

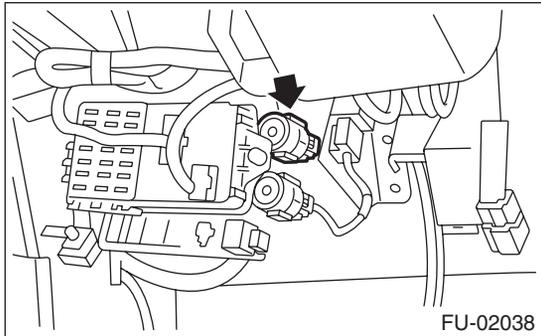
ENGINE ASSEMBLY

MECHANICAL

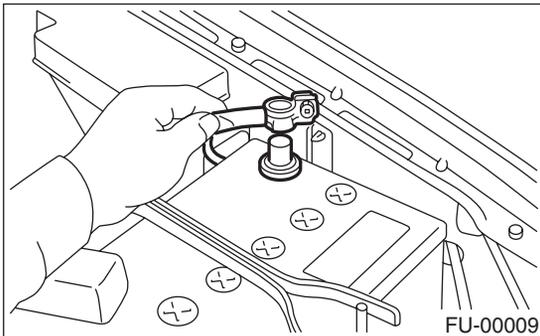
9. Engine Assembly

A: REMOVAL

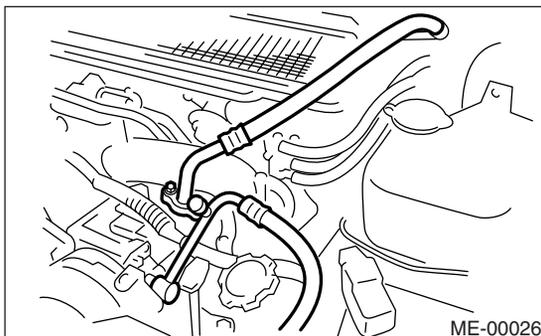
- 1) Set the vehicle on a lift.
- 2) Open the front hood fully, and then support with the hood stay.
- 3) Collect the refrigerant from A/C system. <Ref. to AC-17, Refrigerant Recovery Procedure.>
- 4) Release the fuel pressure.
 - (1) Disconnect the fuel pump relay connector.



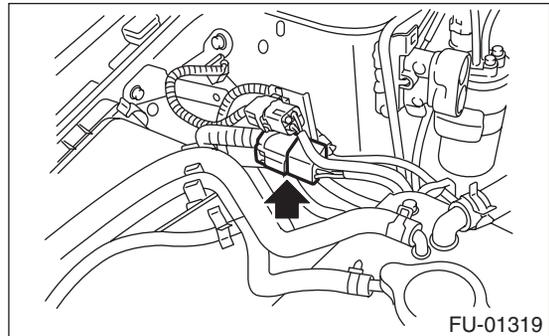
- (2) Start the engine, and run until stalls.
 - (3) After the engine stalls, crank it for 5 seconds more.
 - (4) Turn the ignition switch to OFF.
- 5) Remove the filler cap.
- 6) Disconnect the ground cable from battery.



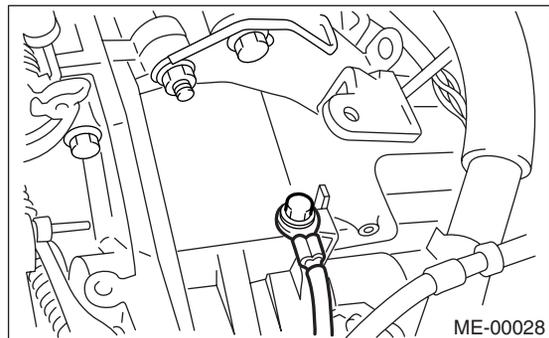
- 7) Remove the radiator from vehicle. <Ref. to CO(H4DOTC)-19, REMOVAL, Radiator.>
- 8) Remove the coolant filler tank. <Ref. to CO(H4DOTC)-29, REMOVAL, Coolant Filler Tank.>
- 9) Disconnect the A/C pressure hoses from A/C compressor.



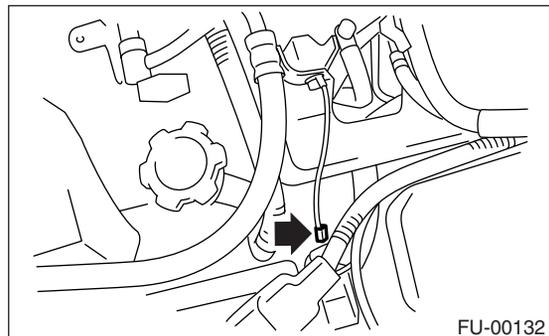
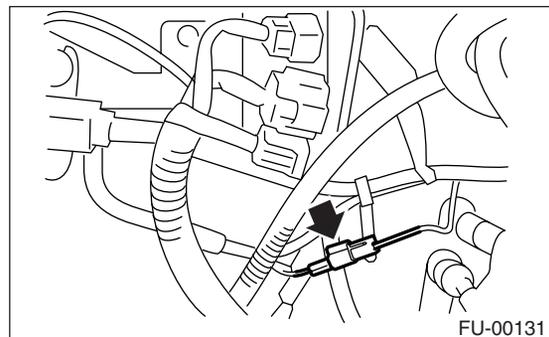
- 10) Remove the intercooler. <Ref. to IN(H4DOTC)-10, REMOVAL, Intercooler.>
- 11) Disconnect the following connectors and cable.
 - (1) Engine harness connector



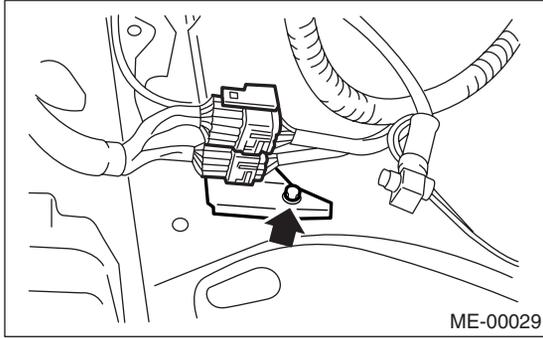
- (2) Engine ground terminal



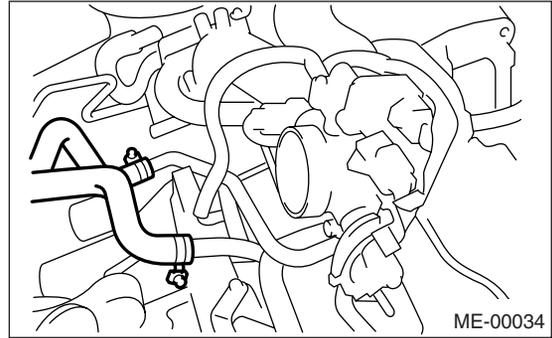
- (3) Disconnect engine ground cables on the left and right sides.



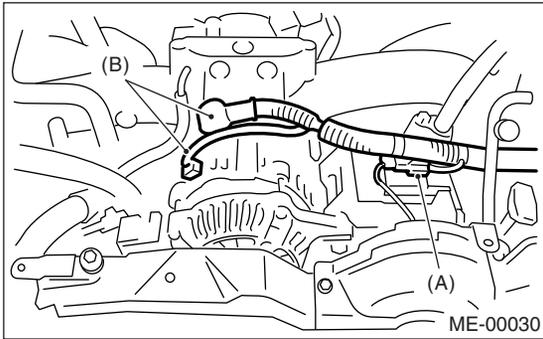
(4) Engine harness connector



(2) Heater inlet outlet hose

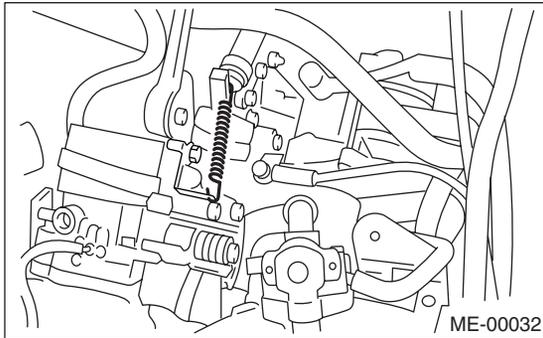


(5) Generator connector, terminal and A/C compressor connectors



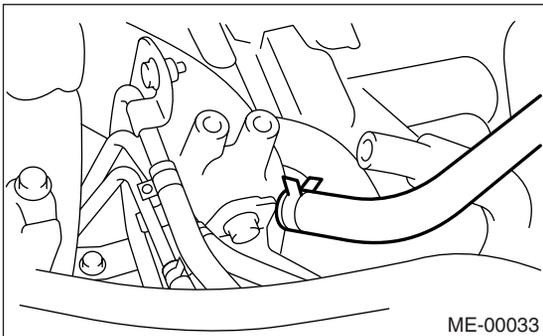
- (A) A/C compressor connector
- (B) Generator connector and terminal

(6) Clutch release spring (MT model)



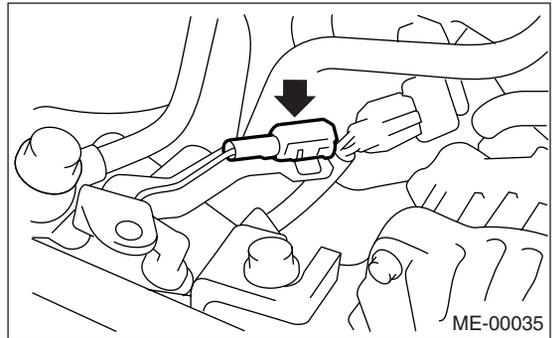
12) Disconnect the following hoses.

(1) Brake booster vacuum hose

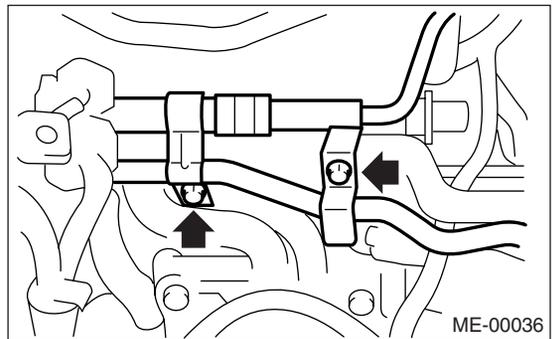


13) Remove the power steering pump from bracket.

- (1) Loosen the lock bolt and slider bolt, and then remove the front side V-belt. <Ref. to ME(H4DOTC)-45, FRONT SIDE BELT, REMOVAL, V-belt.>
- (2) Disconnect the power steering switch connector.



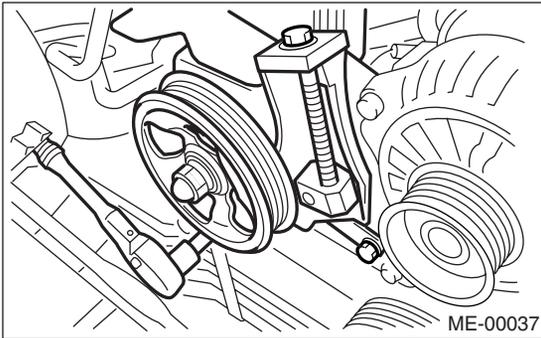
(3) Remove the pipe with bracket from intake manifold.



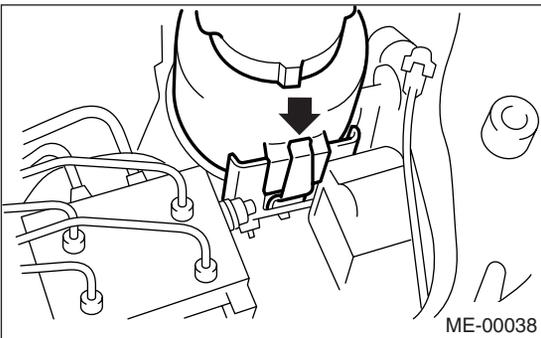
ENGINE ASSEMBLY

MECHANICAL

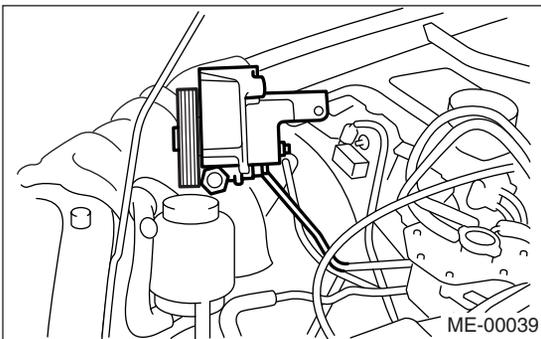
(4) Remove the power steering pump from engine.



(5) Remove the power steering tank from bracket by pulling it upward.



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

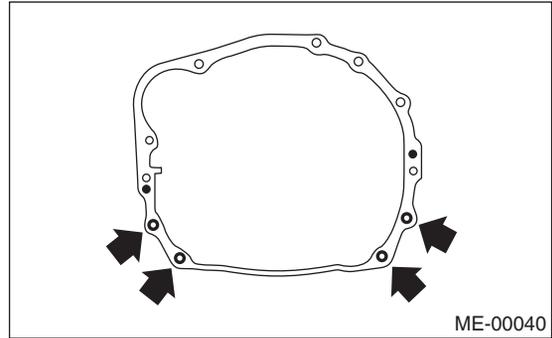


14) Lift-up the vehicle.

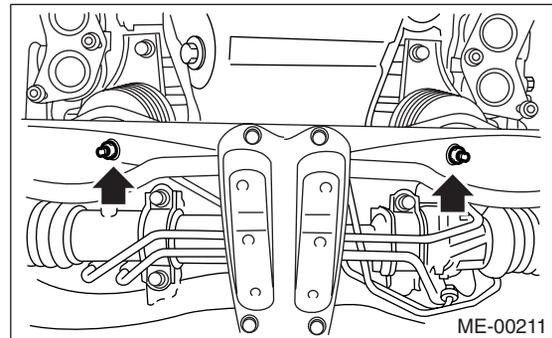
15) Remove ATF cooler pipe from frame. (AT model)

16) Remove the center exhaust pipe.<Ref. to EX(H4DOTC)-9, REMOVAL, Center Exhaust Pipe.>

17) Remove the nuts which hold the lower side of transmission to engine.



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

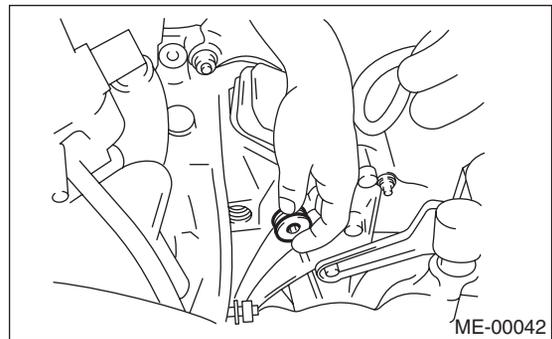


19) Lower the vehicle.

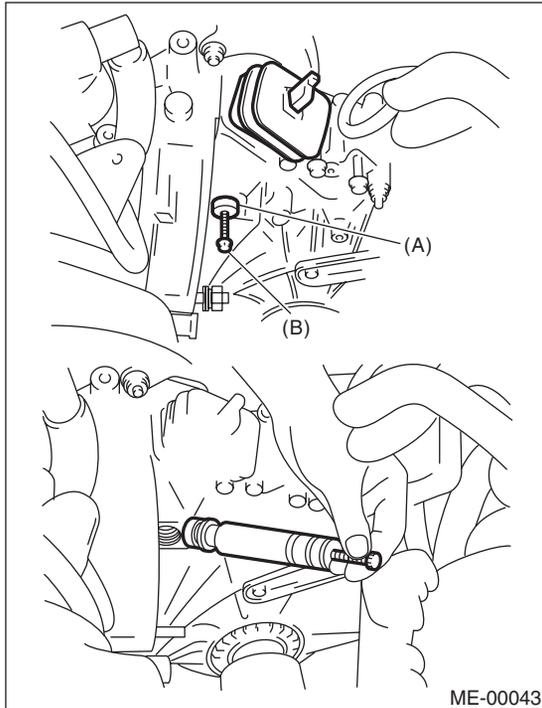
20) Separate the clutch release fork from release bearing. (MT model)

(1) Remove the clutch operating cylinder from transmission.

(2) Remove the plug using a 10 mm hexagon wrench.



(3) Screw the 6 mm dia. bolt into release fork shaft, and remove it.



- (A) Shaft
- (B) Bolt

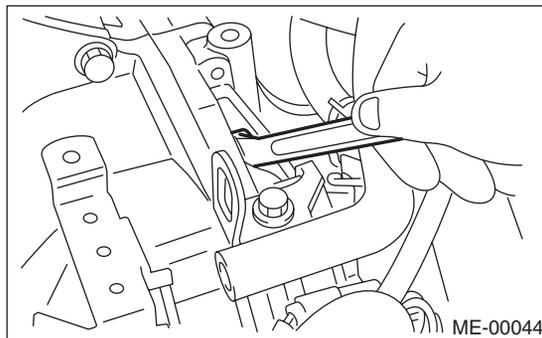
(4) Raise the release fork, and then unfasten the release bearing tabs to free release fork.

NOTE:

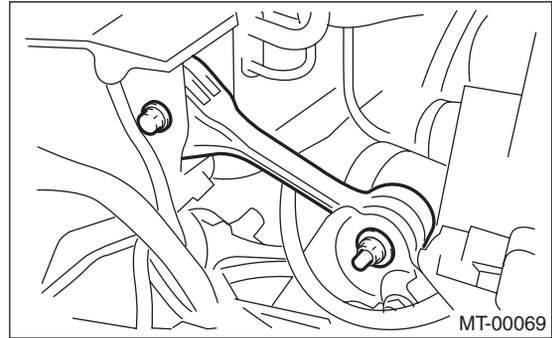
Step (4) is required to prevent interference with engine when removing the engine from transmission.

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

- (1) Lower the vehicle.
- (2) Remove service hole plug.
- (3) Remove bolts which hold torque converter clutch to drive plate.
- (4) Remove other bolts while rotating the engine using socket wrench.



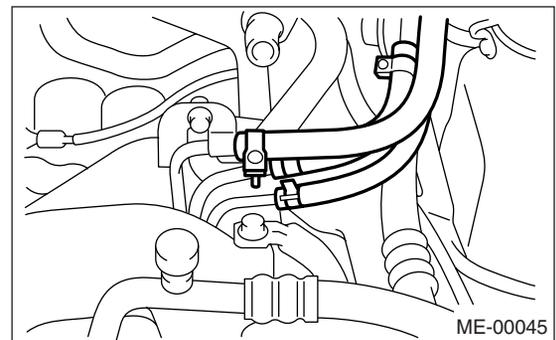
22) Remove the pitching stopper.



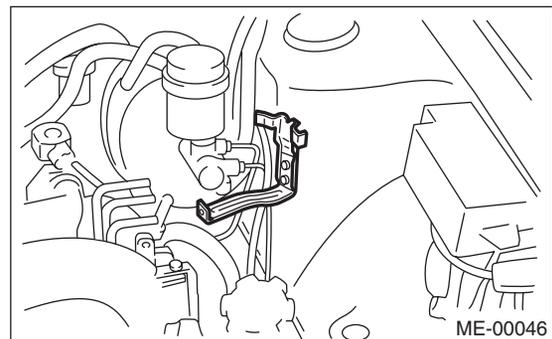
23) Disconnect the fuel delivery hose, return hose and evaporation hose.

NOTE:

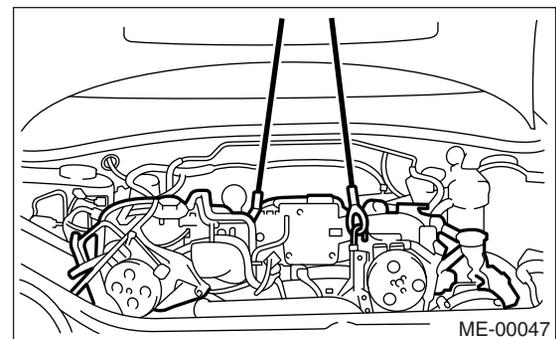
- Catch fuel from the hose into container.
- Disconnect the hose with its end wrapped with cloth to prevent fuel from splashing.



24) Remove fuel filter and bracket.



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



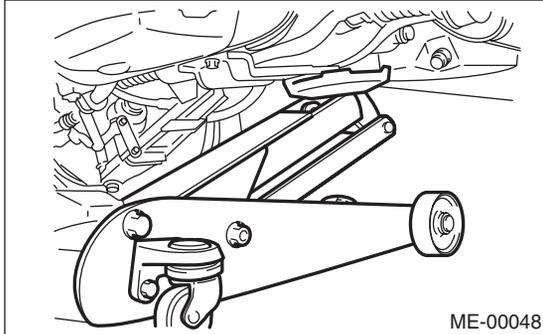
ENGINE ASSEMBLY

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26) Support the transmission with a garage jack.

NOTE:

Before moving the engine away from transmission, check to be sure no work has been overlooked. Doing this is very important in order to facilitate re-installation and because transmission lowers under its own weight.

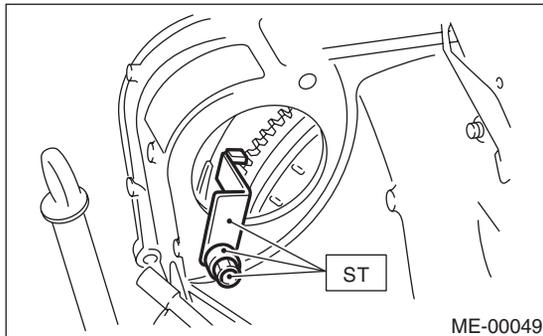


27) Separation of the engine and transmission.

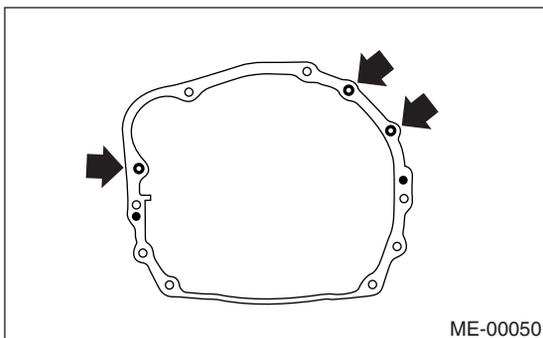
(1) Remove the starter. <Ref. to SC(H4SO)-7, REMOVAL, Starter.>

(2) Install special tool to torque converter clutch case. (AT model)

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



28) Remove the engine from vehicle.

(1) Slightly raise the engine.

(2) Raise the transmission with garage jack.

(3) Move the engine horizontally until the mainshaft is withdrawn from clutch cover.

(4) Slowly move the engine away from engine compartment.

NOTE:

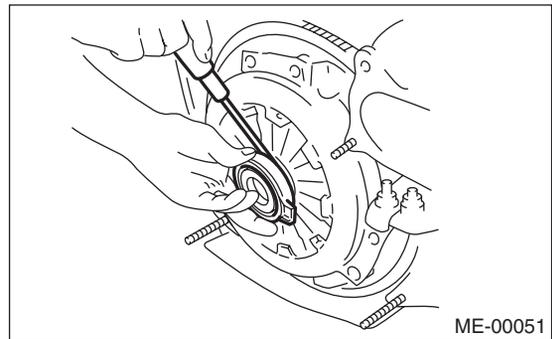
Be careful not to damage adjacent parts or body panels with crank pulley, oil pressure gauge, etc.

29) Remove the front cushion rubbers.

B: INSTALLATION

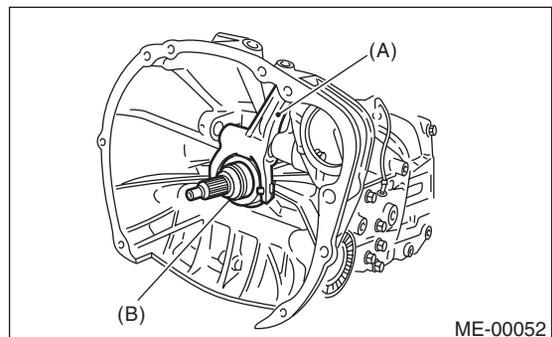
1) Install the clutch release fork and bearing onto transmission.

(1) Remove the release bearing from clutch cover with flat type screw driver.



(2) Install the release bearing on transmission.

(3) Install the release fork into release bearing tab.



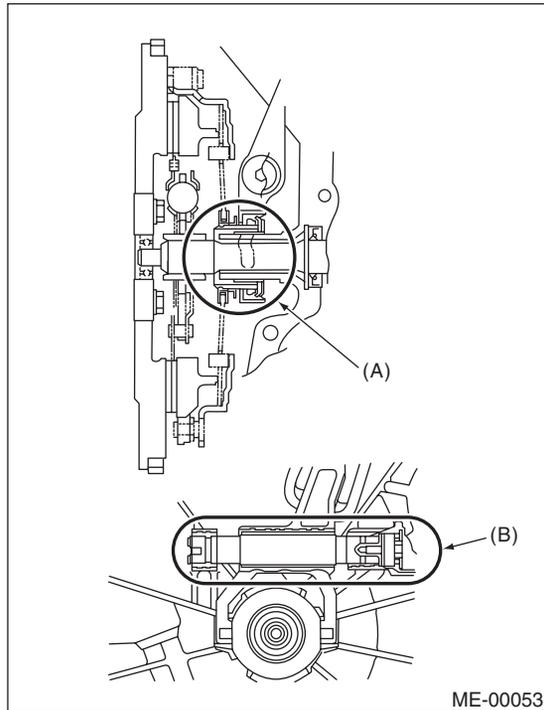
(A) Release fork

(B) Release bearing

(4) Apply grease to the specified points.

- Spline FX2200

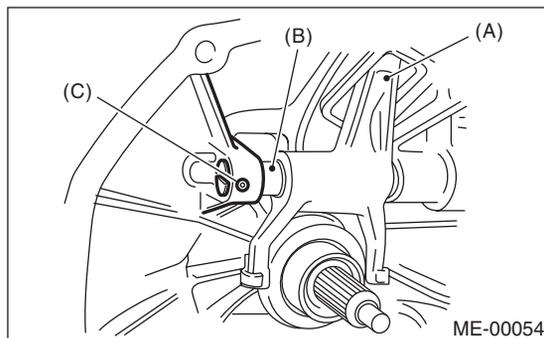
• Shaft SUNLIGHT 2



- (A) Spline (FX2200)
- (B) Shaft (SUNLIGHT 2)

(5) Insert the release fork shaft into release fork.

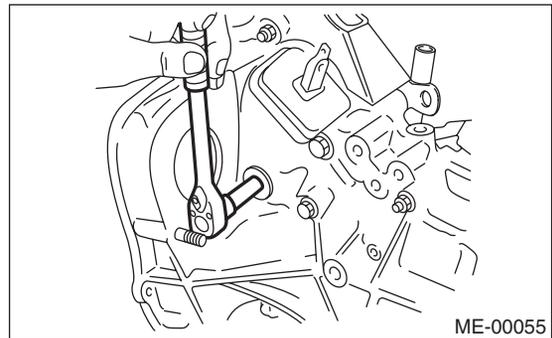
CAUTION:
Make sure the cutout portion of release fork shaft contacts spring pin.



- (A) Release fork
- (B) Release shaft
- (C) Spring pin

(6) Tighten the plug.

Tightening torque:
44 N·m (4.5 kgf-m, 32.5 ft-lb)



2) Install the front cushion rubbers to engine.

Tightening torque:
35 N·m (3.6 kgf-m, 25.9 ft-lb)

3) Install the engine onto transmission.
(1) Position the engine in engine compartment, and then align it with the transmission.

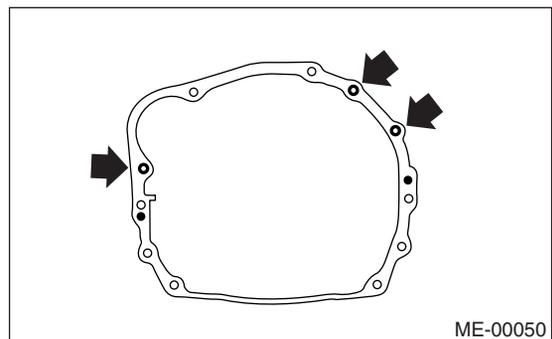
NOTE:

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

(2) Apply a small amount of grease to the splines of mainshaft. (MT model)

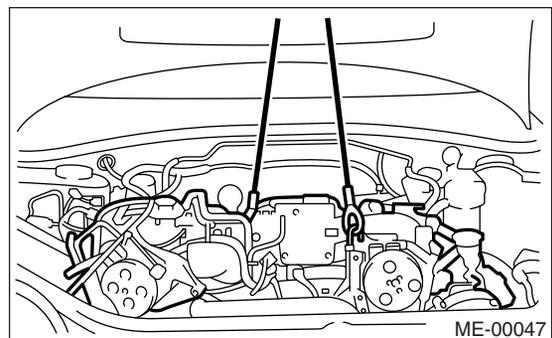
4) Tighten the bolts which hold the right upper side of transmission to engine.

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

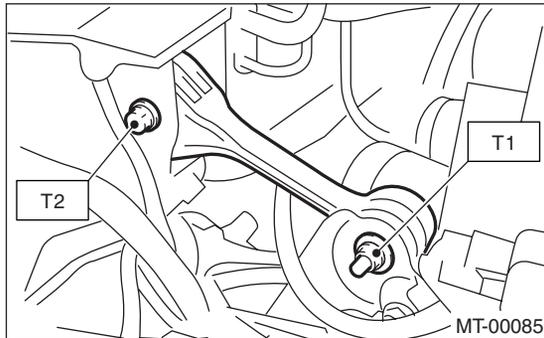
MECHANICAL

7) Install the pitching stopper.

Tightening torque:

T1: 50 N·m (5.1 kgf-m, 37 ft-lb)

T2: 58 N·m (5.9 kgf-m, 43 ft-lb)



8) Remove special tool from torque converter clutch case. (AT model)

NOTE:

Be careful not to drop the special tool into the torque converter clutch case when installing it.

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9) Install starter. <Ref. to SC(H4SO)-7, Starter.>

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

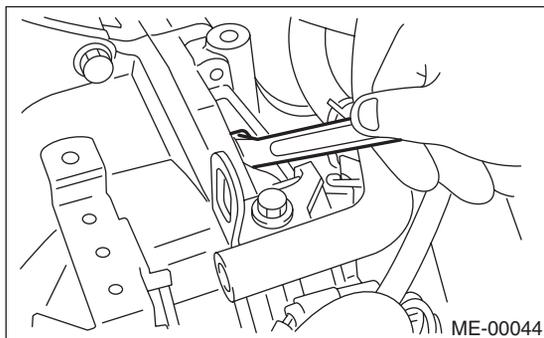
- (1) Tighten bolts which hold torque converter clutch to drive plate.
- (2) Tighten other bolts while rotating the engine by using socket wrench.

CAUTION:

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

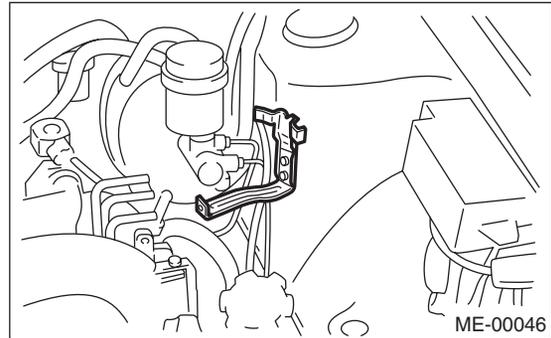
Tightening torque:

25 N·m (2.5 kgf-m, 18.1 ft-lb)



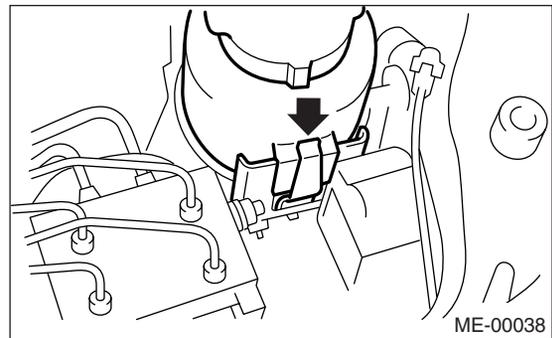
- (3) Clog plug onto service hole.

11) Install fuel filter and bracket.



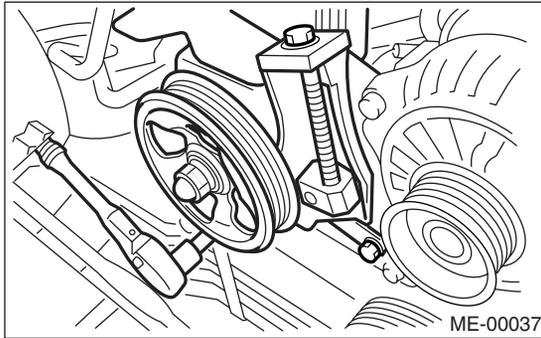
12) Install the power steering pump on bracket.

- (1) Install the power steering tank on bracket.

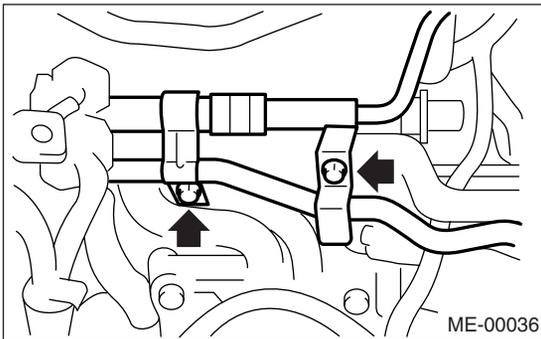


(2) Install the power steering pump.

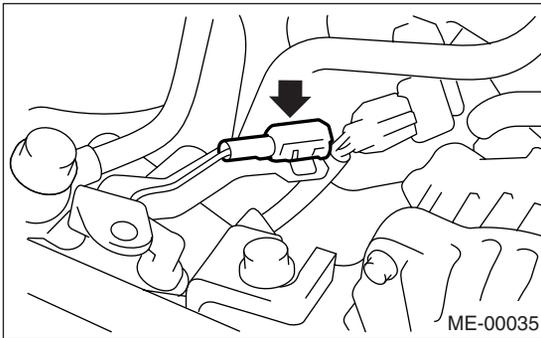
Tightening torque:
20.1 N-m (2.05 kgf-m, 14.8 ft-lb)



(3) Install the power steering pipe bracket on intake manifold RH.



(4) Connect the power steering switch connector.

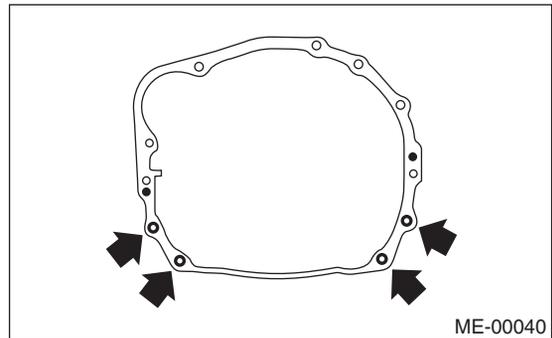


(5) Install the front side V-belt, and adjust it.
 <Ref. to ME(H4DOTC)-45, REAR SIDE BELT, INSTALLATION, V-belt.>

13) Lift-up the vehicle.

14) Tighten the nuts which hold the lower side of transmission to engine.

Tightening torque:
50 N-m (5.1 kgf-m, 36.9 ft-lb)

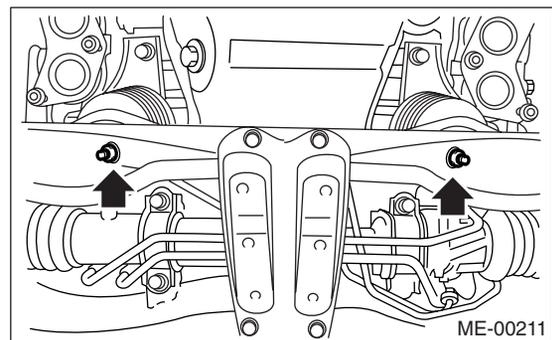


15) Tighten the nuts which install the front cushion rubber onto crossmember.

Tightening torque:
75 N-m (7.7 kgf-m, 55.4 ft-lb)

NOTE:

Make sure the heat shield cover is securely installed.



16) Install ATF cooler pipe to frame. (AT model)
 17) Install the center exhaust pipe. <Ref. to EX(H4DOTC)-10, INSTALLATION, Center Exhaust Pipe.>

18) Lower the vehicle.

19) Connect the following hoses:

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

20) Connect the following connectors and terminals:

- (1) Engine ground terminal
- (2) Engine harness connectors
- (3) Generator connector and terminal
- (4) A/C compressor connectors

21) Connect the following cables:

- (1) Accelerator cable
- (2) Clutch release spring

22) After connecting each cable, adjust them.

23) Install the air intake system.

- (1) Install the intercooler. <Ref. to IN(H4DOTC)-11, INSTALLATION, Intercooler.>

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MECHANICAL

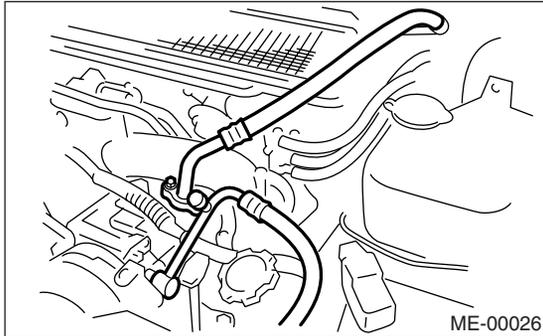
- (2) Install the air cleaner element and air cleaner upper cover.
 - (3) Install the engine harness connector bracket.
 - (4) Install the filler hose to air cleaner case.
- 24) Install the A/C pressure hoses.

NOTE:

Use new O-rings.

Tightening torque:

25 N·m (2.5 kgf-m, 18.1 ft-lb)



- 25) Install the radiator. <Ref. to CO(H4DOTC)-20, INSTALLATION, Radiator.>
- 26) Install the coolant filler tank. <Ref. to CO(H4DOTC)-29, INSTALLATION, Coolant Filler Tank.>
- 27) Install the window washer tank.
- 28) Install the battery in the vehicle, and then connect the cables.
- 29) Fill coolant.
<Ref. to CO(H4DOTC)-13, FILLING OF ENGINE COOLANT, REPLACEMENT, Engine Coolant.>
- 30) Charge the A/C system with refrigerant.
<Ref. to AC-18, Refrigerant Charging Procedure.>
- 31) Remove the front hood stay, and close the front hood.
- 32) Take off the vehicle from lift arms.