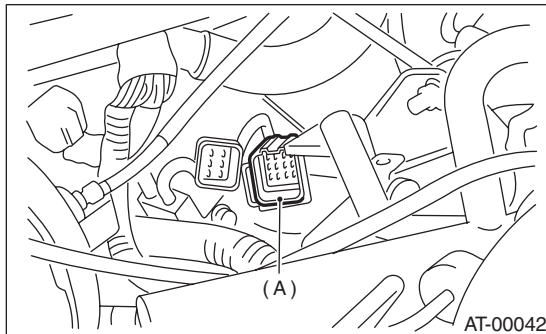


14. Front Vehicle Speed Sensor

A: REMOVAL

- 1) Set the vehicle on a lift.
- 2) Disconnect the ground cable from the battery.
- 3) Remove the air intake chamber. (Non-turbo model)
<Ref. to IN(H4SO)-6, REMOVAL, Air Intake Chamber.>
- 4) Remove the intercooler. (Turbo model)
<Ref. to IN(H4DOTC)-11, REMOVAL, Intercooler.>
- 5) Disconnect the transmission harness connector.



(A) Transmission harness ASSY connector

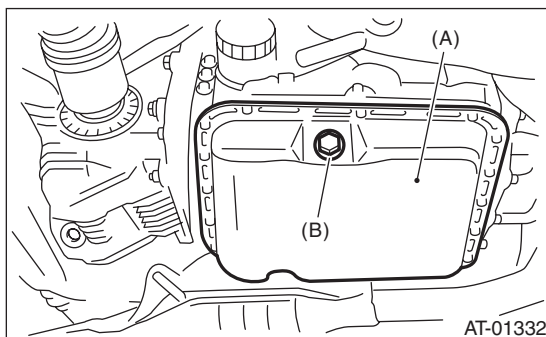
- 6) Remove the pitching stopper. <Ref. to 4AT-43, REMOVAL, Transmission Mounting System.>
- 7) Remove the transmission harness connector from stay.
- 8) Lift up the vehicle.
- 9) Clean the transmission exterior.
- 10) Drain the ATF completely.

NOTE:

Tighten the drain plug (ATF) after draining the ATF.

Tightening torque:

25 N·m (2.5 kgf-m, 18.4 ft-lb)



(A) Oil pan
(B) Drain plug (ATF)

- 11) Remove the front, center and rear exhaust pipes and the muffler. (Non-turbo model)
<Ref. to EX(H4SO)-4, REMOVAL, Front Exhaust Pipe.> <Ref. to EX(H4SO)-8, REMOVAL, Rear Exhaust Pipe.> <Ref. to EX(H4SO)-10, REMOVAL, Muffler.>

- 12) Remove the center and rear exhaust pipes and the muffler. (Turbo model)

<Ref. to EX(H4DOTC)-8, REMOVAL, Center Exhaust Pipe.> <Ref. to EX(H4DOTC)-13, REMOVAL, Rear Exhaust Pipe.> <Ref. to EX(H4DOTC)-14, REMOVAL, Muffler.>

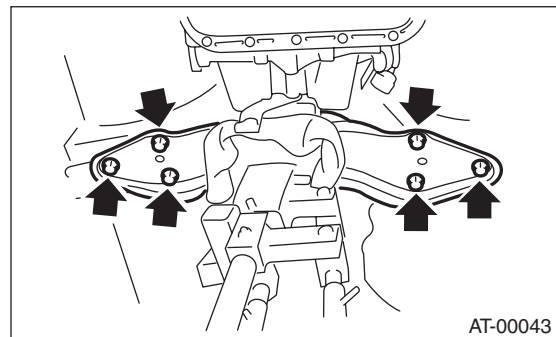
- 13) Remove the propeller shaft. <Ref. to DS-13, REMOVAL, Propeller Shaft.>

- 14) Place the transmission jack under the transmission.

NOTE:

Make sure that the support plate of transmission jack does not touch the oil pan.

- 15) Remove the transmission rear crossmember bolt.



- 16) Lower the transmission jack.

NOTE:

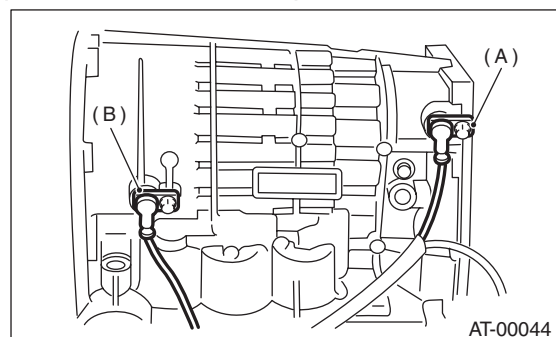
Do not separate the transmission jack and transmission.

- 17) Remove the ATF inlet and outlet pipes.

NOTE:

When removing the outlet pipe, do not lose the ball and spring used with the retaining screw.

- 18) Remove the front vehicle speed sensor and torque converter turbine speed sensor.

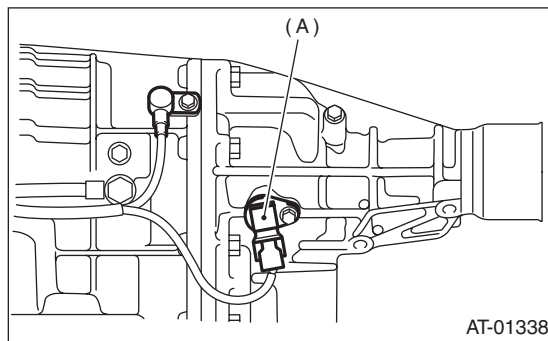


(A) Front vehicle speed sensor
(B) Torque converter turbine speed sensor

Front Vehicle Speed Sensor

AUTOMATIC TRANSMISSION

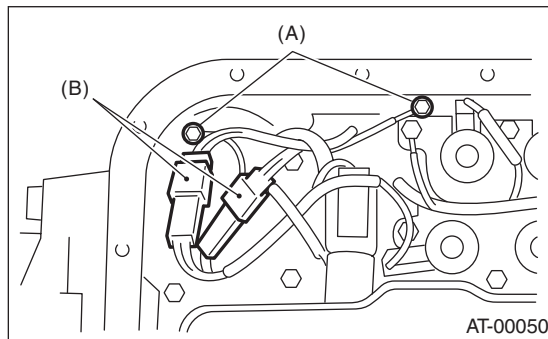
- 19) Disconnect the connector from the rear vehicle speed sensor.



(A) Rear vehicle speed sensor

- 20) Remove the oil pan.

- 21) Disconnect the control valve connector and the grounding cable.

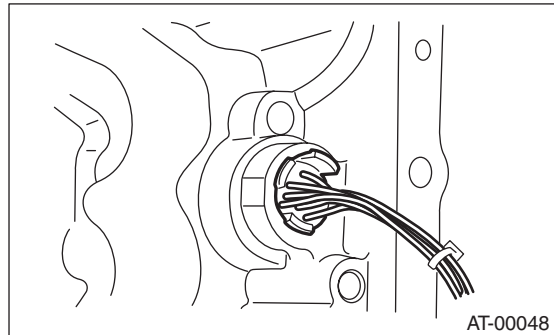


(A) Transmission ground cable
(B) Control valve connector

- 22) Remove the transmission harness assembly.

B: INSTALLATION

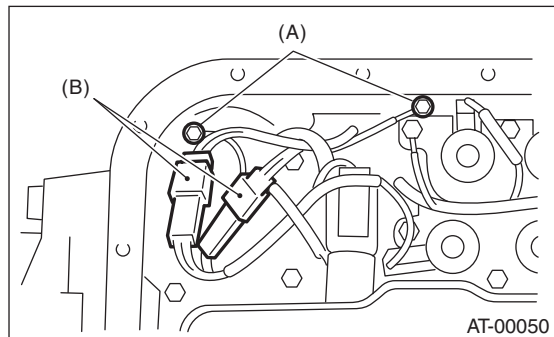
- 1) Pass the transmission harness assembly through the hole in transmission case.



- 2) Connect the control valve connector and the grounding cable.

Tightening torque:

8 N·m (0.8 kgf-m, 5.8 ft-lb)

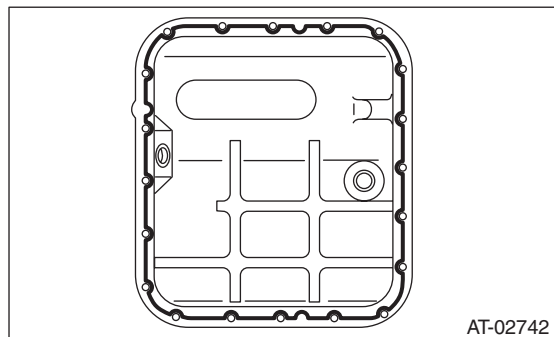


(A) Transmission ground cable
(B) Control valve connector

- 3) Apply proper amount of liquid gasket to the entire oil pan mating surface.

Liquid gasket:

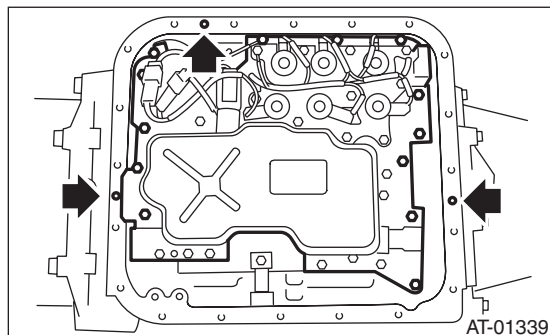
**THREE BOND 1217B (Part No. K0877YA020)
or equivalent**



4) Fill the 3 holes aside from the bolt holes in the transmission case, with liquid gasket.

Liquid gasket:

**THREE BOND 1217B (Part No. K0877YA020)
or equivalent**



5) Install the oil pan by equally tightening the bolts.

Tightening torque:

5 N·m (0.5 kgf-m, 3.7 ft-lb)

6) Install the front vehicle speed sensor and torque converter turbine speed sensor.

Tightening torque:

7 N·m (0.7 kgf-m, 5.1 ft-lb)

7) Connect the connector to the rear vehicle speed sensor.

8) Install the ATF inlet and outlet pipes.

NOTE:

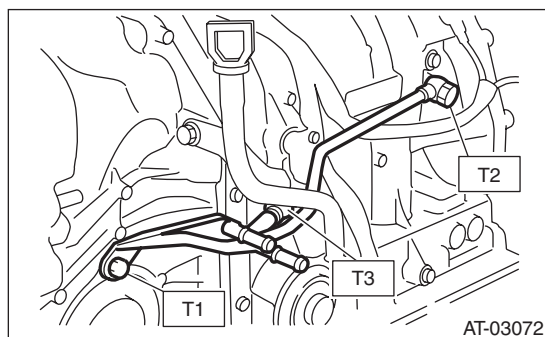
Use a new copper washer.

Tightening torque:

T1: 25 N·m (2.5 kgf-m, 18.4 ft-lb)

T2: 40 N·m (4.1 kgf-m, 29.5 ft-lb)

T3: 45 N·m (4.6 kgf-m, 33.2 ft-lb)



9) Install the transmission rear crossmember bolt.

Tightening torque:

70 N·m (7.1 kgf-m, 51.6 ft-lb)

10) Install the propeller shaft. <Ref. to DS-14, INSTALLATION, Propeller Shaft.>

11) Install the front, center and rear exhaust pipes, and the muffler. (Non-turbo model)

<Ref. to EX(H4SO)-5, INSTALLATION, Front Exhaust Pipe.> <Ref. to EX(H4SO)-8, INSTALLATION, Rear Exhaust Pipe.> <Ref. to EX(H4SO)-10, INSTALLATION, Muffler.>

12) Install the center, rear exhaust pipes and the muffler. (Turbo model)

<Ref. to EX(H4DOTC)-9, INSTALLATION, Center Exhaust Pipe.> <Ref. to EX(H4DOTC)-13, INSTALLATION, Rear Exhaust Pipe.> <Ref. to EX(H4DOTC)-14, INSTALLATION, Muffler.>

13) Lower the vehicle.

14) Attach the transmission harness connector to the stay.

15) Install the pitching stopper. <Ref. to 4AT-44, INSTALLATION, Transmission Mounting System.>

16) Install the air intake chamber. (Non-turbo model)

<Ref. to IN(H4SO)-6, INSTALLATION, Air Intake Chamber.>

17) Install the intercooler. (Turbo model)

<Ref. to IN(H4DOTC)-11, INSTALLATION, Intercooler.>

18) Pour in ATF.

<Ref. to 4AT-28, Automatic Transmission Fluid.>

19) Bleed the air of control valve.

<Ref. to 4AT-61, Air Bleeding of Control Valve.>

20) Check the level and leaks of the ATF.

<Ref. to 4AT-28, Automatic Transmission Fluid.>

21) Execute the learning control promotion.

<Ref. to 4AT(diag)-17, FACILITATION OF LEARNING CONTROL, OPERATION, Subaru Select Monitor.>