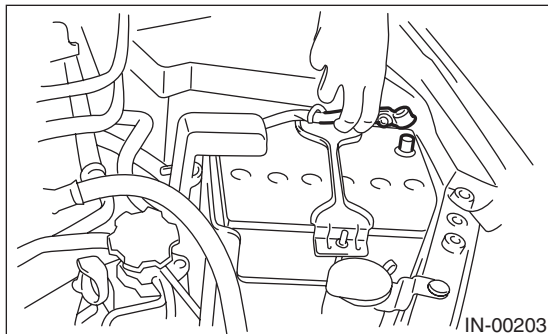


## 9. Engine Assembly

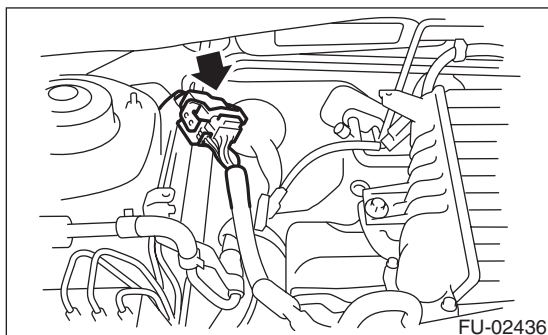
### A: REMOVAL

- 1) Set the vehicle on a lift.
- 2) Open the front hood fully and support with the front food stay.
- 3) Remove the collector cover.
- 4) Collect the refrigerant from A/C system. <Ref. to AC-19, Refrigerant Recovery Procedure.>
- 5) Release the fuel pressure. <Ref. to FU(H4DOTC)-49, RELEASING OF FUEL PRESSURE, PROCEDURE, Fuel.>
- 6) Disconnect the ground cable from the battery.

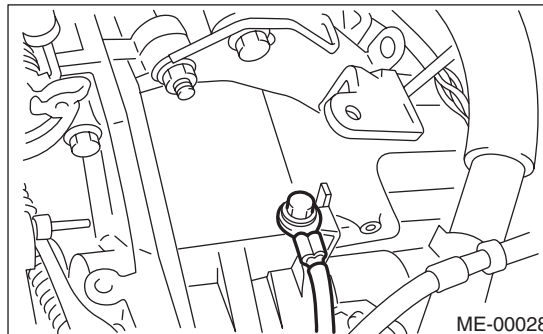


- 7) Open the fuel filler flap lid, and remove the fuel filler cap.
- 8) Remove the air intake duct and air cleaner case. <Ref. to IN(H4DOTC)-9, REMOVAL, Air Intake Duct.> <Ref. to IN(H4DOTC)-8, REMOVAL, Air Cleaner Case.>
- 9) Remove the intercooler. <Ref. to IN(H4DOTC)-12, REMOVAL, Intercooler.>
- 10) Remove the radiator from vehicle. <Ref. to CO(H4DOTC)-19, REMOVAL, Radiator.>
- 11) Remove the coolant filler tank. <Ref. to CO(H4DOTC)-31, REMOVAL, Coolant Filler Tank.>
- 12) Disconnect the A/C pressure hoses from A/C compressor. <Ref. to AC-37, REMOVAL, Hose and Tube.>
- 13) Disconnect the following connectors and cables.

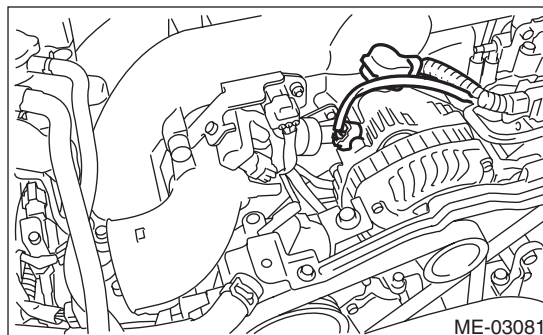
#### (1) Engine harness connectors



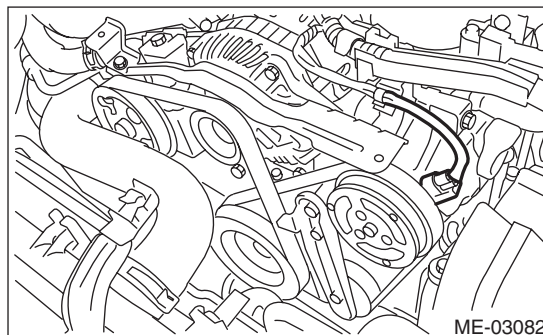
#### (2) Engine ground terminal



#### (3) Generator connector and terminal

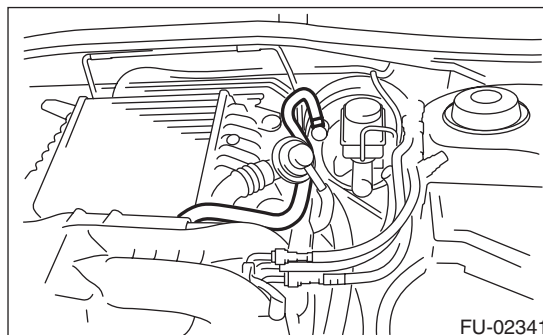


#### (4) A/C compressor connector



#### 14) Disconnect the following hoses.

##### (1) Brake booster vacuum hose



##### (2) Heater inlet and outlet hoses

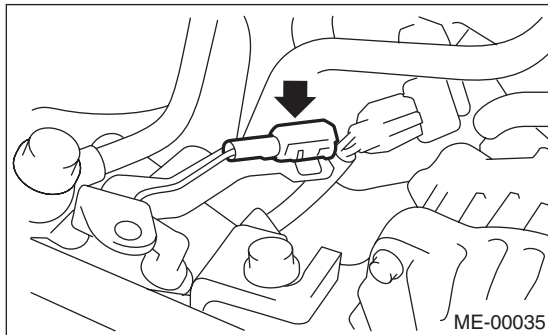
# Engine Assembly

## MECHANICAL

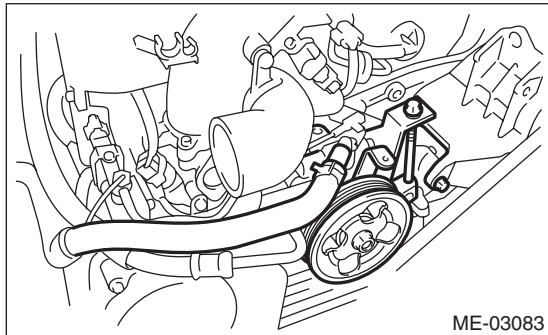
15) Remove the power steering pump from the bracket.

(1) Loosen the lock bolt and slider bolt, and remove the front side belt. <Ref. to ME(H4DOTC)-37, FRONT SIDE BELT, REMOVAL, V-belt.>

(2) Disconnect the power steering pump switch connector.



(3) Remove the power steering pump from the engine. <Ref. to PS-45, REMOVAL, Oil Pump.>

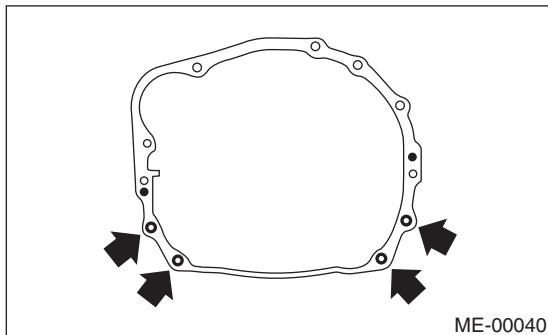


(4) Place the power steering pump on the right side wheel apron.

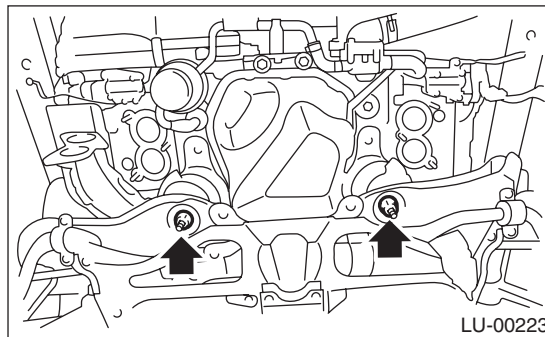
16) Lift the vehicle.

17) Remove the center exhaust pipe. <Ref. to EX(H4DOTC)-8, REMOVAL, Center Exhaust Pipe.>

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



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



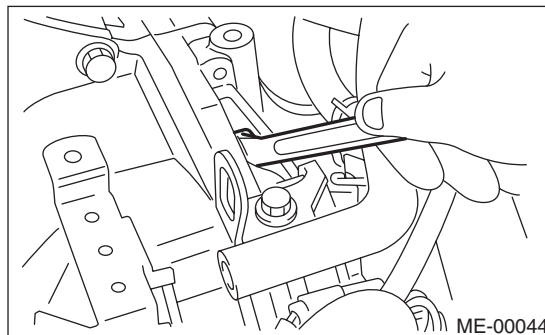
20) Separate the torque converter clutch from drive plate. (AT model)

(1) Lower the vehicle.

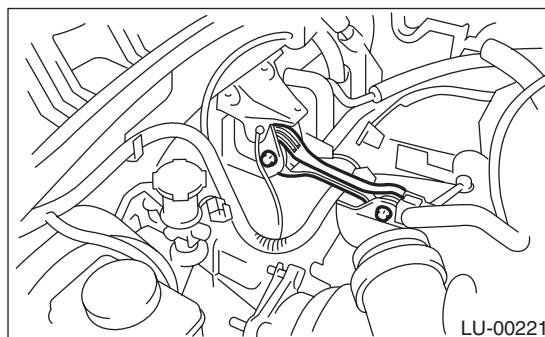
(2) Remove the service hole plug.

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

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



21) Remove the pitching stopper.

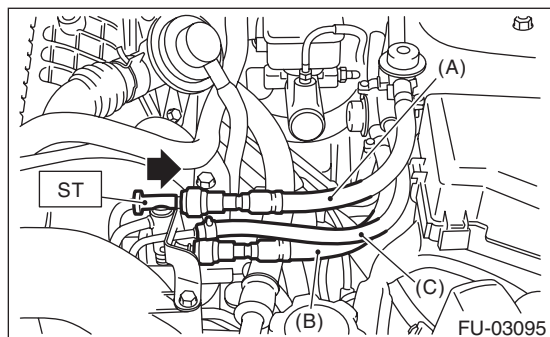


22) Attach ST to the fuel delivery pipe and push ST in the direction of arrow mark to disconnect the fuel delivery hose.

ST 42099AE000 CONNECTOR REMOVER

**CAUTION:**

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



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

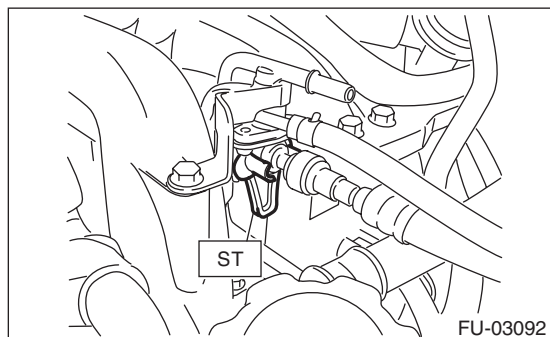
23) Disconnect the fuel return hose using the ST.

ST 18371AA000 CONNECTOR REMOVER

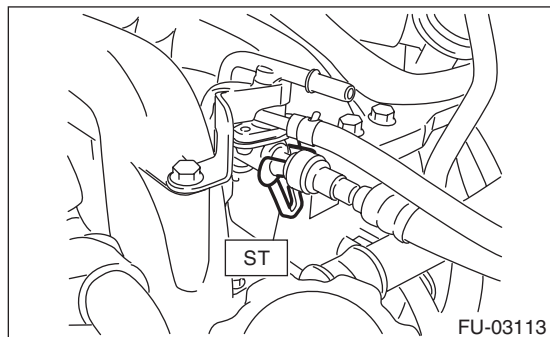
**CAUTION:**

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

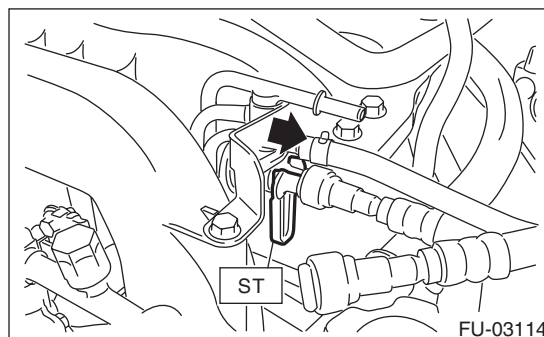
(1) Attach the ST to the fuel return pipe as shown in the figure.



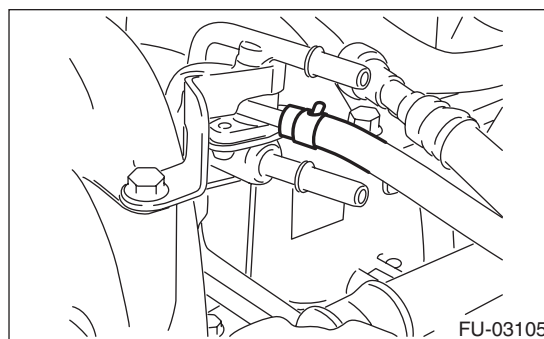
(2) Insert the front side of ST into the quick connector.



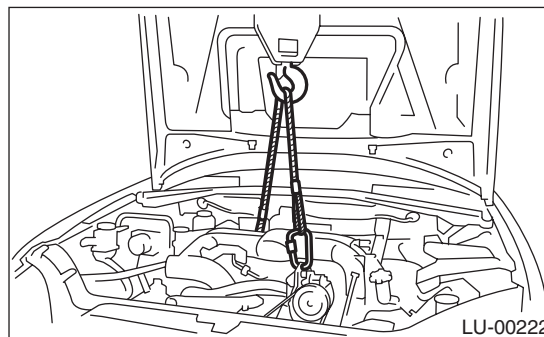
(3) Insert the back side of ST into the quick connector and push ST in the direction of arrow mark to disconnect the fuel return hose.



24) Remove the clip and disconnect the evaporation hose from the fuel pipe.



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



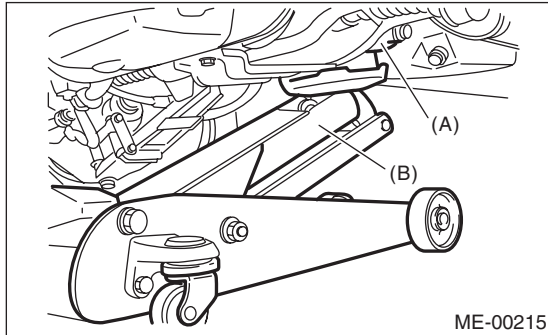
# Engine Assembly

## MECHANICAL

26) 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

### CAUTION:

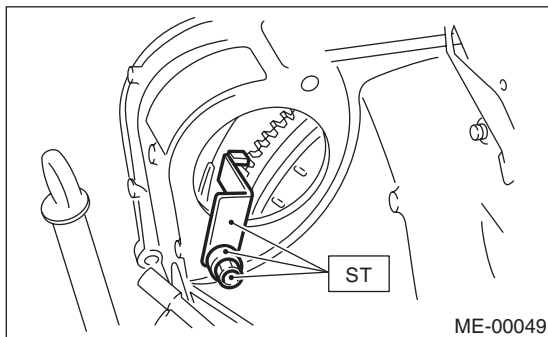
Before removing the engine away from transmission, check to be sure no work has been overlooked.

27) Separation of engine and transmission.

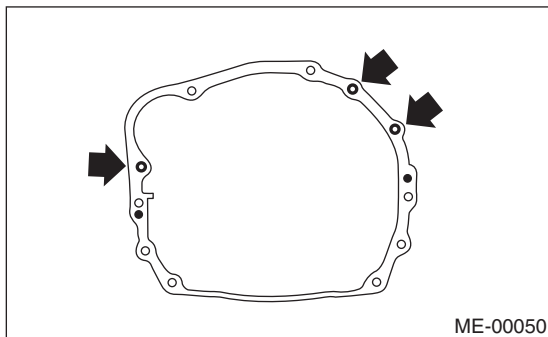
(1) Remove the starter. <Ref. to SC(H4SO)-6, REMOVAL, Starter.>

(2) Set the ST to torque converter clutch case. (AT model)

ST 498277200 STOPPER SET



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

29) Remove the front cushion rubbers.

## B: INSTALLATION

1) Install the front cushion rubbers to 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.

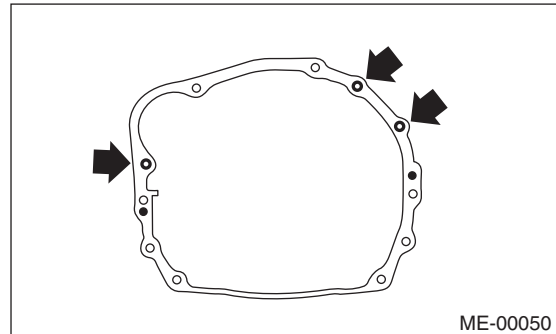
### NOTE:

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

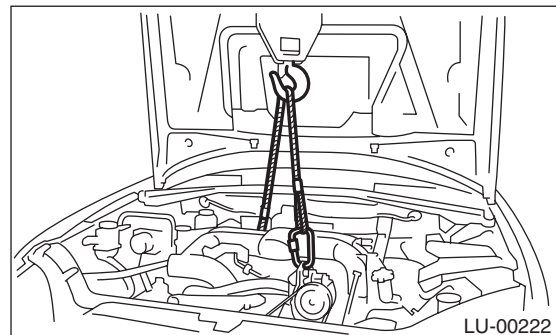
4) Tighten the bolts which hold upper side of transmission to engine.

### Tightening torque:

**50 N·m (5.1 kgf-m, 36.9 ft-lb)**



5) Remove the lifting device and wire ropes.



6) Remove the garage jack.

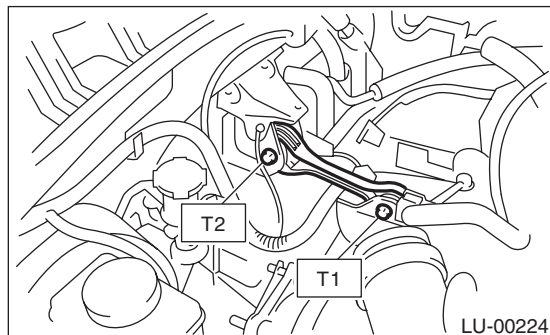


7) Install the pitching stopper.

**Tightening torque:**

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

**T2: 58 N·m (5.9 kgf-m, 43 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.

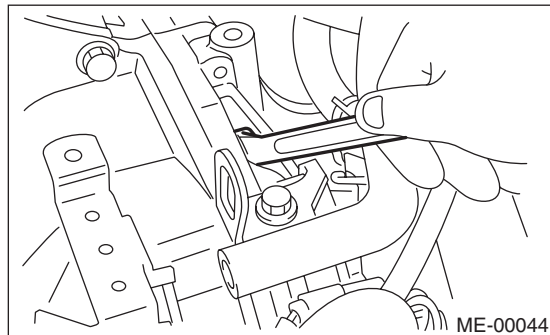
(2) Tighten other bolts while rotating the crankshaft using socket wrench.

**NOTE:**

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

**Tightening torque:**

**25 N·m (2.5 kgf-m, 18.1 ft-lb)**



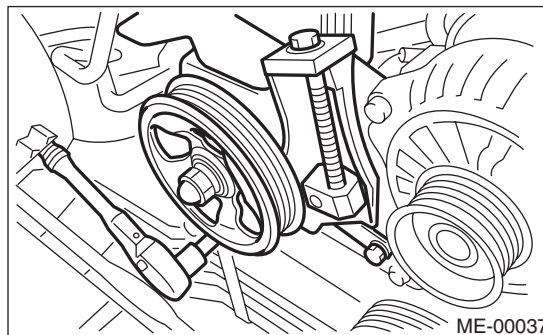
11) Fit the plug to service hole.

12) Install the power steering pump.

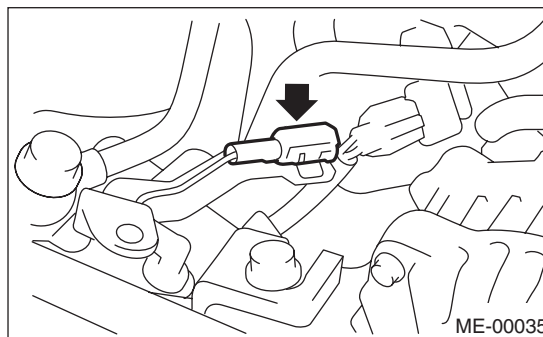
(1) Install the power steering pump.

**Tightening torque:**

**20.1 N·m (2.05 kgf-m, 14.8 ft-lb)**



(2) Connect the power steering pump switch connector.



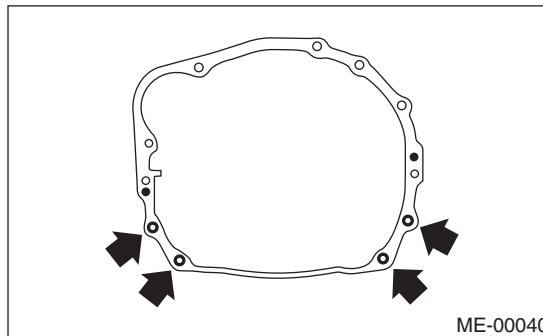
(3) Install and adjust the front side belt. <Ref. to ME(H4DOTC)-38, FRONT SIDE BELT, INSTALLATION, V-belt.>

13) Lift the vehicle.

14) 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)**



# Engine Assembly

## MECHANICAL

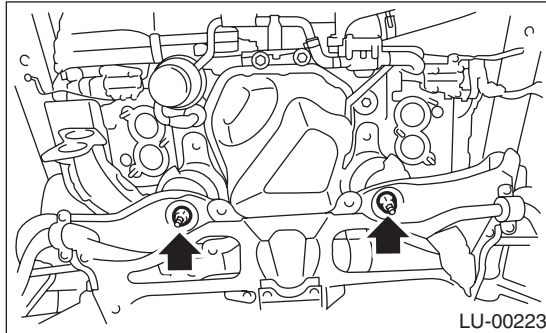
15) Tighten the nuts which install the front cushion rubber onto crossmember.

### **Tightening torque:**

**85 N·m (8.7 kgf-m, 62.7 ft-lb)**

### **NOTE:**

Make sure that the front cushion rubber mounting bolts and locator are securely installed.



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

17) Lower the vehicle.

18) Connect the following hoses.

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

19) Connect the following connectors and terminals.

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

20) Install the intercooler. <Ref. to IN(H4DOTC)-12, INSTALLATION, Intercooler.>

21) Install the air cleaner case and air intake duct. <Ref. to IN(H4DOTC)-8, INSTALLATION, Air Cleaner Case.> <Ref. to IN(H4DOTC)-9, INSTALLATION, Air Intake Duct.>

22) Install the A/C pressure hoses. <Ref. to AC-37, INSTALLATION, Hose and Tube.>

23) Install the radiator. <Ref. to CO(H4DOTC)-20, INSTALLATION, Radiator.>

24) Install the coolant filler tank. <Ref. to CO(H4DOTC)-31, INSTALLATION, Coolant Filler Tank.>

25) Install the battery to the vehicle, and connect the battery ground terminal.

26) Fill engine coolant. <Ref. to CO(H4DOTC)-13, FILLING OF ENGINE COOLANT, REPLACEMENT, Engine Coolant.>

27) Charge the A/C system with refrigerant. <Ref. to AC-20, PROCEDURE, Refrigerant Charging Procedure.>

28) Check the ATF level and replenish it if necessary. <Ref. to 5AT-28, INSPECTION, Automatic Transmission Fluid.>

29) Install the collector cover.

30) Remove the front hood stay, and close the front hood.

31) Lower the vehicle from the lift.

## **C: INSPECTION**

1) Check that the pipes and hoses are connected securely.

2) Check the engine coolant and ATF are at specified levels.