

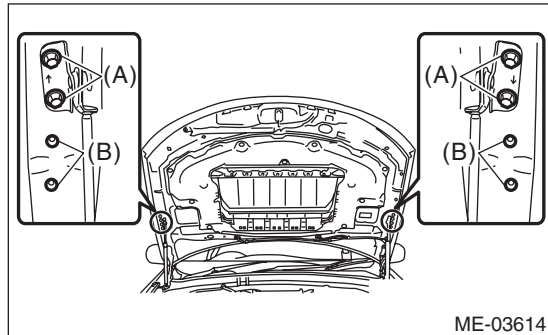
## 9. Engine Assembly

### A: REMOVAL

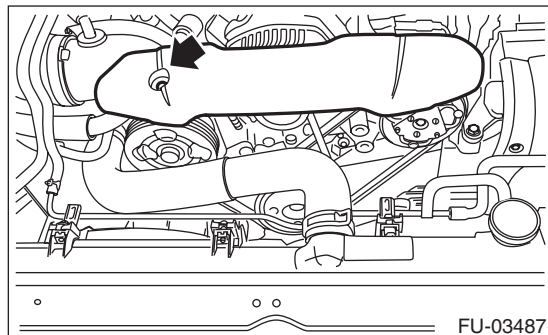
1) Change the bolt installation position from (A) to (B), then open the front hood completely.

**Tightening torque:**

**7.5 N·m (0.8 kgf-m, 5.5 ft-lb)**



2) Remove the V-belt covers.



3) Collect the refrigerant from A/C system. <Ref. to AC-19, Refrigerant Recovery Procedure.>

4) Release the fuel pressure. <Ref. to FU(STI)-67, RELEASING OF FUEL PRESSURE, PROCEDURE, Fuel.>

5) Remove the battery. <Ref. to SC(STI)-27, REMOVAL, Battery.>

6) Open the fuel filler lid and remove the fuel filler cap.

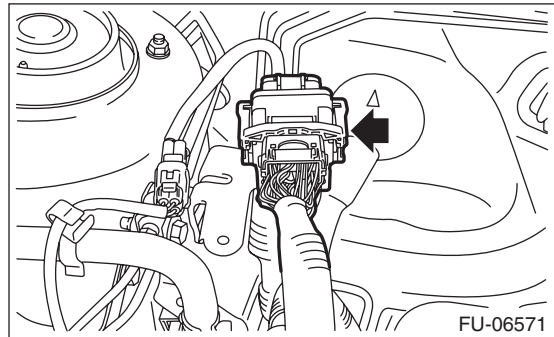
7) Remove the air intake duct and air cleaner case. <Ref. to IN(STI)-10, REMOVAL, Air Intake Duct.> <Ref. to IN(STI)-8, REMOVAL, Air Cleaner Case.>

8) Remove the intercooler. <Ref. to IN(STI)-12, REMOVAL, Intercooler.>

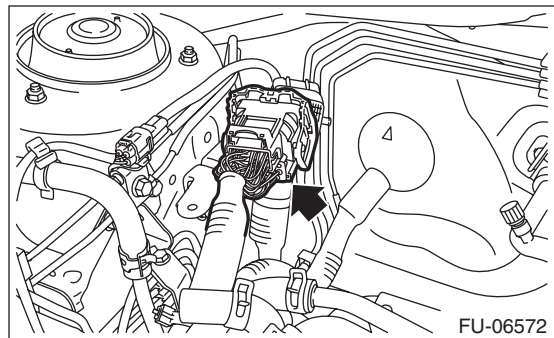
9) Remove the radiator. <Ref. to CO(STI)-19, REMOVAL, Radiator.>

10) Remove the coolant filler tank. <Ref. to CO(STI)-28, REMOVAL, Coolant Filler Tank.>

11) Disconnect the bulkhead harness connectors from the engine harness connectors.

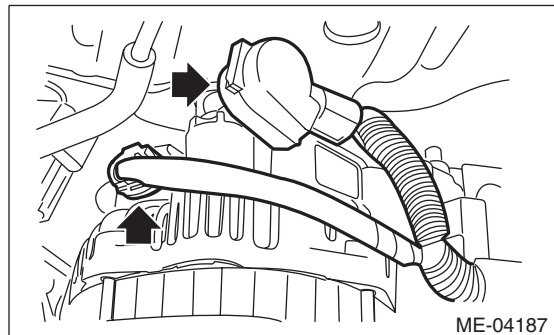


12) Remove the engine harness connector from the engine harness bracket.

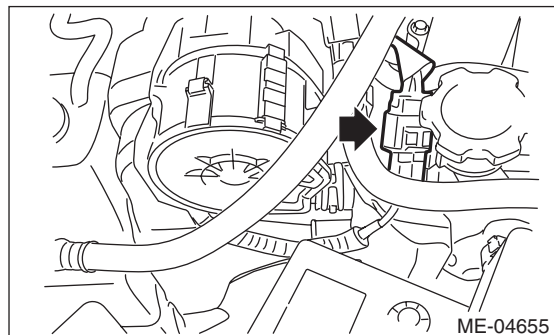


13) Disconnect the following connectors and terminals.

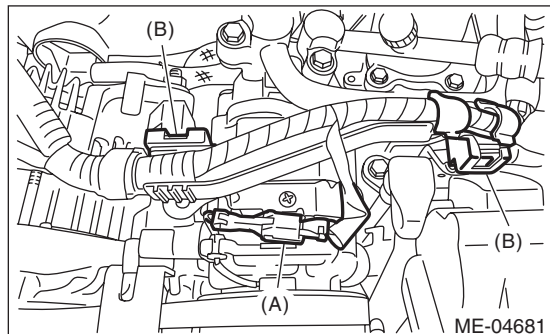
(1) Generator connector and terminal



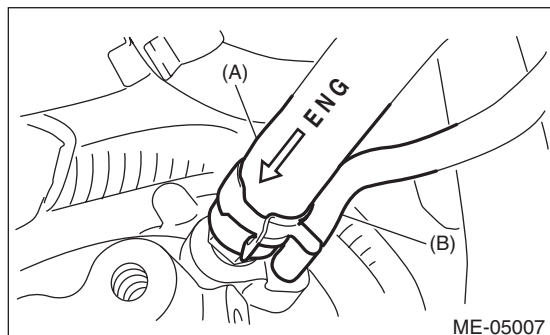
(2) Secondary air pump connector



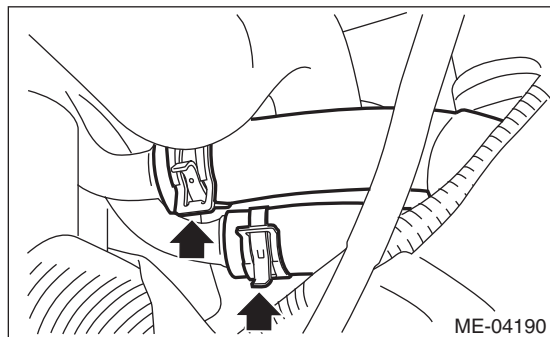
- 14) Disconnect the connector (A) from the A/C compressor, and remove the clip (B) securing the generator cord.



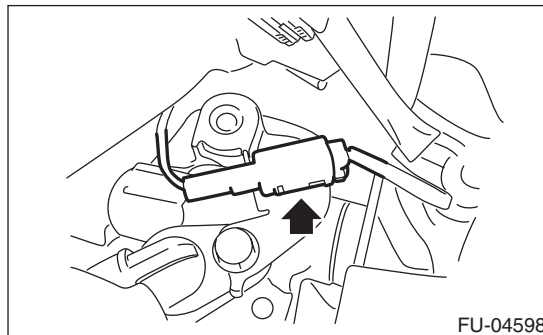
- 15) Disconnect the following hoses.  
 (1) A/C pressure hose <Ref. to AC-41, REMOVAL, Hose and Pipe.>  
 (2) Brake booster vacuum hose (A) and pressure regulator vacuum hose (B)



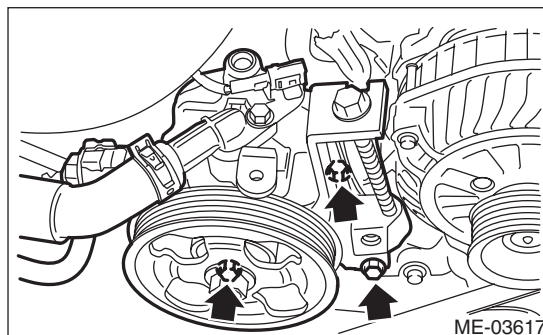
- (3) Heater inlet hose and heater outlet hose



- 16) Remove the power steering pump.  
 (1) Remove the front side belts. <Ref. to ME(STI)-40, FRONT SIDE BELT, REMOVAL, V-belt.>  
 (2) Disconnect the connector from power steering pump switch.

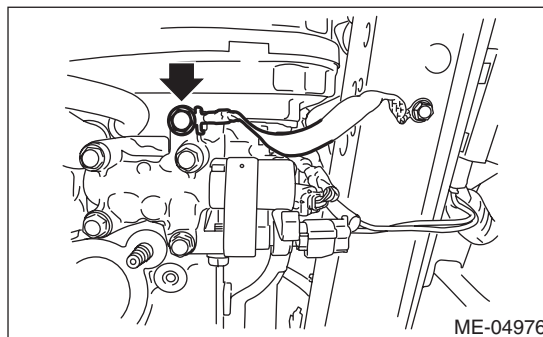


- (3) Remove the power steering pump from the engine.



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

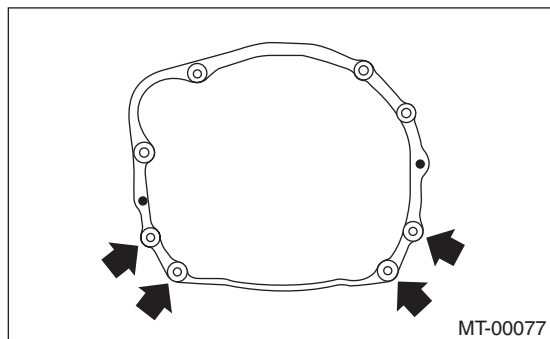
- 17) Remove the center exhaust pipe. <Ref. to EX(STI)-8, REMOVAL, Center Exhaust Pipe.>  
 18) Remove the turbocharger. <Ref. to IN(STI)-15, REMOVAL, Turbocharger.>  
 19) Remove the joint pipe and front exhaust pipe. <Ref. to EX(STI)-12, REMOVAL, Joint Pipe.>  
 <Ref. to EX(STI)-6, REMOVAL, Front Exhaust Pipe.>  
 20) Disconnect the ground cable on the engine side.



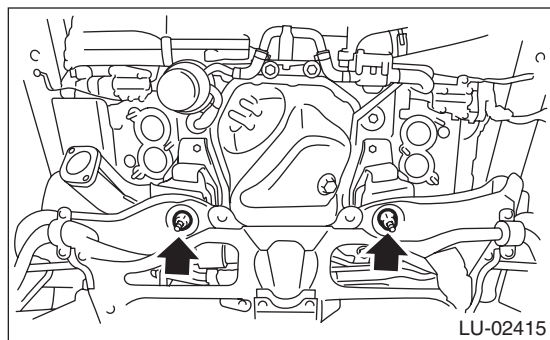
# Engine Assembly

## MECHANICAL

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



22) Remove the nuts which secure the engine mounting to the front crossmember.



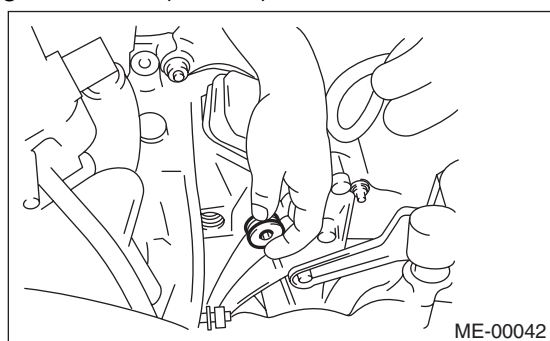
23) Lower the vehicle.

24) Remove the starter. <Ref. to SC(STI)-8, REMOVAL, Starter.>

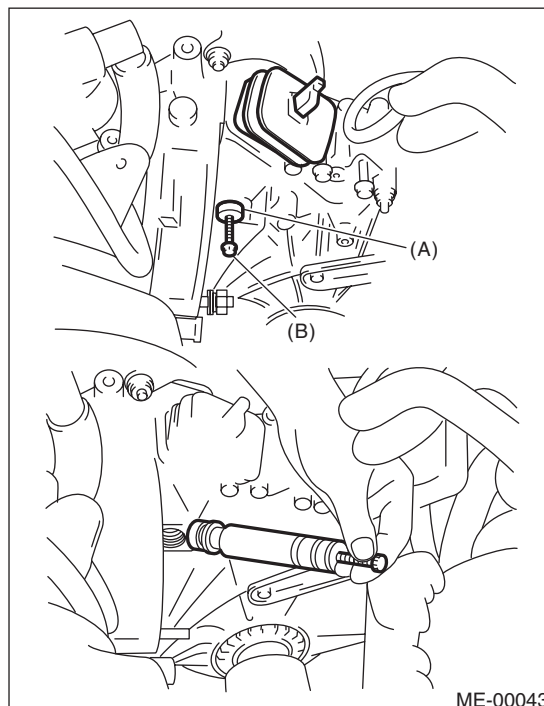
25) Separate the clutch release fork from the release bearing.

(1) Remove the clutch operating cylinder from the transmission.

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



(3) Screw-in the 6 mm dia. bolt into the release fork shaft to remove.



(A) Release fork shaft

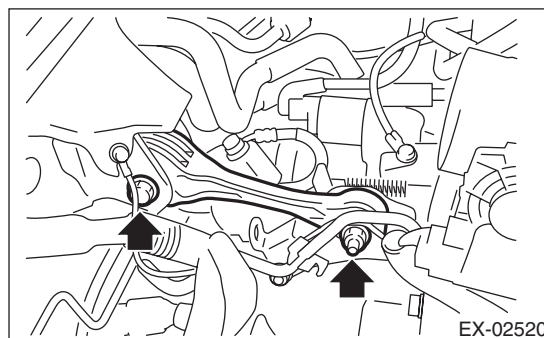
(B) Bolt

(4) Raise the release fork, unlock the release bearing tab, then remove the release fork.

### NOTE:

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

26) Remove the pitching stopper.



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

**CAUTION:**

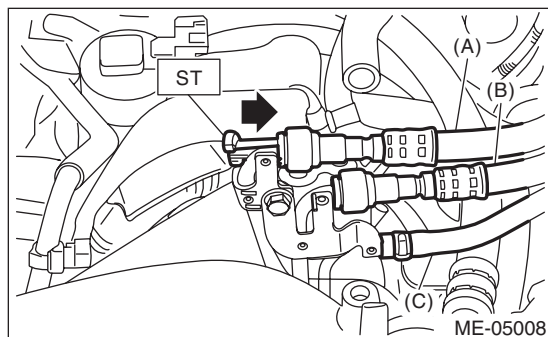
- Be careful not to spill fuel.
- Catch the fuel from hoses using a container or cloth.

(1) Set the ST to the fuel pipe.

ST 42099AE000 QUICK CONNECTOR RELEASE

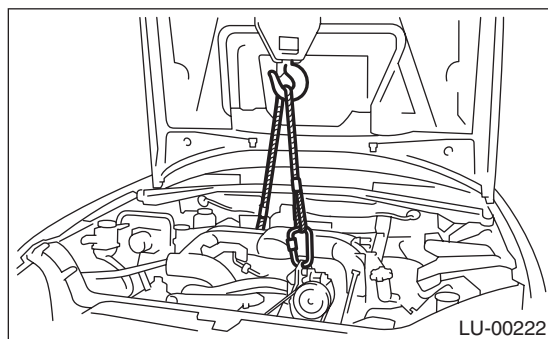
(2) Disconnect the quick connector of the fuel delivery hose and fuel return hose by pushing the ST in the direction of the arrow.

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



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

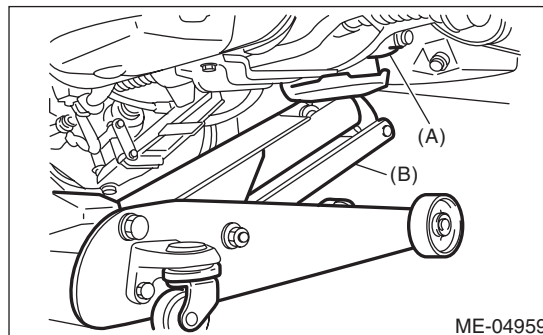
28) Support the engine with a lifting device and wire ropes.



29) Support the transmission with a garage jack.

**CAUTION:**

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

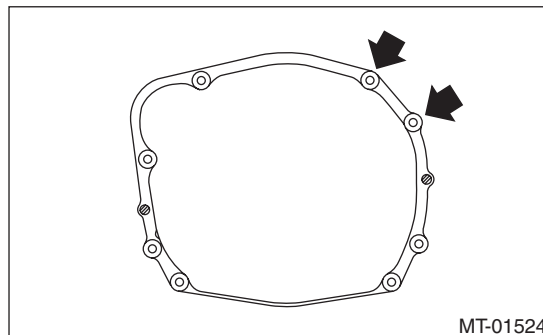


- (A) Transmission
- (B) Garage jack

30) Remove the bolts which hold the upper side of the transmission to the engine.

**CAUTION:**

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



31) Remove the engine from the vehicle.

**NOTE:**

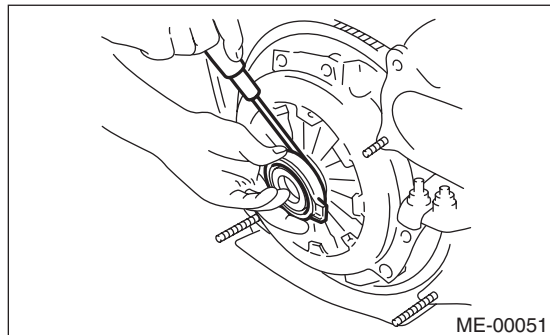
Be careful not to damage adjacent parts or body panels with crank pulley, oil level gauge, etc.

- (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.
- 32) Remove the engine mounting from the engine.

## B: INSTALLATION

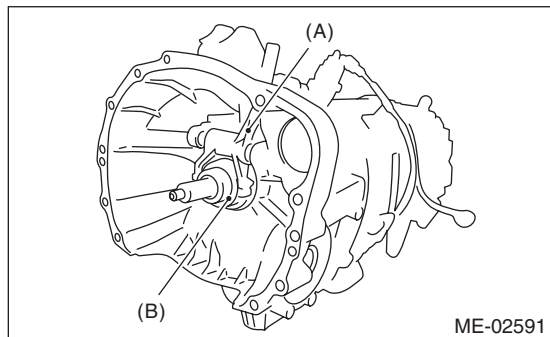
1) Install the clutch release fork and bearing to the transmission.

(1) Using a flat tip screwdriver, remove the release bearing from the clutch cover.



(2) Attach the release bearing to the transmission.

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



- (A) Release fork
- (B) Release bearing

(4) Apply grease to the specified areas.

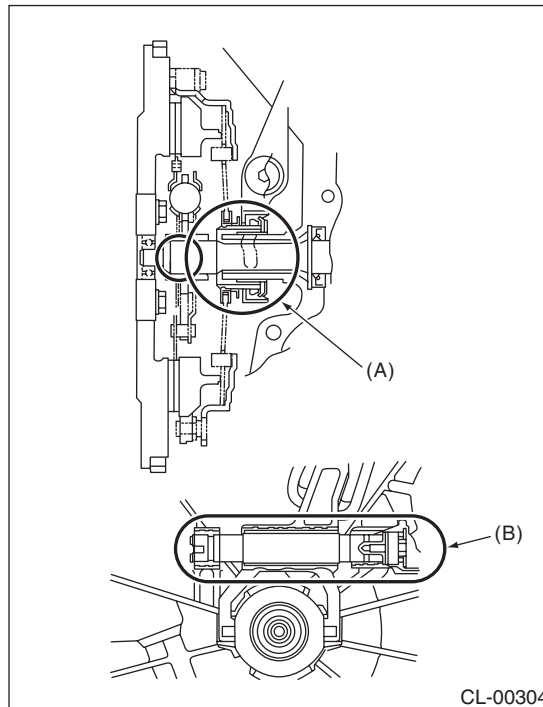
### Grease:

**Spline part**

**NICHIMOLY N-130 or equivalent**

**Shaft part**

**KOPR-KOTE or equivalent**

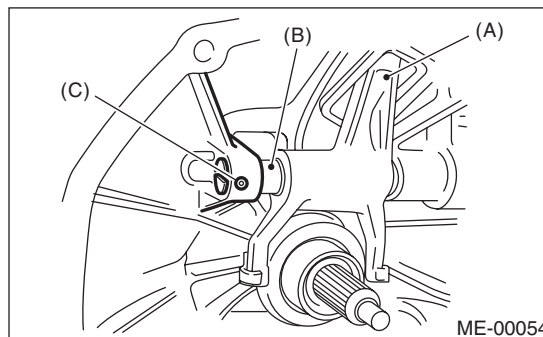


- (A) Spline
- (B) Shaft

(5) Insert the release shaft to release fork.

### NOTE:

Allow the cutout portion of release shaft to come into contact with the spring pin.



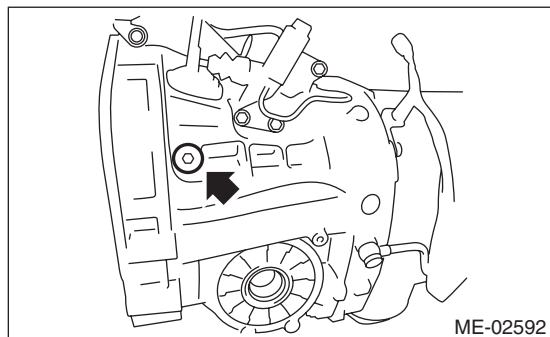
- (A) Release fork
- (B) Release shaft
- (C) Spring pin



- (6) Install the service hole plug.

**Tightening torque:**

**44 N·m (4.5 kgf-m, 32.5 ft-lb)**



- 2) Install the engine mounting onto the engine.

**Tightening torque:**

**35 N·m (3.6 kgf-m, 25.8 ft-lb)**

- 3) Apply a small amount of grease to splines of main shaft.

**Grease:**

**NICHIMOLY N-130 or equivalent**

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

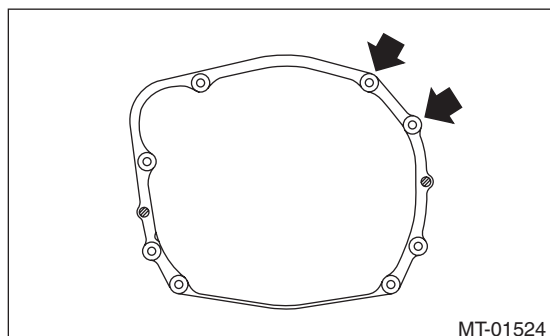
**NOTE:**

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

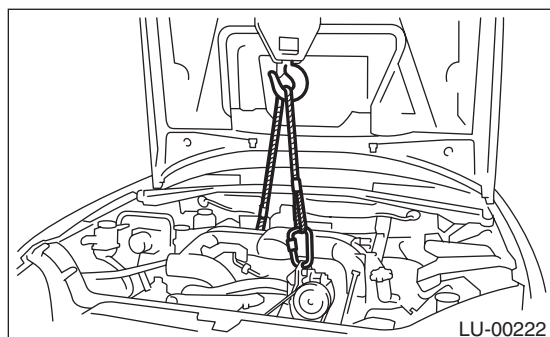
- 5) Install the bolts which hold upper side of transmission to engine.

**Tightening torque:**

**50 N·m (5.1 kgf-m, 36.9 ft-lb)**



- 6) Remove the lifting device and wire ropes.



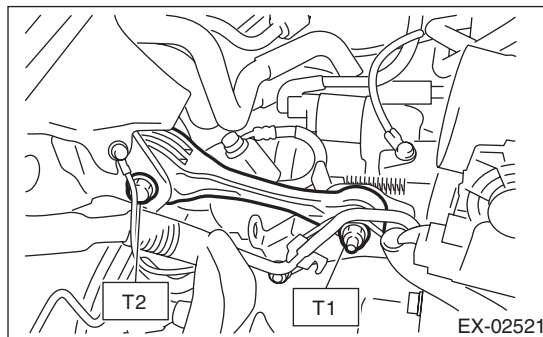
- 7) Remove the garage jack.

- 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)**



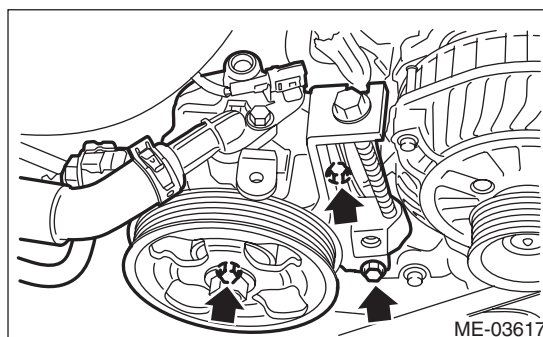
- 9) Install the starter. <Ref. to SC(STI)-8, INSTALLATION, Starter.>

- 10) Install the power steering pump.

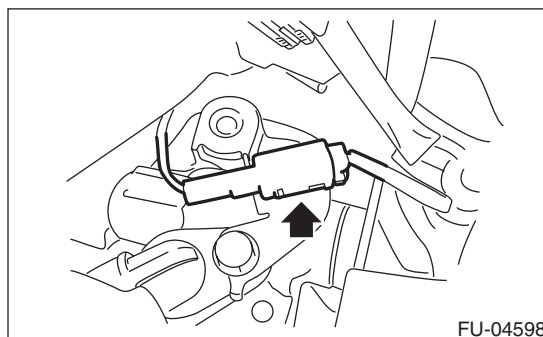
- (1) Install the power steering pump onto the engine.

**Tightening torque:**

**Refer to "COMPONENT" of "Power Steering" for the tightening torque. <Ref. to PS-4, COMPONENT, General Description.>**



- (2) Connect the connector to the power steering pump switch.



- (3) Install the front side belt. <Ref. to ME(STI)-40, FRONT SIDE BELT, INSTALLATION, V-belt.>

- 11) Lift up the vehicle.

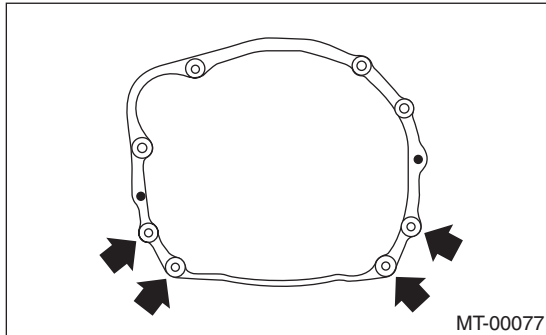
# Engine Assembly

## MECHANICAL

12) Install the bolts and nuts which hold lower side of the transmission to engine.

**Tightening torque:**

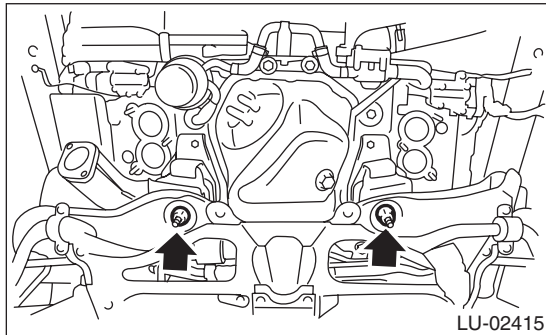
**50 N·m (5.1 kgf-m, 36.9 ft-lb)**



13) Install the nuts which hold the engine mounting to the crossmember.

**Tightening torque:**

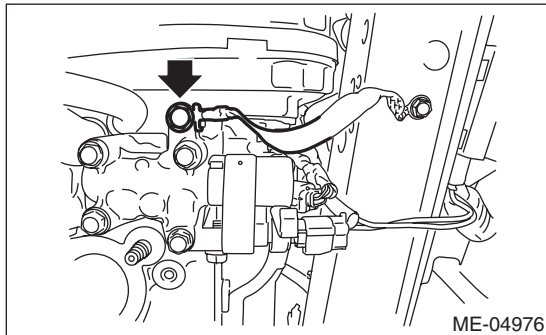
**45 N·m (4.6 kgf-m, 33.2 ft-lb)**



14) Connect the ground cable.

**Tightening torque:**

**7.5 N·m (0.8 kgf-m, 5.5 ft-lb)**



15) Install the joint pipe and front exhaust pipe. <Ref. to EX(STI)-6, INSTALLATION, Front Exhaust Pipe.> <Ref. to EX(STI)-12, INSTALLATION, Joint Pipe.>

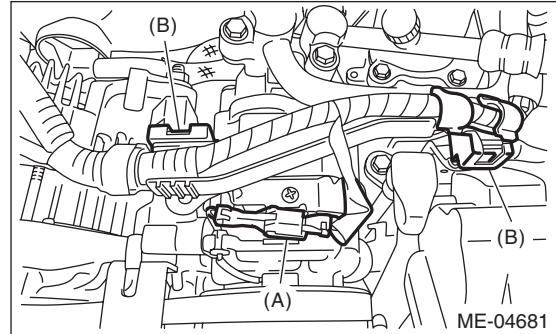
16) Install the turbocharger. <Ref. to IN(STI)-16, INSTALLATION, Turbocharger.>

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

18) Connect the following hoses.

- (1) Fuel delivery hose, fuel return hose and evaporation hose
- (2) Heater inlet hose and heater outlet hose
- (3) Brake booster vacuum hose and pressure regulator vacuum hose
- (4) A/C pressure hose <Ref. to AC-41, INSTALLATION, Hose and Pipe.>

19) Secure the generator cord using the clip (B) and connect the connector (A) to A/C compressor.



20) Connect the following connectors and terminals.

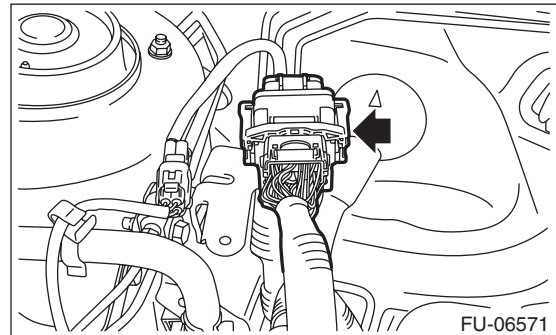
- (1) Generator connector and terminal

**Tightening torque:**

**15 N·m (1.5 kgf-m, 11.1 ft-lb)**

- (2) Secondary air pump connector

21) Install the engine harness connector to engine harness bracket, then connect the bulkhead harness connector to the engine harness connector.



22) Install the intercooler. <Ref. to IN(STI)-13, INSTALLATION, Intercooler.>

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

24) Install the coolant filler tank. <Ref. to CO(STI)-28, INSTALLATION, Coolant Filler Tank.>

25) Install the air cleaner case and air intake duct. <Ref. to IN(STI)-8, INSTALLATION, Air Cleaner Case.> <Ref. to IN(STI)-10, INSTALLATION, Air Intake Duct.>

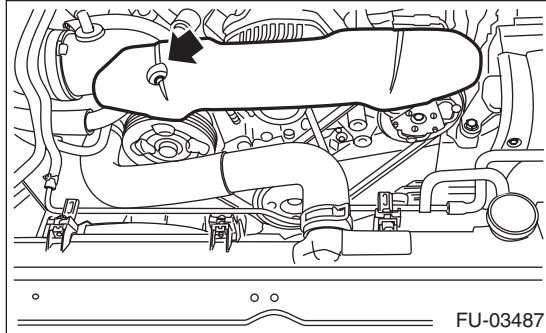
26) Install the battery. <Ref. to SC(STI)-27, INSTALLATION, Battery.>

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

- 28) Charge the A/C system with refrigerant. <Ref. to AC-20, PROCEDURE, Refrigerant Charging Procedure.>
- 29) Install the V-belt cover.

**Tightening torque:**

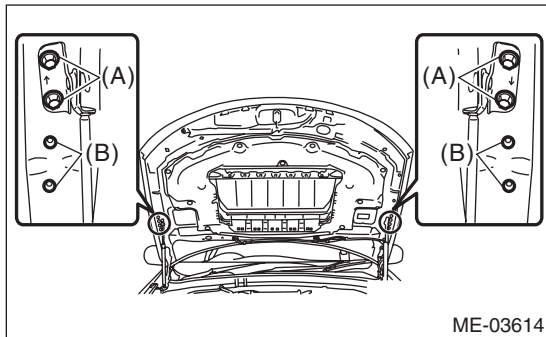
**13 N·m (1.3 kgf-m, 9.6 ft-lb)**



- 30) Change the bolt installation position from (B) to (A), then close the front hood.

**Tightening torque:**

**7.5 N·m (0.8 kgf-m, 5.5 ft-lb)**



## C: INSPECTION

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