

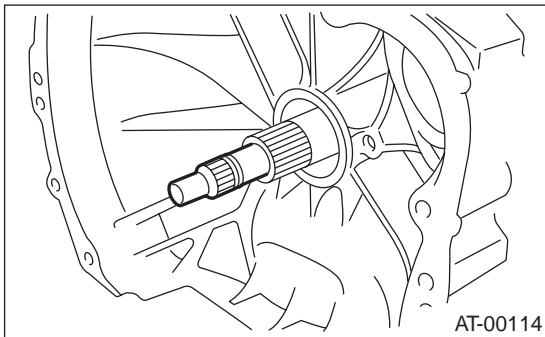
ONE-WAY CLUTCH

AUTOMATIC TRANSMISSION

41. One-way Clutch

A: REMOVAL

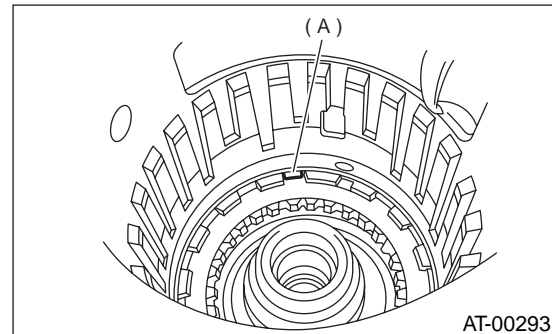
- 1) Remove the transmission assembly from the vehicle. <Ref. to AT-39, REMOVAL, Automatic Transmission Assembly.>
- 2) Extract the torque converter clutch assembly. <Ref. to AT-84, REMOVAL, Torque Converter Clutch Assembly.>
- 3) Remove the input shaft.



- 4) Disconnect the air breather hose. <Ref. to AT-82, REMOVAL, Air Breather Hose.>
- 5) Lift-up lever behind the transmission harness connector and disconnect it from stay.
- 6) Disconnect inhibitor switch connector from stay.
- 7) Remove the oil charger pipe. <Ref. to AT-83, REMOVAL, Oil Charger Pipe.>
- 8) Remove the oil cooler inlet and outlet pipes. <Ref. to AT-77, REMOVAL, ATF Cooler Pipe and Hose.>
- 9) Separation of torque converter clutch case and transmission case. <Ref. to AT-108, REMOVAL, Torque Converter Clutch Case.>
- 10) Separate transmission case and extension case sections. <Ref. to AT-85, REMOVAL, Extension Case.>
- 11) Remove the reduction driven gear. <Ref. to AT-100, REMOVAL, Reduction Driven Gear.>
- 12) Remove the reduction drive gear. (MPT model) <Ref. to AT-100, REMOVAL, Reduction Driven Gear.>
- 13) Remove the center differential carrier. (VTD model) <Ref. to AT-105, REMOVAL, Center Differential Carrier.>
- 14) Remove control valve assembly. <Ref. to AT-60, REMOVAL, Control Valve Body.>
- 15) Remove the oil pump housing. <Ref. to AT-111, REMOVAL, Oil Pump.>
- 16) Take out the high clutch and reverse clutch assembly. <Ref. to AT-129, REMOVAL, High Clutch and Reverse Clutch.>
- 17) Take out the thrust needle bearing, planetary gear assembly. <Ref. to AT-135, REMOVAL, Planetary Gear and Low Clutch.>

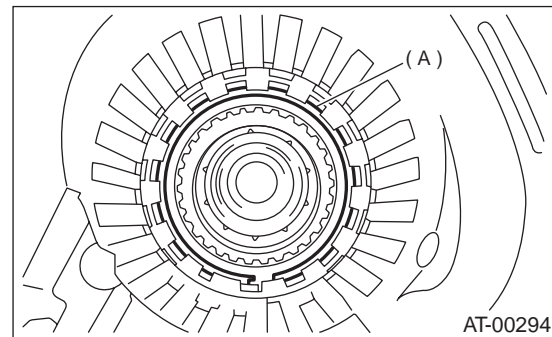
- 18) Take out 2-4 brake return spring, piston and piston retainer. <Ref. to AT-144, REMOVAL, 2-4 Brake.>

- 19) Pull out the leaf spring without folding.



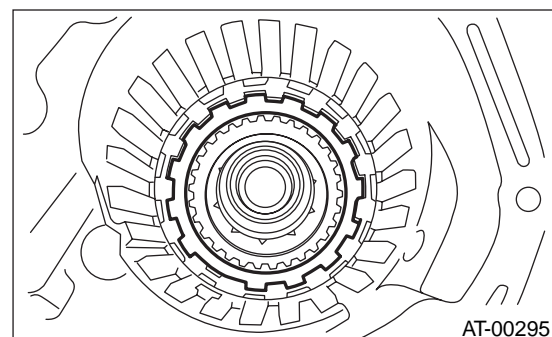
(A) Leaf spring

- 20) Remove snap ring.



(A) Snap ring

- 21) Take out retaining plate, drive plate, driven plate and dish plate.

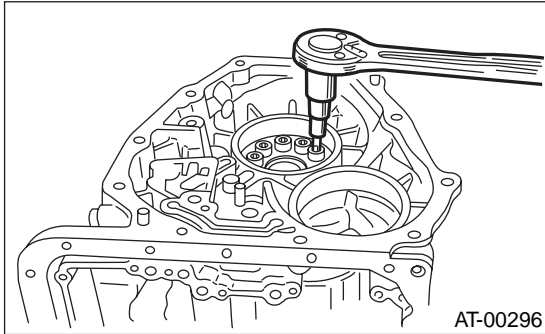


AT-149

ONE-WAY CLUTCH

AUTOMATIC TRANSMISSION

22) Turn the transmission case upside down, and then take out the socket bolts while holding the one-way clutch inner race with hand.

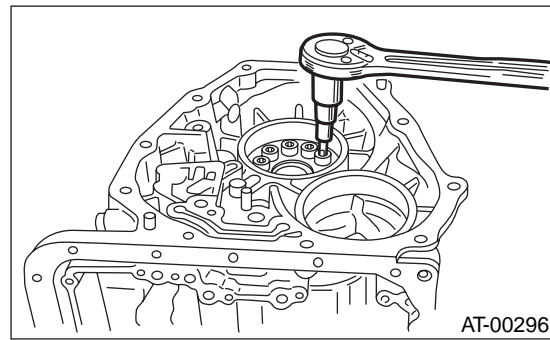


B: INSTALLATION

- 1) Install the one-way clutch inner race, spring retainer and return spring.
- 2) Tighten socket head bolts evenly from the rear side of the transmission case.

Tightening torque:

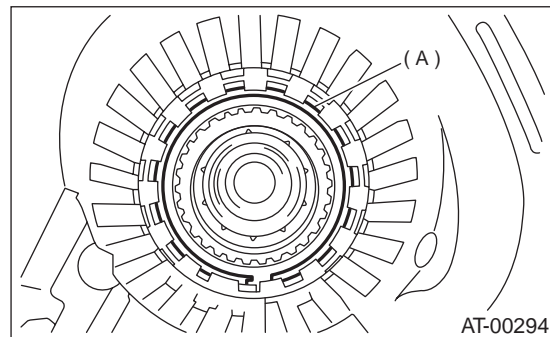
25 N·m (2.5 kgf·m, 18.1 ft·lb)



- 3) Place transmission case with the front facing up.
- 4) Install thrust needle bearing.
- 5) Installation of the low & reverse brake: Install dish plate, driven plates, drive plates, and a retaining plate, and secure with a snap ring.

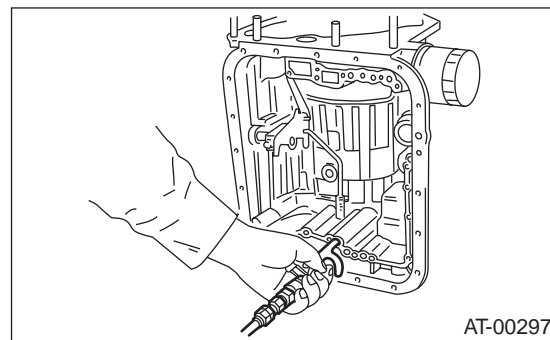
NOTE:

Pay attention to the orientation of the dish plate.



(A) Snap ring

- 6) Apply compressed air intermittently to check for operation.



- 7) Check the clearance and select retaining plate.
<Ref. to AT-156, INSPECTION, Low and Reverse Brake.>

AT-150

ONE-WAY CLUTCH

AUTOMATIC TRANSMISSION

8) Install 2-4 brake. <Ref. to AT-145, INSTALLATION, 2-4 Brake.>

9) Install planetary gear and low clutch assembly to transmission case.

Install carefully while rotating the low clutch and planetary gear assembly slowly paying special attention not to damage the seal ring. <Ref. to AT-136, INSTALLATION, Planetary Gear and Low Clutch.>

10) Install the high clutch assembly. <Ref. to AT-130, INSTALLATION, High Clutch and Reverse Clutch.>

11) Install the oil pump housing assembly. <Ref. to AT-112, INSTALLATION, Oil Pump.>

12) Install control valve assembly and oil pan. <Ref. to AT-61, INSTALLATION, Control Valve Body.>

13) Install the torque converter clutch case assembly. <Ref. to AT-109, INSTALLATION, Torque Converter Clutch Case.>

14) Install reduction driven gear. <Ref. to AT-101, INSTALLATION, Reduction Driven Gear.>

15) Install reduction drive gear. (MPT model)

16) Install the center differential carrier. (VTD model) <Ref. to AT-105, INSTALLATION, Center Differential Carrier.>

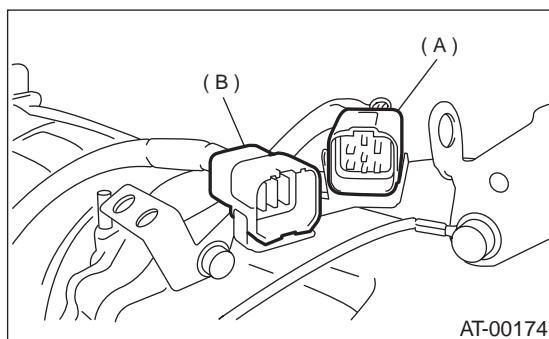
17) Install the extension case to the transmission case. <Ref. to AT-85, INSTALLATION, Extension Case.>

18) Install the rear vehicle speed sensor.

Tightening torque:

7 N·m (0.7 kgf·m, 5.1 ft·lb)

19) Insert inhibitor switch and transmission connector into stay.



- (A) Transmission harness
(B) Inhibitor switch harness

20) Install air breather hose. <Ref. to AT-82, INSTALLATION, Air Breather Hose.>

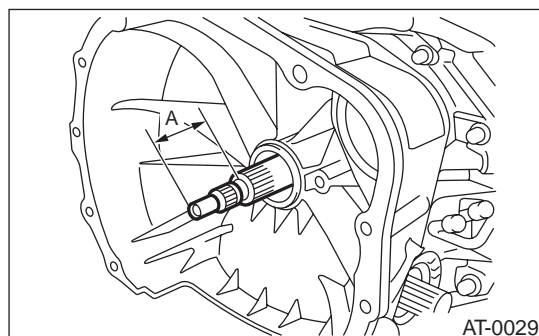
21) Install the oil cooler pipes. <Ref. to AT-79, INSTALLATION, ATF Cooler Pipe and Hose.>

22) Install the oil charger pipe with O-ring. <Ref. to AT-83, INSTALLATION, Oil Charger Pipe.>

23) Insert the input shaft while turning lightly by hand. At this time, not to damage the bushing.

Normal protrusion A:

50 — 55 mm (1.97 — 2.17 in)



24) Install the torque converter clutch assembly. <Ref. to AT-84, INSTALLATION, Torque Converter Clutch Assembly.>

25) Install the transmission assembly to the vehicle. <Ref. to AT-42, INSTALLATION, Automatic Transmission Assembly.>

AT-151

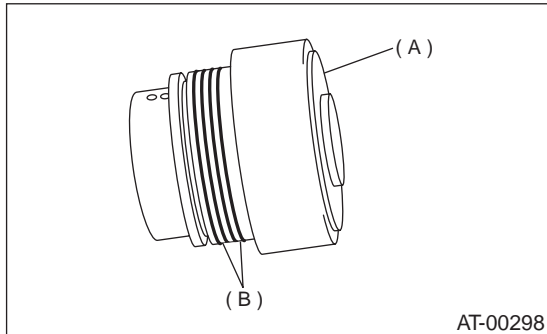
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C: DISASSEMBLY

1. ONE-WAY CLUTCH INNER RACE

1) Remove seal rings.

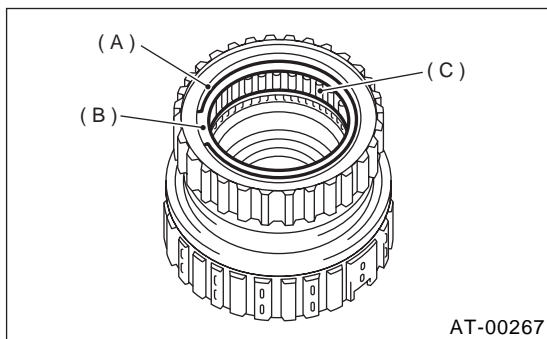


- (A) One way clutch inner race
- (B) Seal rings

2) Using ST, remove needle bearing.
ST 398527700 PULLER ASSY

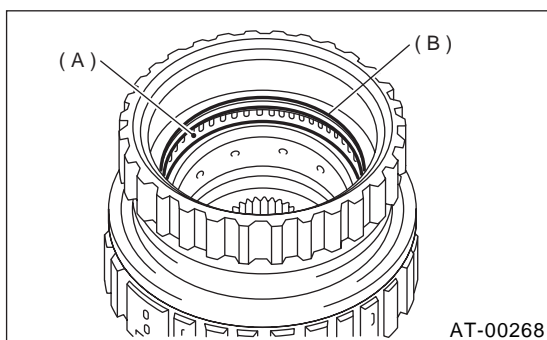
2. ONE-WAY CLUTCH OUTER RACE

1) Remove the one-way clutch after taking out the snap ring.



- (A) Snap ring
- (B) Plate
- (C) One-way clutch

2) Remove the needle bearing after taking out the snap ring.



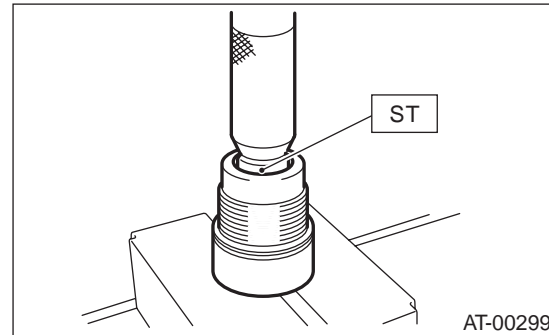
- (A) Needle bearing
- (B) Snap ring

D: ASSEMBLY

1. ONE-WAY CLUTCH INNER RACE

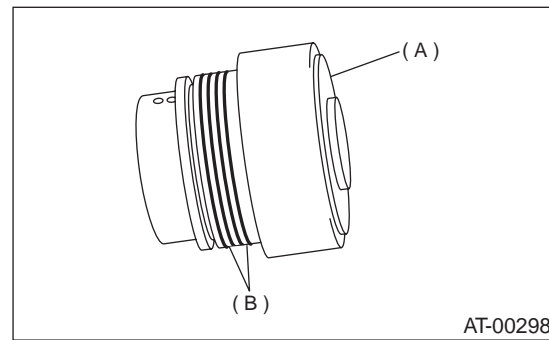
1) Using a press and ST, install the needle bearing to the inner race.

ST 398497701 ADAPTER



2) Apply vaseline to the groove of the inner race and to the seal ring.

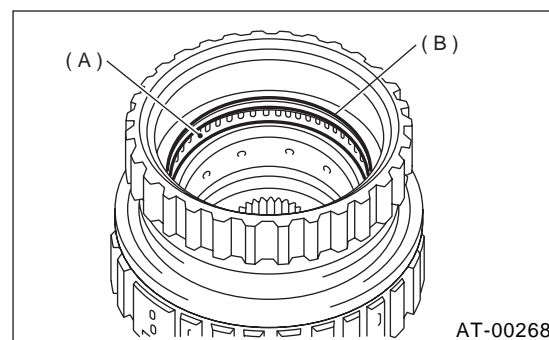
3) Install two seal rings to one-way clutch inner race.



- (A) One way clutch inner race
- (B) Seal rings

2. ONE-WAY CLUTCH OUTER RACE

1) Install the needle bearing, and secure with the snap ring.



- (A) Needle bearing
- (B) Snap ring

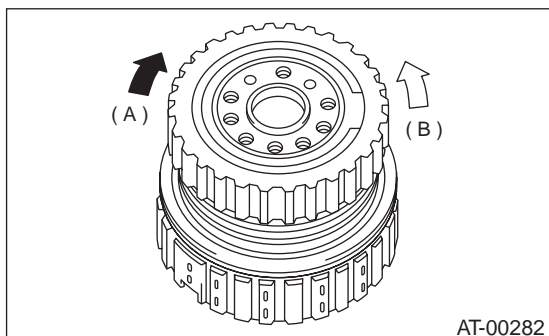
2) Install the one-way clutch, one-way clutch inner race and plate, and secure with the snap ring.

AT-152

ONE-WAY CLUTCH

AUTOMATIC TRANSMISSION

3) Set the inner race. Make sure that the forward clutch is free in the clockwise direction and locked in the counterclockwise direction, as viewed from the front of the vehicle.



- (A) Locked
- (B) Free

E: INSPECTION

- Make sure the snap ring is not worn and the seal rings are not damaged.
- Measure the total end play and adjust to within specifications. <Ref. to AT-116, ADJUSTMENT, Oil Pump.>

AT-153