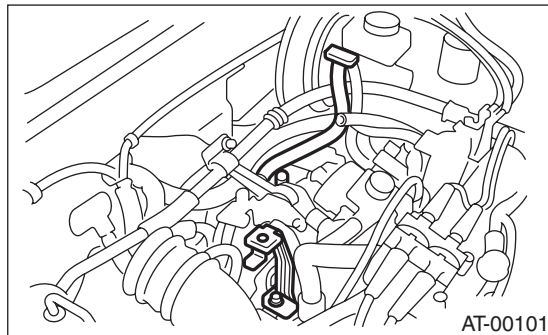


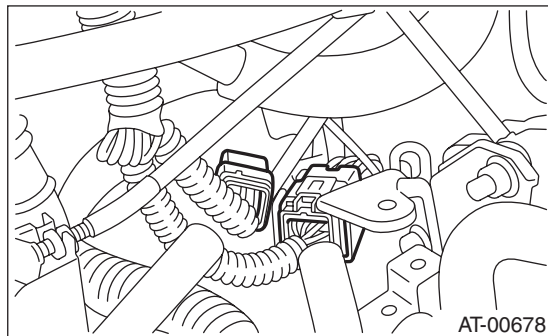
## 9. Automatic Transmission Assembly

### A: REMOVAL

- 1) Set the vehicle on a lift.
- 2) Open the front hood fully, and support it with stay.
- 3) Disconnect the battery ground cable.
- 4) Remove the air intake duct. (Non-TURBO model)  
<Ref. to IN(H4SO)-7, REMOVAL, Air Intake Duct.>
- 5) Remove the air cleaner case or air intake chamber. (Non-TURBO model)  
<Ref. to IN(H4SO)-6, REMOVAL, Air Cleaner Case.>
- 6) Remove the intercooler. (TURBO model)  
<Ref. to IN(H4DOTC)-10, REMOVAL, Intercooler.>
- 7) Remove the air cleaner case stay. (Non-TURBO model)

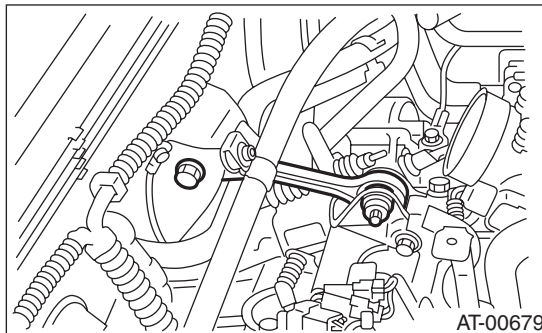


- 8) Disconnect the following connectors.
  - (1) Transmission harness connector



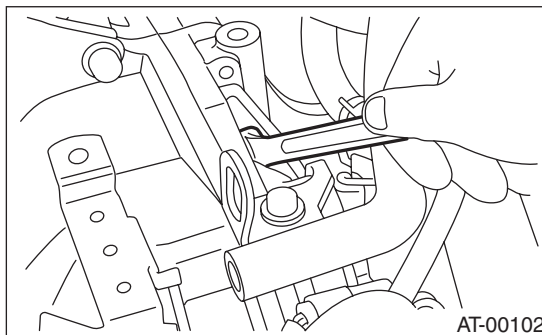
- (2) Transmission ground terminal

- 9) Remove the starter.  
<Ref. to SC(H4SO)-7, REMOVAL, Starter.>
- 10) Remove the pitching stopper.

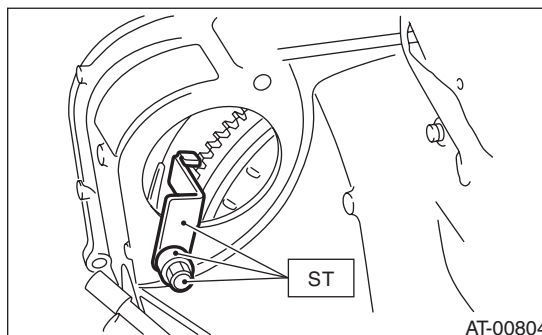


- 11) Separate the torque converter clutch from drive plate.
  - (1) Remove the V-belt cover.
  - (2) Remove the service hole plug.
  - (3) Remove the bolts which hold torque converter clutch to drive plate.
  - (4) Insert the wrench in the crankshaft pulley bolts, and remove all the bolts by slowly rotating the crankshaft pulley.

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



- 12) Install the ST to torque converter clutch case.  
ST 498277200 STOPPER SET



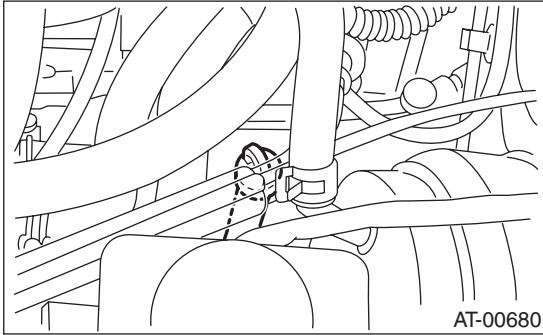
# AUTOMATIC TRANSMISSION ASSEMBLY

## AUTOMATIC TRANSMISSION

13) Remove the ATF level gauge.

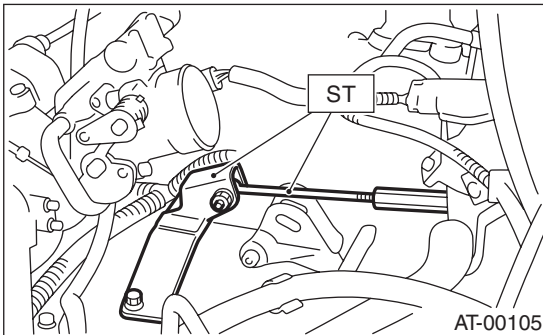
### NOTE:

Plug the opening to prevent an entry of foreign particles into transmission fluid.

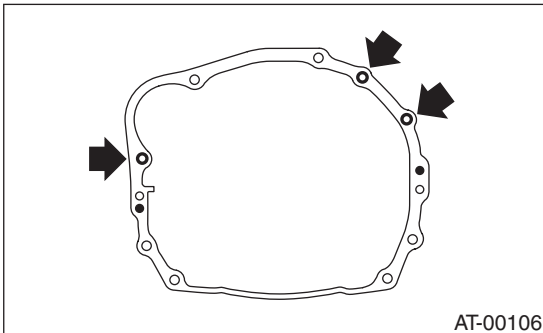


14) Set the ST.

ST 41099AA000 ENGINE SUPPORT ASSY



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



16) Lift-up the vehicle.

17) Remove the under cover.

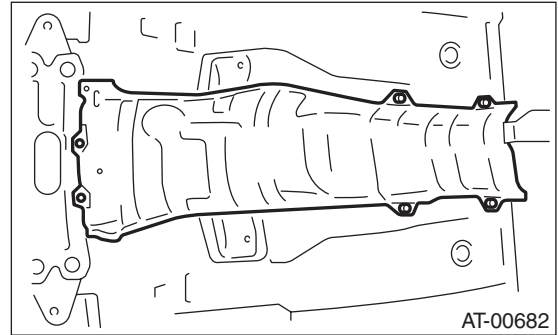
18) Remove the front, center and rear exhaust pipe, and muffler. (Non-TURBO model)

<Ref. to EX(H4SO)-5, REMOVAL, Front Exhaust Pipe.>, <Ref. to EX(H4SO)-9, REMOVAL, Rear Exhaust Pipe.> and <Ref. to EX(H4SO)-10, REMOVAL, Muffler.>

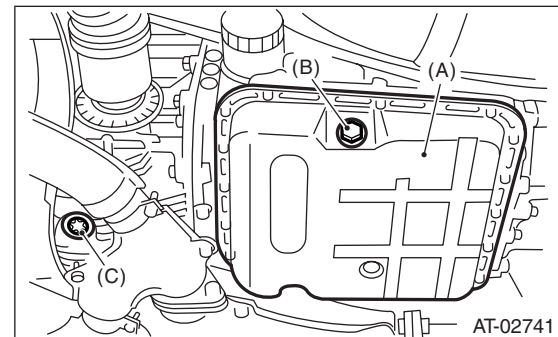
19) Remove the center and rear exhaust pipes, and muffler. (TURBO model)

<Ref. to EX(H4DOTC)-9, REMOVAL, Center Exhaust Pipe.>, <Ref. to EX(H4DOTC)-14, REMOVAL, Rear Exhaust Pipe.> and <Ref. to EX(H4DOTC)-15, REMOVAL, Muffler.>

20) Remove the heat shield cover. (If equipped)



21) Drain ATF to remove the ATF drain plug.

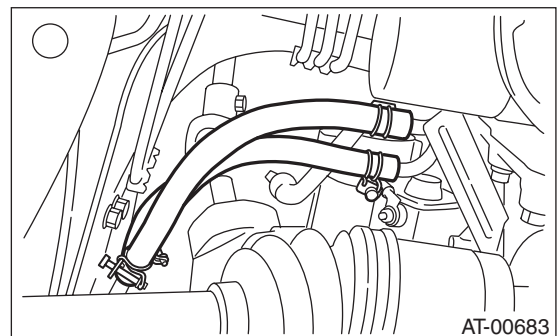


(A) Oil pan

(B) Drain plug (ATF)

(C) Differential oil drain plug

22) Disconnect the ATF cooler hoses from pipes of transmission side, and remove the ATF level gauge guide.



23) Remove the propeller shaft.

<Ref. to DS-15, REMOVAL, Propeller Shaft.>

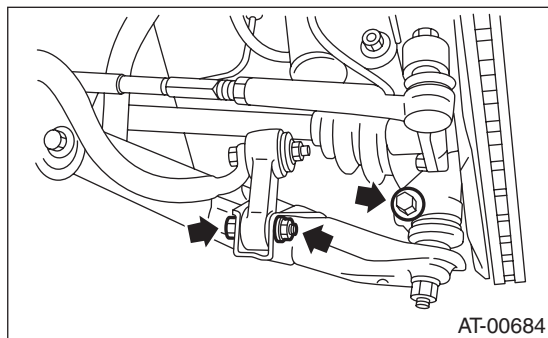
24) Remove the shift select cable. <Ref. to CS-31, REMOVAL, Select Cable.>

25) Disconnect the stabilizer link from transverse link.

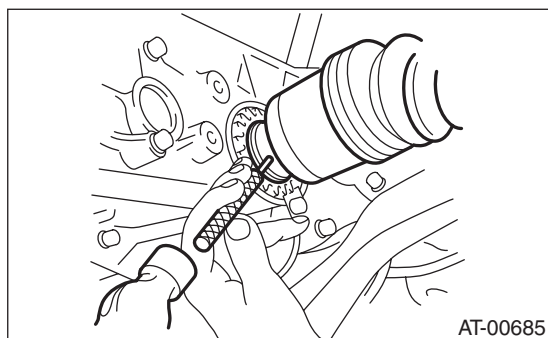
# AUTOMATIC TRANSMISSION ASSEMBLY

AUTOMATIC TRANSMISSION

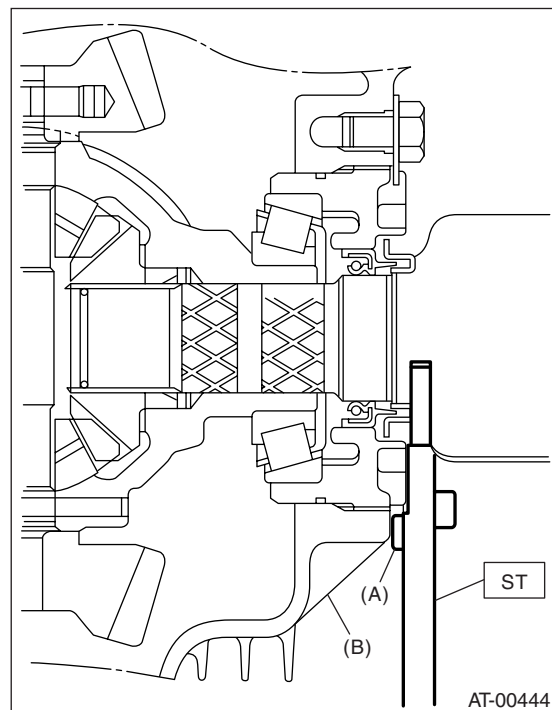
26) Remove the bolt securing ball joint of transverse link to housing.



27) Remove the spring pins and separate the front drive shafts from each side of transmission. (Non-TURBO model)



28) Pull the front drive shaft out of transmission.  
<Ref. to DS-29, REMOVAL, Front Drive Shaft.>  
ST 28399SA000 DRIVE SHAFT REMOVER



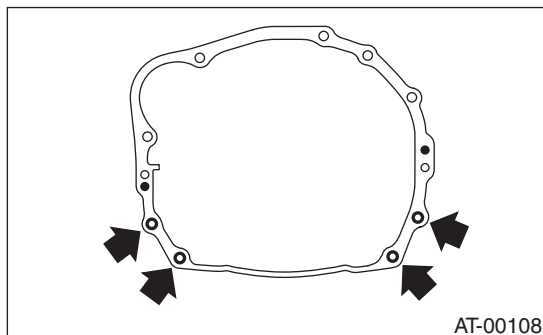
(A) ST projection

(B) Torque converter clutch housing

(1) While holding the joint portion of front drive shaft with your hand, push the housing outside to prevent AAR side of boot from stretching, and then remove the front drive shaft from transmission.

29) Remove the securing bolt of clutch housing cover.

30) Remove the nuts which hold the lower side of transmission to engine.

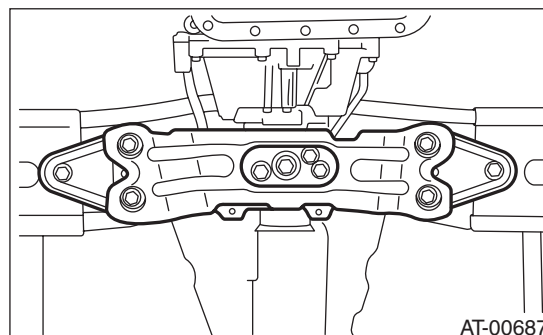


31) Place the transmission jack under transmission.

**NOTE:**

Put cloth between the support plates of transmission jack and the oil pan.

32) Remove the transmission rear crossmember from vehicle.

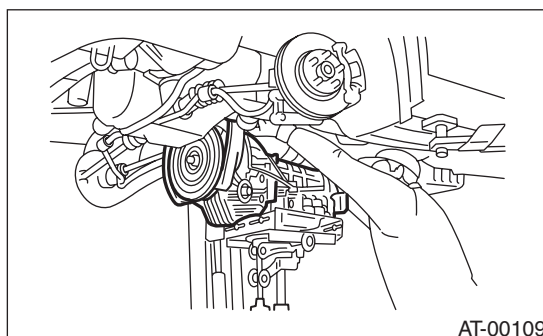


33) While lowering transmission gradually, tighten engine support fully and tilt the engine backward.

34) Remove the transmission.

**CAUTION:**

**Move the transmission and torque converter as a unit away from engine.**



# AUTOMATIC TRANSMISSION ASSEMBLY

## AUTOMATIC TRANSMISSION

35) Separate the transmission assembly and rear cushion rubber.

### B: INSTALLATION

1) Replace rear differential side oil seal with new one. (TURBO model)

<Ref. to 4AT-49, REPLACEMENT, Differential Side Retainer Oil Seal.>

#### NOTE:

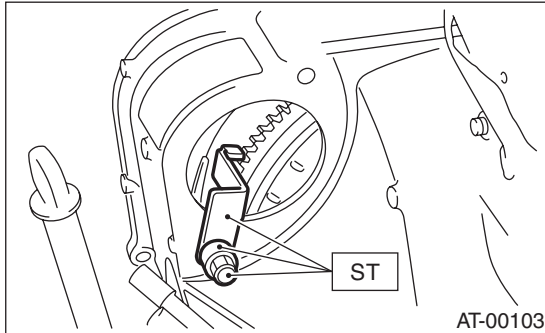
If new oil seal is installed, it is not necessary to replace it.

2) Install the rear cushion rubber to transmission assembly.

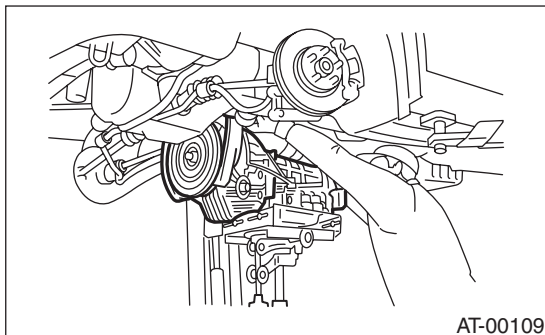
#### Tightening torque:

**39 N·m (4.0 kgf-m, 29 ft-lb)**

3) Install the ST to torque converter clutch case.  
ST 498277200 STOPPER SET



4) Install the transmission onto engine.  
(1) Gradually raise the transmission with transmission jack.



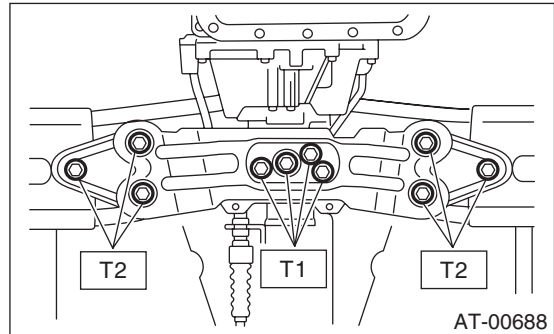
(2) Engage transmission.  
(3) While lifting transmission gradually, turn the screw of engine support and tilt the engine forward.

5) Install the transmission rear crossmember.

#### Tightening torque:

**T1: 35 N·m (3.6 kgf-m, 26 ft-lb)**

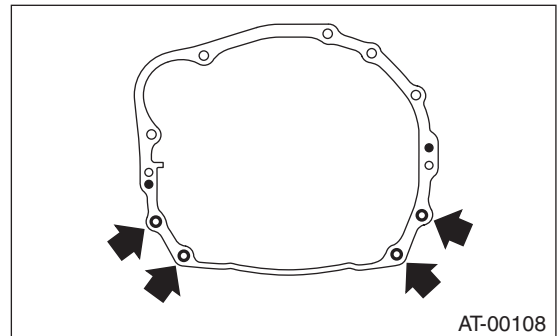
**T2: 75 N·m (7.7 kgf-m, 55 ft-lb)**



6) Take off the transmission jack.  
7) Tighten the nuts and bolts which hold the lower side of transmission to engine.

#### Tightening torque:

**50 N·m (5.1 kgf-m, 36.9 ft-lb)**



8) Install clutch housing cover.  
9) Lower the vehicle.  
10) Connect the engine and transmission.  
(1) Remove the ST from torque converter clutch case.

#### NOTE:

Be careful not to drop the ST into torque converter clutch case when removing ST.

ST 498277200 STOPPER SET

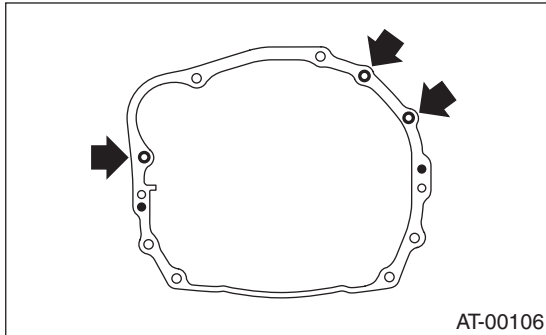
(2) Install the starter.  
<Ref. to SC(H4SO)-7, INSTALLATION, Starter.>  
(3) Tighten the bolts which hold the right upper side of transmission to engine.

# AUTOMATIC TRANSMISSION ASSEMBLY

AUTOMATIC TRANSMISSION

## Tightening torque:

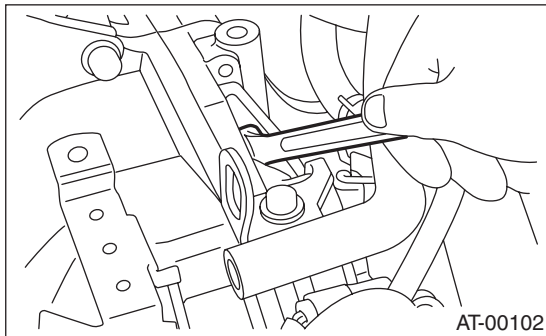
**50 N·m (5.1 kgf-m, 36.9 ft-lb)**



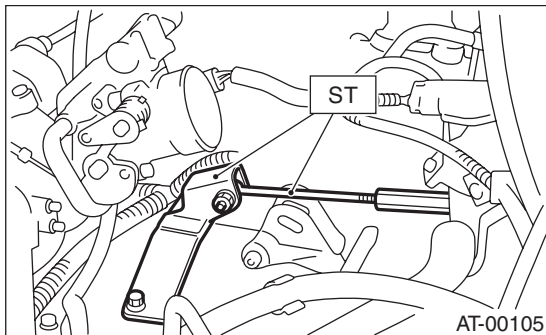
- 11) Install the torque converter clutch to drive plate.  
(1) Tighten the bolts which hold the torque converter clutch to drive plate.  
(2) Insert the wrench in the crankshaft pulley bolts, and tighten all the bolts by slowly rotating the crankshaft pulley.

## Tightening torque:

**25 N·m (2.5 kgf-m, 18.1 ft-lb)**



- (3) Clog the plug onto service hole.  
(4) Install the V-belt cover.
- 12) Remove the ST.

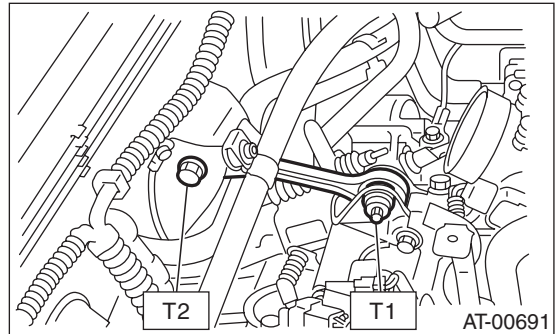


- 13) Install the pitching stopper.

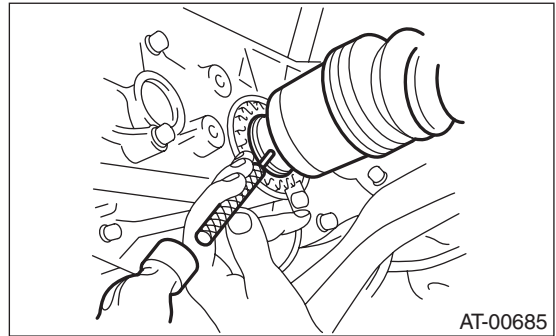
## Tightening torque:

**T1: 50 N·m (5.1 kgf-m, 37 ft-lb)**

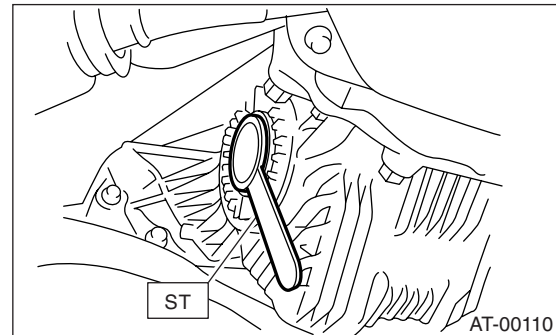
**T2: 58 N·m (5.9 kgf-m, 43 ft-lb)**



- 14) Lift-up the vehicle.  
15) Install the front drive shaft into transmission.  
(Non-TURBO model)  
(1) Lift-up the vehicle.  
(2) Install the front drive shaft into transmission.  
(3) Drive a new spring pin into chamfered hole of drive shaft.



- 16) Set ST to side retainer. (TURBO model)  
ST 28399SA010 OIL SEAL PROTECTOR



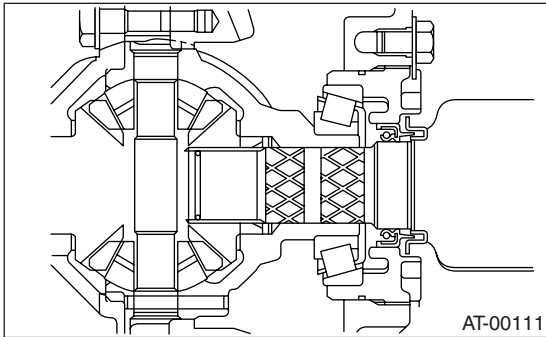
- 17) Align front drive shaft splines with differential bevel gear splines, insert drive shaft, and remove the ST. (TURBO model)  
ST 28399SA010 OIL SEAL PROTECTOR



# AUTOMATIC TRANSMISSION ASSEMBLY

## AUTOMATIC TRANSMISSION

18) Push the front housing to securely insert the front drive shaft into the transmission. (TURBO model)



19) Insert the ball joint into housing.

20) Connect the stabilizer link to transverse link, and tighten the bolts.

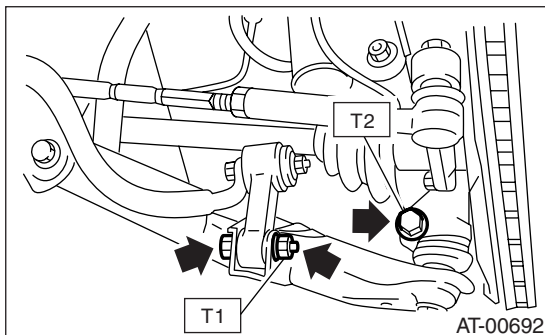
### NOTE:

Discard the loosened self-locking nut and replace with a new one.

### Tightening torque:

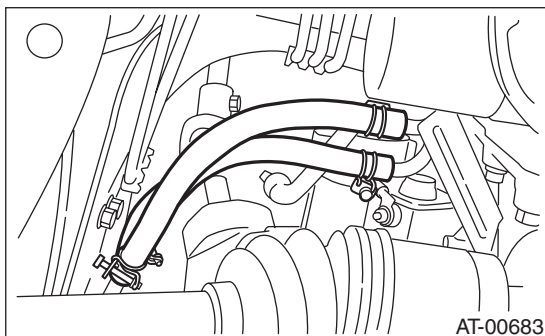
**T1: 30 N·m (3.1 kgf·m, 22.4 ft·lb)**

**T2: 50 N·m (5.1 kgf·m, 37 ft·lb)**



21) Install the shift select cable onto select lever. <Ref. to CS-31, INSTALLATION, Select Cable.>

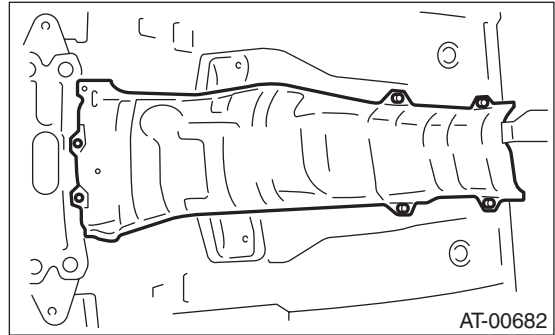
22) Install the ATF level gauge guide, and connect the ATF cooler hoses to pipe.



23) Install the propeller shaft.

<Ref. to DS-16, INSTALLATION, Propeller Shaft.>

24) Install the heat shield cover. (If equipped)



25) Install the rear exhaust pipe and muffler assembly.

NON-TURBO model

<Ref. to EX(H4SO)-9, INSTALLATION, Rear Exhaust Pipe.> and <Ref. to EX(H4SO)-10, INSTALLATION, Muffler.>

TURBO model

<Ref. to EX(H4DOTC)-14, INSTALLATION, Rear Exhaust Pipe.> and <Ref. to EX(H4DOTC)-15, INSTALLATION, Muffler.>

26) Install the front and center exhaust pipe. (Non-TURBO model)

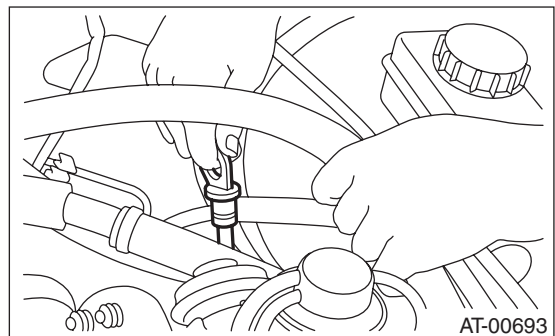
<Ref. to EX(H4SO)-6, INSTALLATION, Front Exhaust Pipe.>

27) Install the center exhaust pipe. (TURBO model) <Ref. to EX(H4DOTC)-10, INSTALLATION, Center Exhaust Pipe.>

28) Install the under cover.

29) Lower the vehicle.

30) Install the ATF level gauge.



31) Connect the following connectors.

- (1) Transmission harness connectors
- (2) Transmission ground terminal

32) Connect the cruise control cable.

33) Install the air cleaner case stay.

### Tightening torque:

**16 N·m (1.6 kgf·m, 11.6 ft·lb)**

34) Install the air cleaner case or air intake chamber. (Non-TURBO model)

<Ref. to IN(H4SO)-6, INSTALLATION, Air Cleaner Case.>

35) Install the air intake duct. (Non-TURBO model)  
<Ref. to IN(H4SO)-7, INSTALLATION, Air Intake Duct.>

36) Install the intercooler. (TURBO model)  
<Ref. to IN(H4DOTC)-11, INSTALLATION, Inter-cooler.>

37) Connect the battery ground cable.

38) Fill ATF by using the gauge hole. <Ref. to 4AT-31, Automatic Transmission Fluid.>

39) Take off the vehicle from lift arms.

40) Check select lever operation.

<Ref. to 4AT-50, INSPECTION.>

41) Check the ATF level. <Ref. to 4AT-31, Automatic Transmission Fluid.>

42) Perform the advance operation of learning control. (TURBO model)

(1) Set select lever to “P” range and apply parking brake, then lift up the vehicle.

(2) Connect Subaru Select Monitor to vehicle and turn on the switch.

(3) Select “Clear Memory — 2” on the SUBARU Select Monitor. <Ref. to 4AT(D)-16, CLEAR MEMORY MODE, OPERATION, Subaru Select Monitor.>

(4) Using Subaru Select Monitor, check that the DTC is not output. <Ref. to 4AT(D)-14, READ DIAGNOSTIC TROUBLE CODE, OPERATION, Subaru Select Monitor.>

(5) Using Subaru Select Monitor, warm up the engine until the ATF temperature becomes within 60 to 90°C (140 to 194°F). <Ref. to 4AT(D)-15, READ CURRENT DATA, OPERATION, Subaru Select Monitor.>

(6) Shift the select lever to the “R” range.

(7) Set the switches for headlights, air conditioner, rear defogger, etc. to OFF.

(8) Turn the ignition switch OFF and then wait for more than 30 seconds.

(9) If the message “communication impossible” is displayed on SUBARU Select Monitor, depress the brake pedal deeply with left foot until the learning promotion task is completed, and then turn the ignition switch to ON.

(10) Check that Subaru Select Monitor is operating properly now.

(11) Set the select lever to “P” range, and then wait for more than three seconds.

(12) Set the select lever to “R” range, and then wait for more than three seconds.

(13) Set the select lever to “N” range, and then wait for more than three seconds.

(14) Set the select lever to “D” range, and then wait for more than three seconds.

(15) Set the select lever to “N” range, and then wait for more than three seconds.

(16) Slowly depress the accelerator pedal to the fully open position.

(17) Slowly release the accelerator pedal to the fully closed position.

(18) Start and idle the engine.

(19) Set the select lever to “D” range.

(20) Learning promotion task starts. ATF temperature warning light in the combination meter blinks at 2 Hz. If ATF temperature does not blink, turn the ignition switch OFF and repeat the procedure from step (4).

Learning promotion task is completed when blinking of ATF temperature warning light in the combination meter changes from 2 to 0.5 Hz.

### NOTE:

Repeat the procedure from step (4) if blinking of ATF temperature warning light changes from 2 to 4 Hz.

(21) Set the select lever to “N” range, and turn the ignition switch to OFF.