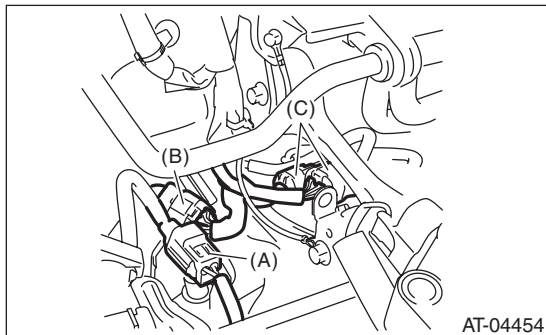


9. Automatic Transmission Assembly

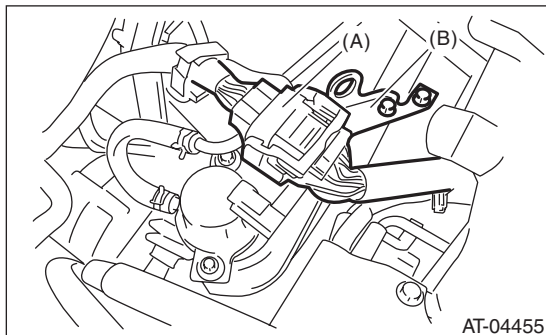
A: REMOVAL

- 1) Set the vehicle on a lift.
- 2) Open the front hood and support with the hood stay.
- 3) Disconnect the ground cable from battery.
- 4) Remove the collector cover.
- 5) Remove the air intake chamber and intake boot. <Ref. to IN(H6DO)-7, REMOVAL, Air Intake Chamber.>
- 6) Remove the air breather hose. <Ref. to 5AT-64, REMOVAL, Air Breather Hose.>
- 7) Remove the starter. <Ref. to SC(H6DO)-6, REMOVAL, Starter.>
- 8) 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

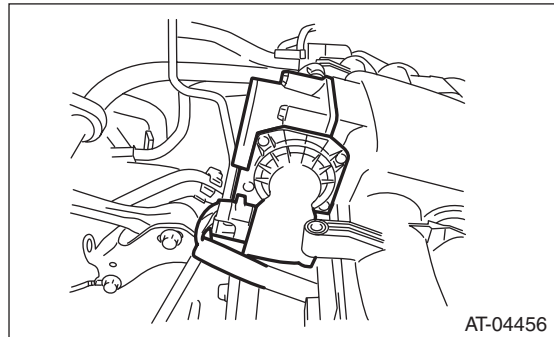
- 9) Disconnect the engine harness connectors, and then remove the engine hanger rear.



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

- 10) Remove the vacuum pipe & hose assembly and the brake vacuum pump. <Ref. to BR-42, REMOVAL, Brake Vacuum Pump.>

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

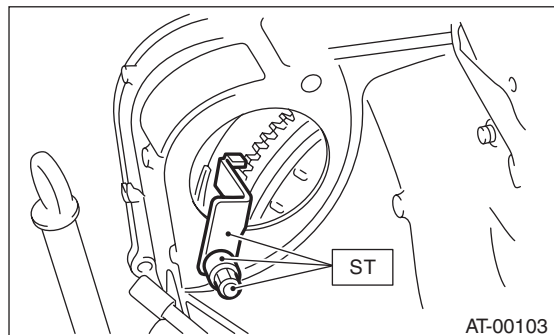


- 12) Separate the torque converter from drive plate.
 - (1) Remove the service hole plug.
 - (2) Remove the bolts which hold torque converter to drive plate.
 - (3) Remove the four bolts by rotating the crank pulley a little at a time.
 - (4) Make sure the torque converter moves freely by rotating with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

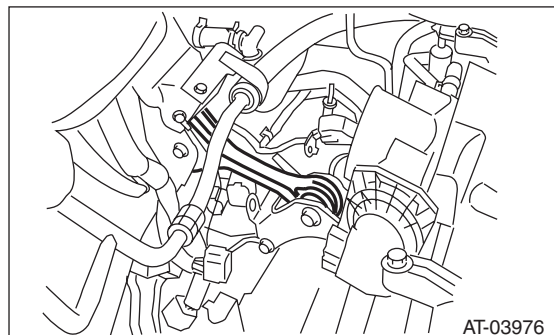
CAUTION:

Be careful not to drop bolts into converter housing.

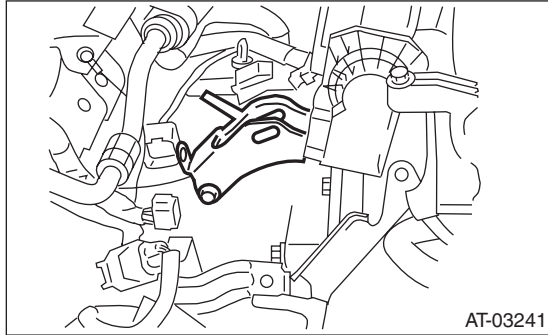
- 13) Attach the ST to the converter case.
ST 498277200 STOPPER SET



- 14) Remove the pitching stopper.

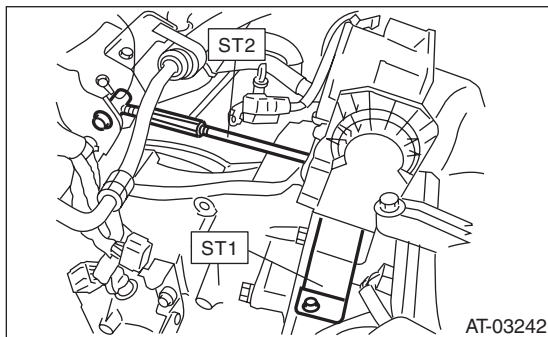


15) Remove the pitching stopper bracket.

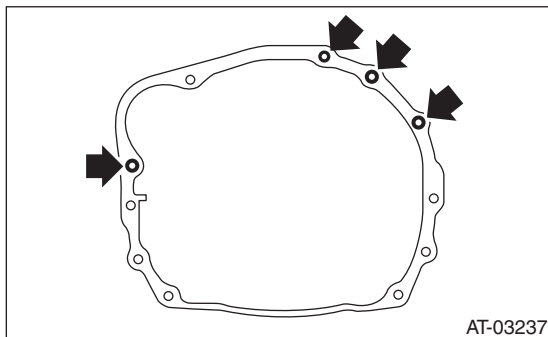


16) Set the ST.

ST1 41099AA010 ENGINE SUPPORT BRACKET
ST2 41099AA020 ENGINE SUPPORT



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

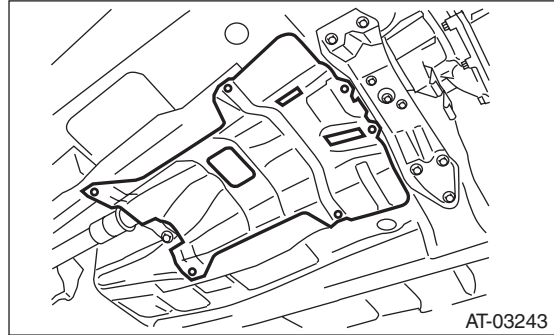


18) Lift up the vehicle.

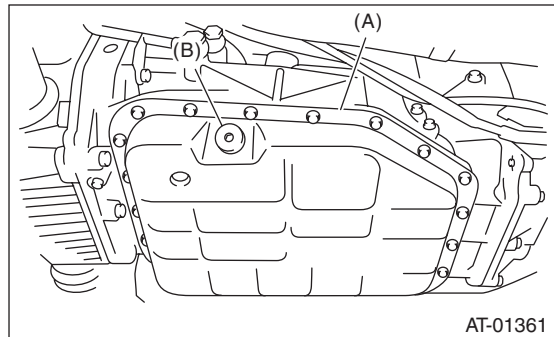
19) Remove the under cover.

20) Remove the front exhaust pipe, rear exhaust pipe and muffler. <Ref. to EX(H6DO)-4, REMOVAL, Front Exhaust Pipe.> <Ref. to EX(H6DO)-7, REMOVAL, Rear Exhaust Pipe.> <Ref. to EX(H6DO)-9, REMOVAL, Muffler.>

21) Remove the heat shield cover.



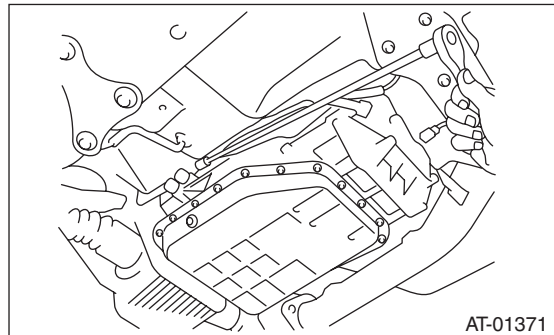
22) Remove the ATF drain plug to drain ATF.



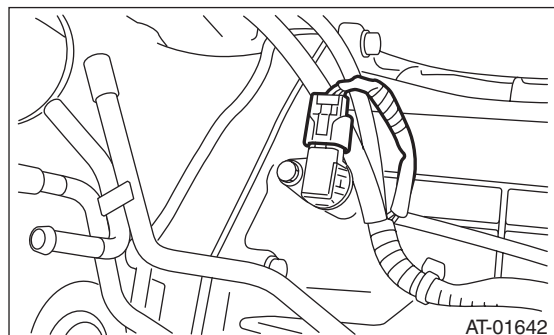
(A) Oil pan

(B) ATF drain plug

23) Remove the oil charge pipe.



24) Disconnect the connector from turbine speed sensor 1.



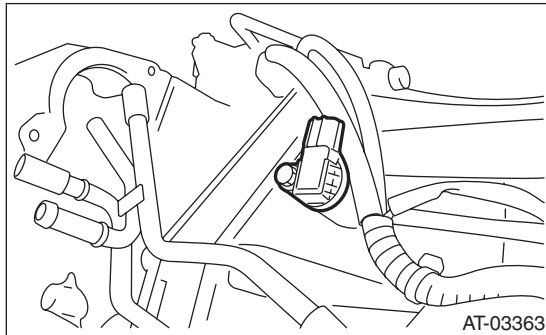
Automatic Transmission Assembly

AUTOMATIC TRANSMISSION

25) 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.

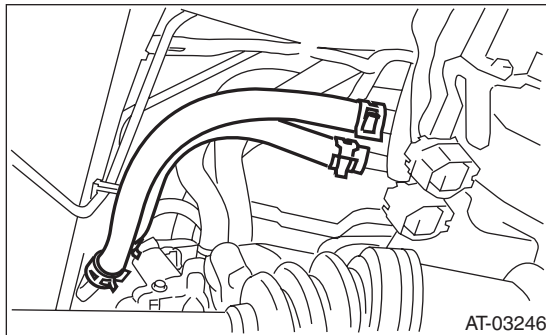


26) To prevent contamination by foreign objects, cover the attachment hole for turbine speed sensor 1 with vinyl tape.

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

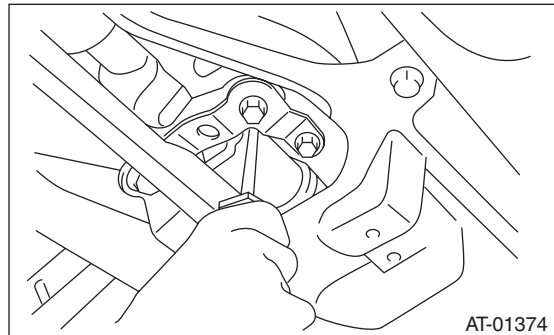
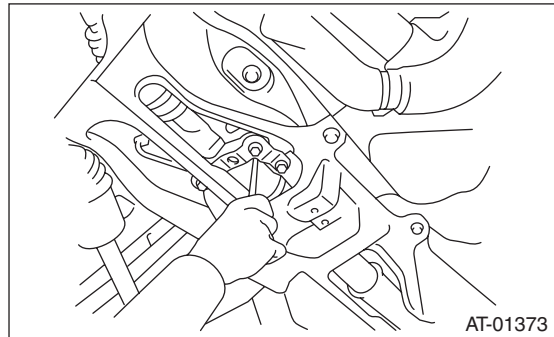
28) Remove the shift select cable. <Ref. to CS-28, REMOVAL, Select Cable.>

29) Disconnect the hose from the ATF inlet and outlet pipes.



30) Remove the front crossmember support plate. <Ref. to FS-15, REMOVAL, Front Crossmember Support Plate.>

31) Remove the two clutch housing cover securing bolts.

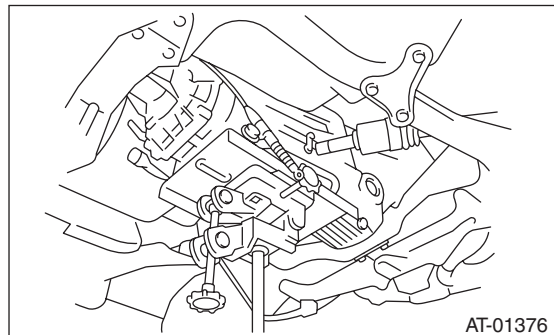


32) Remove the front stabilizer clamp. <Ref. to FS-16, REMOVAL, Front Stabilizer.>

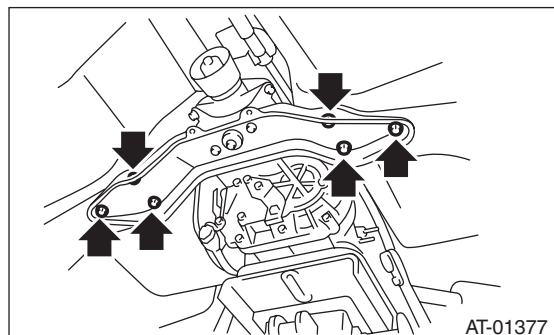
33) Remove the bolts which secure front ball joint to the housing. <Ref. to FS-17, REMOVAL, Front Ball Joint.>

34) Pull out the drive shaft from transmission.

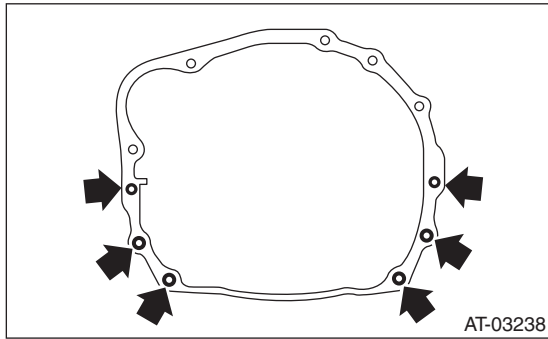
35) Set the transmission jack under the transmission.



36) Remove the rear crossmember.



37) Remove the transmission mounting bolts and nuts (lower side).



38) 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.

B: INSTALLATION

1) Replace the front differential side retainer oil seal.

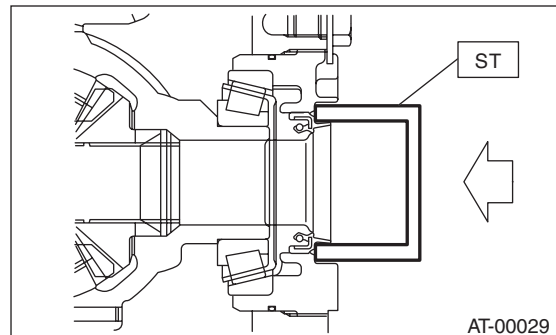
(1) Remove the oil seal by using flat tip screw-driver etc.

(2) Install a new oil seal using ST.

ST 18675AA000 DIFFERENTIAL SIDE OIL SEAL INSTALLER

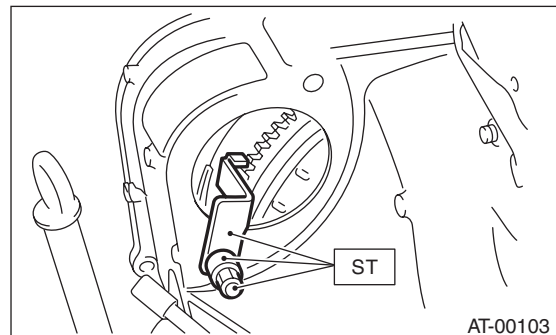
NOTE:

- 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

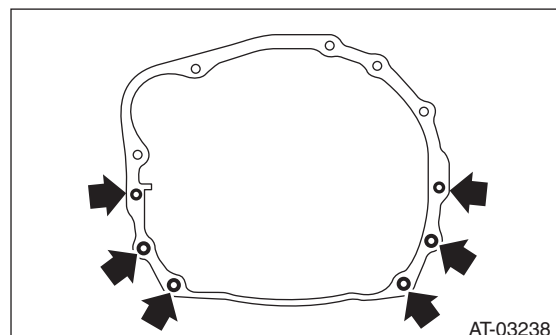


3) Install the transmission onto the engine.

4) Install the engine mounting bolts and nuts (lower side).

Tightening torque:

50 N·m (5.1 kgf-m, 36.9 ft-lb)



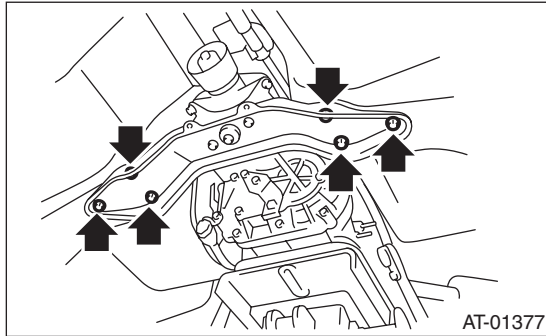
Automatic Transmission Assembly

AUTOMATIC TRANSMISSION

5) Install the transmission rear crossmember.

Tightening torque:

75 N·m (7.6 kgf-m, 55.3 ft-lb)



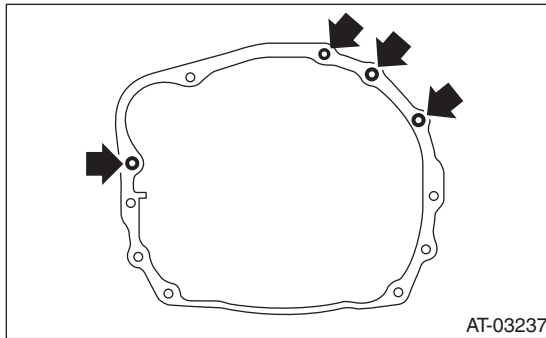
6) Remove the transmission jack.

7) Lower the vehicle.

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

Tightening torque:

50 N·m (5.1 kgf-m, 36.9 ft-lb)



9) Remove the ST from converter case.

10) Install the torque converter to drive plate.

CAUTION:

- Be careful not to drop bolts into 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.
- (3) Install the service hole.

Tightening torque:

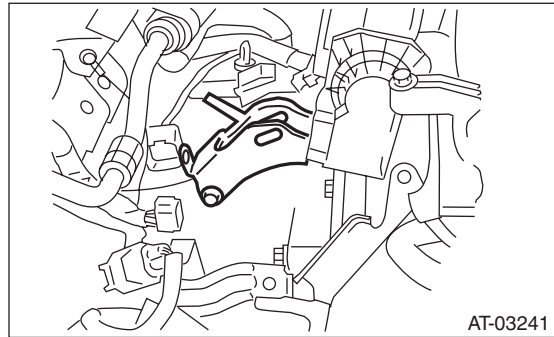
25 N·m (2.5 kgf-m, 18.4 ft-lb)

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

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

Tightening torque:

41 N·m (4.2 kgf-m, 30.2 ft-lb)

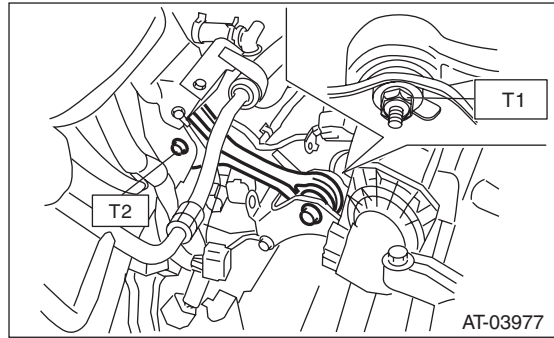


13) Install the pitching stopper.

Tightening torque:

T1: 50 N·m (5.1 kgf-m, 36.9 ft-lb)

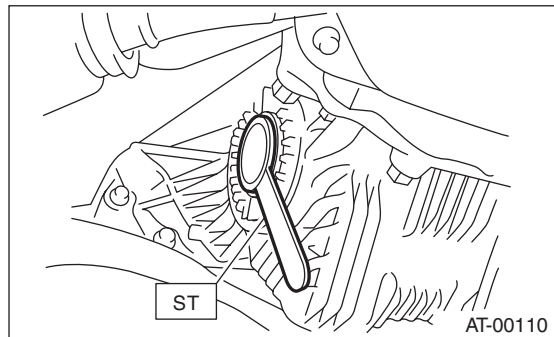
T2: 58 N·m (5.9 kgf-m, 42.8 ft-lb)



14) Lift up the vehicle.

15) Set the ST to side retainer.

ST 28399SA010 OIL SEAL PROTECTOR



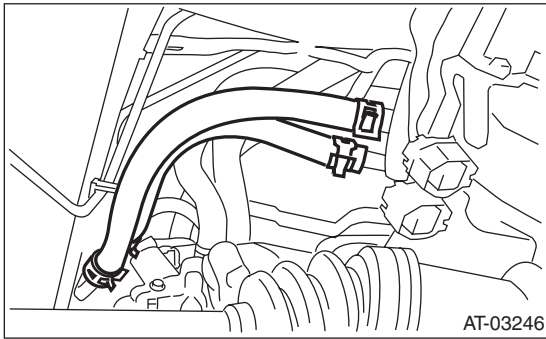
16) Install the front drive shaft into the transmission.

NOTE:

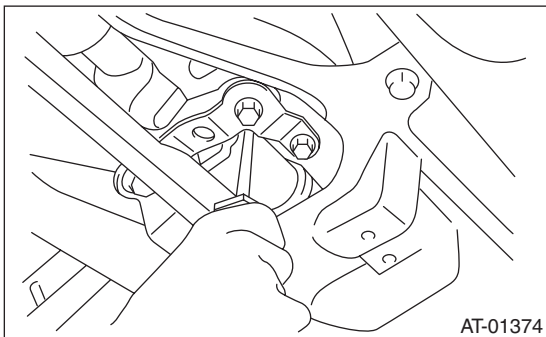
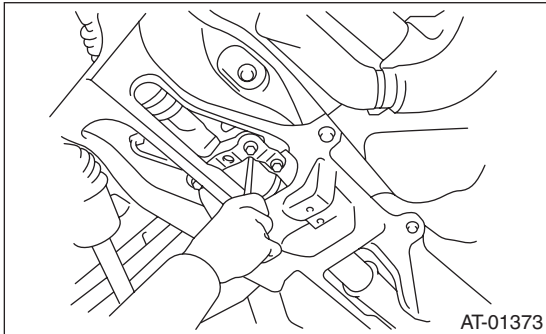
Replace the circlip of drive shaft with a new part.

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

- 18) Install the inlet and outlet hoses to the ATF inlet and outlet pipes.



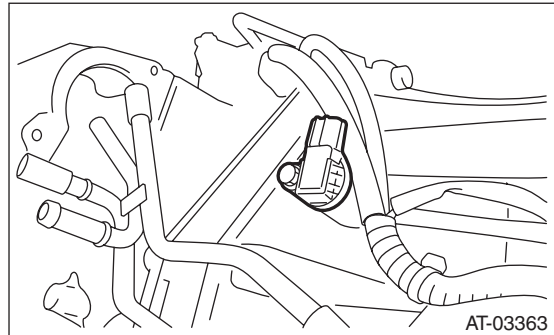
- 19) Insert the ball joint into the housing. <Ref. to FS-17, INSTALLATION, Front Ball Joint.>
 20) Install the front stabilizer clamp. <Ref. to FS-16, INSTALLATION, Front Stabilizer.>
 21) Install the clutch housing cover securing bolts.



- 22) Install the front crossmember support plate. <Ref. to FS-15, INSTALLATION, Front Crossmember Support Plate.>
 23) Install the propeller shaft. <Ref. to DS-11, INSTALLATION, Propeller Shaft.>
 24) Install the shift select cable. <Ref. to CS-29, INSTALLATION, Select Cable.>

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

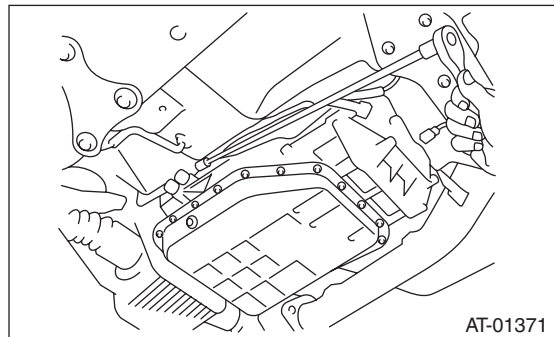
Tightening torque:
7 N·m (0.7 kgf-m, 5.2 ft-lb)



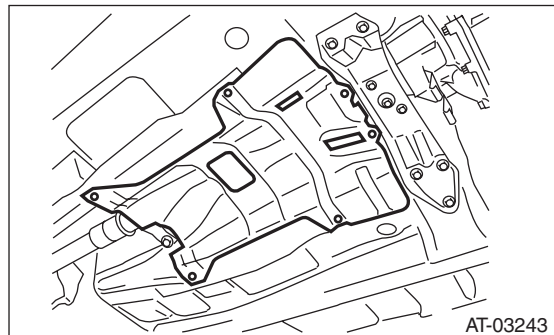
- 26) Install the oil charge pipe.

NOTE:
 Use new bolts.

Tightening torque:
38 N·m (3.9 kgf-m, 28.0 ft-lb)



- 27) Install the heat shield cover.

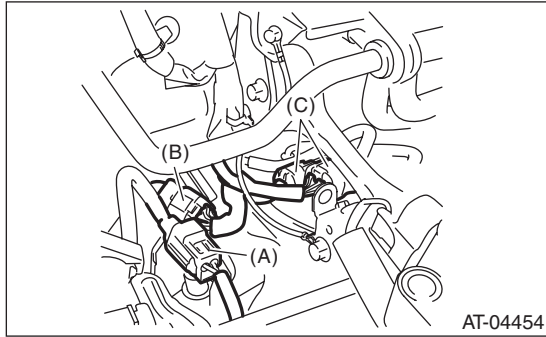


- 28) Install the front exhaust pipe, rear exhaust pipe and muffler. <Ref. to EX(H6DO)-5, INSTALLATION, Front Exhaust Pipe.> <Ref. to EX(H6DO)-7, INSTALLATION, Rear Exhaust Pipe.> <Ref. to EX(H6DO)-9, INSTALLATION, Muffler.>
 29) Install the under cover.
 30) Lower the vehicle.

Automatic Transmission Assembly

AUTOMATIC TRANSMISSION

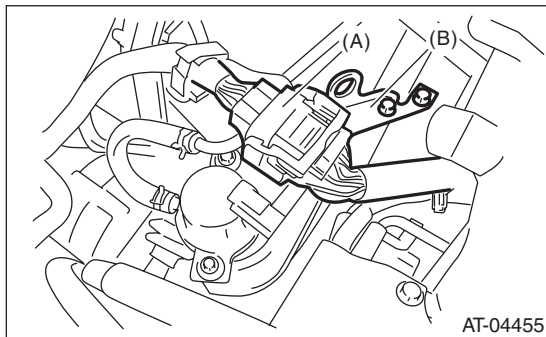
31) Connect the front oxygen (A/F) sensor, rear oxygen sensor and transmission harness connector.



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

32) Install the vacuum pump and vacuum pipe & hose. <Ref. to BR-42, INSTALLATION, Brake Vacuum Pump.>

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



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

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

35) Install the air breather hose. <Ref. to 5AT-64, INSTALLATION, Air Breather Hose.>

36) Install the throttle body to intake manifold.

Tightening torque:

8 N·m (0.8 kgf-m, 5.9 ft-lb)

37) Install the air intake chamber and intake boot. <Ref. to IN(H6DO)-7, INSTALLATION, Air Intake Chamber.>

38) Install the collector cover.

39) Connect the ground cable to battery.

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

41) Execute the learning control promotion. <Ref. to 5AT(diag)-22, GENERAL DESCRIPTION, Learning Control.>

42) 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.