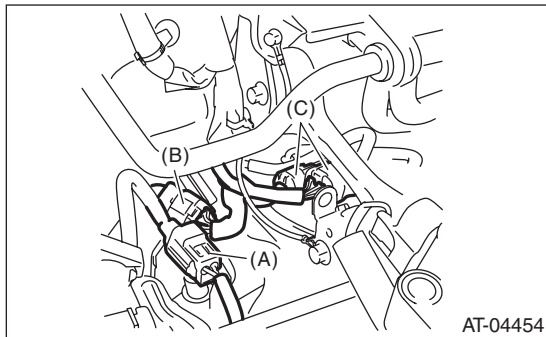


9. Automatic Transmission Assembly

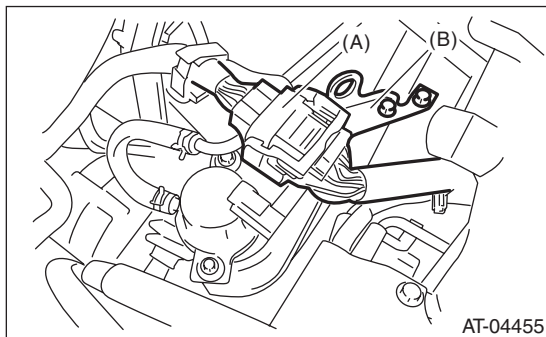
A: REMOVAL

- 1) Open the front hood and support with the hood stay.
- 2) Disconnect the ground cable from battery.
- 3) Remove the collector cover.
- 4) Remove the air intake chamber and intake boot. <Ref. to IN(H6DO)-8, REMOVAL, Air Intake Chamber.>
- 5) Remove the air breather hose. <Ref. to 5AT-59, REMOVAL, Air Breather Hose.>
- 6) Remove the starter. <Ref. to SC(H6DO)-6, REMOVAL, Starter.>
- 7) Disconnect the front oxygen (A/F) sensor, rear oxygen sensor and transmission harness connector.



- (A) Front oxygen (A/F) sensor connector
(B) Rear oxygen sensor connector
(C) Transmission harness connectors

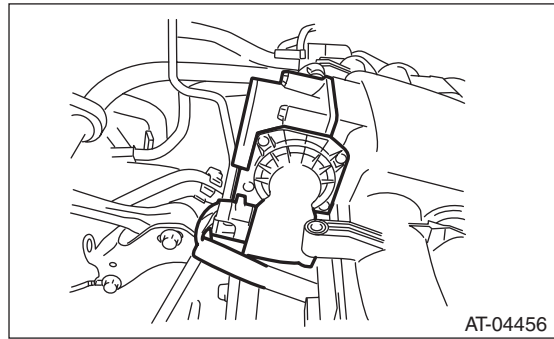
- 8) Disconnect the engine harness connectors, and then remove the engine hanger rear.



- (A) Engine harness connectors
(B) Engine hanger rear

- 9) Remove the vacuum pipe & hose assembly and the brake vacuum pump. <Ref. to BR-41, REMOVAL, Brake Vacuum Pump.>

- 10) Remove the throttle body securing bolts to and slide the throttle body over.

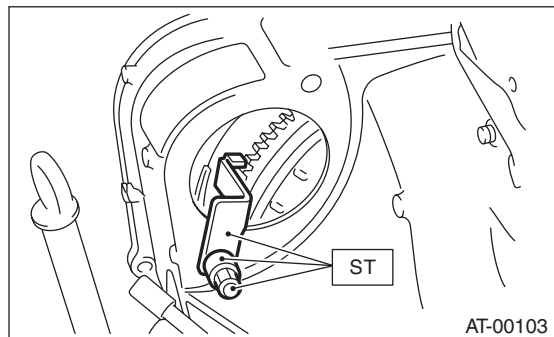


- 11) Separate the torque converter from drive plate.
 - (1) Remove the service hole plug.
 - (2) Remove the bolts which hold torque converter to drive plate.
 - (3) Remove the four bolts by rotating the crank pulley a little at a time.
 - (4) Make sure the torque converter moves freely by rotating with finger through the starter installation hole.

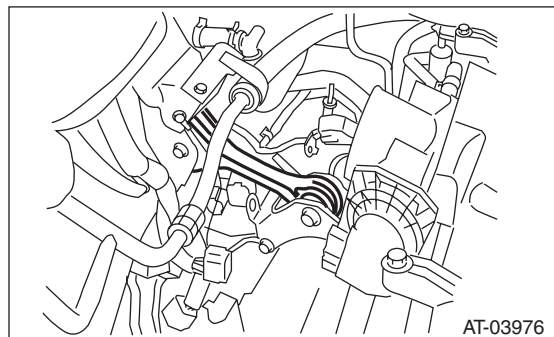
CAUTION:

Be careful not to drop bolts into the converter housing.

- 12) Attach the ST to the converter case.
ST 498277200 STOPPER SET



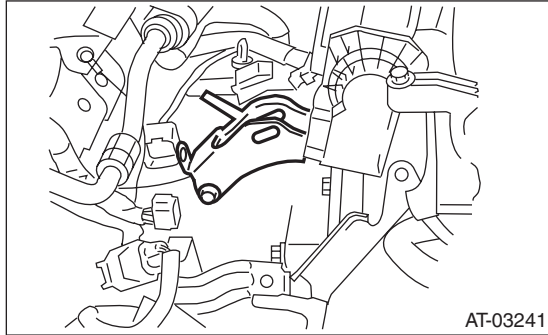
- 13) Remove the pitching stopper.



Automatic Transmission Assembly

AUTOMATIC TRANSMISSION

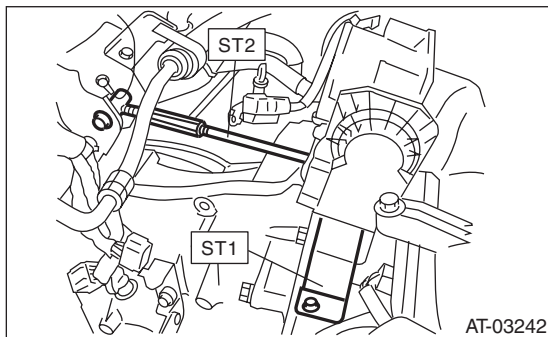
14) Remove the pitching stopper bracket.



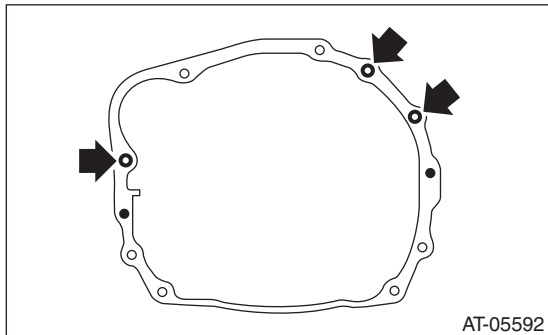
15) Set the ST.

ST1 41099AA010 ENGINE SUPPORT BRACKET

ST2 41099AA020 ENGINE SUPPORT



16) Remove the transmission mounting bolt (upper side).

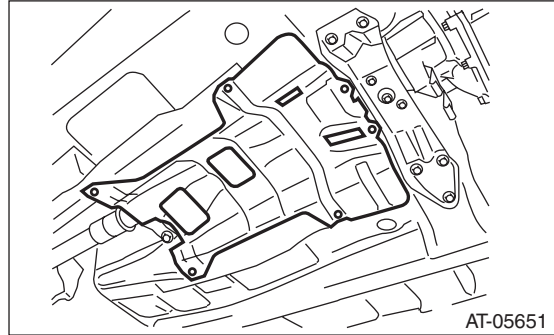


17) Lift up the vehicle.

18) Remove the under cover.

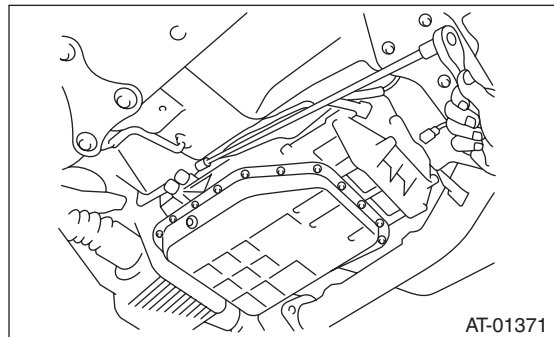
19) Remove the front exhaust pipe, rear exhaust pipe and muffler. <Ref. to EX(H6DO)-5, REMOVAL, Front Exhaust Pipe.> <Ref. to EX(H6DO)-7, REMOVAL, Rear Exhaust Pipe.> <Ref. to EX(H6DO)-9, REMOVAL, Muffler.>

20) Remove the heat shield cover.

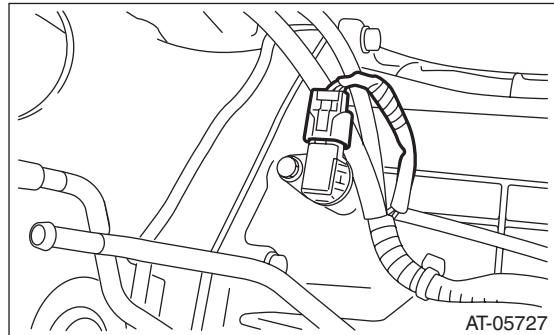


21) Remove the ATF drain plug to drain ATF. <Ref. to 5AT-29, REPLACEMENT, Automatic Transmission Fluid.>

22) Remove the oil charge pipe.



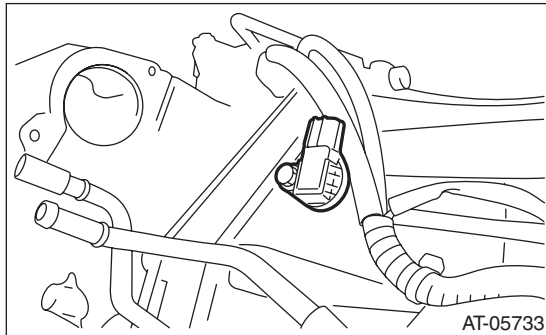
23) Disconnect the connector from turbine speed sensor 1.



24) Remove the turbine speed sensor 1 from the transmission body.

CAUTION:

Failure to follow this procedure may cause the interference between vehicle body and sensor while removing/installing transmission, and resulting in damage.

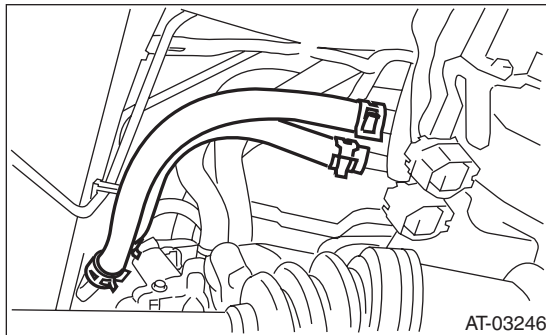


25) To prevent contamination by foreign objects, cover the attachment hole for turbine speed sensor 1 with vinyl tape.

26) Remove the propeller shaft. <Ref. to DS-10, REMOVAL, Propeller Shaft.>

27) Remove the shift select cable. <Ref. to CS-27, REMOVAL, Select Cable.>

28) Disconnect the ATF AT inlet and outlet hoses from the ATF AT inlet and outlet pipes.



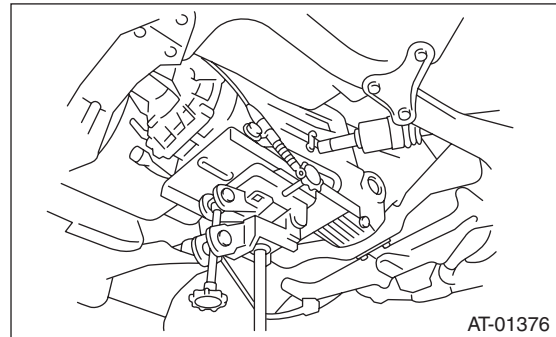
29) Remove the front crossmember support plate. <Ref. to FS-13, REMOVAL, Front Crossmember Support Plate.>

30) Remove the front stabilizer clamp. <Ref. to FS-14, REMOVAL, Front Stabilizer.>

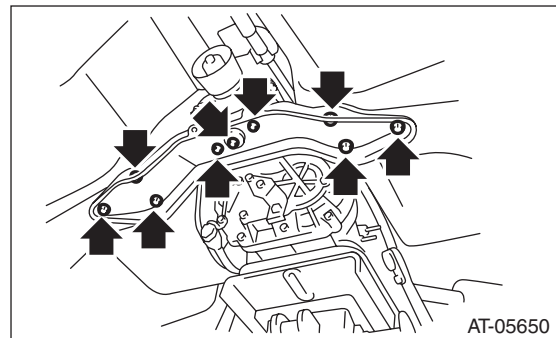
31) Remove the bolts which secure front ball joint to the housing. <Ref. to FS-15, REMOVAL, Front Ball Joint.>

32) Pull out the drive shaft from transmission.

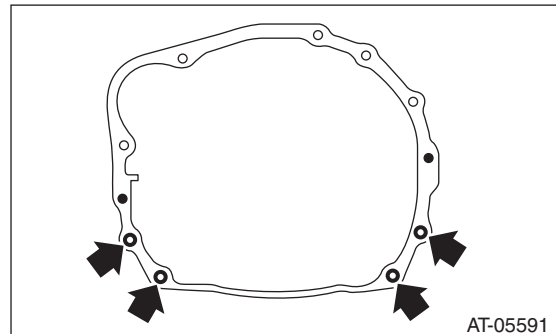
33) Set the transmission jack under the transmission.



34) Remove the rear crossmember from the vehicle.



35) Remove the transmission mounting bolt and nut (lower side).



36) Remove the transmission.

NOTE:

- Turn the engine support assembly from the vehicle under body to the left (to shorten the engine support length), and lower the rear of the engine for easy disassembly.

- Be careful not to allow breather pipe and etc. to touch the vehicle body when detaching the automatic transmission assembly by pulling it backward.

37) Remove the rear cushion rubber from the transmission.

Automatic Transmission Assembly

AUTOMATIC TRANSMISSION

B: INSTALLATION

1) Replace the front differential side retainer oil seal.

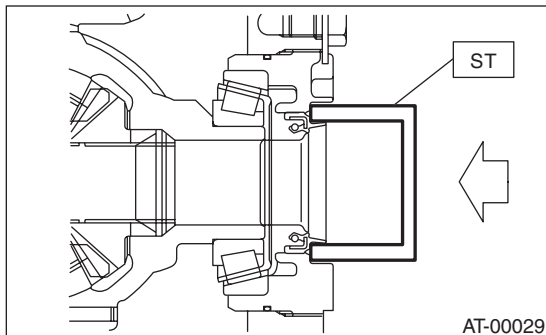
(1) Remove the oil seal by using flat tip screw-driver etc.

(2) Install a new oil seal using ST.

ST 18675AA000 DIFFERENTIAL SIDE OIL SEAL INSTALLER

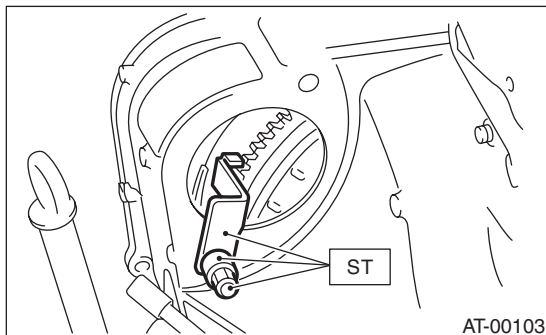
NOTE:

- Apply oil to the oil seal lips.
- Be sure to replace the differential side oil seal after the procedure of removing front drive shaft from transmission.



2) Attach the ST to converter case.

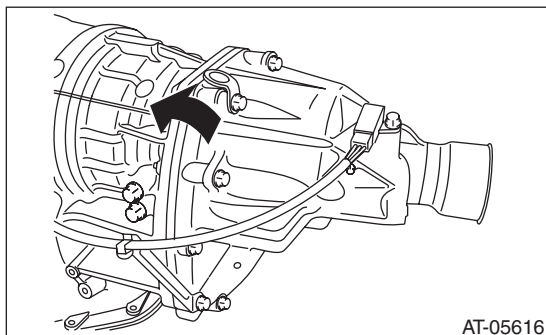
ST 498277200 STOPPER SET



3) Tap the transmission hanger in the rear side of transmission with a rubber hammer to bend it until it is in close contact with the transmission case.

CAUTION:

Do not apply excessive load or impact to the transmission case.



4) Install the rear cushion rubber.

Tightening torque:

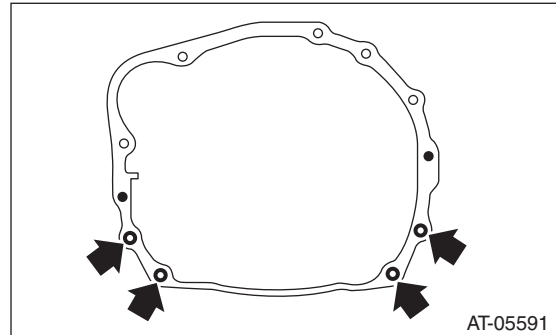
40 N·m (4.1 kgf-m, 29.5 ft-lb)

5) Install the transmission onto the engine.

6) Install the engine mounting bolt and nut (lower side).

Tightening torque:

50 N·m (5.1 kgf-m, 36.9 ft-lb)

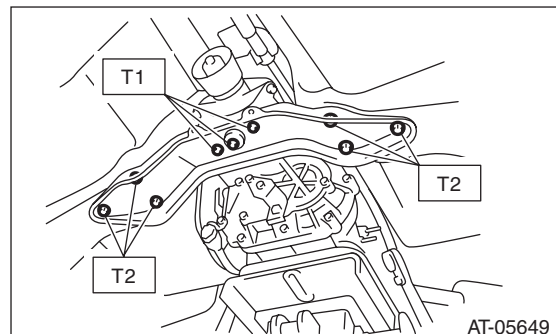


7) Install the transmission rear crossmember.

Tightening torque:

T1: 35 N·m (3.6 kgf-m, 25.8 ft-lb)

T2: 75 N·m (7.6 kgf-m, 55.3 ft-lb)



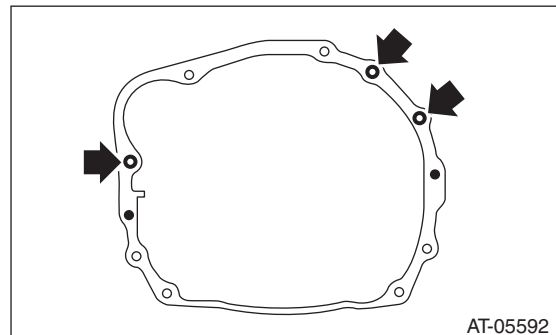
8) Remove the transmission jack.

9) Lower the vehicle.

10) Install the engine mounting bolt (upper side).

Tightening torque:

50 N·m (5.1 kgf-m, 36.9 ft-lb)



11) Remove the ST from converter case.

12) Install the torque converter to drive plate.

CAUTION:

- Be careful not to drop bolts into the converter housing.
- Be careful not to damage the mounting bolts.
 - (1) Install the bolts which hold torque converter to drive plate.
 - (2) Install all four bolts by rotating the crank pulley a little at a time.

Tightening torque:

25 N·m (2.5 kgf-m, 18.4 ft-lb)

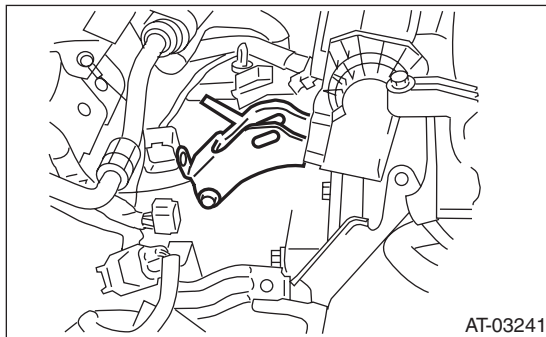
(3) Install the service hole plug.

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

14) Remove the ST and install the pitching stopper bracket.

Tightening torque:

41 N·m (4.2 kgf-m, 30.2 ft-lb)

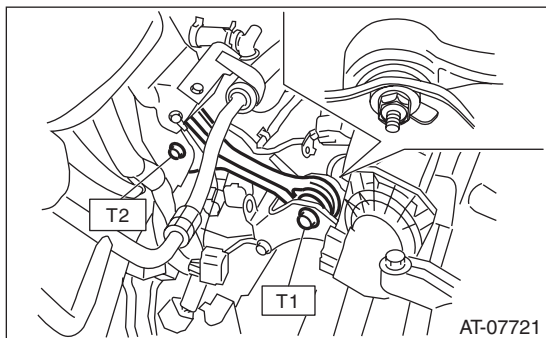


15) Install the pitching stopper.

Tightening torque:

T1: 50 N·m (5.1 kgf-m, 36.9 ft-lb)

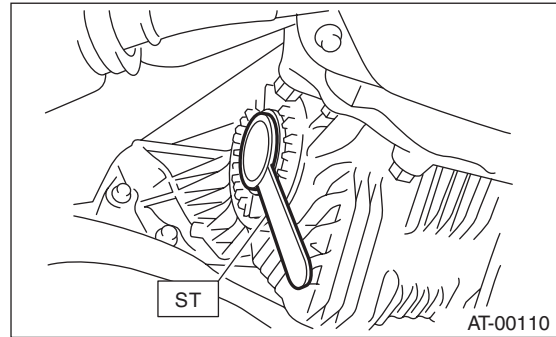
T2: 58 N·m (5.9 kgf-m, 42.8 ft-lb)



16) Lift up the vehicle.

17) Set the ST to side retainer.

ST 28399SA010 OIL SEAL PROTECTOR



18) Install the front drive shaft into the transmission.

NOTE:

Replace the circlip of drive shaft with a new part.

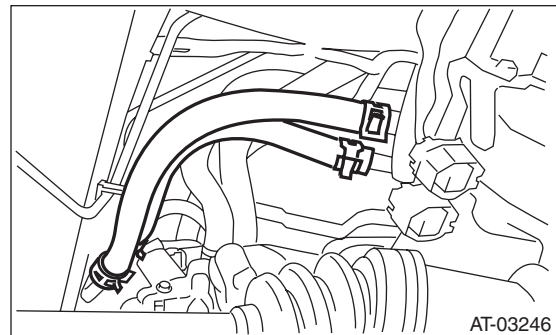
19) Install the front drive shaft into transmission, remove the ST and insert the drive shaft securely.

ST 28399SA010 OIL SEAL PROTECTOR

20) Connect the ATF AT inlet and outlet hoses to the ATF AT inlet and outlet pipes.

NOTE:

Use a new ATF hose.



21) Insert the ball joint into housing. <Ref. to FS-15, INSTALLATION, Front Ball Joint.>

22) Install the front stabilizer clamp. <Ref. to FS-14, INSTALLATION, Front Stabilizer.>

23) Install the front crossmember support plate. <Ref. to FS-13, INSTALLATION, Front Crossmember Support Plate.>

24) Install the propeller shaft. <Ref. to DS-11, INSTALLATION, Propeller Shaft.>

25) Install the shift select cable. <Ref. to CS-28, INSTALLATION, Select Cable.>

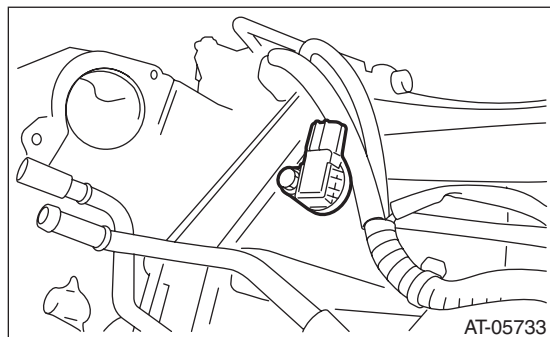
Automatic Transmission Assembly

AUTOMATIC TRANSMISSION

26) Install the turbine speed sensor 1 and harness, and then connect the connector.

Tightening torque:

7 N·m (0.7 kgf-m, 5.2 ft-lb)



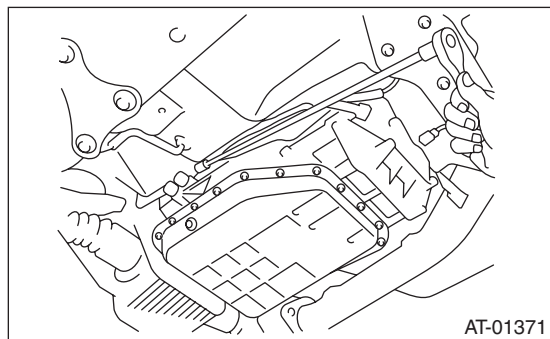
27) Install the oil charge pipe.

NOTE:

Use a new bolt.

Tightening torque:

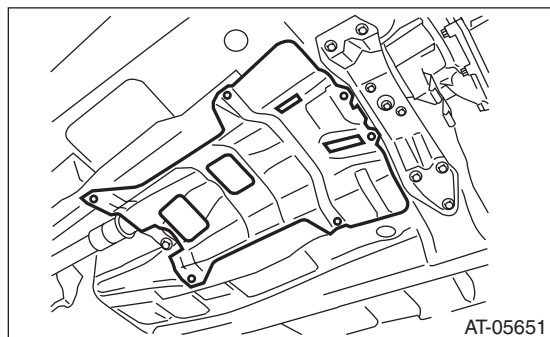
38 N·m (3.9 kgf-m, 28.0 ft-lb)



28) Install the heat shield cover.

Tightening torque:

18 N·m (1.8 kgf-m, 13.3 ft-lb)

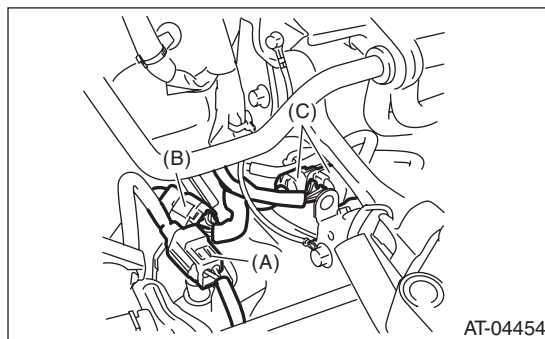


29) Install the front exhaust pipe, rear exhaust pipe and muffler. <Ref. to EX(H6DO)-5, INSTALLATION, Front Exhaust Pipe.> <Ref. to EX(H6DO)-7, INSTALLATION, Rear Exhaust Pipe.> <Ref. to EX(H6DO)-9, INSTALLATION, Muffler.>

30) Install the under cover.

31) Lower the vehicle.

32) Connect the front oxygen (A/F) sensor, rear oxygen sensor and transmission harness connector.



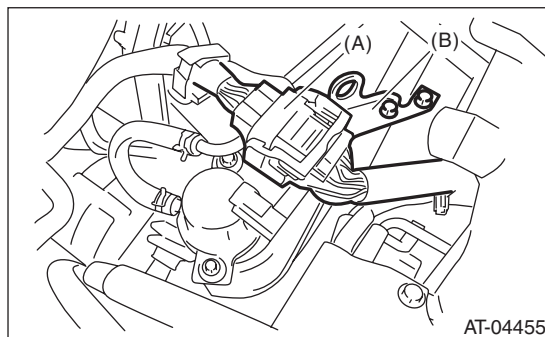
(A) Front oxygen (A/F) sensor connector

(B) Rear oxygen sensor connector

(C) Transmission harness connectors

33) Install the vacuum pump and vacuum pipe & hose. <Ref. to BR-41, INSTALLATION, Brake Vacuum Pump.>

34) Install the engine hanger rear, and then connect the engine harness connector.



(A) Engine harness connectors

(B) Engine hanger rear

35) Pour ATF from the oil charge pipe. <Ref. to 5AT-29, REPLACEMENT, Automatic Transmission Fluid.>

36) Install the air breather hose. <Ref. to 5AT-59, INSTALLATION, Air Breather Hose.>

37) Install the throttle body to intake manifold.

Tightening torque:

8 N·m (0.8 kgf-m, 5.9 ft-lb)

38) Install the air intake chamber and intake boot. <Ref. to IN(H6DO)-8, INSTALLATION, Air Intake Chamber.>

39) Install the collector cover.

40) Connect the battery ground terminal.

41) Perform Clear Memory 2 operation. <Ref. to 5AT(diag)-18, CLEAR MEMORY MODE, OPERATION, Subaru Select Monitor.>

42) Perform the diagnosis again. <Ref. to 5AT(diag)-22, PROCEDURE, Learning Control.>

43) Perform the inspection at the end of repair work, and make sure there is no faulty as below:

- Excessive shift shock
- Oil leakage from the transmission body, etc.
- Occurrence of noise caused by interference etc.