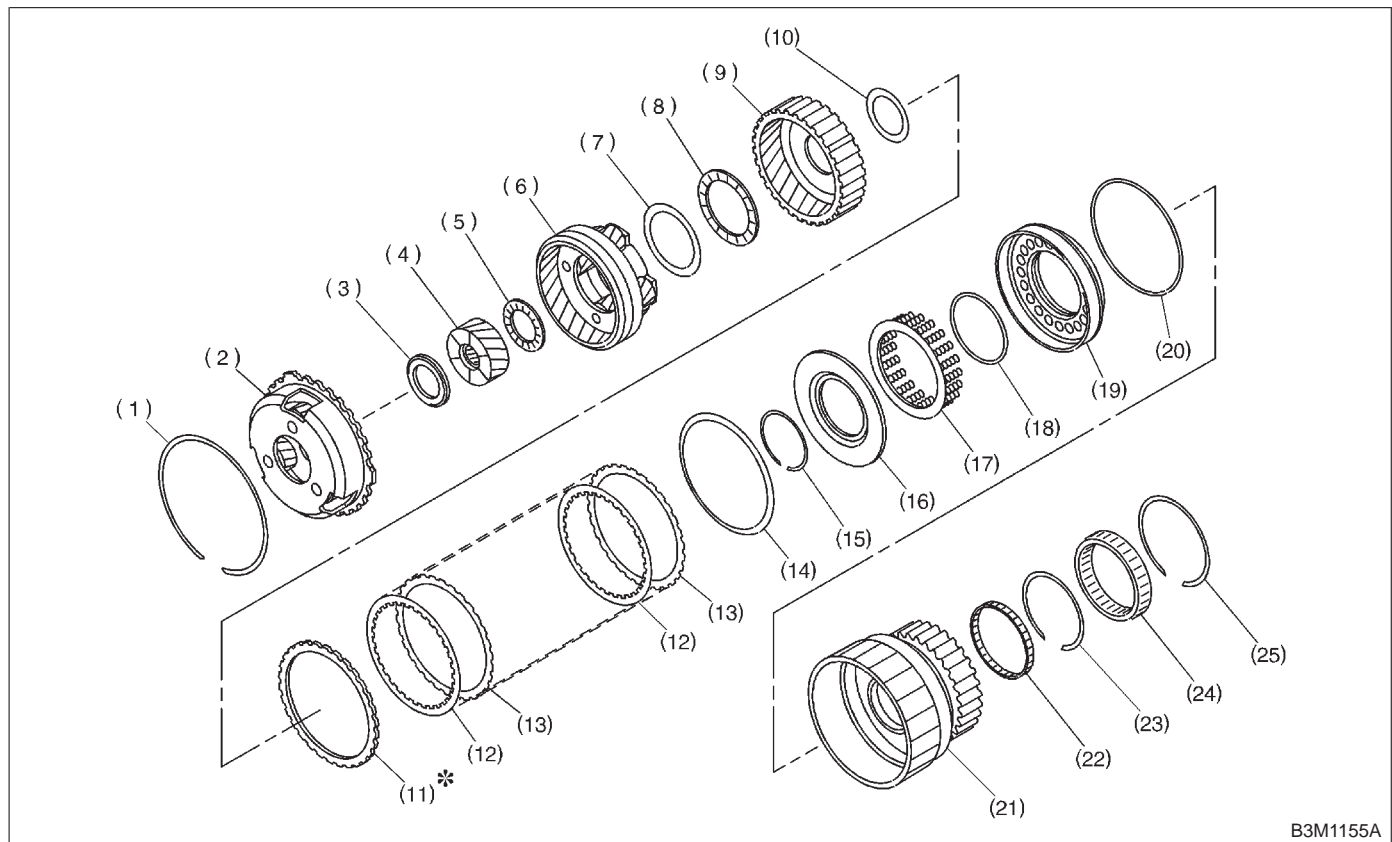


19. Low Clutch Drum and Planetary Gear

A: DISASSEMBLY

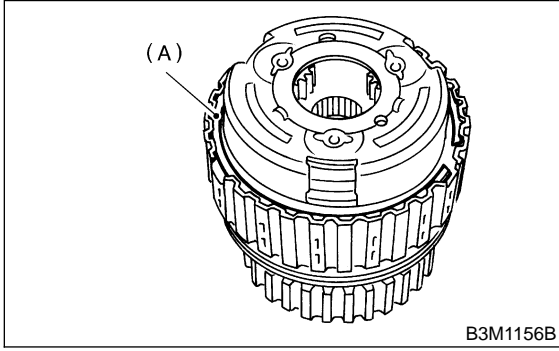


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- | | | |
|-----------------------------|--------------------------|--------------------------|
| (1) Snap ring | (10) Washer | (19) Low clutch piston |
| (2) Front planetary carrier | (11) Retaining plate | (20) Lathe cut seal ring |
| (3) Thrust needle bearing | (12) Drive plate | (21) Low clutch drum |
| (4) Rear sun gear | (13) Driven plate | (22) Needle bearing |
| (5) Thrust needle bearing | (14) Dish plate | (23) Inner snap ring |
| (6) Rear planetary carrier | (15) Snap ring | (24) One-way clutch |
| (7) Washer | (16) Cover | (25) Outer snap ring |
| (8) Thrust needle bearing | (17) Spring retainer | |
| (9) Rear internal gear | (18) Lathe cut seal ring | |

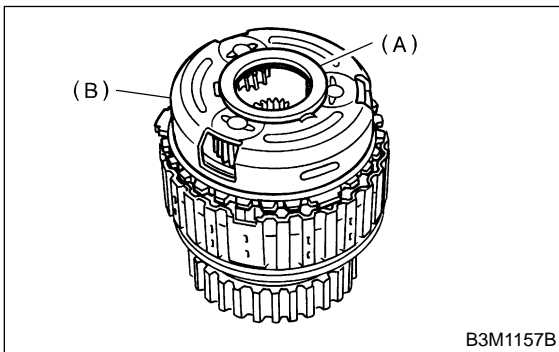
19. Low Clutch Drum and Planetary Gear

1) Remove snap ring from the low clutch drum.



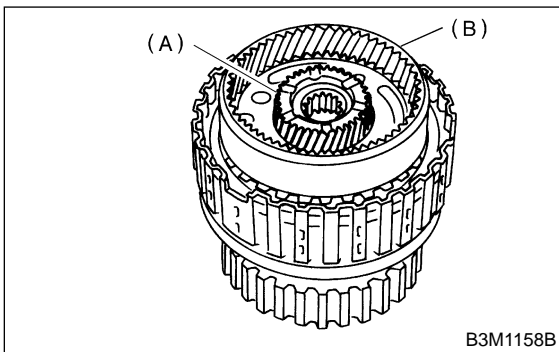
(A) Snap ring

2) Take out front planetary carrier and thrust needle bearing from low clutch drum.



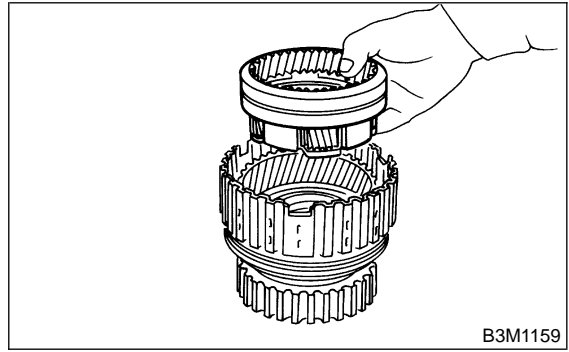
(A) Needle bearing
(B) Front planetary carrier

3) Take out rear sun gear.



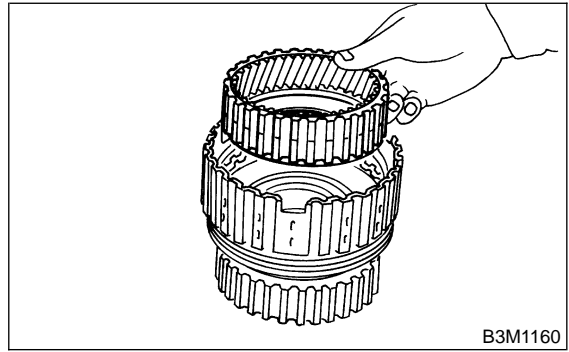
(A) Rear sun gear
(B) Rear planetary carrier

4) Take out rear planetary carrier, washer and thrust needle bearing.



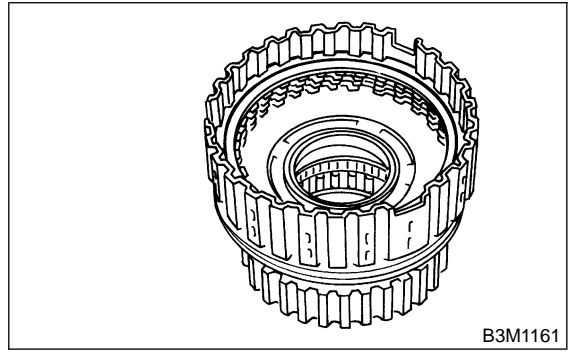
B3M1159

5) Take out rear internal gear.



B3M1160

6) Remove the snap ring from the low clutch drum.

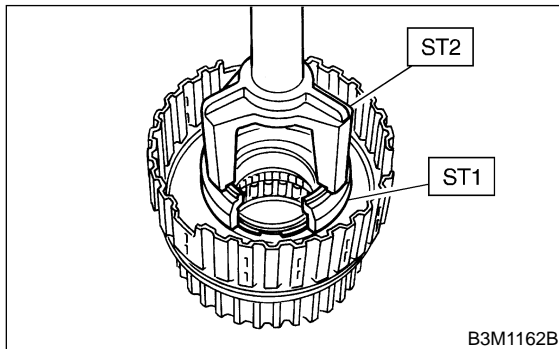


B3M1161

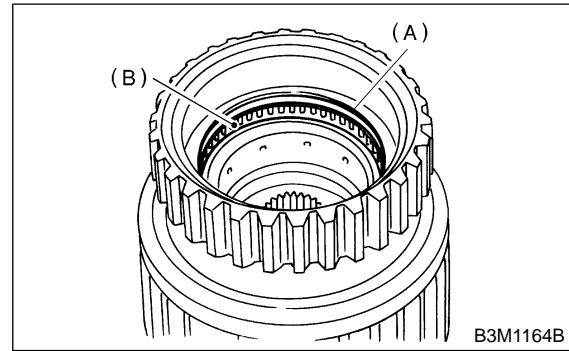
7) Remove the retaining plate, drive plates, driven plates and dish plate.

8) Compress the spring retainer, and remove the snap ring from the low clutch drum, by using ST1 and ST2.

ST1 498627100 SEAT
ST2 398673600 COMPRESSOR

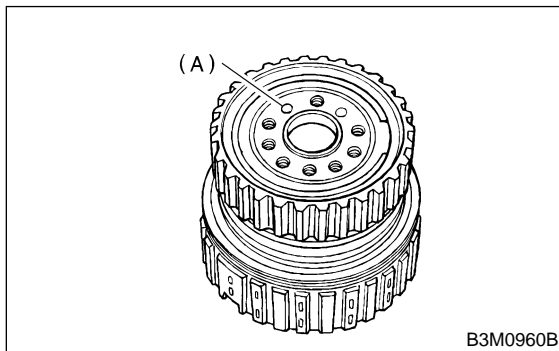


12) Remove the needle bearing after taking out the snap ring.



(A) Snap ring
(B) Needle bearing

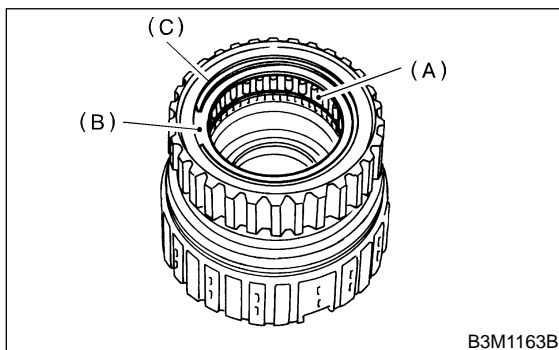
9) Install the one-way clutch inner race to the low clutch drum, and apply compressed air to remove the low clutch piston.



(A) Blow air into the oil passage.

10) Remove the one-way clutch inner race.

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

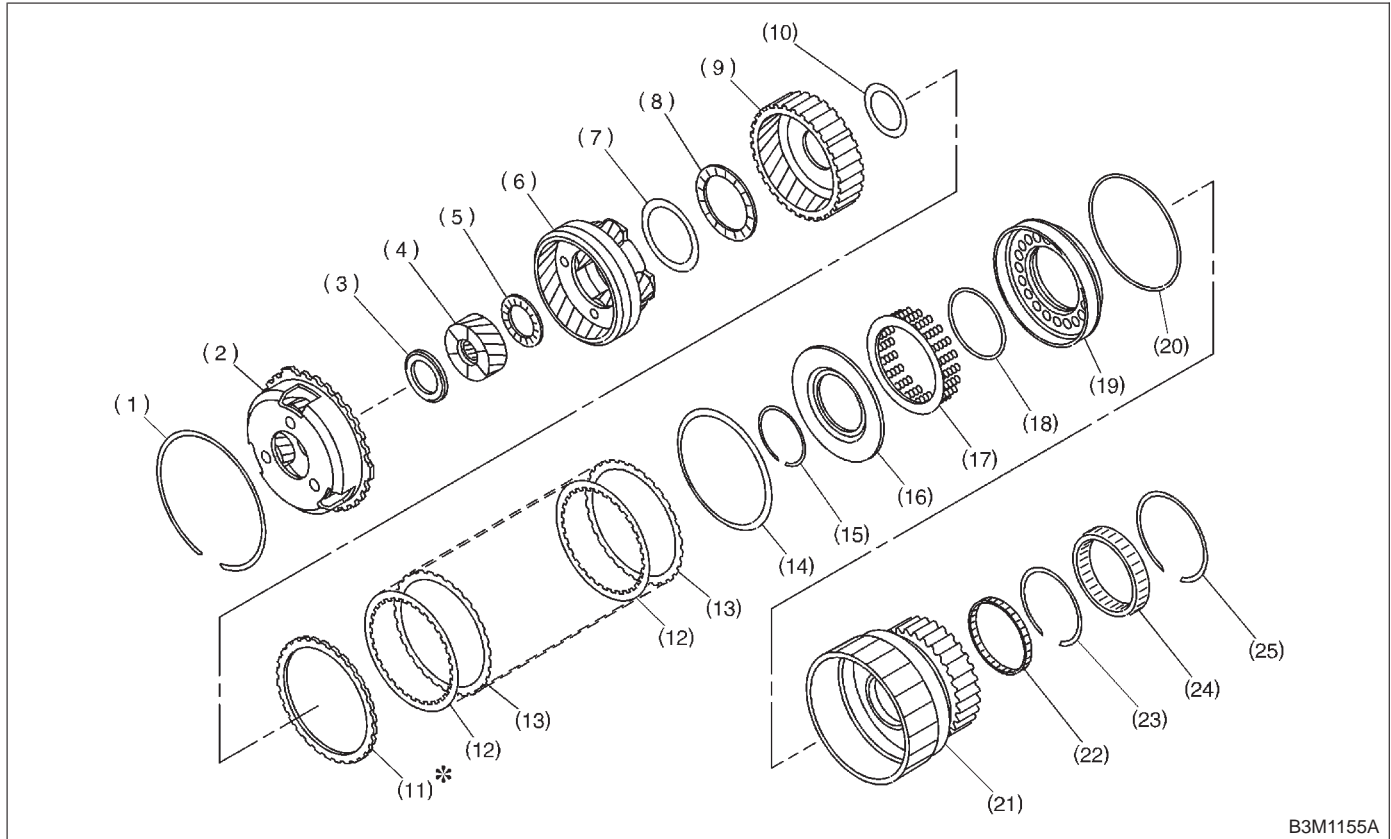


(A) One-way clutch
(B) Plate
(C) Snap ring

B: INSPECTION

- 1) Drive plate facing for wear and damage
- 2) Snap ring for wear, return spring for setting and breakage, and snap ring retainer for deformation
- 3) Lip seal and lathe cut ring for damage
- 4) Piston and drum check ball for operation

C: ASSEMBLY

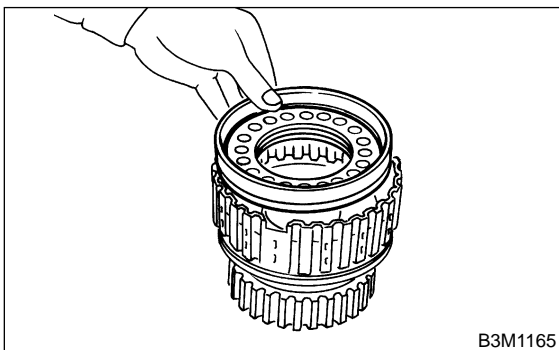


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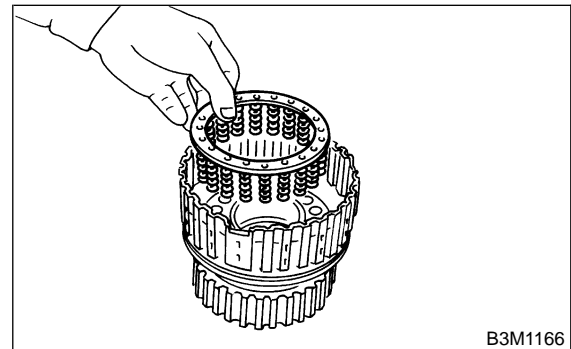
- | | | |
|-----------------------------|--------------------------|--------------------------|
| (1) Snap ring | (10) Washer | (19) Low clutch piston |
| (2) Front planetary carrier | (11) Retaining plate | (20) Lathe cut seal ring |
| (3) Thrust needle bearing | (12) Drive plate | (21) Low clutch drum |
| (4) Rear sun gear | (13) Driven plate | (22) Needle bearing |
| (5) Thrust needle bearing | (14) Dish plate | (23) Inner snap ring |
| (6) Rear planetary carrier | (15) Snap ring | (24) One-way clutch |
| (7) Washer | (16) Cover | (25) Outer snap ring |
| (8) Thrust needle bearing | (17) Spring retainer | |
| (9) Rear internal gear | (18) Lathe cut seal ring | |

- 1) Install lathe cut seal ring to low clutch piston.
- 2) Fit the low clutch piston to the low clutch drum.

- 3) Install spring retainer to low clutch piston.

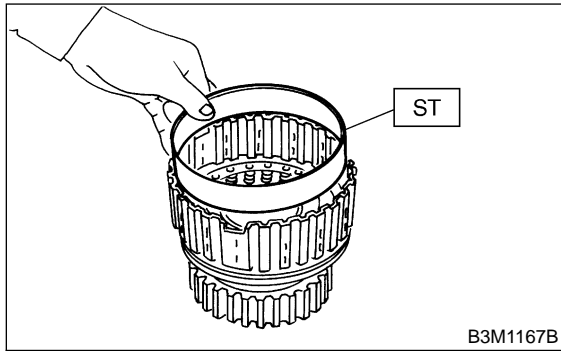


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- 4) Install ST to low clutch drum.
 ST 498437100 LOW CLUTCH PISTON GUIDE

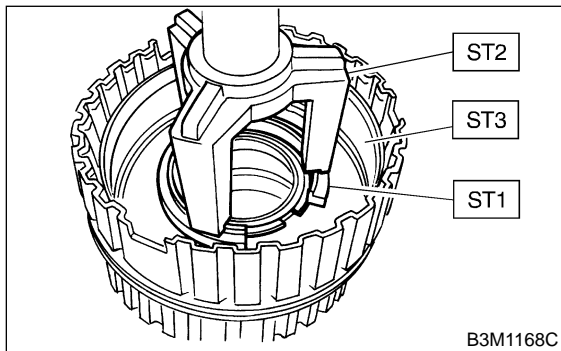


- 5) Set the cover on the piston with a press using ST1 and ST2, and attach the snap ring.

CAUTION:
 Be careful not to fold cover seal during installation.

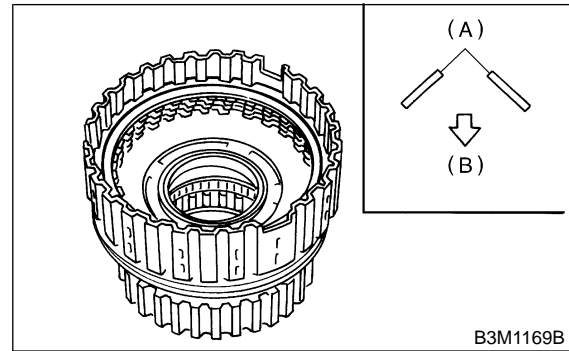
NOTE:
 After installing snap ring, remove ST1, ST2 and ST3.

- ST1 498627100 SEAT
 ST2 398673600 COMPRESSOR
 ST3 498437100 LOW CLUTCH PISTON GUIDE



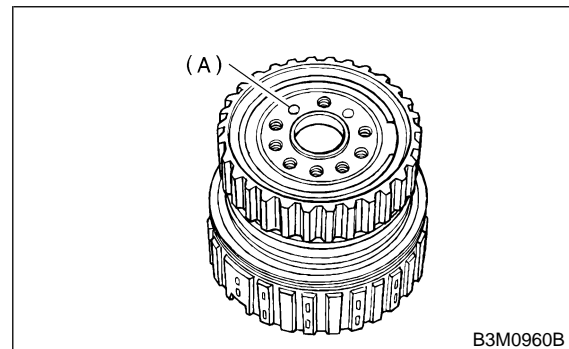
- 6) Install the dish plate, driven plates, drive plates, and retaining plate, and secure with the snap ring.

NOTE:
 Pay attention to the orientation of the dish plate.



- (A) Dish plate
 (B) Low clutch piston side

- 7) Check the low clutch for operation.
 Set the one-way clutch inner race, and apply compressed air for checking.



- (A) Blow air into the oil passage.

8) Checking low clutch clearance
Measure the gap between the retaining plate and the operation of the low clutch.

NOTE:

Before measuring clearance, place the same thickness of shim on both sides to prevent retaining plate from tilting.

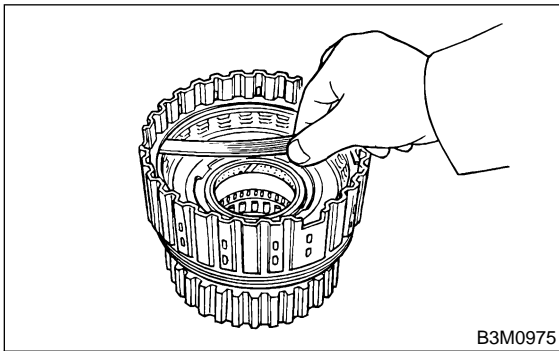
If the clearance is out of the specified range, select a proper retaining plate so that the standard clearance can be obtained.

Standard value:

0.7 — 1.1 mm (0.028 — 0.043 in)

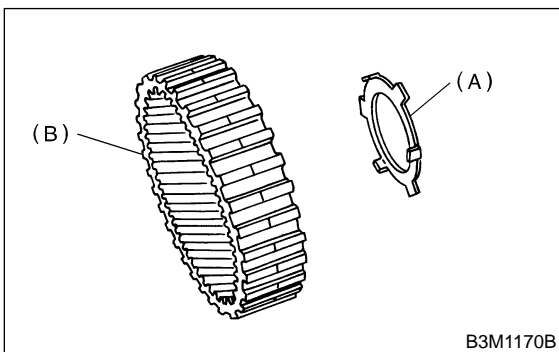
Allowable limit:

1.6 mm (0.063 in)



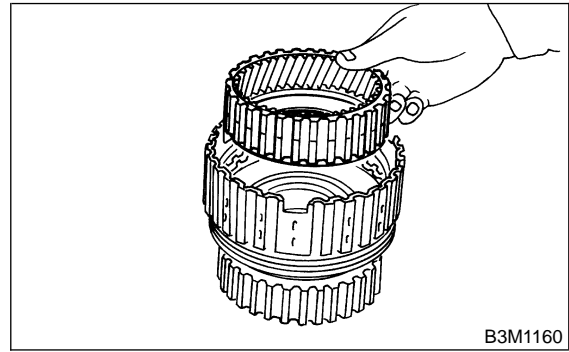
Available retaining plates	
Part No.	Thickness mm (in)
31567AA830	3.8 (0.150)
31567AA840	4.0 (0.157)
31567AA850	4.2 (0.165)
31567AA860	4.4 (0.173)
31567AA870	4.6 (0.181)

9) Install washer to rear internal gear.



- (A) Washer
- (B) Rear internal gear

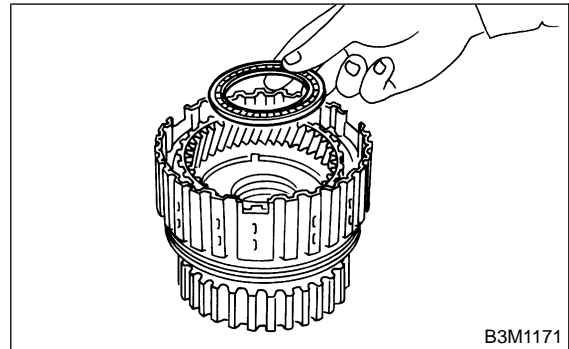
10) Install rear internal gear.



11) Install thrust needle bearing.

NOTE:

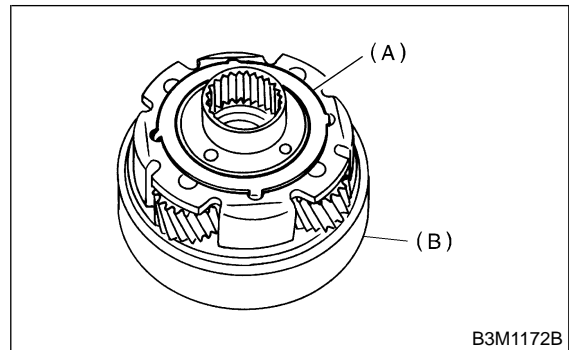
Install thrust needle bearing in the correct direction. <Ref. to 3-2 [S1200].>



12) Install washer to rear planetary carrier.

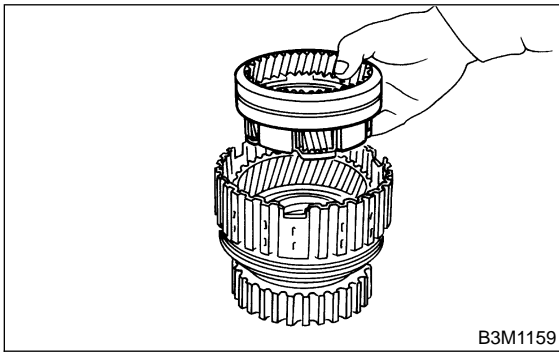
NOTE:

Make sure washer tooth is inserted into hole on planetary carrier.



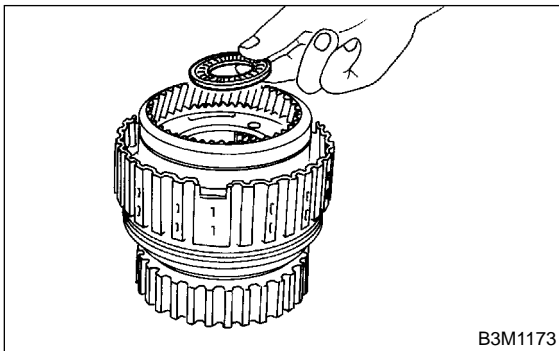
- (A) Washer
- (B) Rear planetary carrier

13) Install rear planetary carrier to low clutch drum.



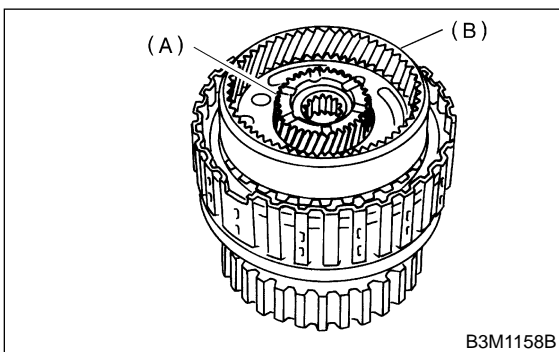
14) Install thrust needle bearing to rear planetary carrier.

NOTE:
Install thrust needle bearing in the correct direction. <Ref. to 3-2 [S1200].>



15) Install rear sun gear.

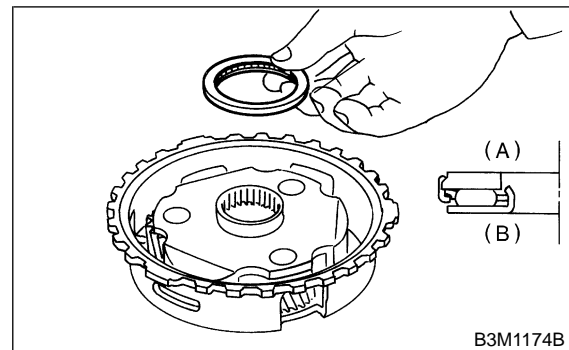
NOTE:
Pay attention to the orientation of the rear sun gear.



- (A) Rear sun gear
- (B) Front planetary carrier

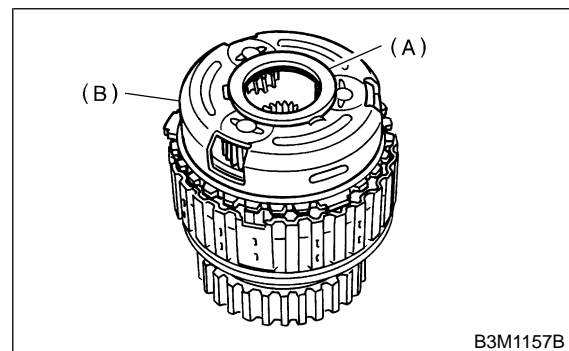
16) Install thrust needle bearing to front planetary carrier.

NOTE:
Pay attention to the orientation of the thrust needle bearing.



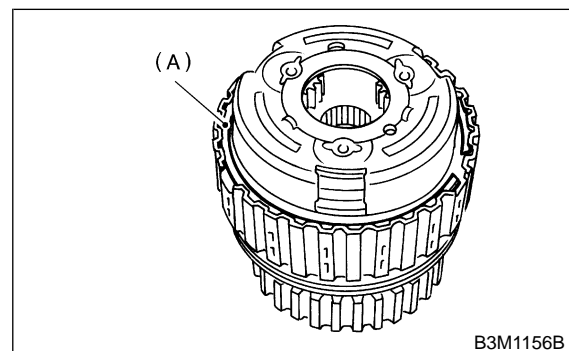
- (A) Rear side
- (B) Front side

17) Install front planetary carrier to low clutch drum.



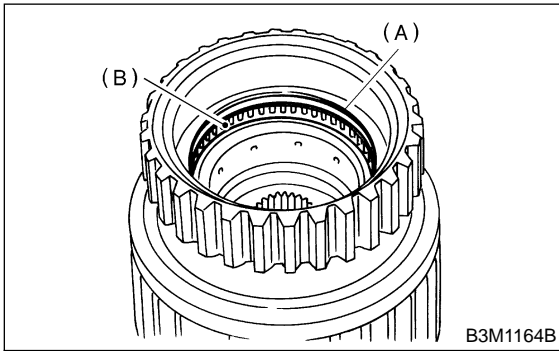
- (A) Needle bearing
- (B) Front planetary carrier

18) Install snap ring to low clutch drum.



- (A) Snap ring

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

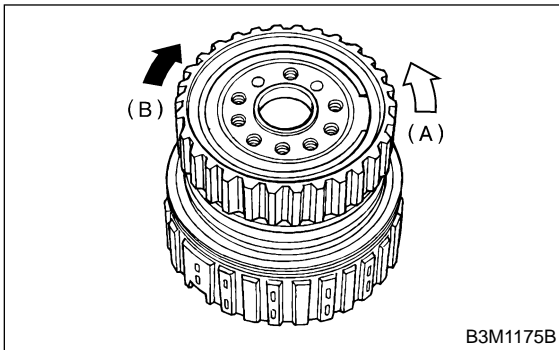


- (A) Snap ring
- (B) Needle bearing

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

NOTE:

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.



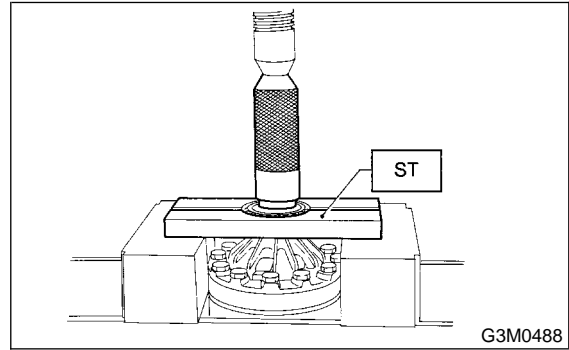
- (A) Free
- (B) Locked

20. Differential Case Assembly

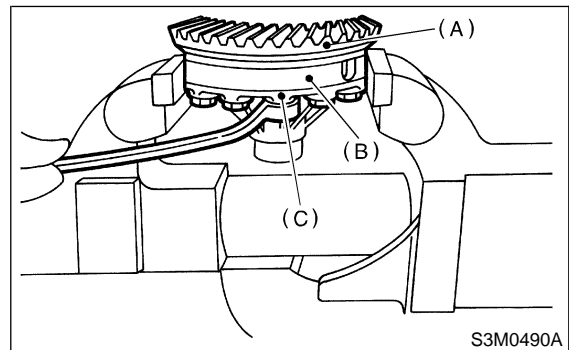
A: DISASSEMBLY

1) Using a press and ST, remove the taper roller bearing.

ST 498077000 REMOVER

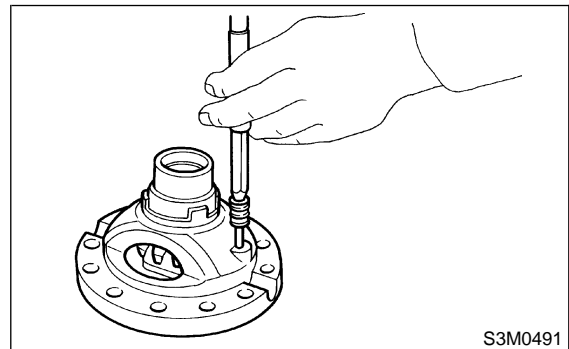


2) Secure the case in a vise and remove the crown gear tightening bolts, then separate the crown gear, case (RH) and case (LH).



- (A) Crown gear
- (B) Differential case (RH)
- (C) Differential case (LH)

3) Pull out the straight pin and shaft, and remove the differential bevel gear, washer, and differential bevel pinion.



B: INSPECTION

Check each component for harmful cuts, damage and other faults.