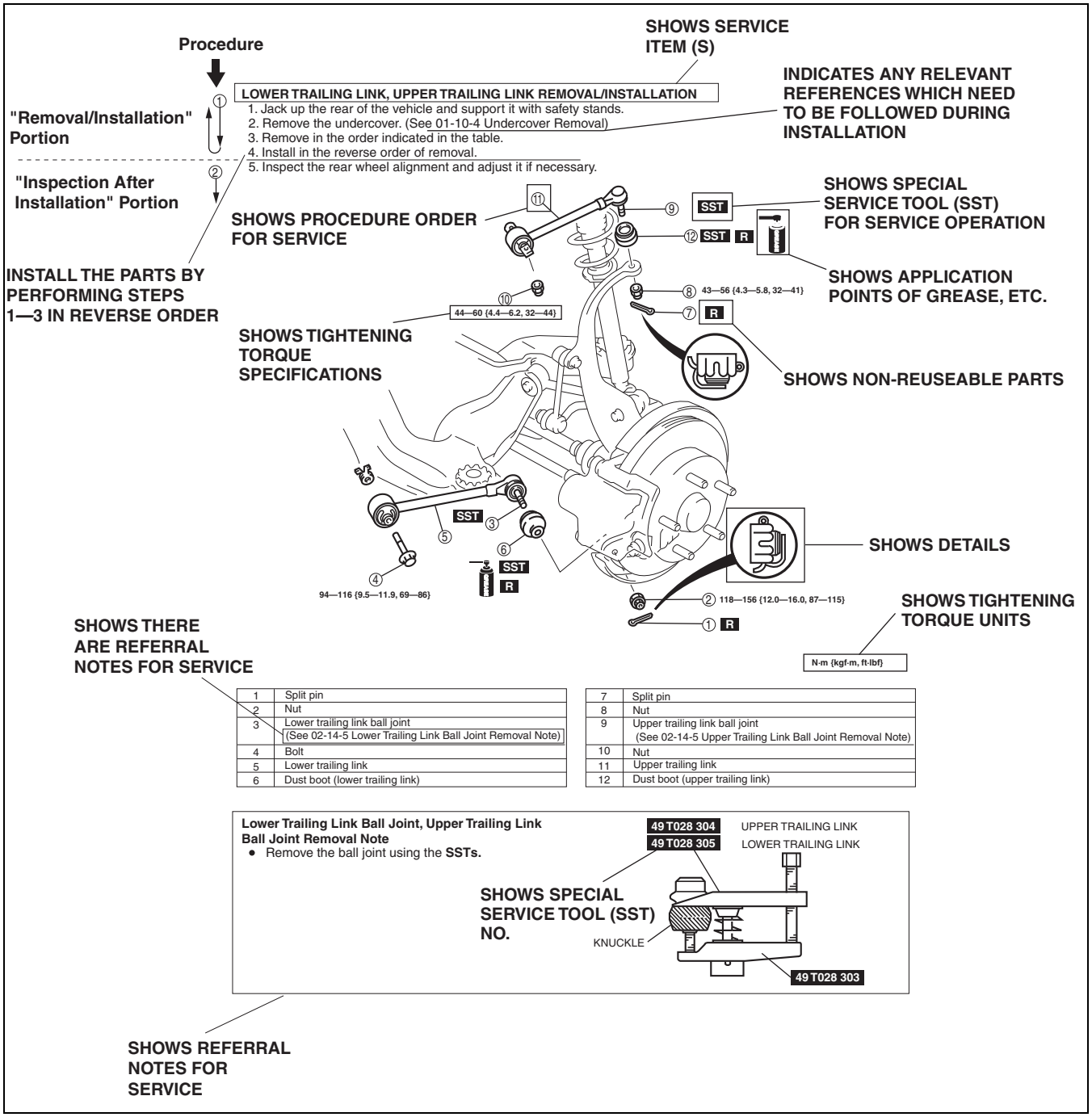
**Repair procedure**

1. Most repair operations begin with an overview illustration. It identifies the components, shows how the parts fit together, and describes visual part inspection. However, only removal/installation procedures that need to be performed methodically have written instructions.
2. Expendable parts, tightening torques, and symbols for oil, grease, and sealant are shown in the overview illustration. In addition, symbols indicating parts requiring the use of special service tools or equivalent are also shown.
3. Procedure steps are numbered and the part that is the main point of that procedure is shown in the illustration with the corresponding number. Occasionally, there are important points or additional information concerning a procedure. Refer to this information when servicing the related part.




| | | | |
|---|---|---|---|
| 1 | Split pin | 7 | Split pin |
| 2 | Nut | 8 | Nut |
| 3 | Lower trailing link ball joint (See 02-14-5 Lower Trailing Link Ball Joint Removal Note) | 9 | Upper trailing link ball joint (See 02-14-5 Upper Trailing Link Ball Joint Removal Note) |
| 4 | Bolt | 10 | Nut |
| 5 | Lower trailing link | 11 | Upper trailing link |
| 6 | Dust boot (lower trailing link) | 12 | Dust boot (upper trailing link) |

bpe2ue00000001

# TRANSMISSION/TRANSAXLE

**05**
SECTION

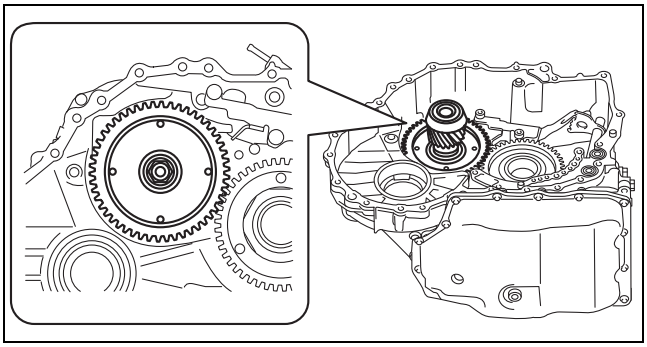




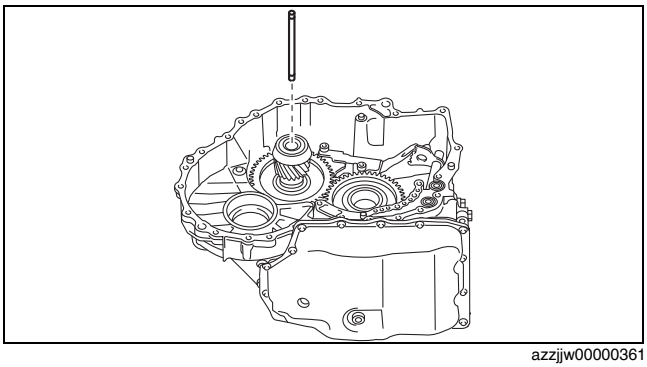
## 05-17 AUTOMATIC TRANSAXLE [EW6A-EL]

27. Assemble the oil pipe.

**Caution**
- **Do not assemble the oil pipe using a tool such as a hammer to prevent damaging the part. For the oil pipe assembly, it is better to only use your hands to put the oil pipe into the output gear.**



azzjjw00000383



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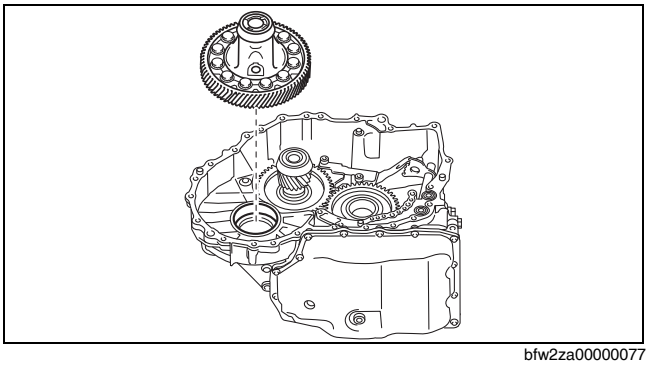
28. Assemble the ring gear and differential.



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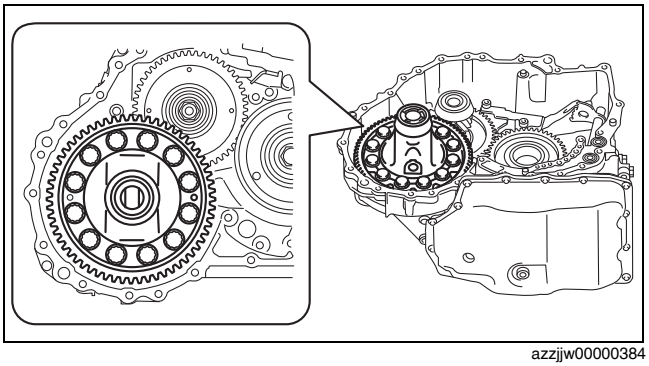
29. Assemble the thrust needle bearing.

**Note**
- Thrust needle bearing size: Outer diameter approx. **80.3 mm {3.16 in}**

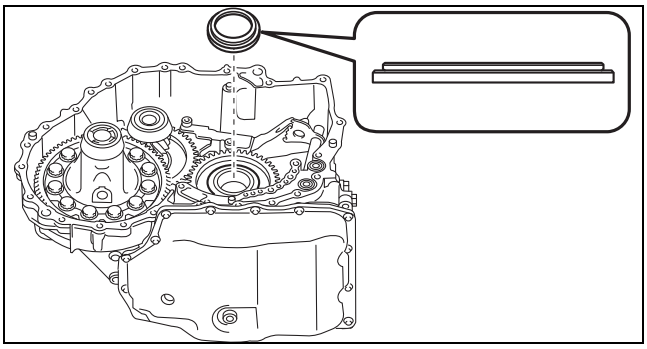


azzjjw00000384

30. Assemble a new D-ring and new seal rings to the turbine shaft using the following procedure:

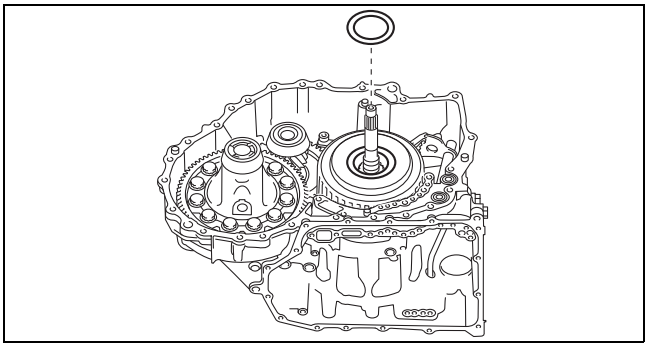
**Caution**
- **If a D-ring is reused it could cause ATF leakage, therefore use a new D-ring.**
- **If a seal ring is reused it could cause ATF leakage, therefore use a new seal ring.**

(1) Apply ATF (ATF FZ) to the new D-ring and new seal rings.



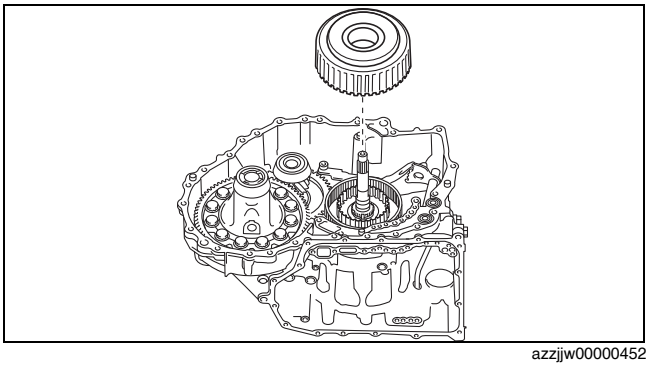
azzjjw00000385

16. Remove the thrust needle bearing.



azzjjw00000451

17. Remove the clutch component.



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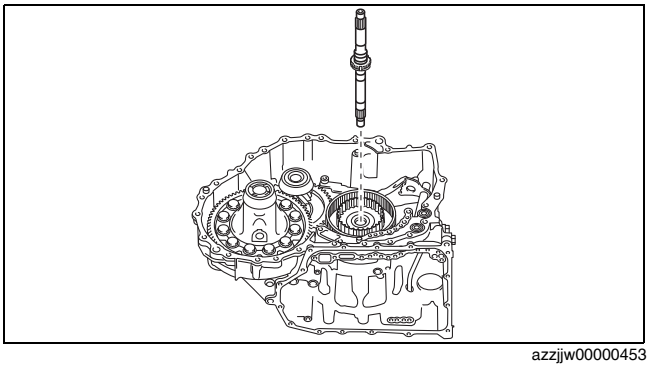
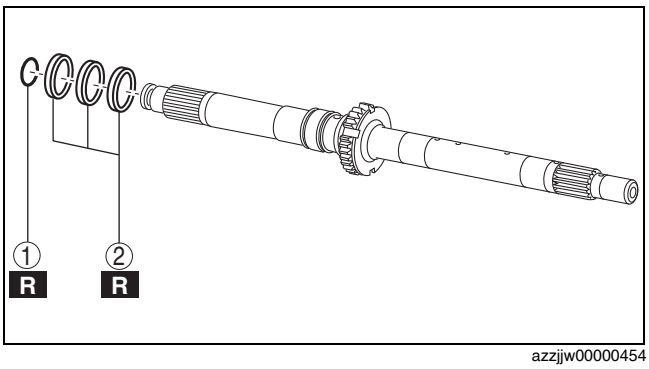
18. Remove the turbine shaft.



azzjjw00000453

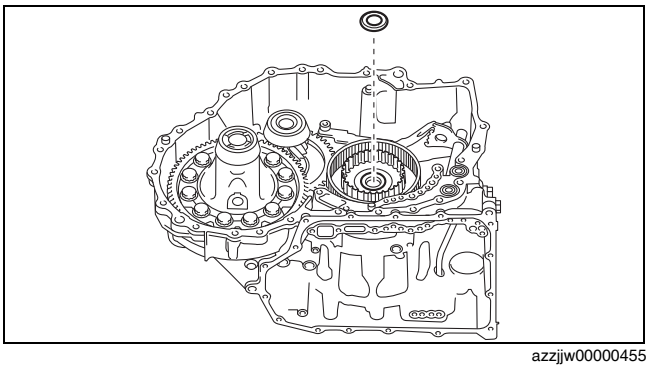
19. Remove the D-ring and seal rings from the turbine shaft using the procedure in the figure:

| | |
|---|---|
| 1 | D-ring |
| 2 | Seal ring |



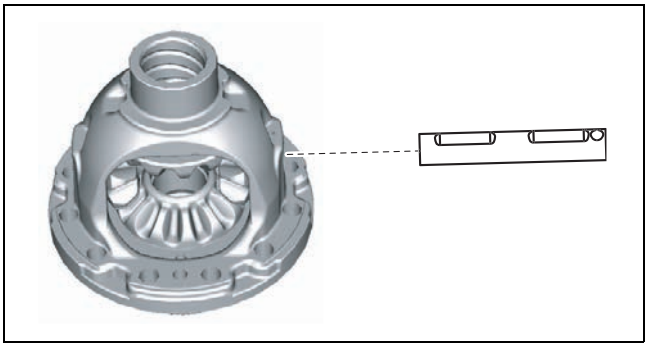

azzjjw00000454

20. Remove the thrust needle bearing.



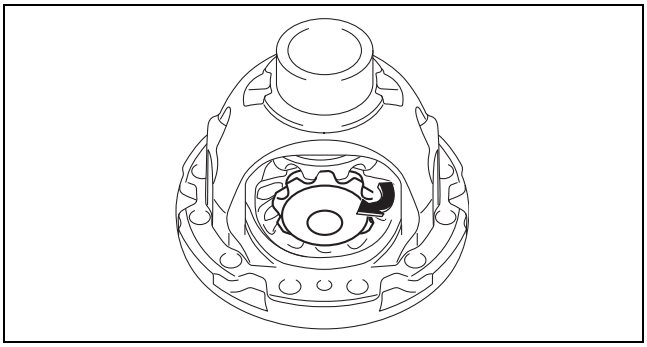
azzjjw00000455

6. Remove the pinion shaft.



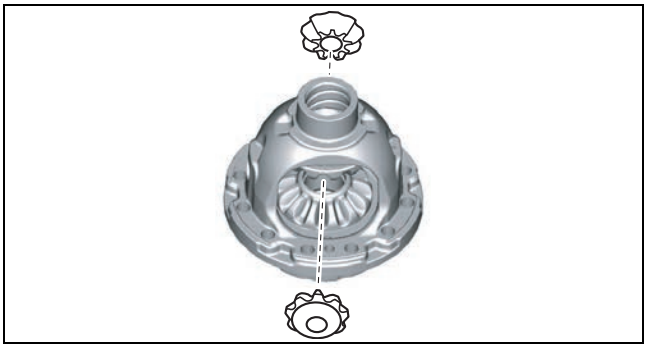
bfw2za00000108

7. Remove the pinion gears using the following procedure:
   (1) Rotate the pinion gears as shown in the figure.



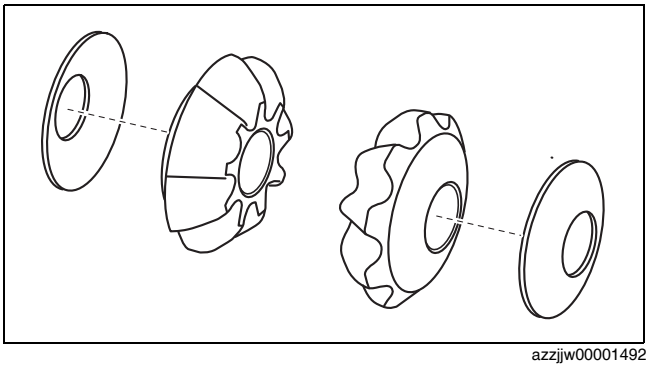
bfw2za00000109

   (2) Remove the pinion gears.

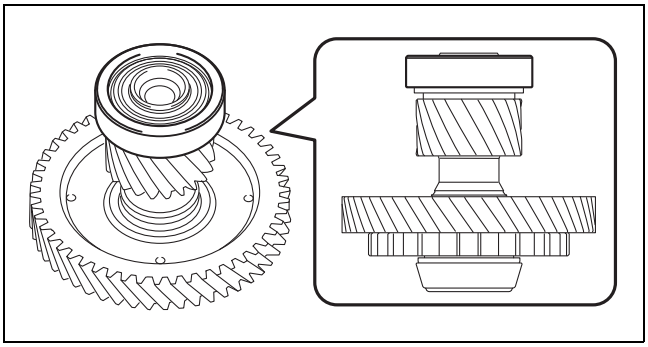


bfw2za00000110

8. Remove the thrust washers from the pinion gears.

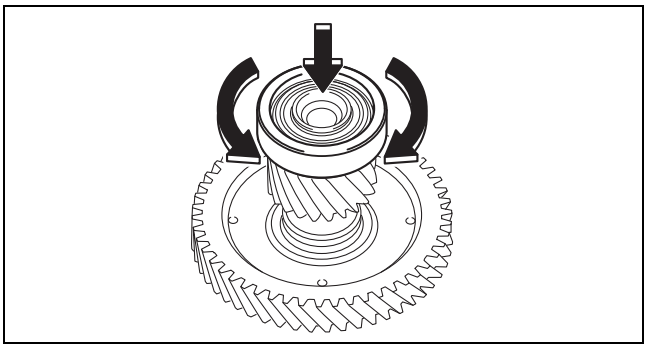


azzjjw00001492



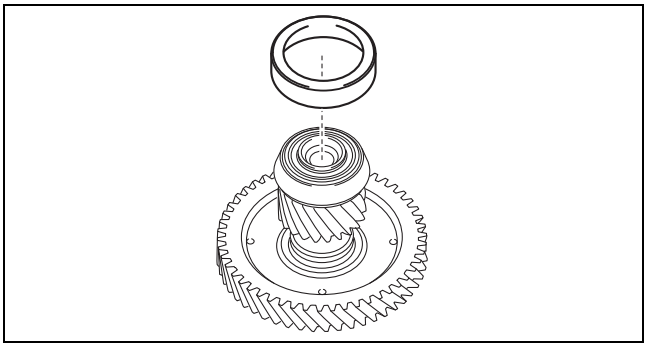
azzjjw00001281

3. With a load applied by hand to the bearing race, rotate the bearing race and verify that there is no malfunction in the taper roller bearing (rotation sticking).
   - If there is a malfunction, disassemble the secondary gear and output gear and replace the taper roller bearing with a new one. (See 05-17-113 SECONDARY GEAR AND OUTPUT GEAR DISASSEMBLY [EW6A-EL].) (See 05-17-259 SECONDARY GEAR AND OUTPUT GEAR ASSEMBLY [EW6A-EL].)



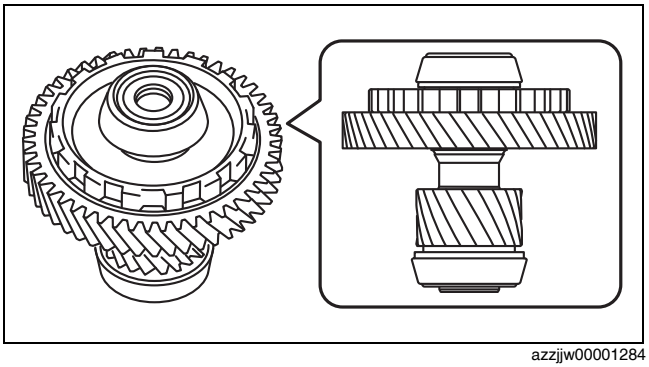
azzjjw00001282

4. Remove the bearing race.

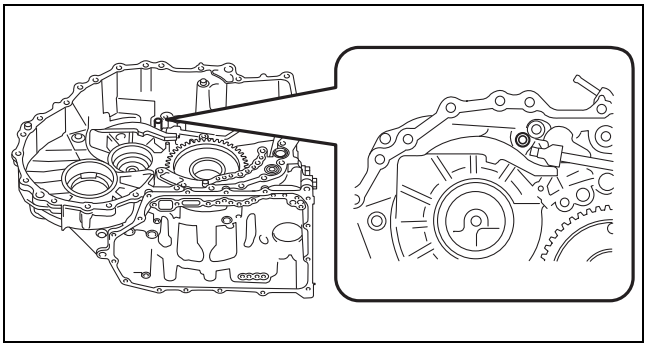


azzjjw00001283

5. Place the secondary gear and output gear with the output gear side pointing downward on a workbench.

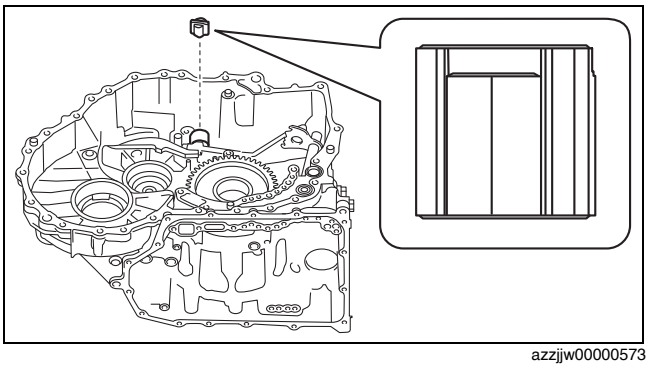


azzjjw00001284



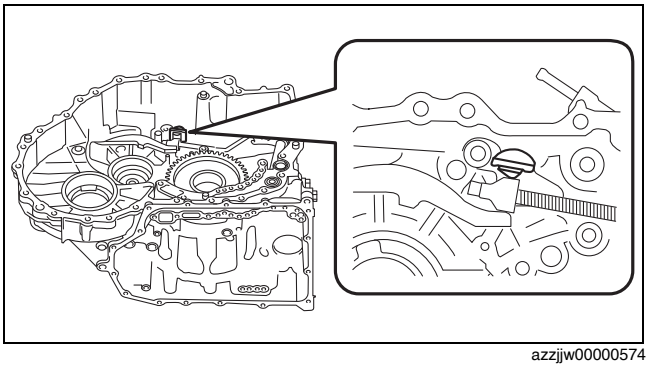
azzjjw00000572

15. Assemble the support actuator.



azzjjw00000573

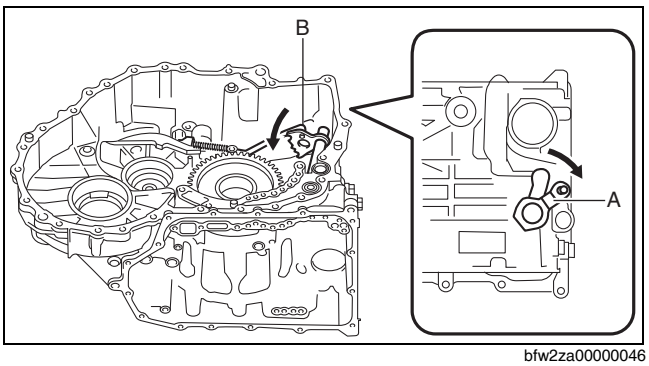
16. Assemble the detent bracket component using the following procedure:



azzjjw00000574

(1) Rotate the parking shift lever component (manual plate component) as shown in the figure.

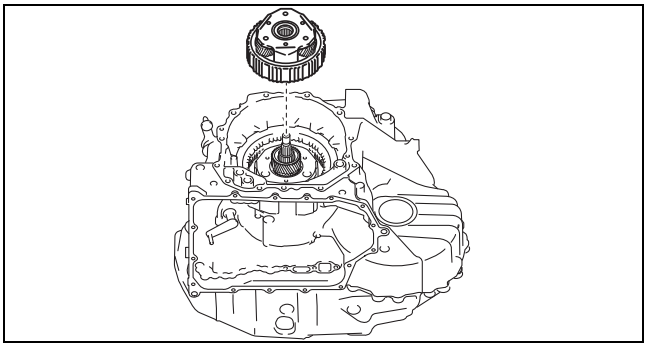
A : Parking shift lever component
B : Manual plate component




bfw2za00000046

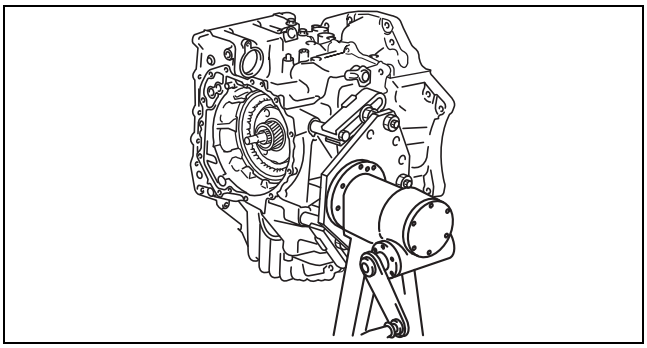
(1) Assemble the rear planetary gear.

**Note**
- If the rear planetary gear assembly is difficult, assembly is easier if the work is performed using the following procedure:



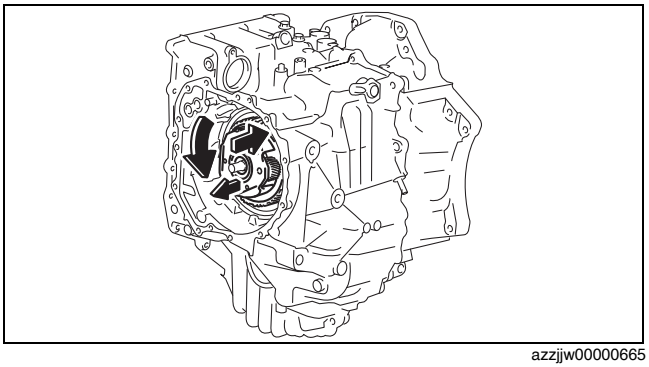
azzjjw00000663

1. Rotate and adjust the rotation handle of the engine stand so that the end cover side is situated sideways.



azzjjw00000664

2. While rotating the rear planetary gear, engage the splines of each drive plate of the low and reverse brake one by one, and assemble.



azzjjw00000665

(2) To verify that the rear planetary gear is securely assembled, measure the distance shown in the figure.

**Note**
- Recommended measuring instrument: Depth gauge, straight edge ruler

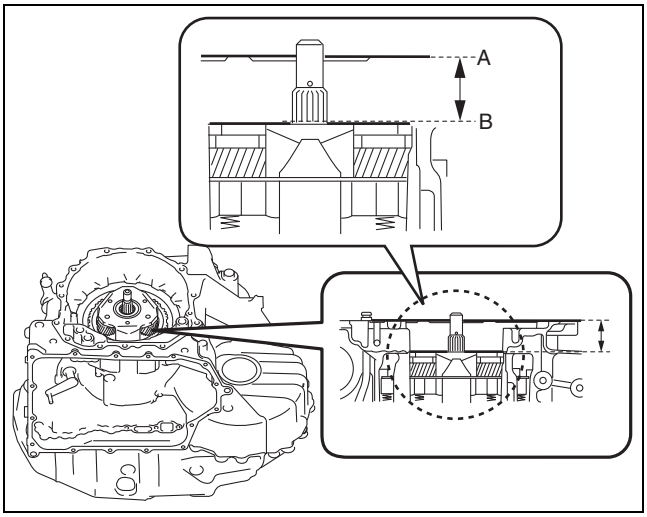
A : Transaxle case end (alignment surface with end cover)
B : Rear planetary gear end

**Specification**
**32.8—35.1 mm {1.30—1.38 in}**

- If not within the specification, remove the rear planetary gear and reassemble.

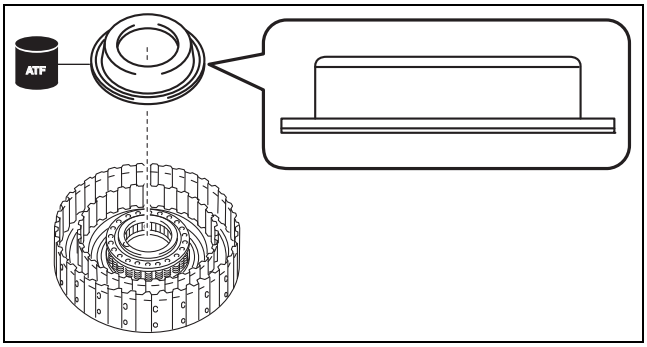
**Note**
- Measurement method

*1)* Set two straight edge rulers along the alignment surface of the transaxle case with the end cover as shown in the figure.

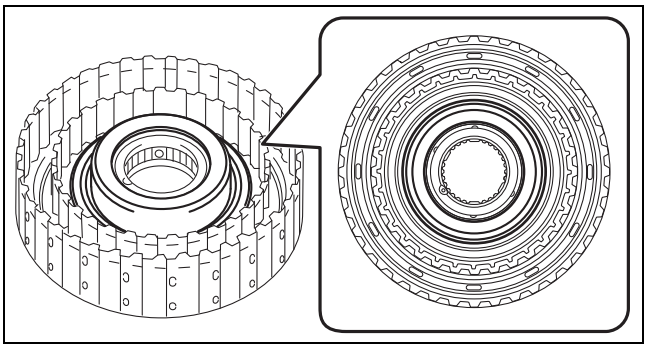



azzjjw00001606

(2) Assemble the seal plate.




azzjjw00000847

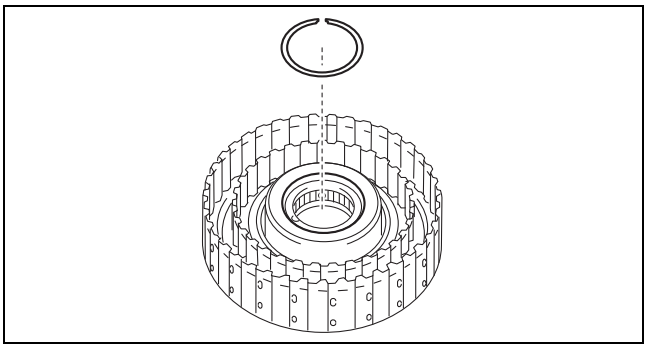


azzjjw00000848

4. Assemble the snap ring using the following procedure:

**Note**
- Snap ring size: Outer diameter **approx. 56.5 mm {2.22 in}**

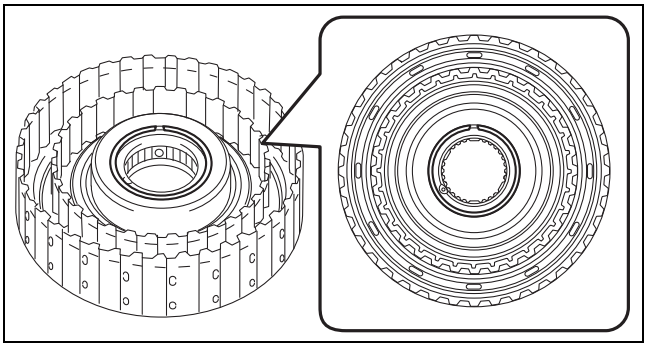
(1) Set the snap ring to the top of the seal plate.



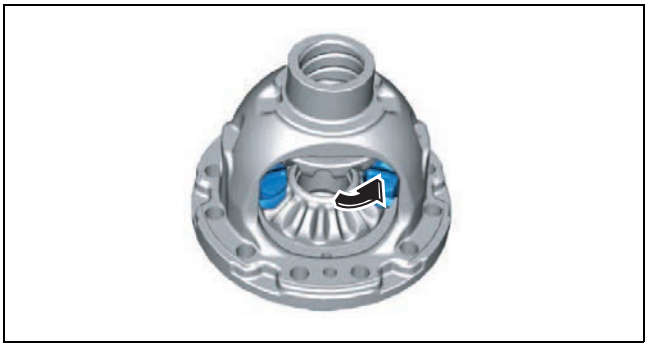
azzjjw00000849

(2) Install the **SSTs**.

**Note**
- When installing the **SST** (49 G019 025) to the **SST** (49 G019 026), use the nuts included with the **SST** (49 G019 025), or **M8**×**1.25** nuts.



azzjjw00000850

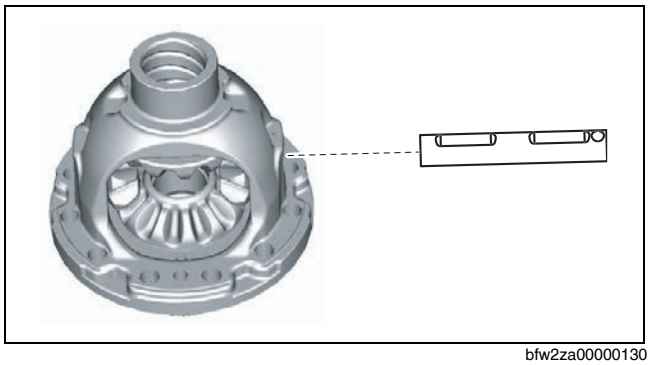


bfw2za00000129

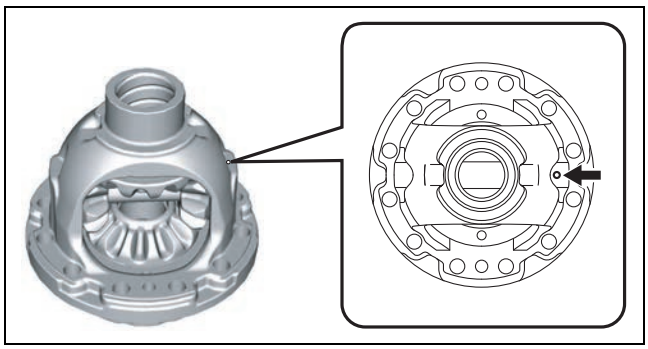
5. Assemble the pinion shaft.

**Caution**

- **Assemble the pinion shaft so that the pin holes of the differential gear case and the pinion shaft are aligned.**



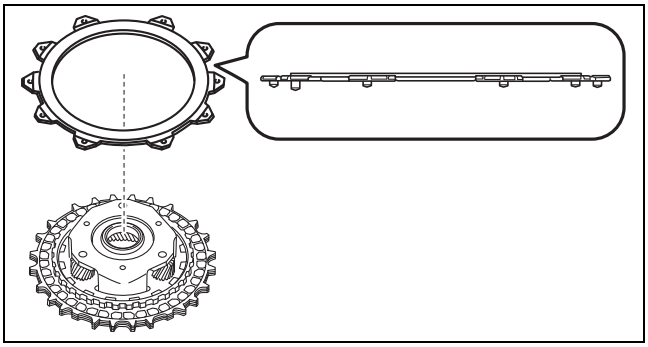
bfw2za00000130



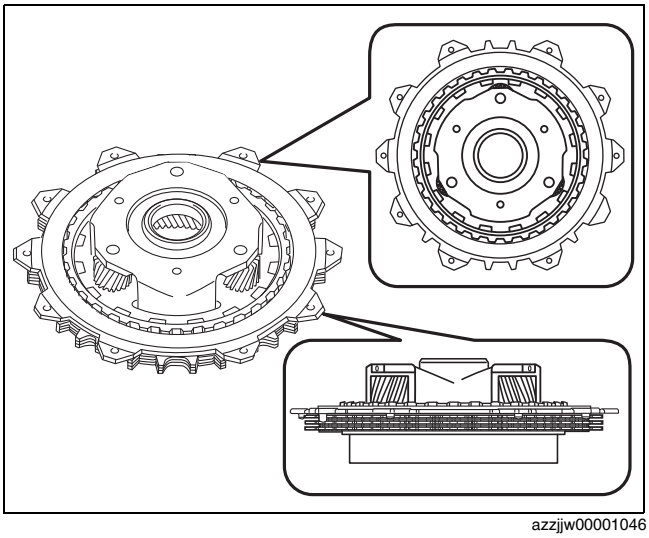
bfw2za00000131

(4) Assemble the retaining plate to the reduction planetary gear as shown in the figure.

**Note**
- Retaining plate size: Inner diameter **approx. 148 mm {5.83 in}**
- Assemble the retaining plate so that the splines of the retaining plate and the splines of the driven plates are positioned as shown in the figure.

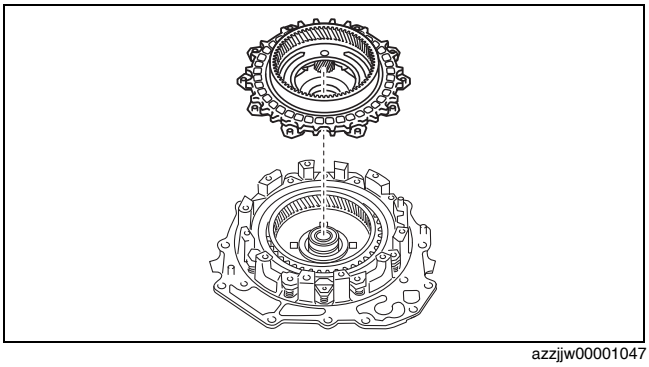


azzjjw00001045



azzjjw00001046

(5) Assemble the parts assembled together in Steps (3) and (4).



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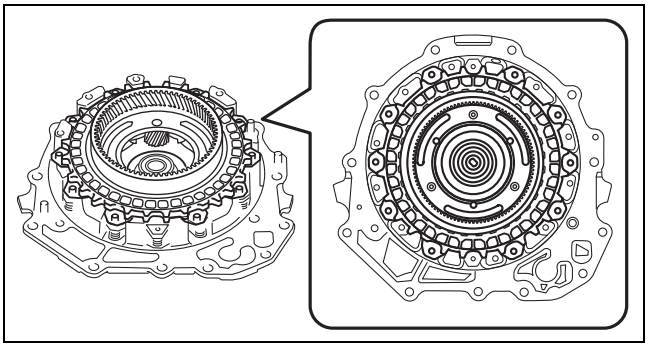


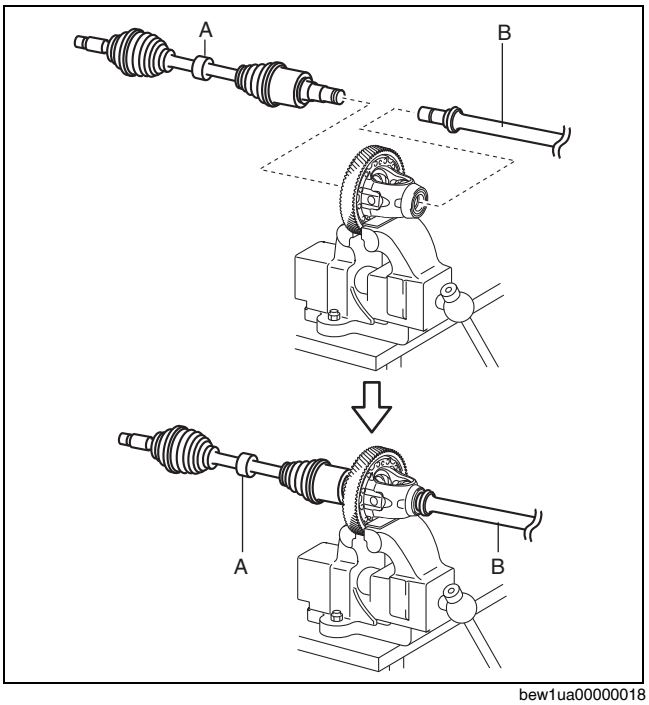
azzjjw00001048

2. Assemble the drive shaft to the ring gear and differential.

**Caution**
- **Because the drive shaft (LH) clip is not required for the differential backlash measurement, do not assemble it.**

A : Drive shaft (LH)

B : Drive shaft (RH)



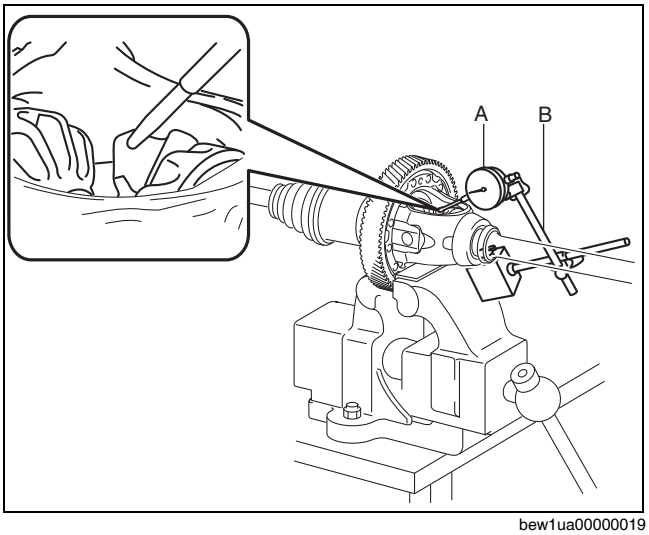

bew1ua00000018

3. Set the dial gauge and magnetic stand as shown in the figure.

**Caution**
- **To reduce error during the backlash measurement, set the dial gauge so that it is perpendicular to the teeth of the pinion gear.**

A : Dial gauge

B : Magnetic stand




bew1ua00000019

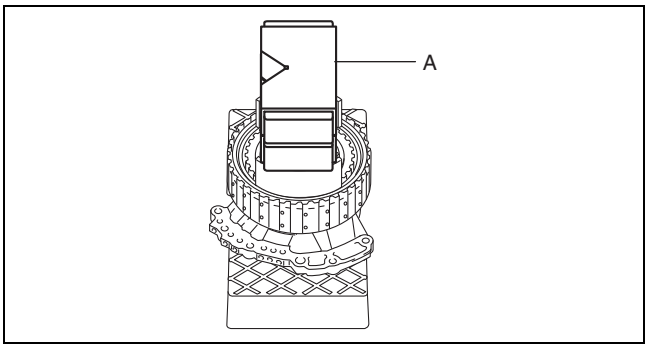
6. Place a **98—196 N {10.0—19.9 kgf, 23.0—44.0 lbf}** weight on the **SST** using the following procedure:

**Note**
- Use a V-block as a weight.

(1) Measure the weight of the weight placed on the **SST**.
(2) Input the measured weight into the measurement/adjustment value input sheet.
(3) Place the measured weight on the **SST**.

**Caution**
- **To reduce error during the low clutch clearance measurement, place the weight near the center of the SST.**

A : Weight (V-block)



azzjjw00001084

7. Perform the following calculation to calculate the correction value for the low clutch clearance.

**Note**
- Because a wave spring is included in the low clutch, a correction value is required for the low clutch clearance according to the weight of the weight used during the low clutch clearance measurement.

**Correction value of low clutch clearance (weight of unit is N) = (A - 98 N) × 0.00157 mm {0.0000618 in}**
A: Weight of weight

**Note**
**Example**
A: Weight of weight is 150 N
Correction value of low clutch clearance = (150 N - 98 N) × 0.00157 mm {0.0000618 in} = 0.0816 mm {0.00321 in}

**Correction value of low clutch clearance (weight of unit is kgf) = (A - 9.99 kgf) × 0.01537 mm {0.0006051 in}**
A: Weight of weight

**Note**
**Example**
A: Weight of weight is 15.30 kgf
Correction value of low clutch clearance = (15.30 kgf - 9.99 kgf) × 0.01537 mm {0.0006051 in} = 0.0816 mm {0.00321 in}

**Correction value of low clutch clearance (weight of unit is lbf) = (A - 22.03 lbf) × 0.00698 mm {0.0002748 in}**
A: Weight of weight

**Note**
**Example**
A: Weight of weight is 33.72 lbf
Correction value of low clutch clearance = (33.72 lbf - 22.03 lbf) × 0.00698 mm {0.0002748 in} = 0.0816 mm {0.00321 in}

8. Input the calculated correction value of the low clutch clearance into the measurement/adjustment value input sheet.