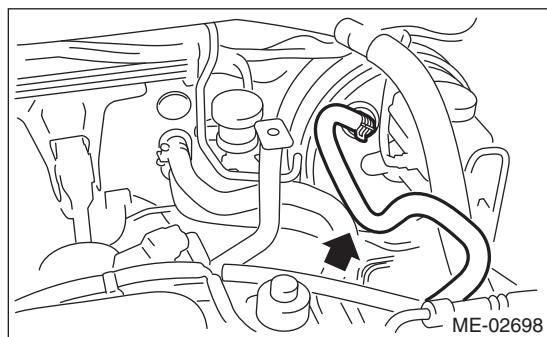


(7) Power steering switch connector



13) Disconnect the following hoses.

(1) Brake booster vacuum hose

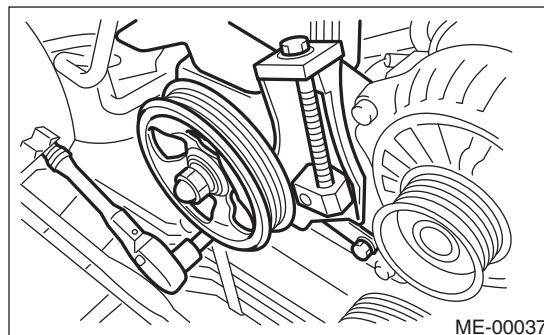


(2) Heater inlet and outlet hoses

14) Remove the power steering pump.

(1) Remove the front side belts. <Ref. to ME(H4SO)-42, FRONT SIDE BELT, REMOVAL, V-belt.>

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

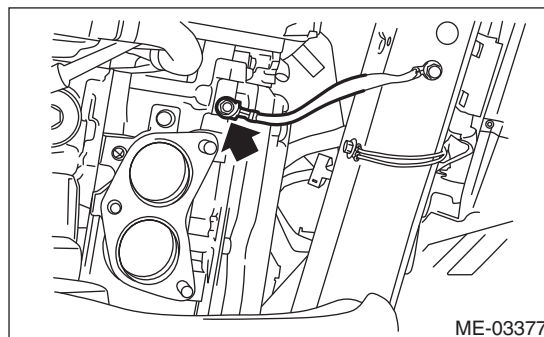
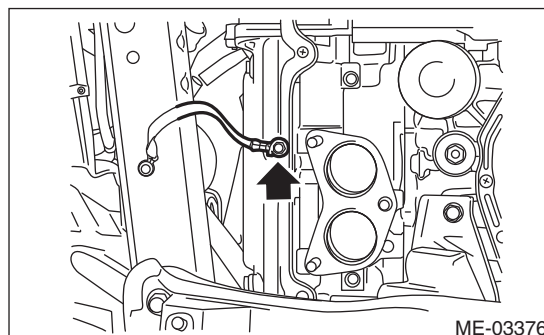


(3) Place the power steering pump on the right side wheel apron.

15) Lift up the vehicle.

16) Remove the front and center exhaust pipes. <Ref. to EX(H4SO)-4, REMOVAL, Front Exhaust Pipe.>

17) Disconnect the engine ground terminal from the cylinder head.

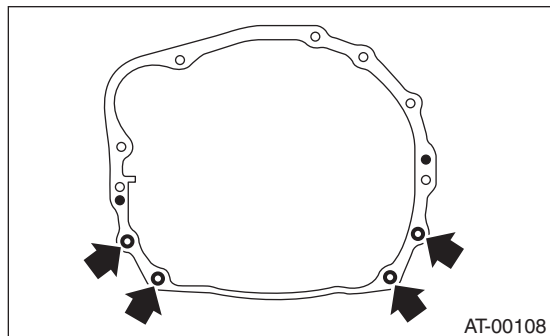


Engine Assembly

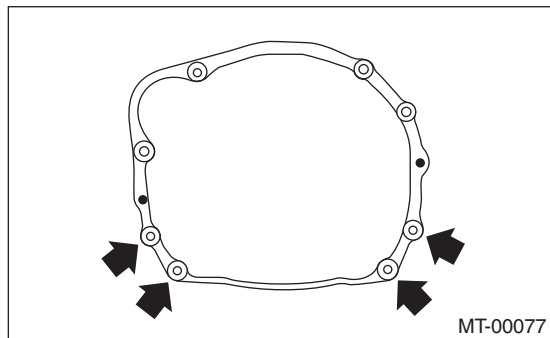
MECHANICAL

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

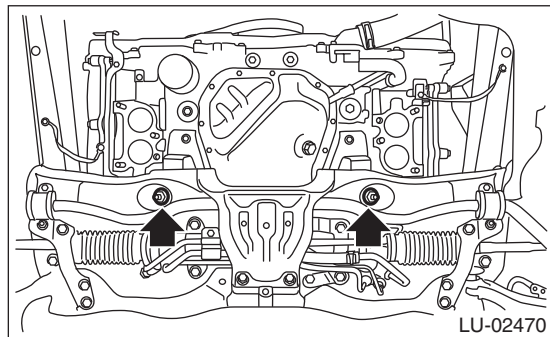
- AT model



- MT model

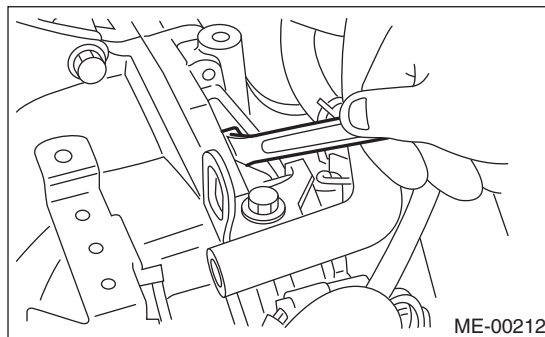


19) Remove the nuts which hold the engine mount to the front crossmember.

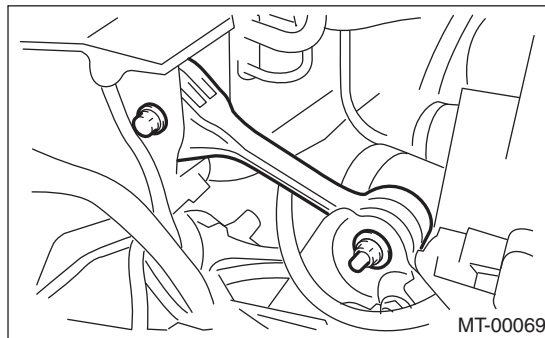


20) Separate the torque converter clutch from drive plate. (AT model)

- (1) Lower the vehicle.
- (2) Remove the service hole plug.
- (3) Remove the bolts which hold torque converter clutch to drive plate.
- (4) Remove all bolts while turning the crankshaft with a socket wrench.



21) Remove the pitching stopper.



22) Disconnect the fuel hoses from fuel pipe.

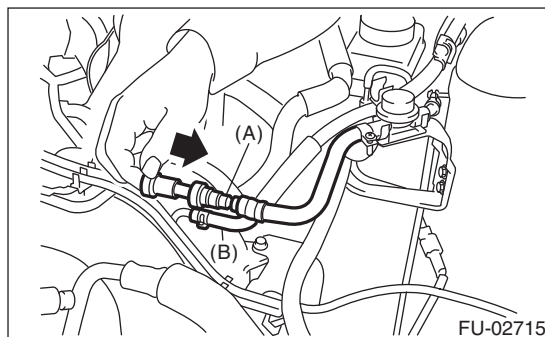
- (1) Disconnect the quick connector on the fuel delivery line by pushing the ST in the direction of the arrow.

ST 42099AE000 QUICK CONNECTOR RELEASE

- (2) Remove the clip and disconnect the evaporation hose from the pipe.

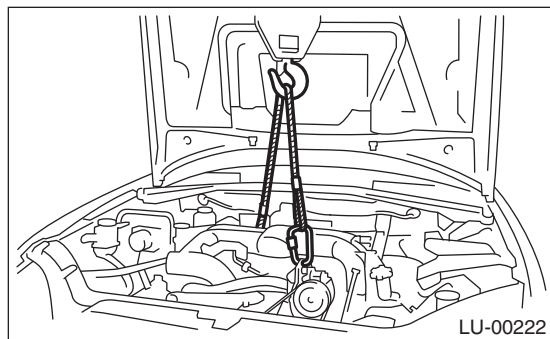
CAUTION:

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



- (A) Fuel delivery hose
(B) Evaporation hose

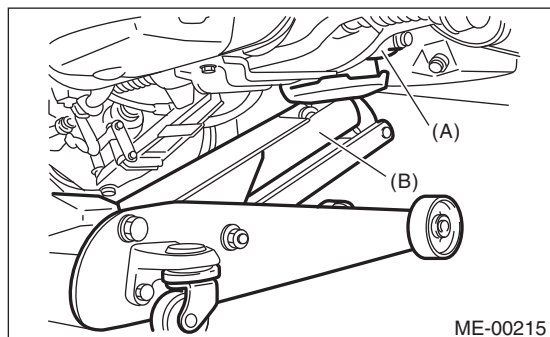
- 23) Support the engine with a lifting device and wire ropes.



- 24) Support the transmission with a garage jack.

CAUTION:

Doing this is very important to prevent the transmission from lowering due to its own weight.



- (A) Transmission
(B) Garage jack

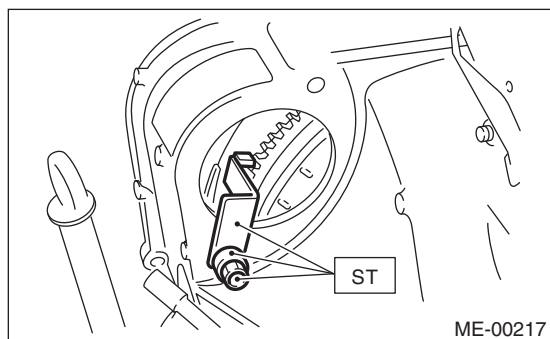
- 25) Separation of engine and transmission.

CAUTION:

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

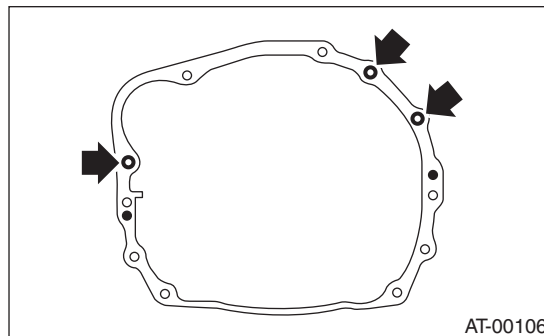
- (1) Remove the starter. <Ref. to SC(H4SO)-6, REMOVAL, Starter.>
- (2) Set the ST to torque converter clutch case. (AT model)

ST 498277200 STOPPER SET

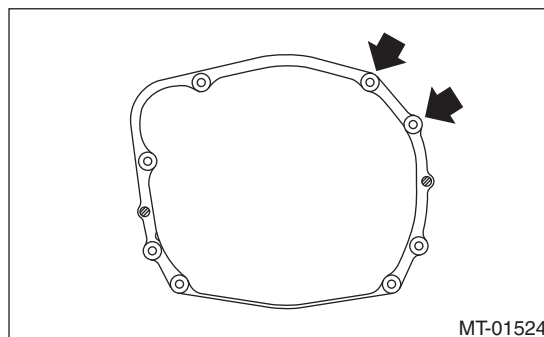


- (3) Remove the bolts which hold upper side of transmission to engine.

- AT model



- MT model



- 26) 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.

- 27) Remove the engine mount.

B: INSTALLATION

1) Install the engine mount onto the engine.

Tightening torque:

35 N·m (3.6 kgf-m, 25.8 ft-lb)

2) Apply a small amount of grease to splines of main shaft. (MT model)

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

NOTE:

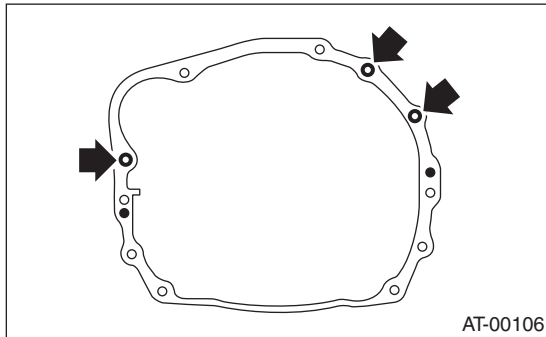
Be careful not to damage adjacent parts or body panels with crank pulley, oil level gauge, etc.

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

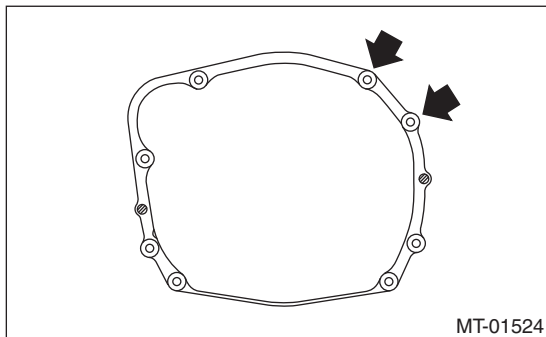
Tightening torque:

50 N·m (5.1 kgf-m, 36.9 ft-lb)

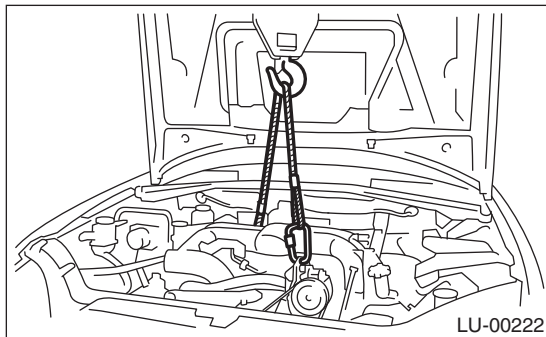
- AT model



- MT model



5) Remove the lifting device and wire ropes.



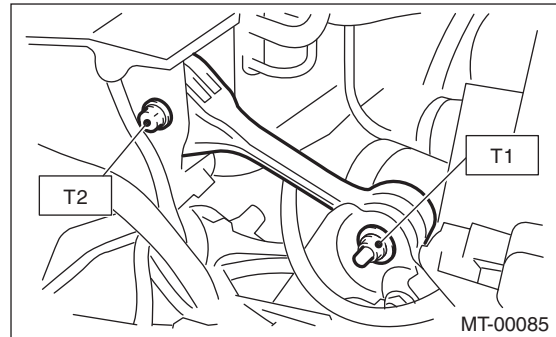
6) Remove the garage jack.

7) 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)



8) Remove the ST from the torque converter clutch case. (AT model)

NOTE:

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

ST 498277200 STOPPER SET

9) Install the starter. <Ref. to SC(H4SO)-6, INSTALLATION, Starter.>

10) Install the torque converter clutch to drive plate. (AT model)

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

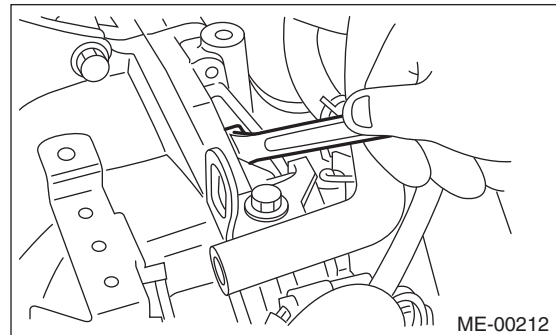
(2) Tighten other bolts while rotating the crankshaft using socket wrench.

NOTE:

Be careful not to drop bolts into the torque converter clutch housing.

Tightening torque:

25 N·m (2.5 kgf-m, 18.4 ft-lb)

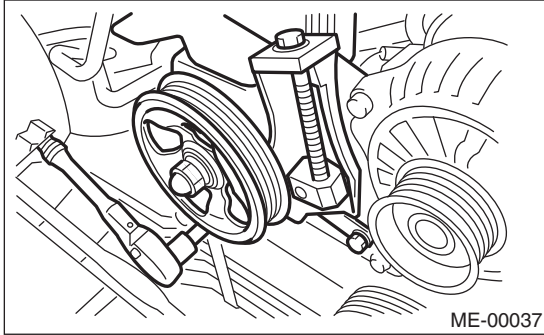


(3) Install the service hole plug.

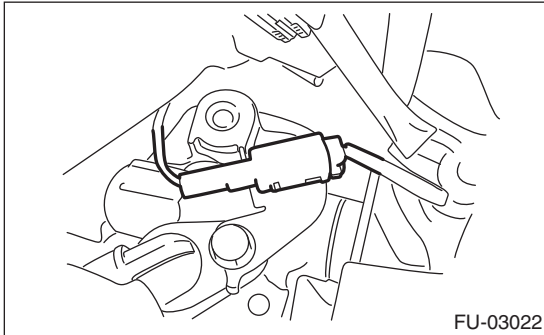
- 11) Install the power steering pump.
 (1) Install the power steering pump to the bracket.

Tightening torque:

Refer to "COMPONENT" of "Power Steering" for the tightening torque. <Ref. to PS-3, COMPONENT, General Description.>



- (2) Connect the power steering switch connector.



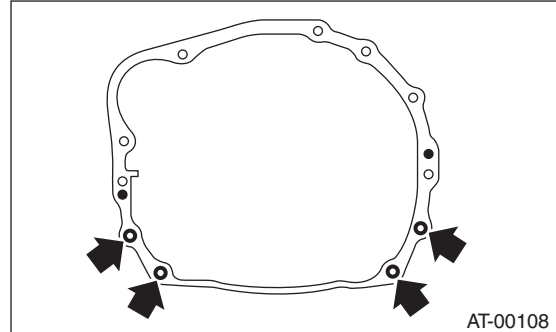
- (3) Install and adjust the front side belt. <Ref. to ME(H4SO)-42, FRONT SIDE BELT, INSTALLATION, V-belt.>
 12) Lift up the vehicle.

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

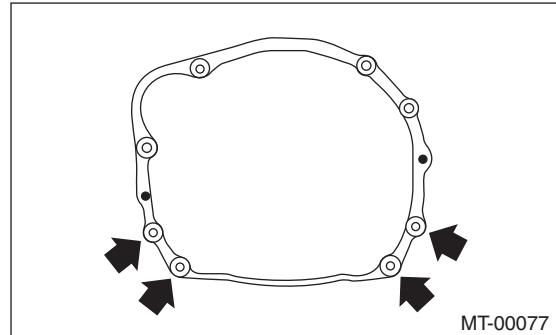
Tightening torque:

50 N·m (5.1 kgf-m, 36.9 ft-lb)

- AT model



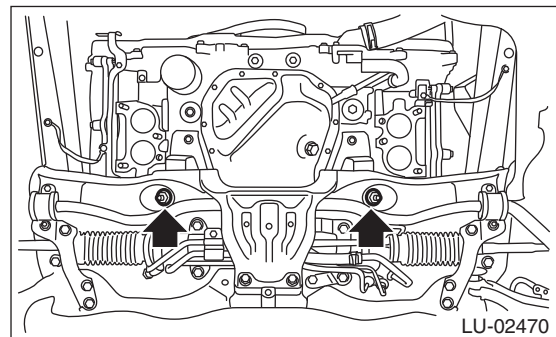
- MT model



- 14) Tighten the nuts which hold the engine mount to the crossmember.

Tightening torque:

85 N·m (8.7 kgf-m, 62.7 ft-lb)



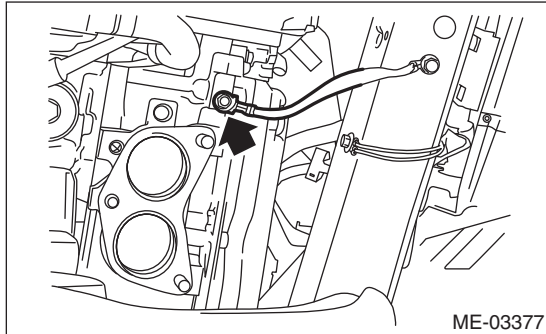
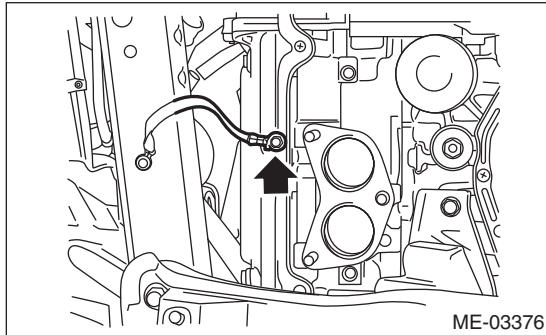
Engine Assembly

MECHANICAL

15) Install the engine ground terminal to the cylinder head.

Tightening torque:

7.5 N·m (0.8 kgf-m, 5.5 ft-lb)



16) Install the front and center exhaust pipe.
<Ref. to EX(H4SO)-5, INSTALLATION, Front Exhaust Pipe.>

17) Lower the vehicle.

18) Connect the following hoses.

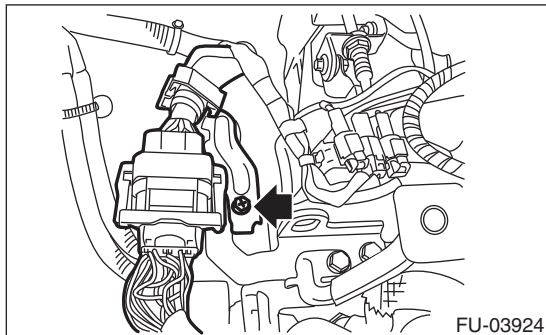
- (1) Fuel delivery hose and evaporation hose
- (2) Heater inlet and outlet hoses
- (3) Brake booster vacuum hose

19) Connect the following connectors and terminals.

- (1) Front oxygen (A/F) sensor connector
- (2) Rear oxygen sensor connector
- (3) Engine harness connectors

Tightening torque:

6.4 N·m (0.7 kgf-m, 4.7 ft-lb)



(4) Generator connector and terminal

Tightening torque:

15 N·m (1.5 kgf-m, 11.1 ft-lb)

(5) A/C compressor connector

20) Install the air intake chamber stay.

Tightening torque:

16 N·m (1.6 kgf-m, 11.8 ft-lb)

21) Tighten the engine ground cable.

Tightening torque:

14 N·m (1.4 kgf-m, 10.3 ft-lb)

22) Install the A/C pressure hoses.

<Ref. to AC-35, INSTALLATION, Hose and Pipe.>

23) Install the radiator to the vehicle. <Ref. to CO(H4SO)-20, INSTALLATION, Radiator.>

24) Install the air intake duct (rear), air cleaner case and air intake chamber. <Ref. to IN(H4SO)-8, INSTALLATION, Air Intake Duct.> <Ref. to IN(H4SO)-6, INSTALLATION, Air Cleaner Case.> <Ref. to IN(H4SO)-7, INSTALLATION, Air Intake Chamber.>

25) Install the under cover.

26) Install the battery in the vehicle, and connect cables.

27) Fill engine coolant.

<Ref. to CO(H4SO)-13, FILLING OF ENGINE COOLANT, REPLACEMENT, Engine Coolant.>

28) Check the ATF level and replenish it if necessary.

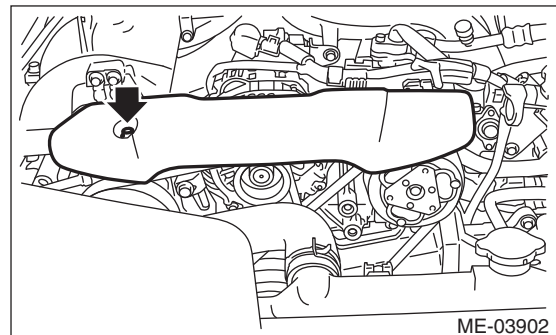
<Ref. to 4AT-26, INSPECTION, Automatic Transmission Fluid.>

29) Charge the A/C system with refrigerant. <Ref. to AC-18, PROCEDURE, Refrigerant Charging Procedure.>

30) Install the V-belt cover.

Tightening torque:

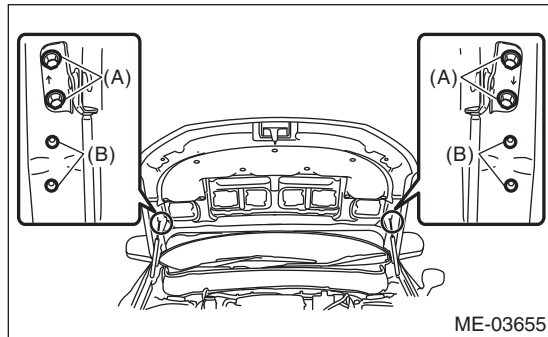
13 N·m (1.3 kgf-m, 9.6 ft-lb)



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

Tightening torque:

7.5 N·m (0.8 kgf-m, 5.5 ft-lb)



32) Lower the vehicle from the lift.

C: INSPECTION

- 1) Check that pipes, hoses, connectors and clamps are installed firmly.
- 2) Check the engine coolant is at specified level.
- 3) Check that the ATF is at specified level. (AT model)
- 4) Start the engine and check for exhaust gas, engine coolant, leaks of fuel, etc. Also check for noise and vibrations.