

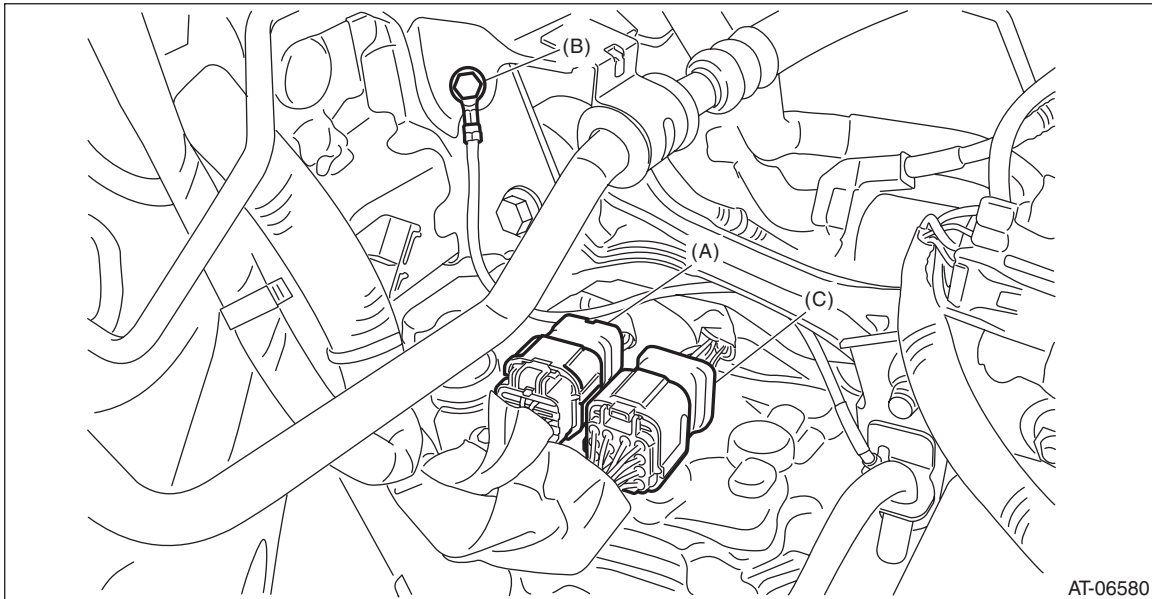
Automatic Transmission Assembly

CONTINUOUSLY VARIABLE TRANSMISSION

10. Automatic Transmission Assembly

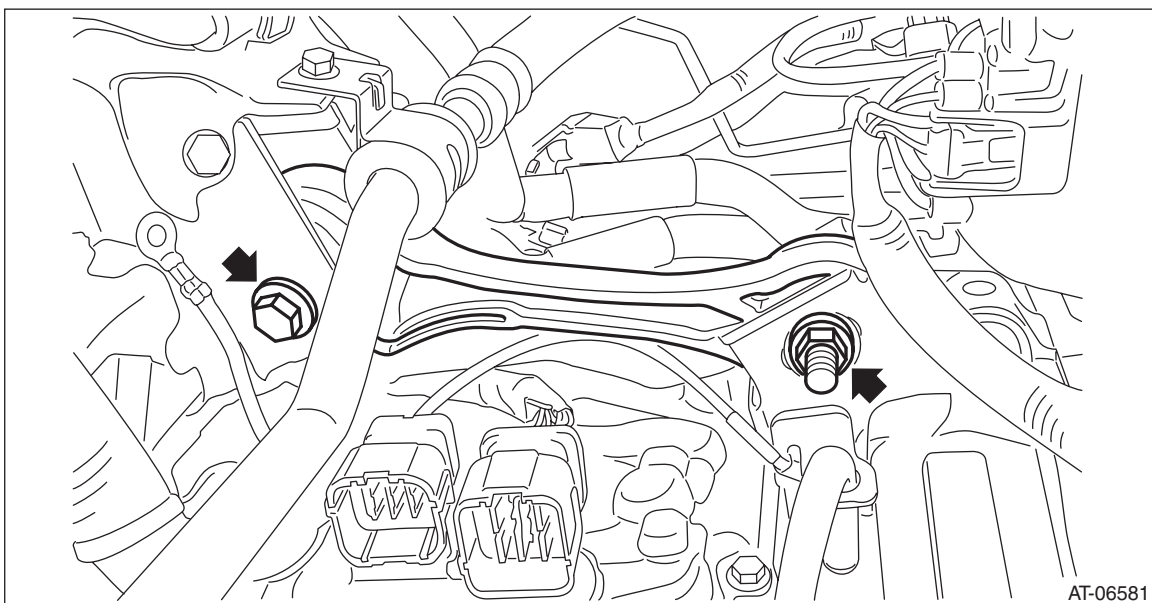
A: REMOVAL

- 1) Disconnect the ground cable from battery.
- 2) Remove the air intake boot assembly. <Ref. to IN(H4DO)-12, REMOVAL, Air Intake Boot.>
- 3) Disconnect the following connectors.
 - Transmission harness connectors
 - Inhibitor harness connector
 - Transmission radio ground terminal



- (A) Transmission harness connectors
(B) Transmission radio ground terminal
(C) Inhibitor harness connector

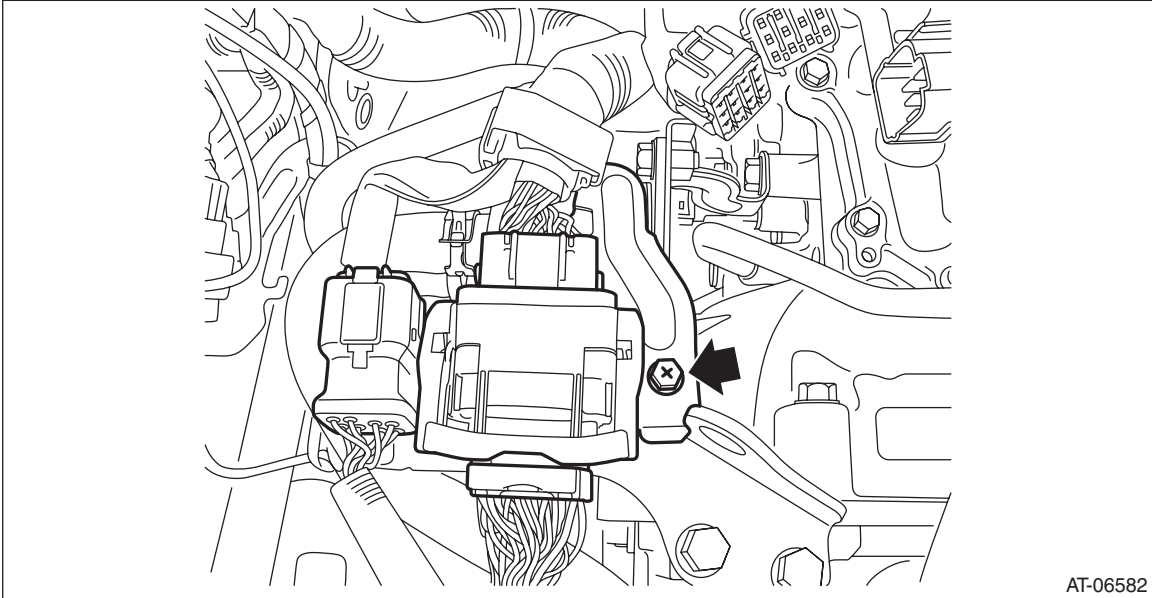
- 4) Remove the starter. <Ref. to SC(H4DO)-9, REMOVAL, Starter.>
- 5) Remove the pitching stopper.



Automatic Transmission Assembly

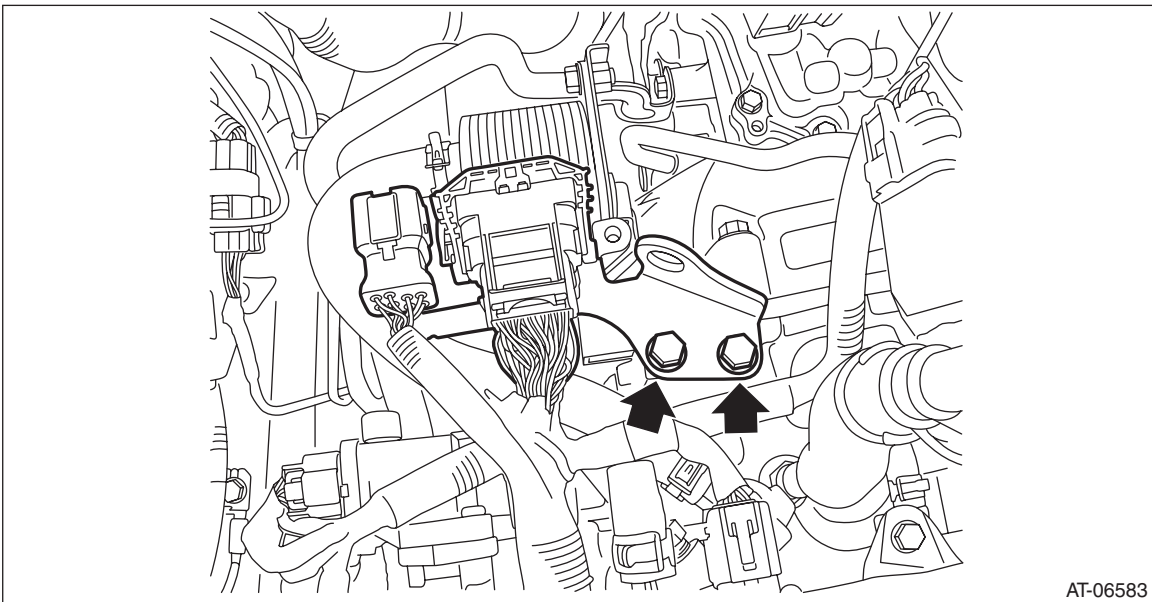
CONTINUOUSLY VARIABLE TRANSMISSION

6) Remove the harness bracket, and then remove the engine harness.



7) Disconnect the EGR control valve harness connector, throttle position sensor harness connector and manifold pressure sensor harness connector.

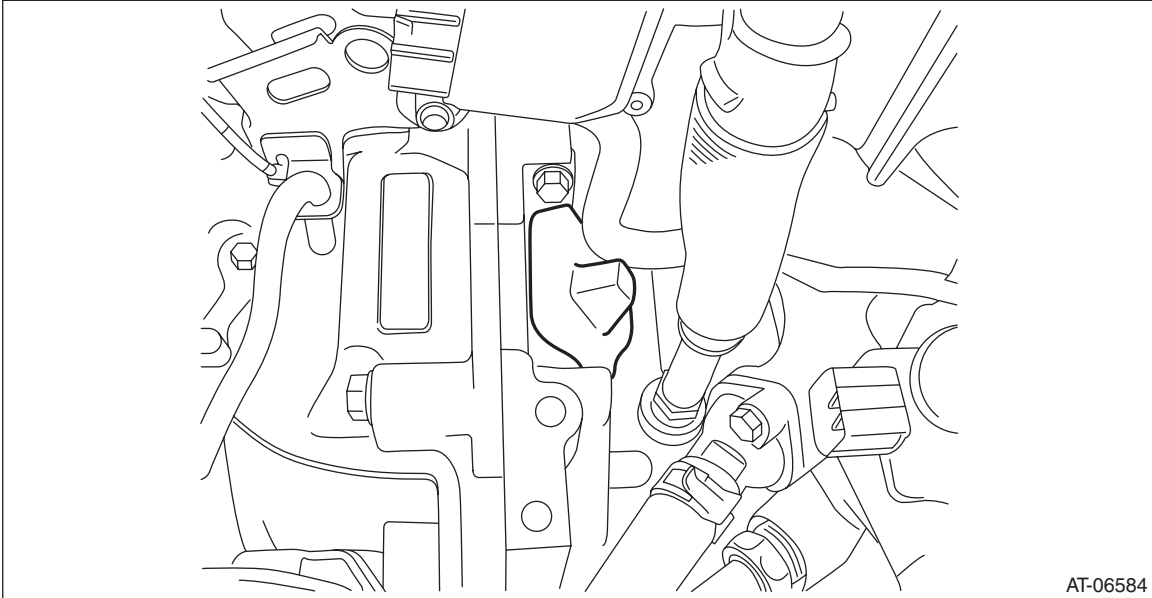
8) Remove the engine hanger rear.



Automatic Transmission Assembly

CONTINUOUSLY VARIABLE TRANSMISSION

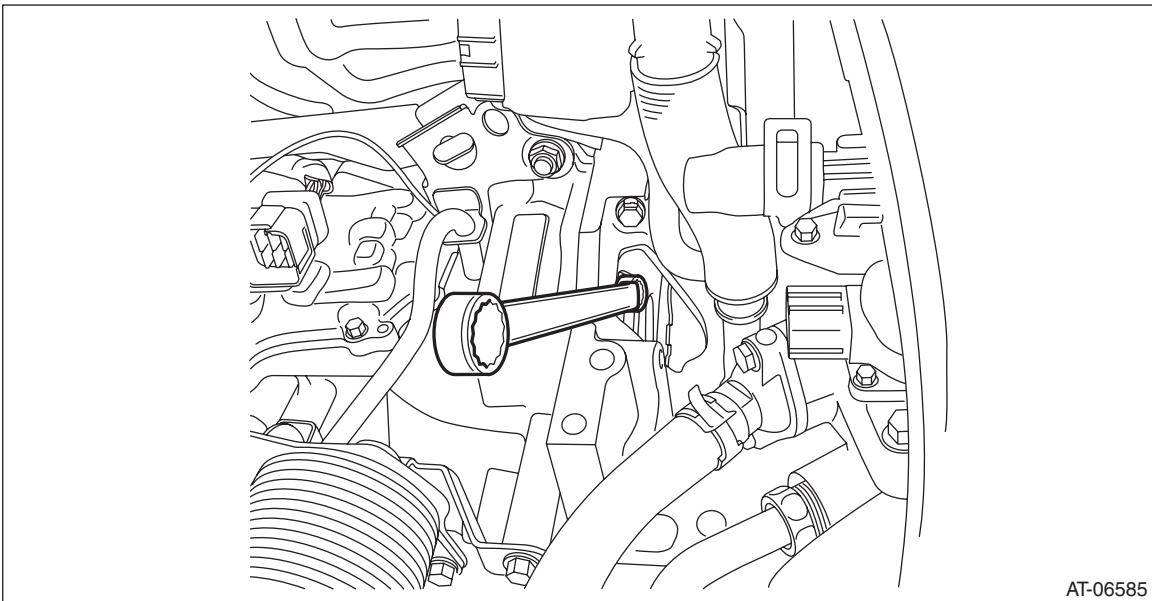
9) Remove the service hole plug.



10) Remove the four bolts combining the torque converter and drive plate while rotating the crank pulley a little at a time in the same direction as engine revolution.

CAUTION:

- Be careful not to drop bolts into the converter housing.
- Be careful not to damage the mounting bolts.



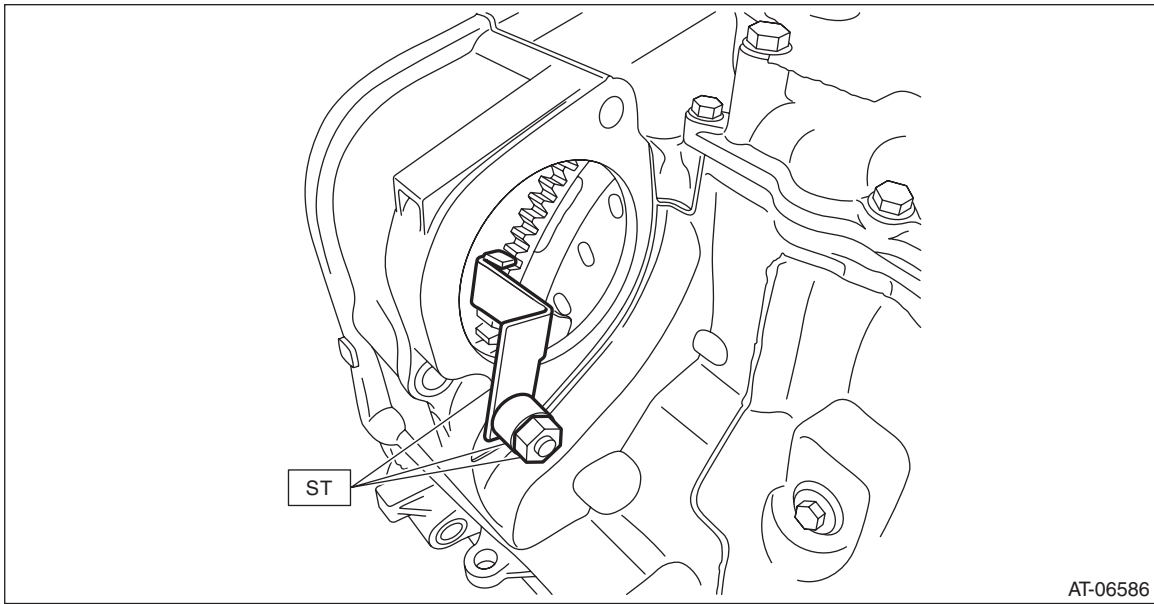
11) Make sure the torque converter moves freely by rotating with finger through the starter installation hole.

Automatic Transmission Assembly

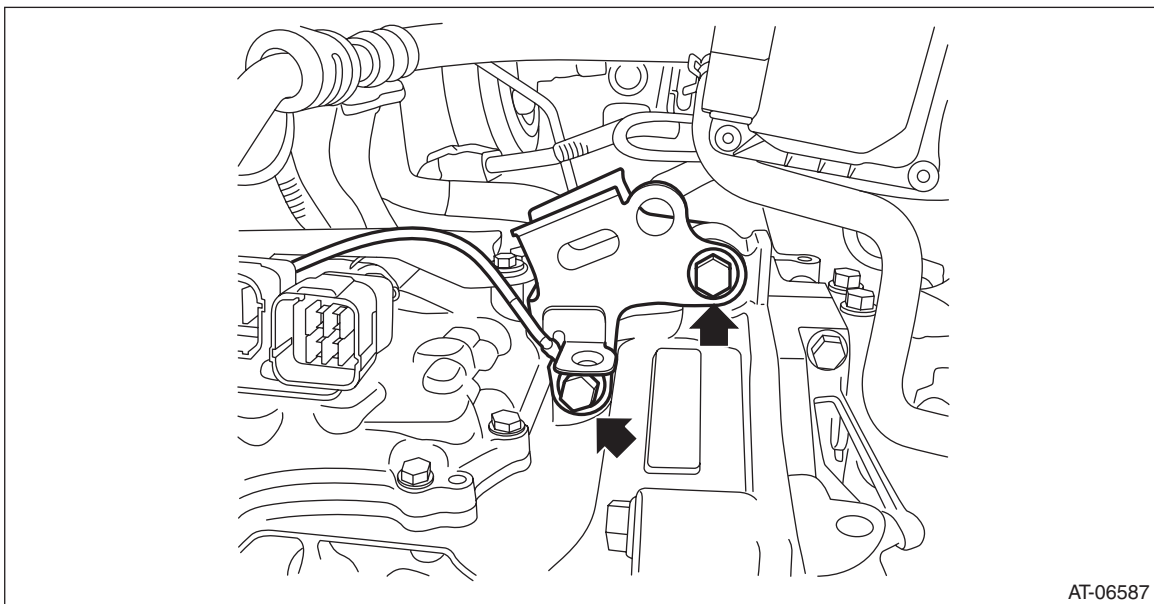
CONTINUOUSLY VARIABLE TRANSMISSION

12) Attach the ST to the converter case.

ST 498277200 STOPPER SET



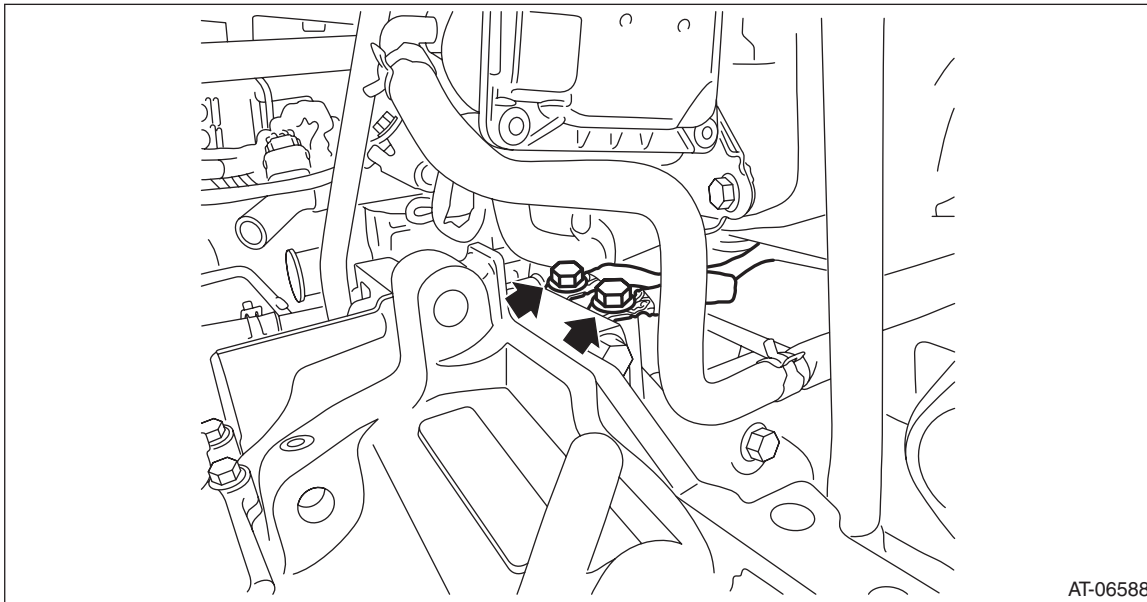
13) Remove the air breather hose from the pitching stopper bracket, and then remove the pitching stopper bracket and transmission radio ground cord.



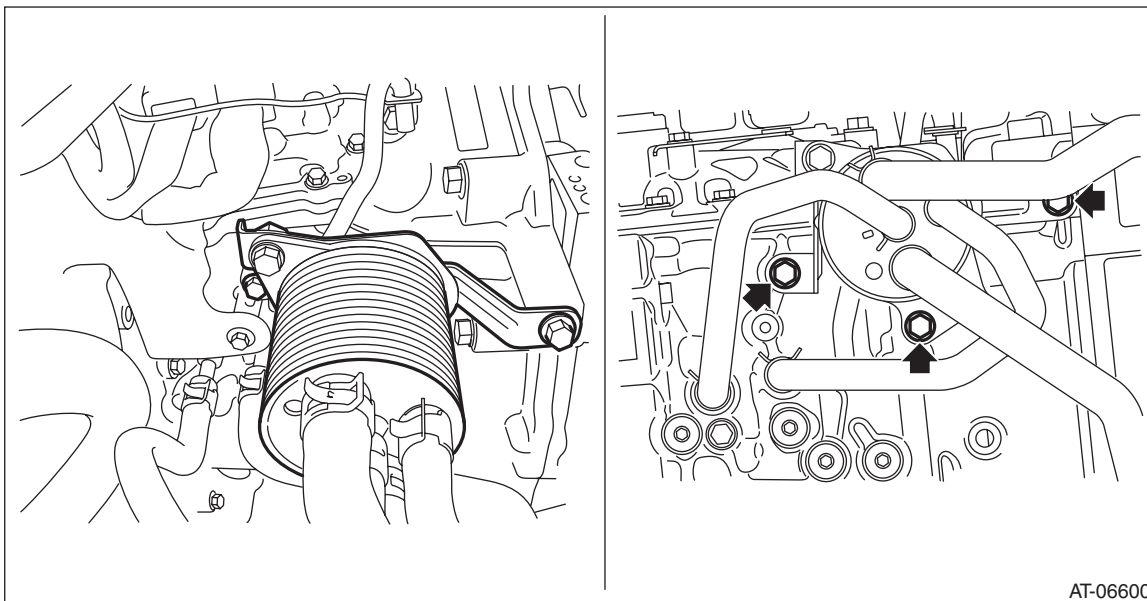
Automatic Transmission Assembly

CONTINUOUSLY VARIABLE TRANSMISSION

14) Remove the engine ground terminal.



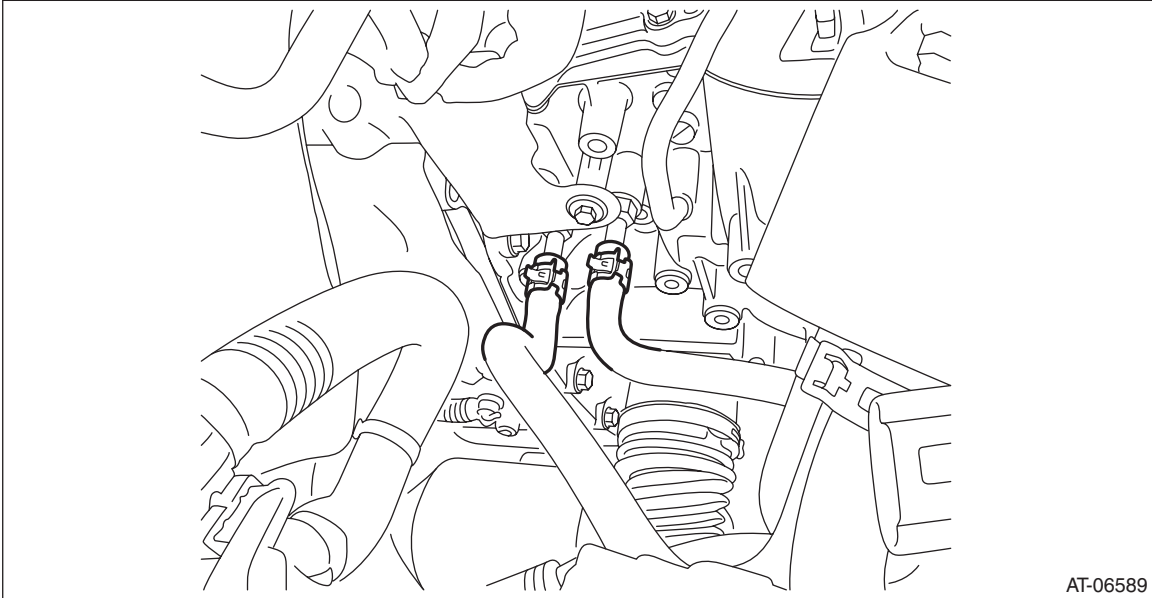
15) Remove the CVTF cooler (with warmer feature) from the transmission, and using a piece of wire, affix to a location of the body where it will not interfere with the removal of the transmission.



Automatic Transmission Assembly

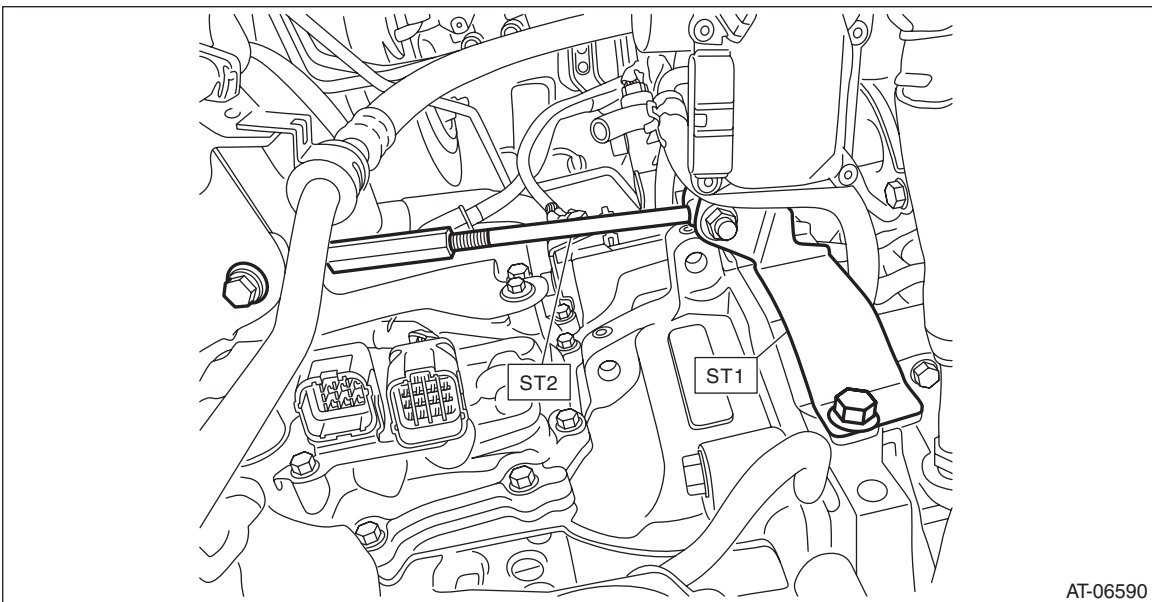
CONTINUOUSLY VARIABLE TRANSMISSION

16) Remove the CVTF inlet hose and outlet hose from the pipe.



17) Set the ST.

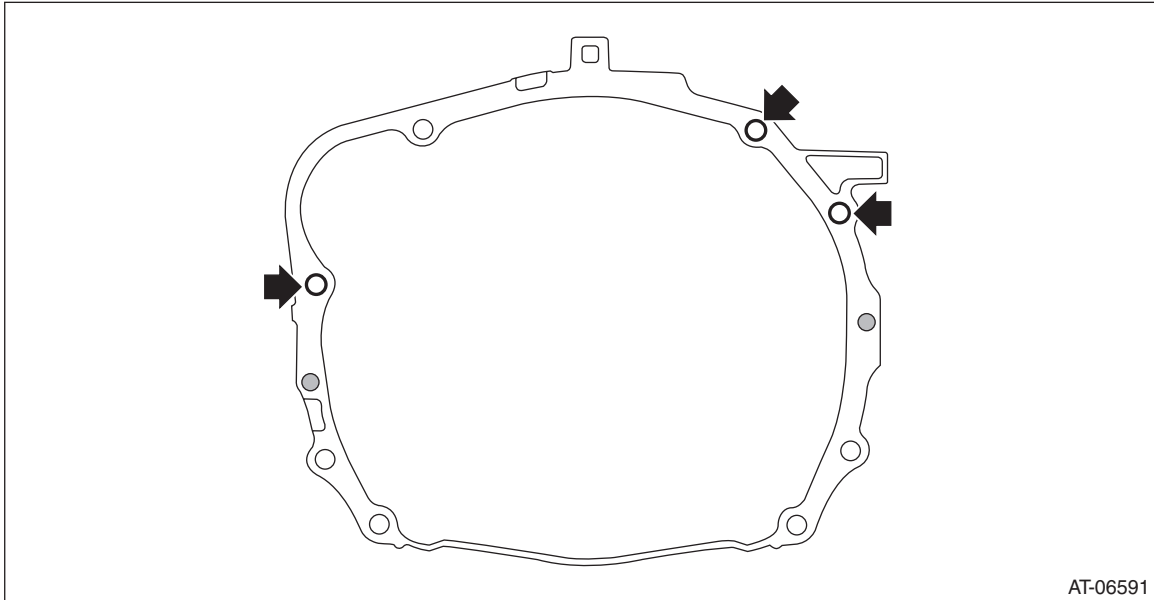
ST1 41099AA010 ENGINE SUPPORT BRACKET
ST2 41099AA020 ENGINE SUPPORT



Automatic Transmission Assembly

CONTINUOUSLY VARIABLE TRANSMISSION

18) Remove the three transmission connecting bolts.



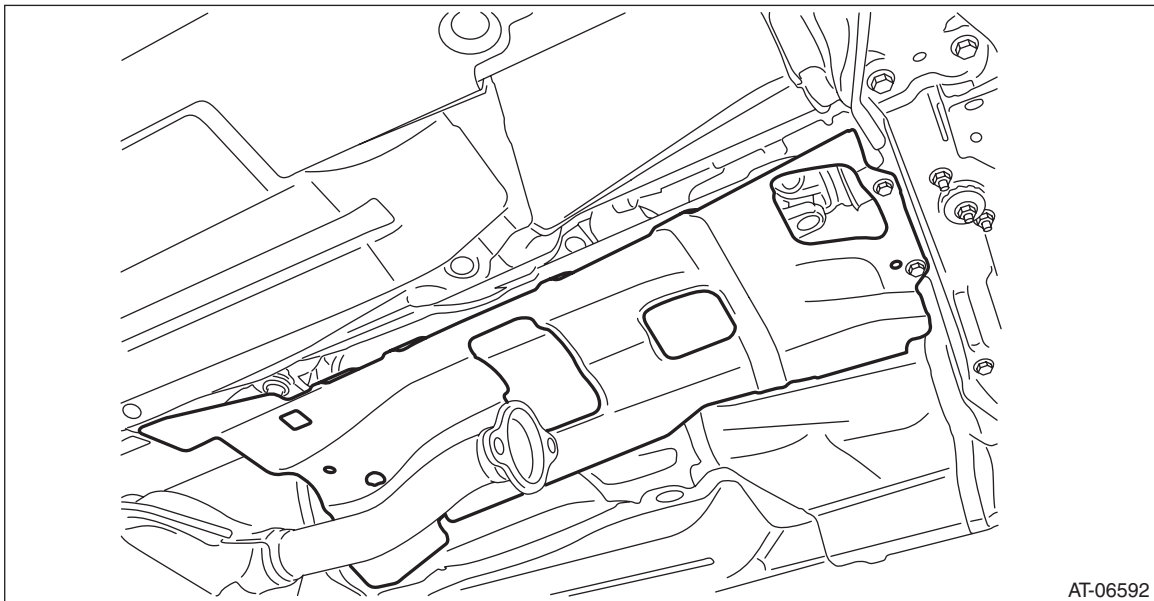
19) Lift up the vehicle.

20) Remove the front wheels. <Ref. to WT-4, REMOVAL, Tire and Wheel.>

21) Remove the under cover.

22) Remove the center exhaust pipe. <Ref. to EX(H4DO)-15, REMOVAL, Rear Exhaust Pipe.>

23) Remove the center exhaust cover.



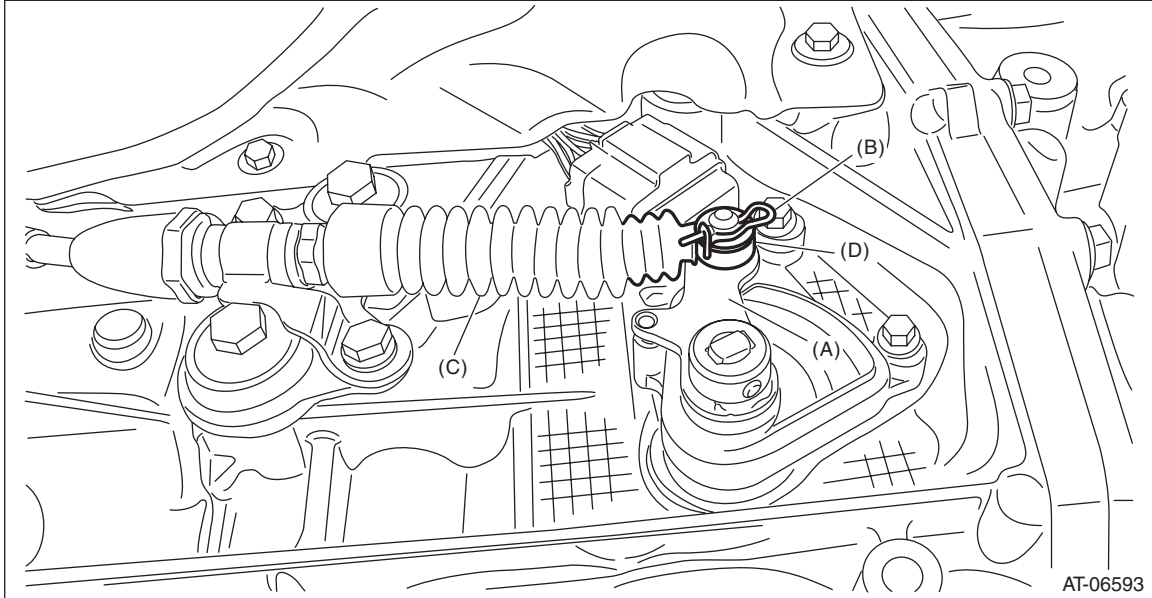
24) Remove the CVTF drain plug to drain CVTF. <Ref. to CVT-36, REPLACEMENT, CVTF.>

25) Drain differential gear oil. <Ref. to CVT-41, REPLACEMENT, Differential Gear Oil.>

Automatic Transmission Assembly

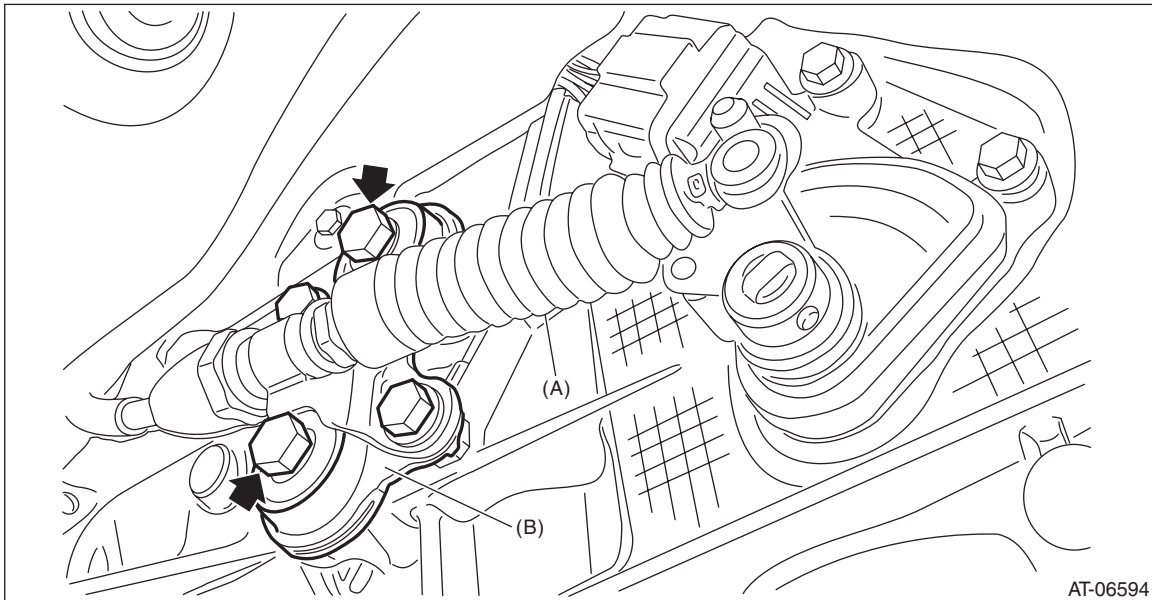
CONTINUOUSLY VARIABLE TRANSMISSION

26) Remove the snap pin and washer from shifter arm and remove the select cable from shifter arm.



- (A) Shifter arm
- (B) Snap pin
- (C) Select cable
- (D) Washer

27) Remove the plate assembly from the transmission case.



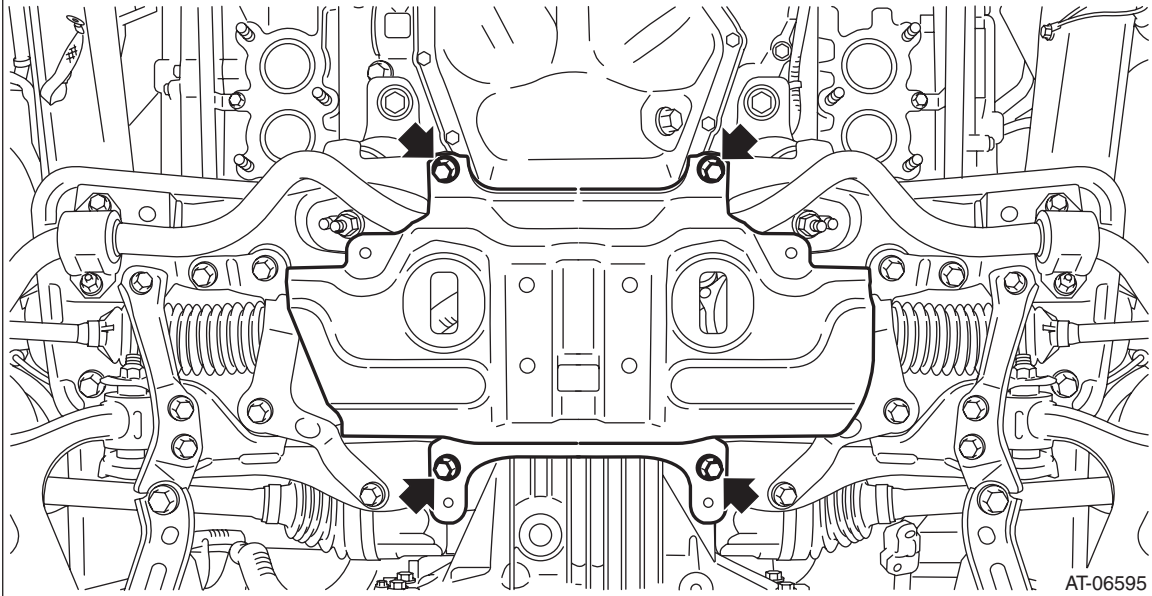
- (A) Select cable
- (B) Plate ASSY

28) Remove the propeller shaft. <Ref. to DS-12, REMOVAL, Propeller Shaft.>

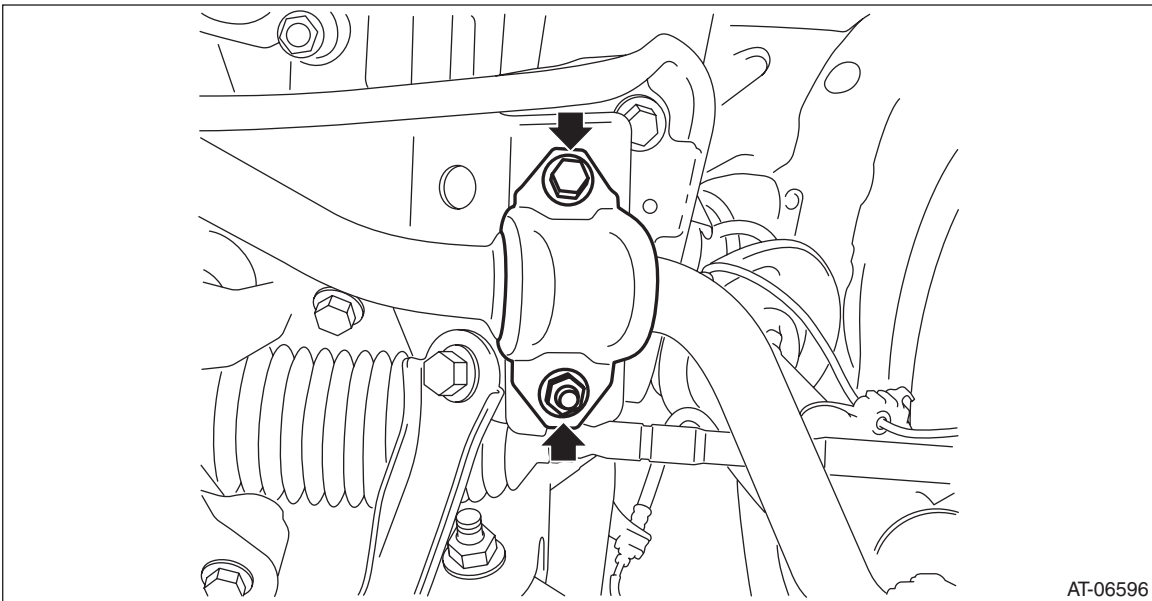
Automatic Transmission Assembly

CONTINUOUSLY VARIABLE TRANSMISSION

29) Remove the jack-up plate.



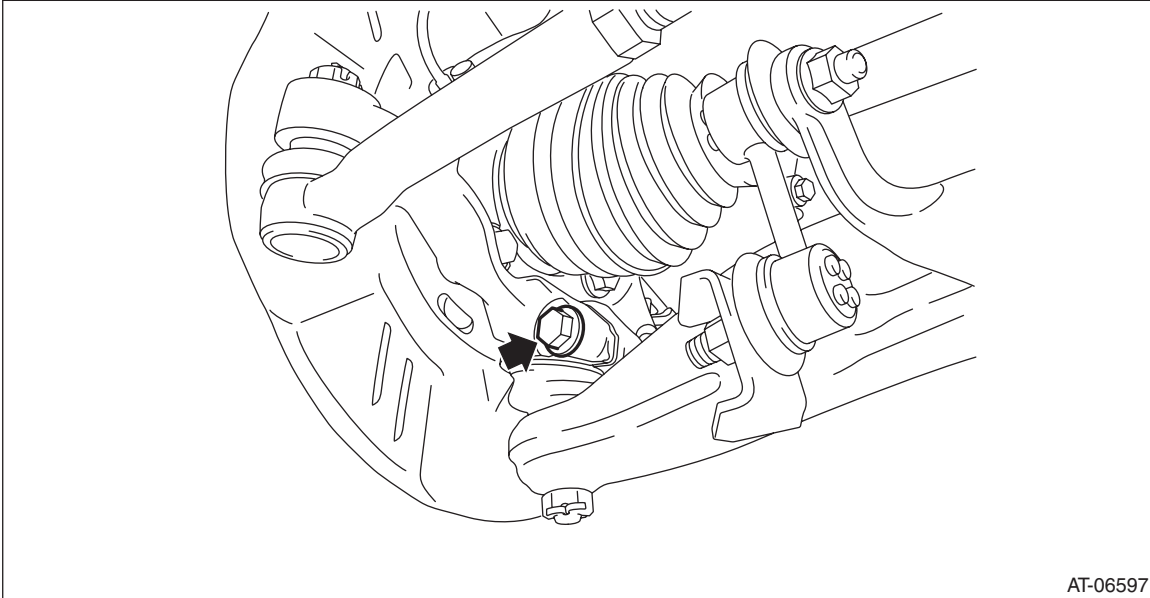
30) Remove the stabilizer bracket.



Automatic Transmission Assembly

CONTINUOUSLY VARIABLE TRANSMISSION

31) Remove the bolts which secure to the front housing, and separate the front arm and housing.



32) Using a tire lever or a crow bar, etc., pull out until the front drive shaft transmission side joint slides move smoothly.

NOTE:

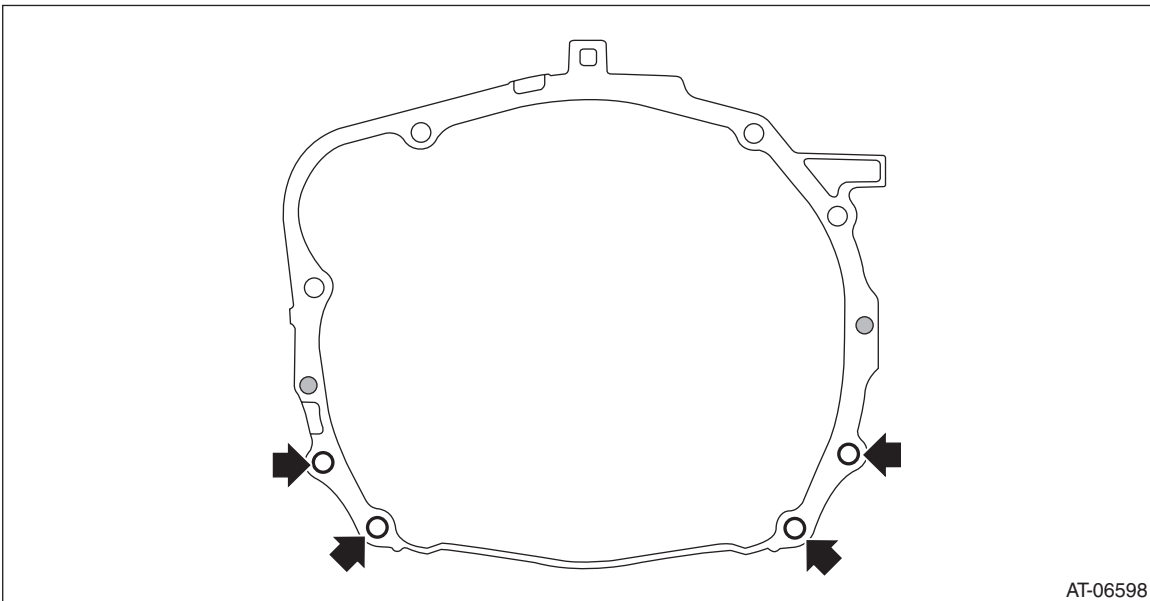
Place cloth between the tire lever or bar and the transmission in order to avoid damaging the transmission side retainer.

33) Hold the transmission side joint of the front drive shaft by hand and extract the housing from the transmission while pressing the housing outward, so as not to stretch the boot.

NOTE:

- Before pulling RH front drive shaft from transmission, turn the steering wheel to left hand full lock.
- Before pulling LH front drive shaft from transmission, turn the steering wheel to right hand full lock.

34) Remove the two transmission connecting bolts and two nuts (lower side).



35) Set the transmission jack under the transmission.

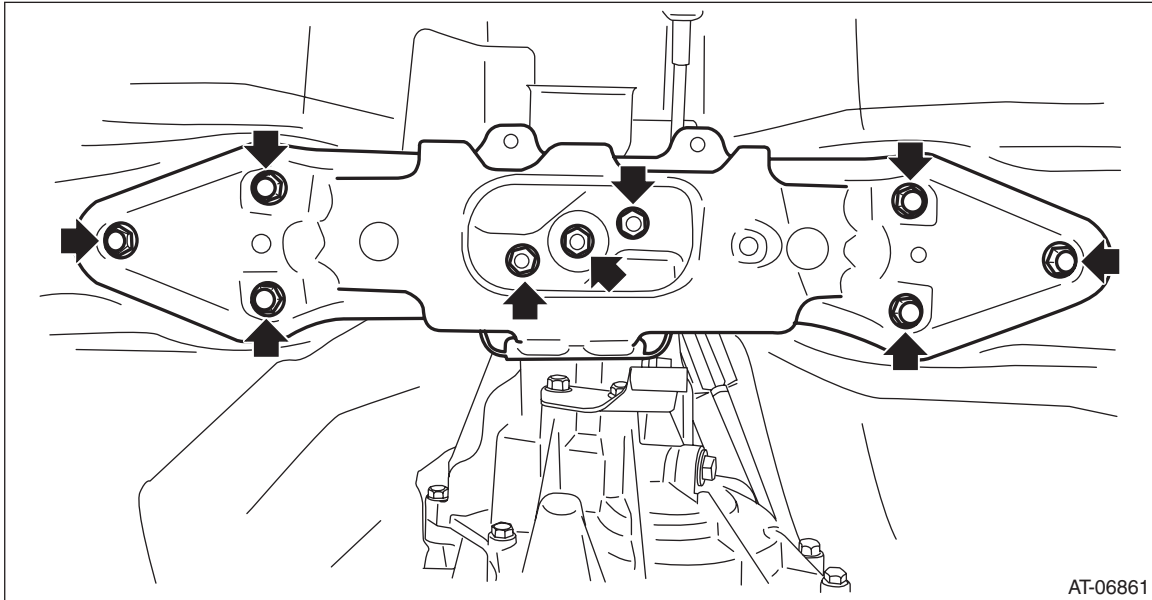
NOTE:

Make sure that the support plates of transmission jack do not touch the oil pan.

Automatic Transmission Assembly

CONTINUOUSLY VARIABLE TRANSMISSION

36) Remove the transmission rear crossmember from the vehicle.



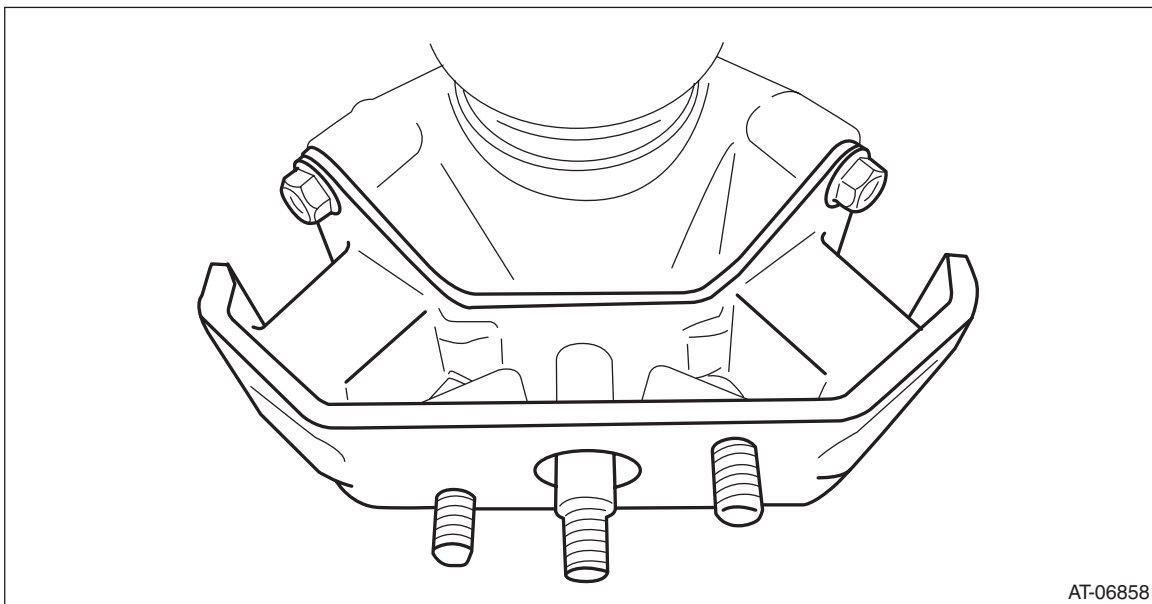
37) While lowering the transmission jack gradually, fully retract the engine support, and then tilt the engine rearward.

38) Remove the transmission assembly.

NOTE:

Remove it while moving the transmission jack up and down so that the engine and transmission remain directly aligned.

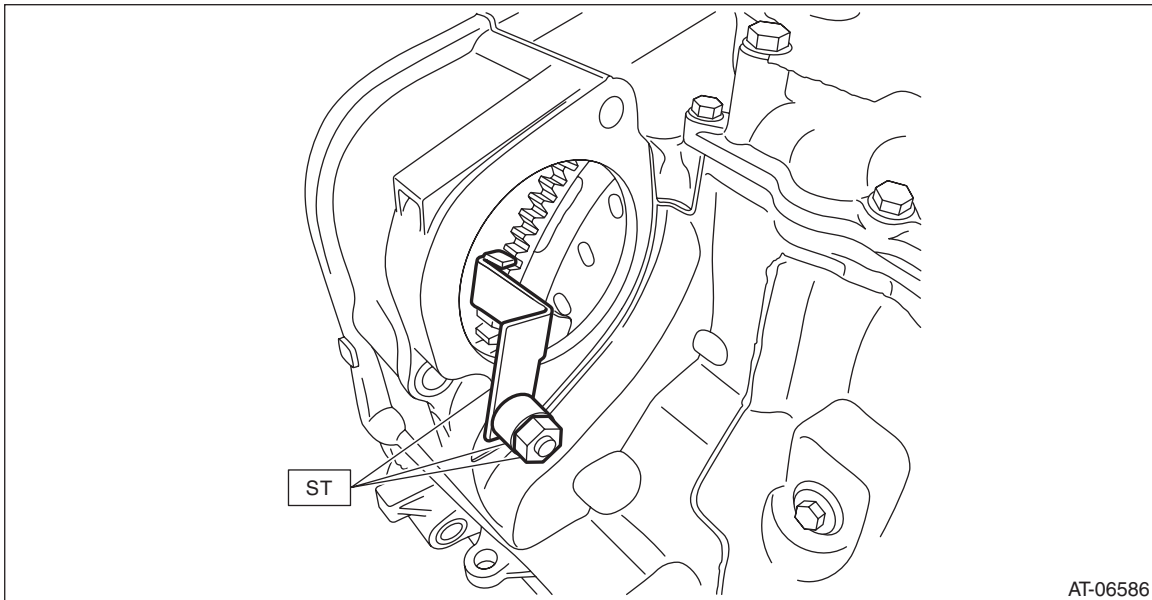
39) Remove the rear cushion rubber.



B: INSTALLATION

1) Attach the ST to converter case.

ST 498277200 STOPPER SET



2) When completely overhauling the transmission, refill CVTF through the transmission right side plug. <Ref. to CVT-154, Preparation for Overhaul.>

3) Replace the front differential side retainer oil seal. <Ref. to CVT-85, REPLACEMENT, Differential Side Retainer Oil Seal.>

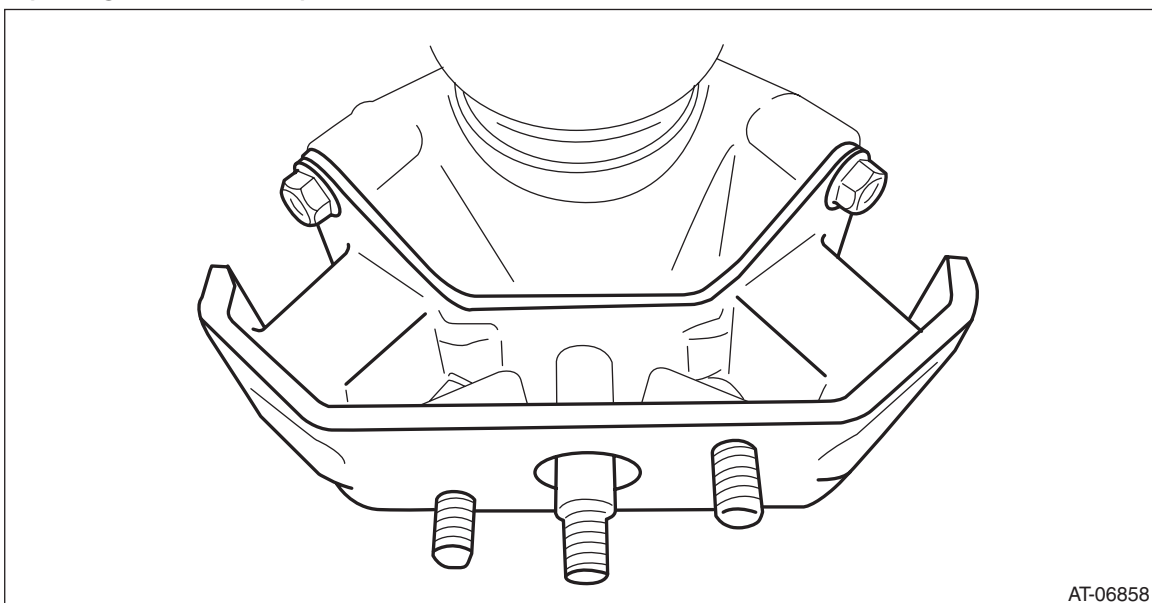
NOTE:

- Be sure to replace the differential side retainer oil seal with a new part whenever the front drive shaft is removed from the transmission.
- When a new differential side retainer oil seal has been installed, replacement is not required.

4) Install the rear cushion rubber on the transmission.

Tightening torque:

40 N·m (4.1 kgf-m, 29.5 ft-lb)



5) Mount the transmission onto the transmission jack.

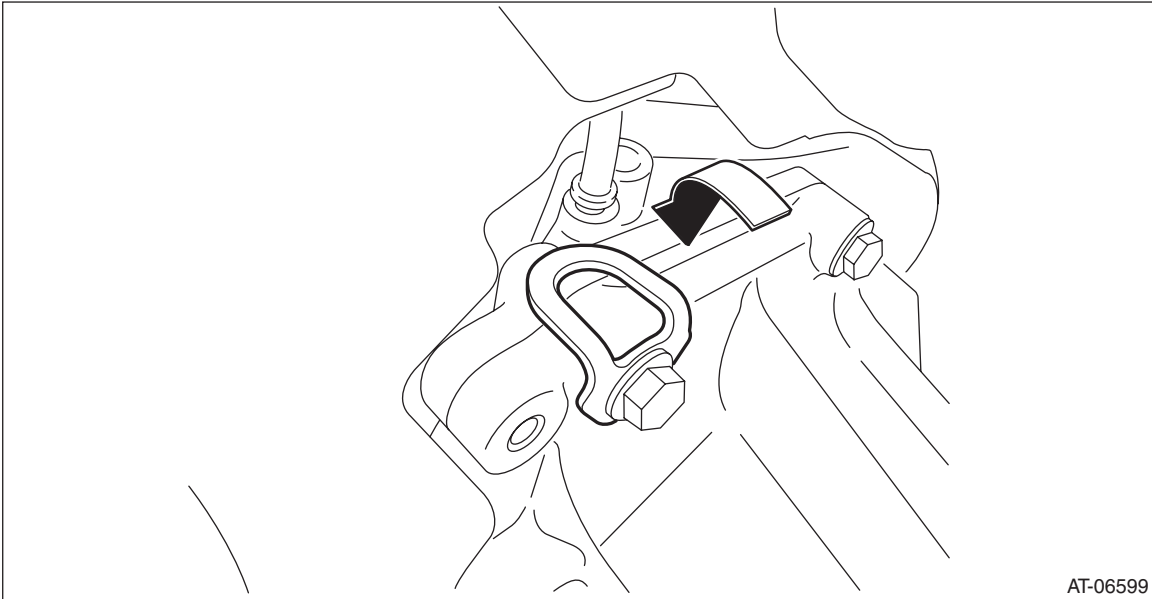
Automatic Transmission Assembly

CONTINUOUSLY VARIABLE TRANSMISSION

6) Strike and bend the transmission hanger of transmission rear with a rubber hammer etc. so that it gets in contact with the transmission case.

CAUTION:

Do not apply extra overload or impact to the transmission case.



AT-06599

7) Remove the pitching stopper bracket, if mounted.

8) Install the transmission onto the engine.

NOTE:

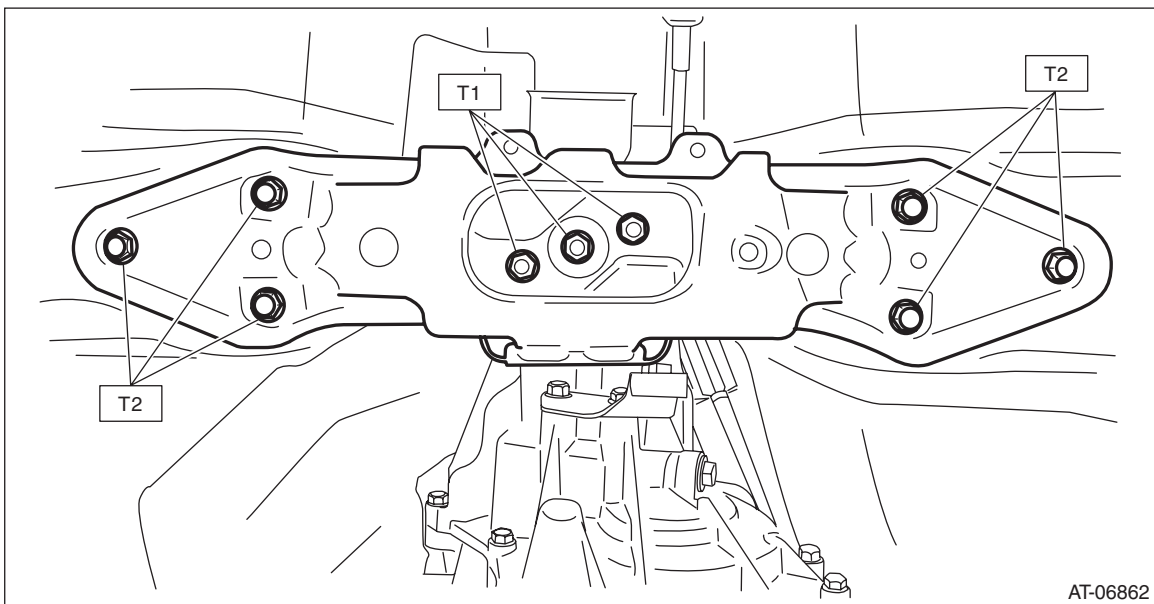
- While raising the transmission jack gradually, turn the screw of engine support, then tilt the engine forward.
- Temporarily attach the two engine connecting bolts and two nuts (lower side).

9) Install the transmission rear crossmember.

Tightening torque:

T1: 35 N·m (3.6 kgf-m, 25.8 ft-lb)

T2: 70 N·m (7.1 kgf-m, 51.6 ft-lb)



AT-06862

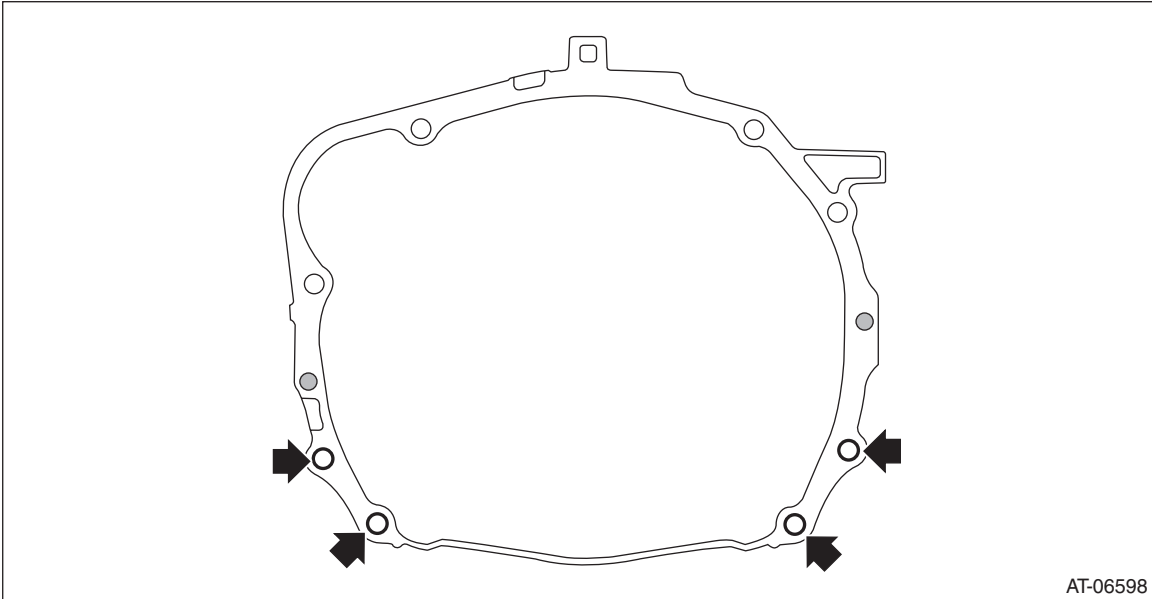
Automatic Transmission Assembly

CONTINUOUSLY VARIABLE TRANSMISSION

10) Tighten the two engine connecting bolts and two nuts (lower side).

Tightening torque:

50 N·m (5.1 kgf-m, 36.9 ft-lb)



AT-06598

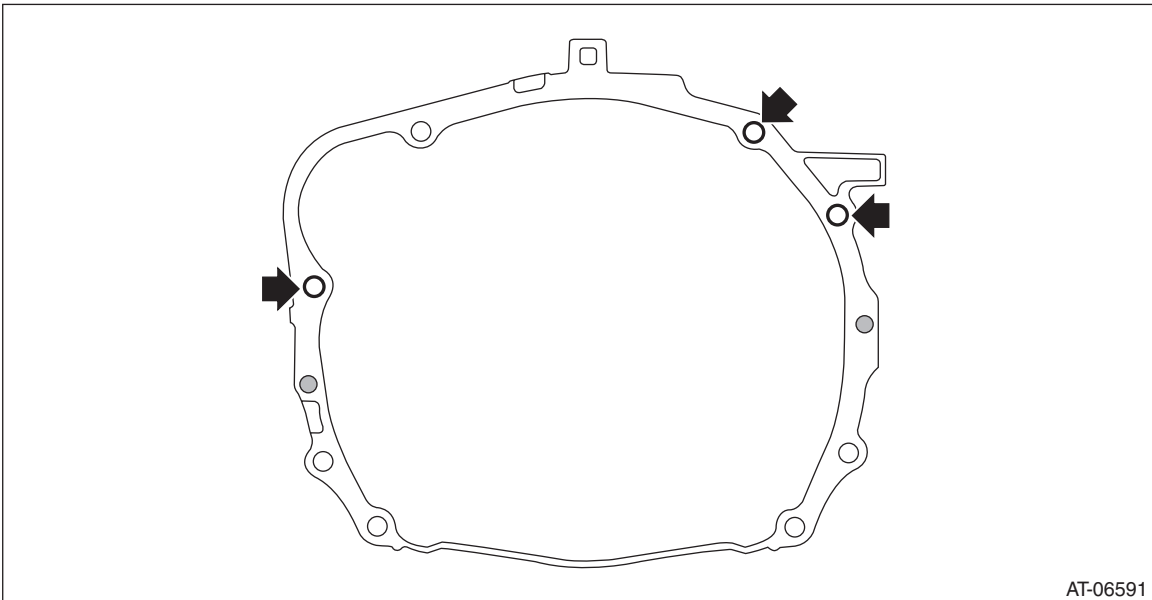
11) Remove the transmission jack.

12) Lower the vehicle.

13) Install the three engine mounting bolts (upper side).

Tightening torque:

50 N·m (5.1 kgf-m, 36.9 ft-lb)



AT-06591

14) Remove the ST (STOPPER SET) from converter case.

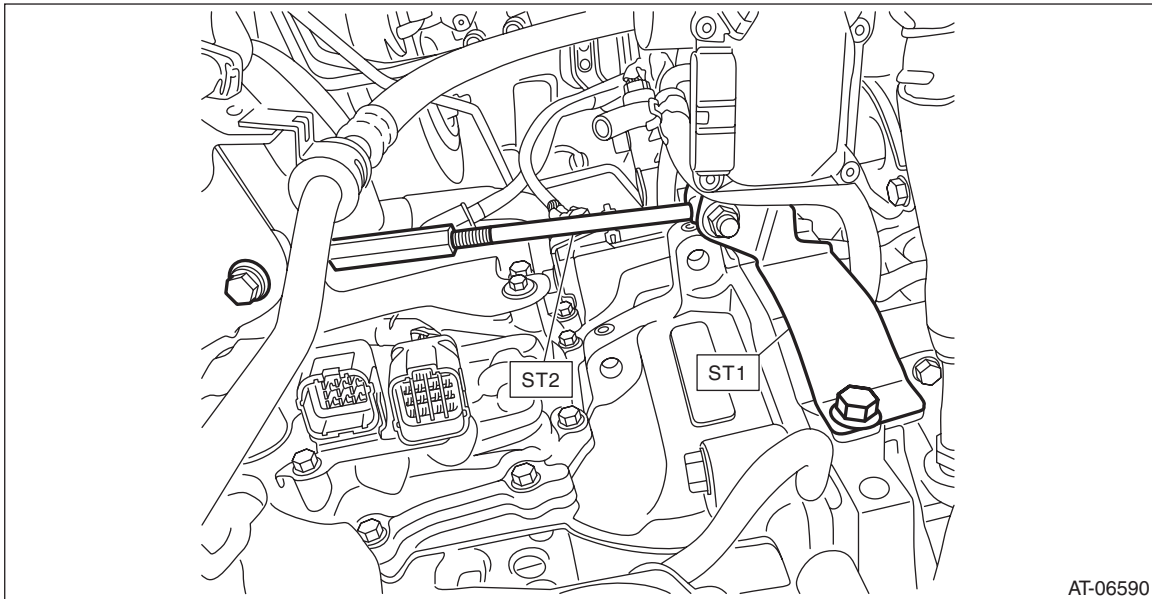
Automatic Transmission Assembly

CONTINUOUSLY VARIABLE TRANSMISSION

15) Remove the ST (ENGINE SUPPORT BRACKET and ENGINE SUPPORT).

ST1 41099AA010 ENGINE SUPPORT BRACKET

ST2 41099AA020 ENGINE SUPPORT



16) Match the torque converter screw hole with drive plate hole to install the bolt.

CAUTION:

- Do not drop the mounting bolt in the converter housing.
- Do not damage the mounting bolt.

Tightening torque:

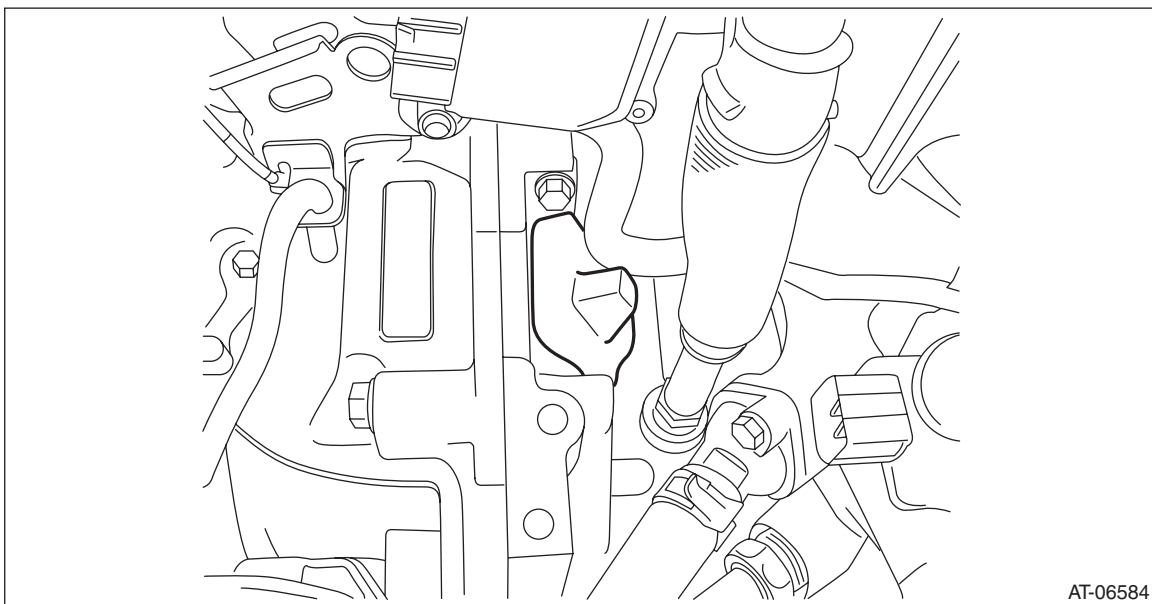
25 N·m (2.5 kgf-m, 18.4 ft-lb)

17) Install the remaining three bolts by rotating the crank pulley a little at a time in the same direction as engine revolution.

Tightening torque:

25 N·m (2.5 kgf-m, 18.4 ft-lb)

18) Install the service hole plug.



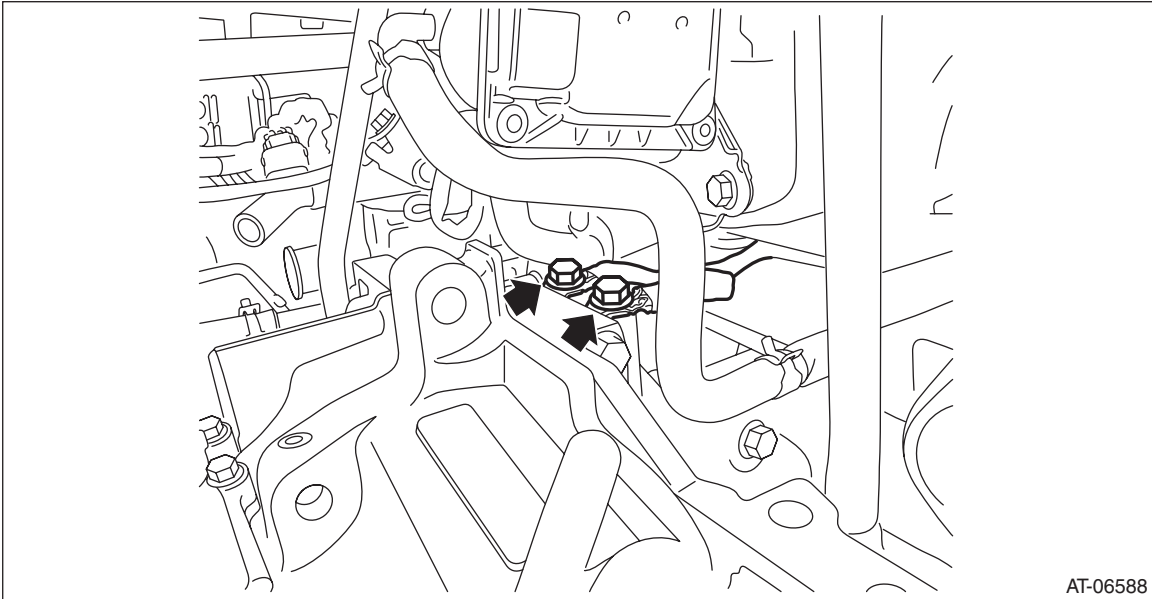
Automatic Transmission Assembly

CONTINUOUSLY VARIABLE TRANSMISSION

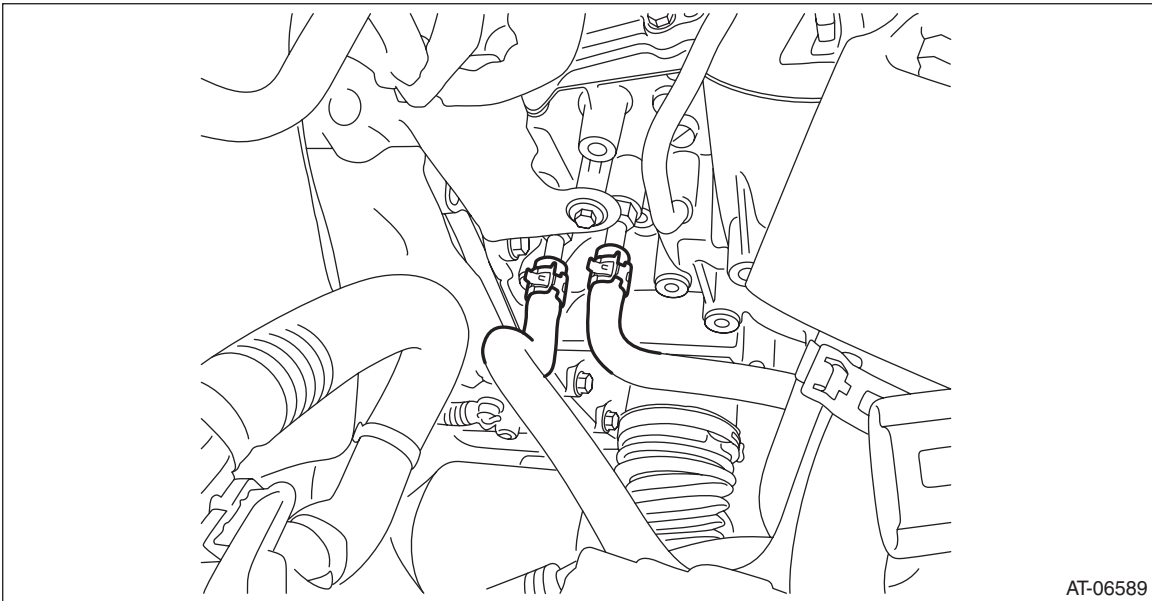
19) Install the engine ground terminals.

Tightening torque:

19 N·m (1.9 kgf-m, 14.0 ft-lb)



20) Replace the CVTF inlet hose and CVTF outlet hose. <Ref. to CVT-145, DISASSEMBLY, CVTF Cooler (With Warmer Function).> <Ref. to CVT-146, ASSEMBLY, CVTF Cooler (With Warmer Function).>
21) Install the CVTF inlet hose and CVTF outlet hose to transmission.



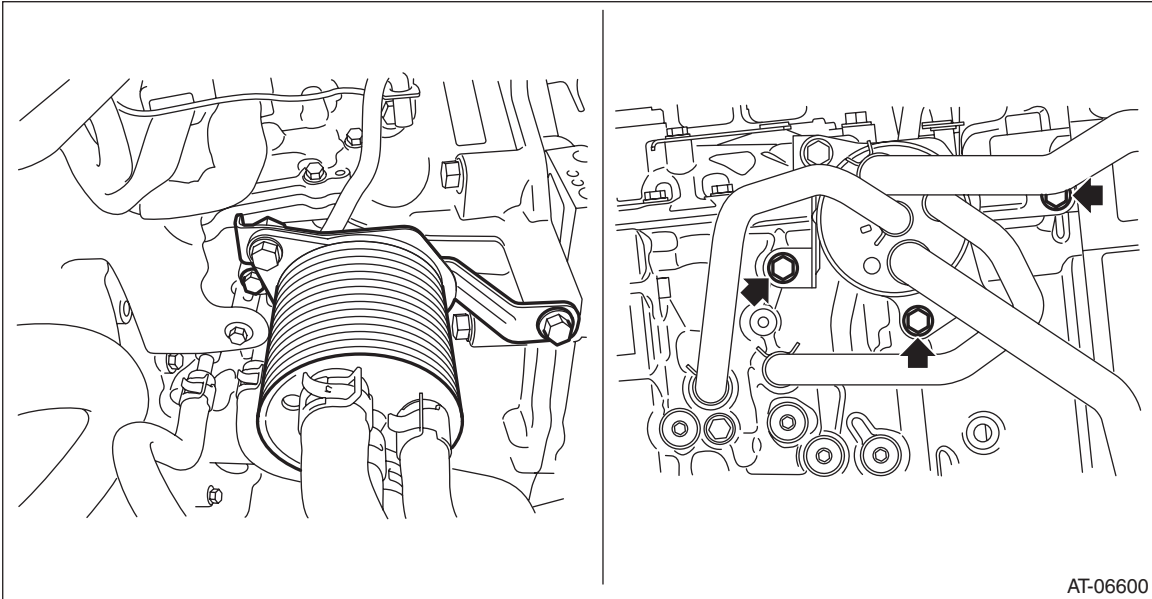
Automatic Transmission Assembly

CONTINUOUSLY VARIABLE TRANSMISSION

22) Install the CVTF cooler (with warmer feature) to the transmission.

Tightening torque:

23 N·m (2.3 kgf-m, 17.0 ft-lb)

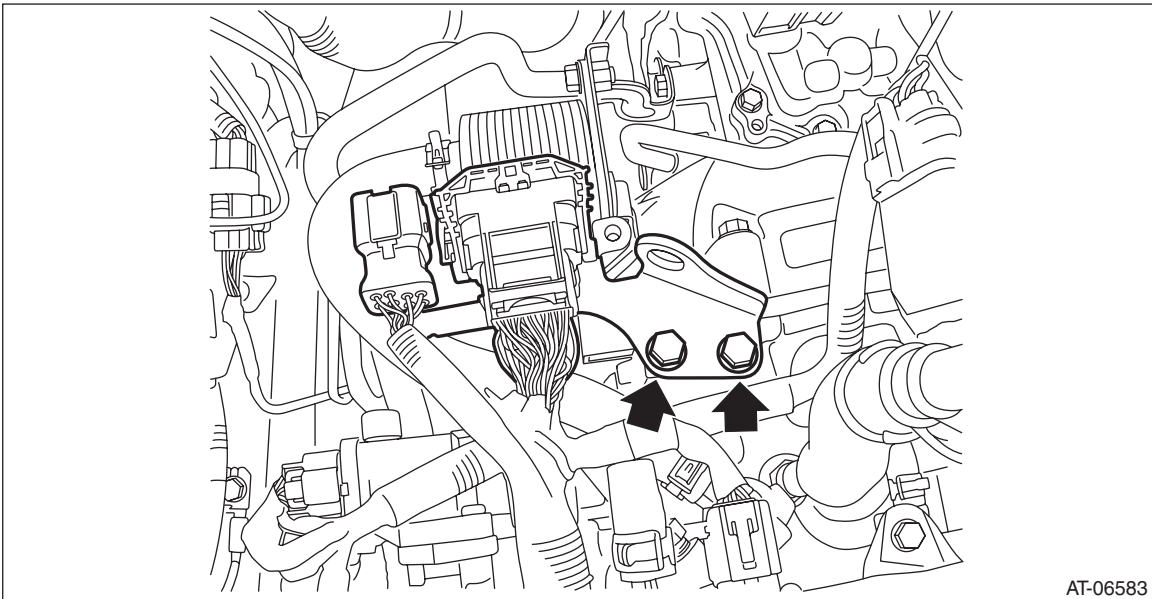


23) Install the starter. <Ref. to SC(H4DO)-12, INSTALLATION, Starter.>

24) Install the engine hanger rear.

Tightening torque:

21 N·m (2.1 kgf-m, 15.5 ft-lb)



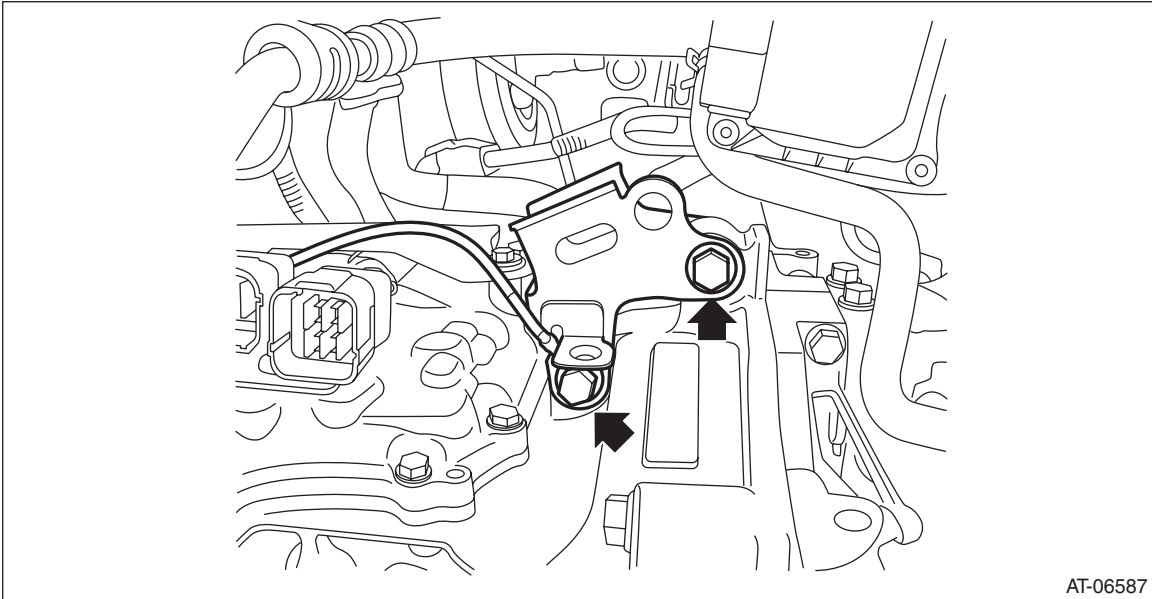
Automatic Transmission Assembly

CONTINUOUSLY VARIABLE TRANSMISSION

25) Install the pitching stopper bracket and transmission radio ground cord.

Tightening torque:

41 N·m (4.2 kgf-m, 30.2 ft-lb)



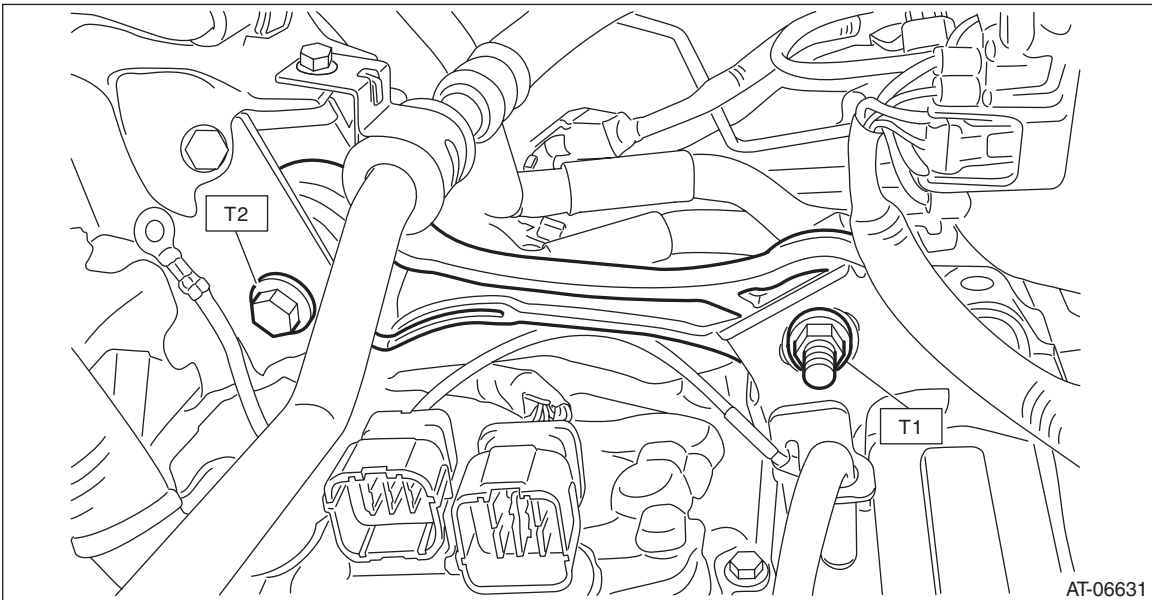
26) Install the air breather hose to the pitching stopper bracket.

27) 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)



28) Connect the EGR control valve harness connector, throttle position sensor harness connector and manifold pressure sensor harness connector.

Tightening torque:

Bulkhead harness connector bracket

7.5 N·m (0.8 kgf-m, 5.5 ft-lb)

29) Lift up the vehicle.

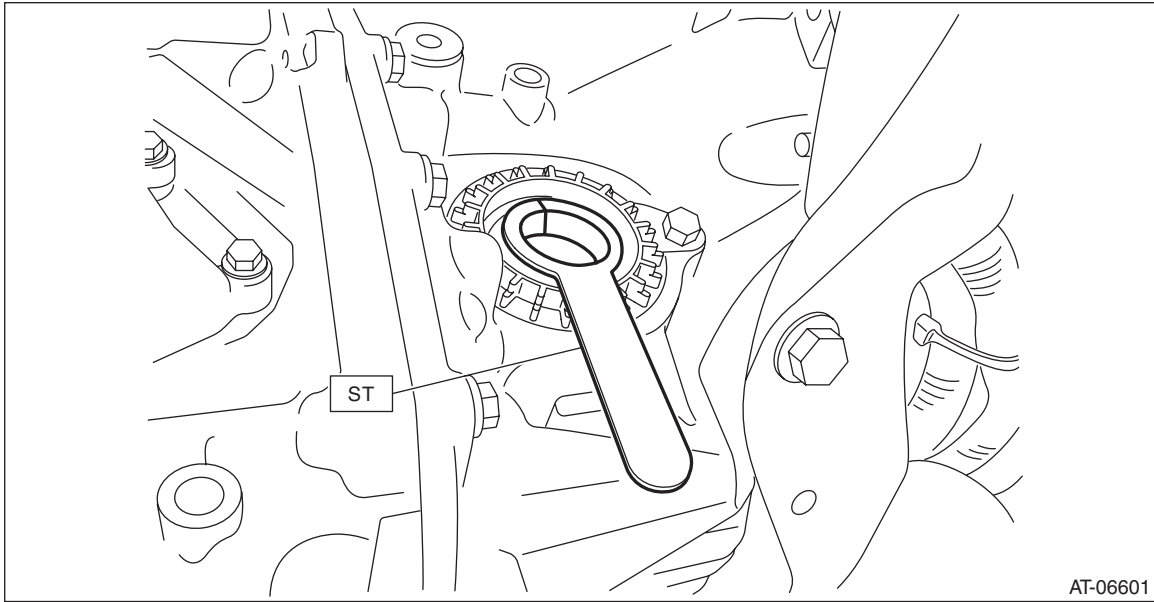
30) Apply grease to the side retainer oil seal lip.

Automatic Transmission Assembly

CONTINUOUSLY VARIABLE TRANSMISSION

31) Set the ST to side retainer.

ST 28399SA010 OIL SEAL PROTECTOR



32) Replace the circlip of the drive shaft with a new part.

33) Insert the front drive shaft spline section into transmission and remove the ST (OIL SEAL PROTECTOR).

NOTE:

- Before inserting RH front drive shaft into transmission, turn the steering wheel to left hand full lock.
- Before inserting LH front drive shaft into transmission, turn the steering wheel to right hand full lock.

34) Insert the drive shaft into the transmission securely by pressing the housing from outside of the vehicle.

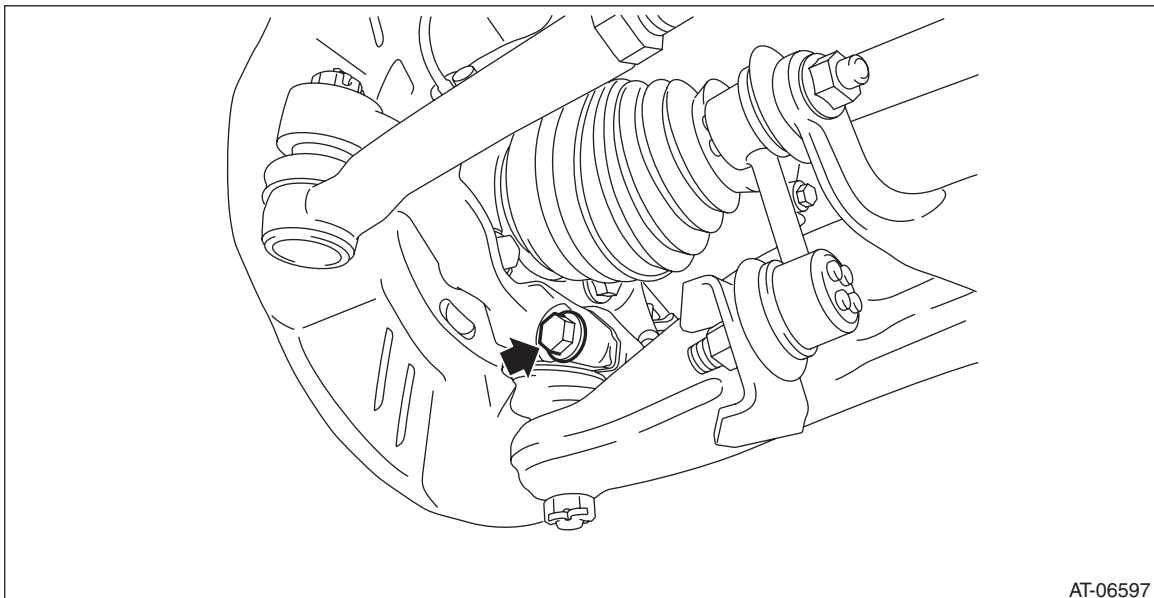
35) Insert the ball joint into housing and secure with bolt.

Tightening torque:

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

CAUTION:

- Do not apply grease to the tapered portion of ball stud.
- Before tightening, make sure the lower side of housing and stepped section of ball joint are in contact.



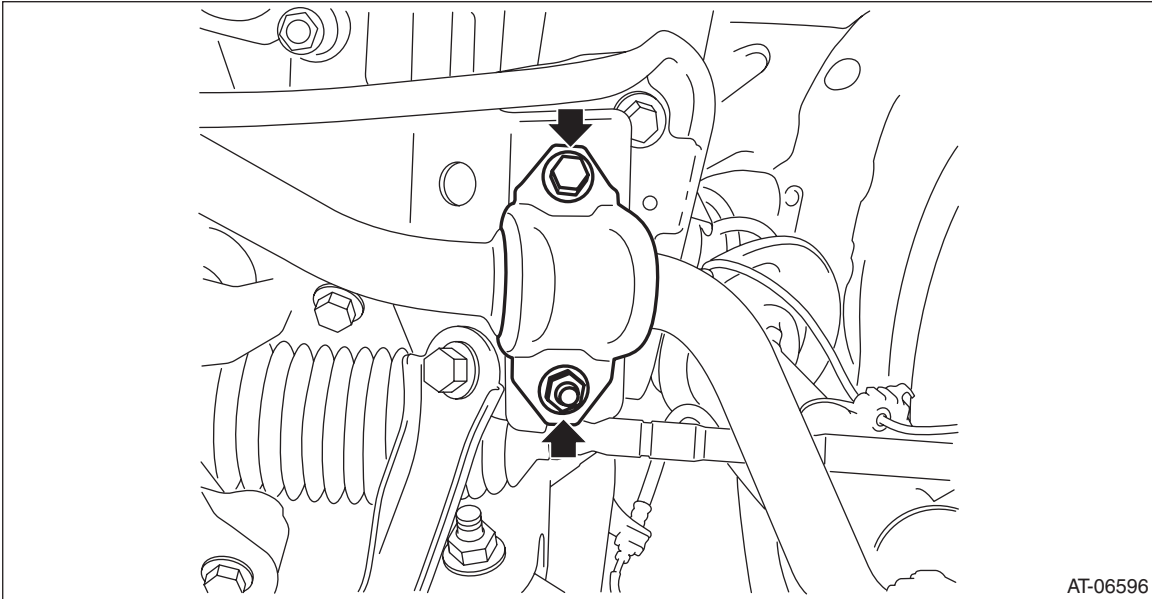
Automatic Transmission Assembly

CONTINUOUSLY VARIABLE TRANSMISSION

36) Install the stabilizer bracket.

Tightening torque:

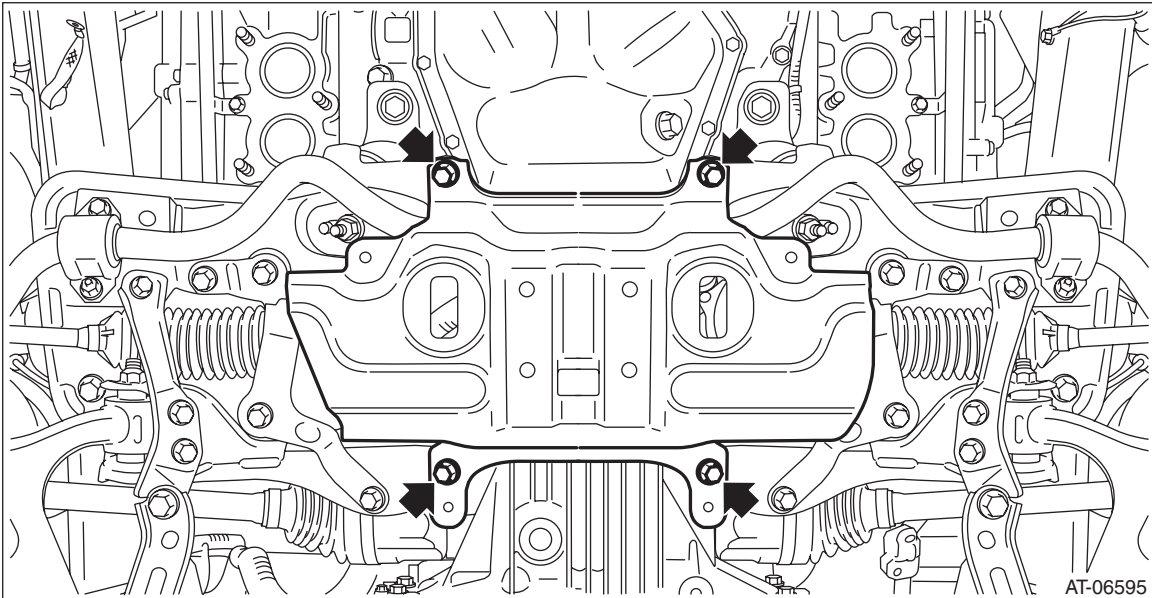
25 N·m (2.5 kgf-m, 18.4 ft-lb)



37) Install the jack-up plate.

Tightening torque:

60 N·m (6.1 kgf-m, 44.3 ft-lb)



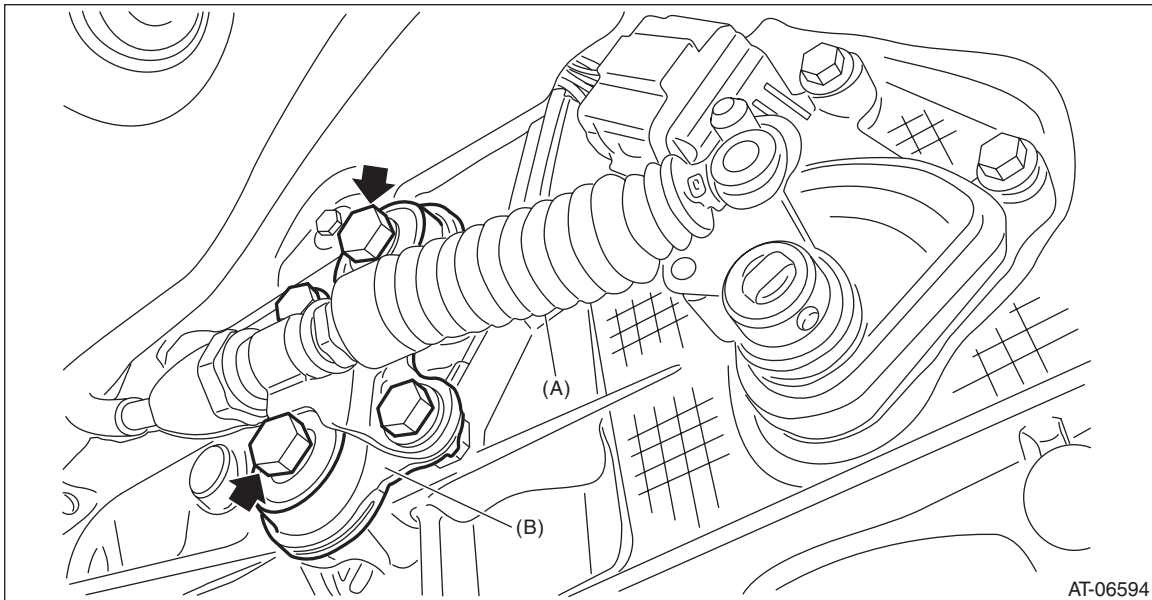
Automatic Transmission Assembly

CONTINUOUSLY VARIABLE TRANSMISSION

38) Install the plate assembly to transmission.

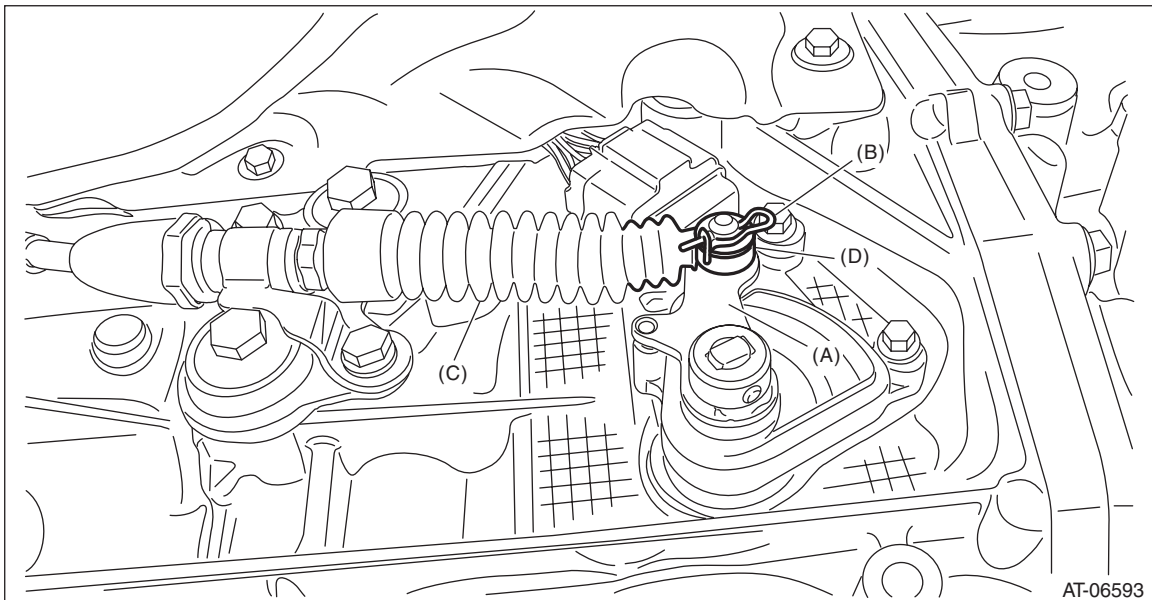
Tightening torque:

25 N·m (2.5 kgf-m, 18.4 ft-lb)



- (A) Select cable
- (B) Plate ASSY

39) Install the washer and snap pin to the shifter arm.



- (A) Shifter arm
- (B) Snap pin
- (C) Select cable
- (D) Washer

40) Install the propeller shaft. <Ref. to DS-13, INSTALLATION, Propeller Shaft.>

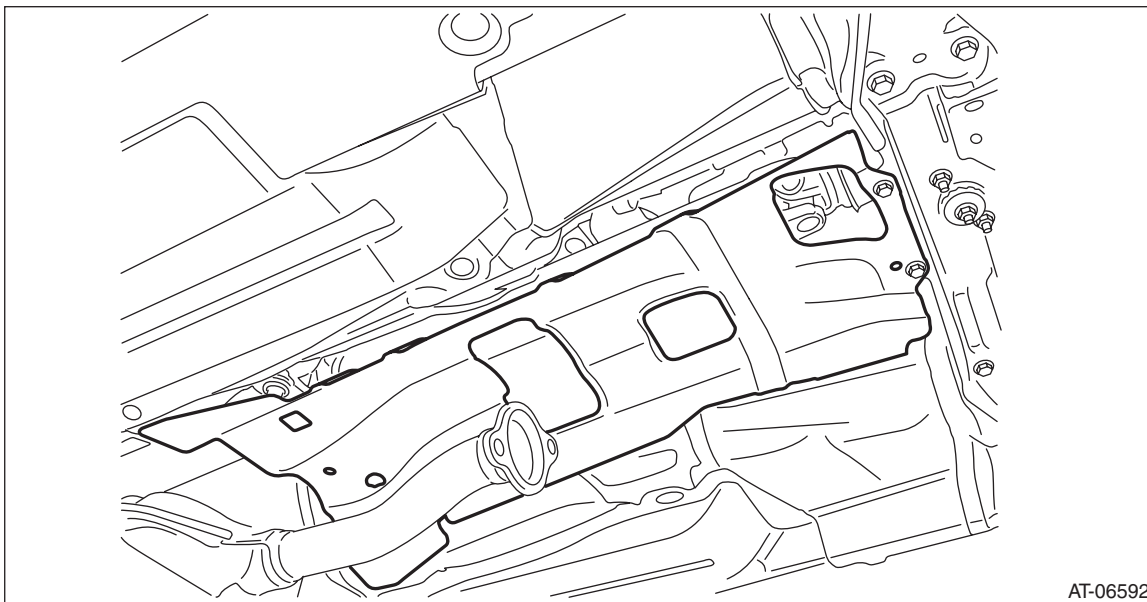
Automatic Transmission Assembly

CONTINUOUSLY VARIABLE TRANSMISSION

41) Install the center exhaust cover.

Tightening torque:

18 N·m (1.8 kgf-m, 13.3 ft-lb)



42) Install the center exhaust pipe. <Ref. to EX(H4DO)-10, INSTALLATION, Front Exhaust Pipe.>

43) Install the under cover.

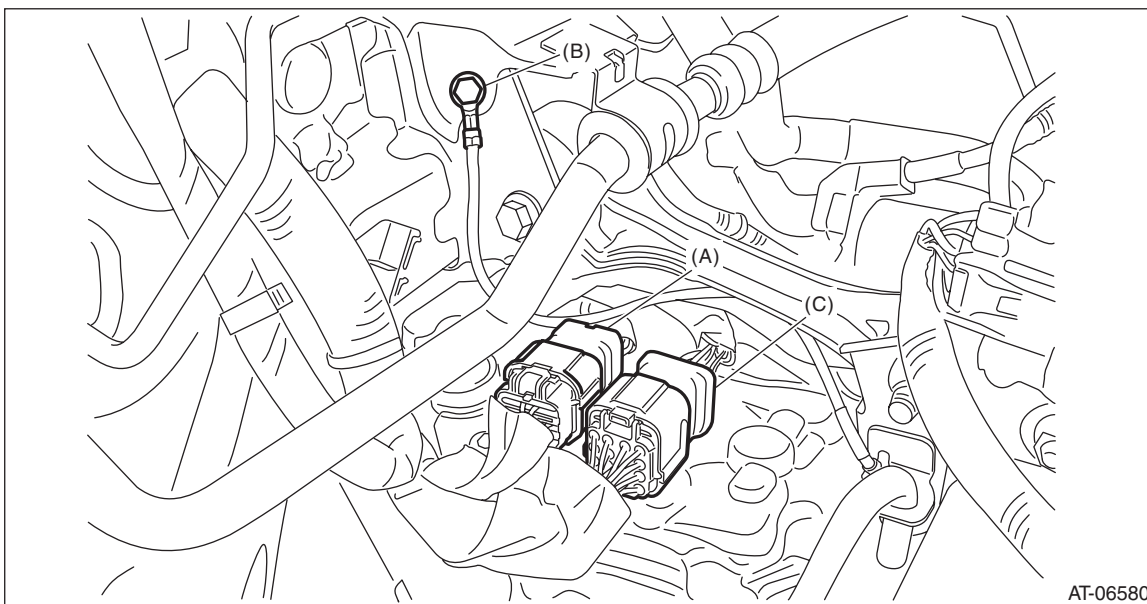
44) Lower the vehicle.

45) Connect the following harness connectors.

- Transmission harness connectors
- Inhibitor harness connector
- Transmission radio ground terminal

Tightening torque:

13 N·m (1.3 kgf-m, 9.6 ft-lb)



- (A) Transmission harness connectors
- (B) Transmission radio ground terminal
- (C) Inhibitor harness connector

Automatic Transmission Assembly

CONTINUOUSLY VARIABLE TRANSMISSION

- 46) Install the air intake boot assembly. <Ref. to IN(H4DO)-12, INSTALLATION, Air Intake Boot.>
- 47) Install the front wheels. <Ref. to WT-4, INSTALLATION, Tire and Wheel.>
- 48) Connect the battery ground terminal.
- 49) Refill differential gear oil to adjust the differential gear oil amount. <Ref. to CVT-39, Differential Gear Oil.>
- 50) Refill CVTF to adjust the CVTF level. <Ref. to CVT-34, CVTF.>
- 51) Perform the operation for clearing AT learning value. <Ref. to CVT(diag)-19, Clear Memory Mode.>
- 52) Perform the operation of AT learning mode. <Ref. to CVT(diag)-21, Learning Control.>
- 53) Execute the rear differential inspection mode. <Ref. to DI-64, Rear Differential Inspection Mode.>

CAUTION:

Always execute the rear differential inspection mode at the replacement of the following.

- **Replacement of transmission assembly**
 - **Replacement of front differential hypoid gear set**
- 54) Perform the road test to make sure there is no fault. <Ref. to CVT-44, INSPECTION, Road Test.>