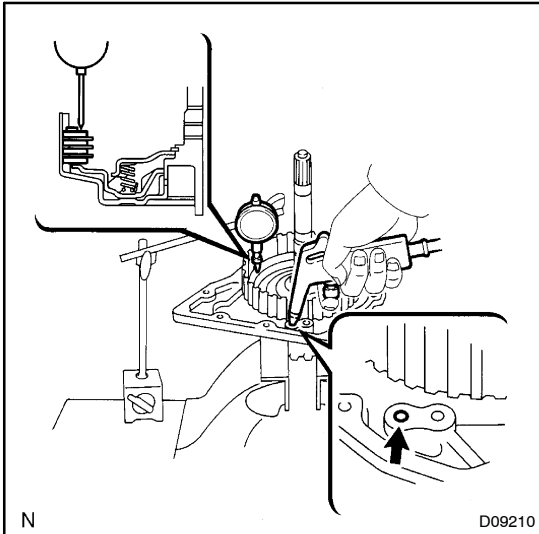


DIRECT CLUTCH ASSY (U140E/U140F) OVERHAUL

4006H-01



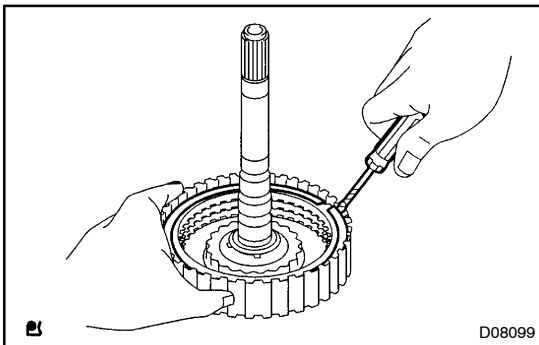
1. INSPECT PACK CLEARANCE OF DIRECT CLUTCH

- Install the direct clutch and needle roller bearing on the transaxle rear cover.
- Using a dial indicator, measure the forward clutch pack clearance while applying and releasing compressed air (392 kPa, 4.0 kgf/cm², 57 psi).

Pack clearance:

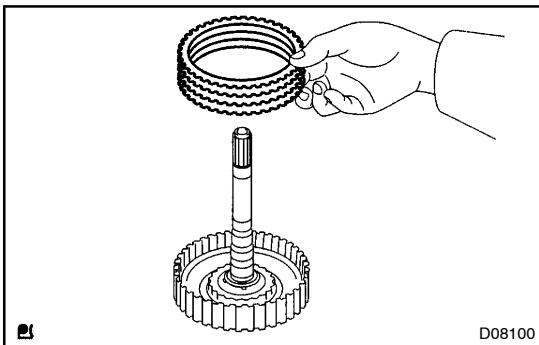
0.605 – 0.825 mm (0.02382 – 0.03248 in.)

If the pack clearance is non-standard, inspect the discs, plates and flange.

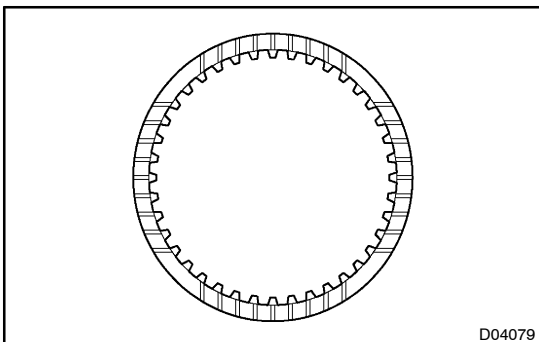


2. REMOVE DIRECT MULTIPLE DISC CLUTCH CLUTCH DISC

- Using a screwdriver, remove the snap ring from the direct clutch drum.



- 1MZ-FE:
Remove the flange, 4 discs and 4 plates from the direct clutch drum.
- 2AZ-FE:
Remove the flange, 3 discs and 3 plates from the direct clutch drum.



3. INSPECT DIRECT MULTIPLE DISC CLUTCH CLUTCH DISC

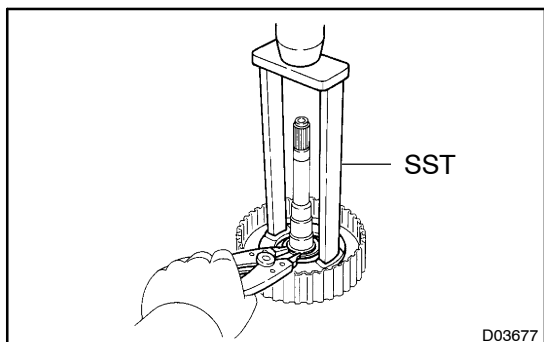
- Check to see if the sliding surface of the disc, plate and flange are worn or burnt.

If necessary, replace them.

HINT:

- If the lining of the disc is peeling off or discolored, or even if a part of the printed mark is defaced, replace all discs.

- Before assembling new discs, soak them in ATF for at least 15 minutes.



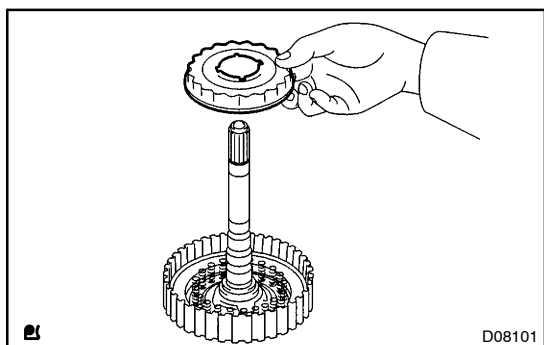
4. REMOVE DIRECT CLUTCH RETURN SPRING SUB-ASSY

- Place SST on the clutch balancer and compress the spring with a press.
SST 09387-00020
- Using a snap ring expander, remove the snap ring from the direct clutch drum.

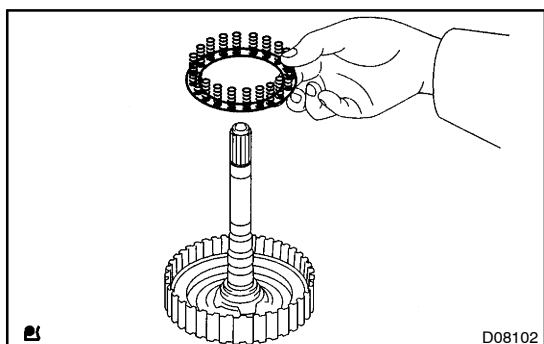
NOTICE:

- **Stop the press when the spring sheet is lowered to the place 1 – 2 mm (0.039 – 0.078 in.) from the snap ring groove.**
- **This prevents the spring sheet from being deformed.**
- **Do not expand the snap ring excessively.**

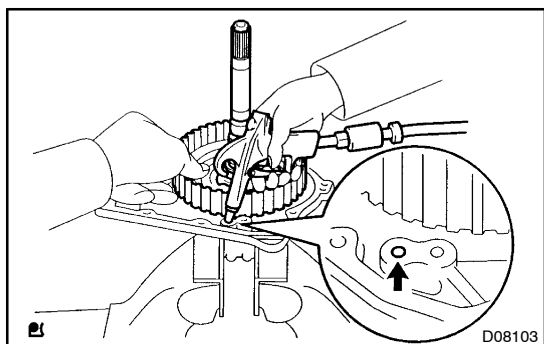
- Remove the clutch balancer from the direct clutch drum.

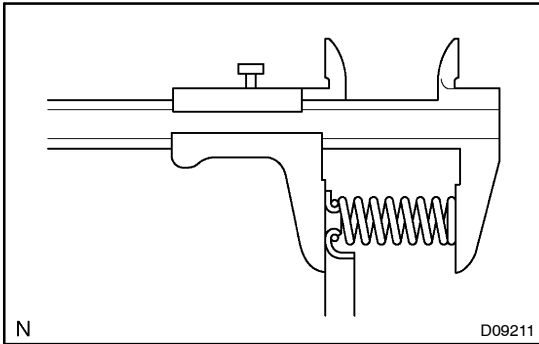


- Remove the piston return spring from the direct clutch drum.



- Install direct clutch drum on the transaxle rear cover.
- Holding the direct clutch piston with your hand, apply compressed air (392 kPa, 4.0 kgf/cm², 57 psi) to the transaxle rear cover to remove the direct clutch piston.

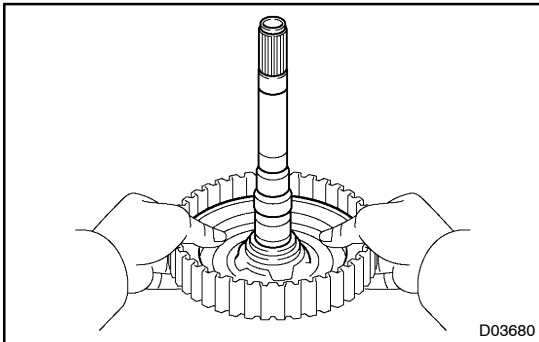




5. INSPECT DIRECT CLUTCH RETURN SPRING SUB-ASSY

- (a) Using vernier calipers, measure the free length of the spring together with the spring seat.

Standard free length: 22.58 mm (0.8898 in.)

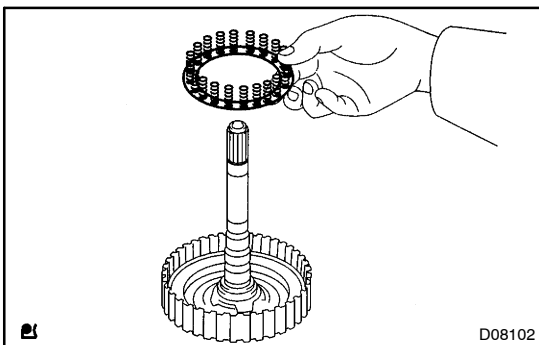


6. INSTALL DIRECT CLUTCH RETURN SPRING SUB-ASSY

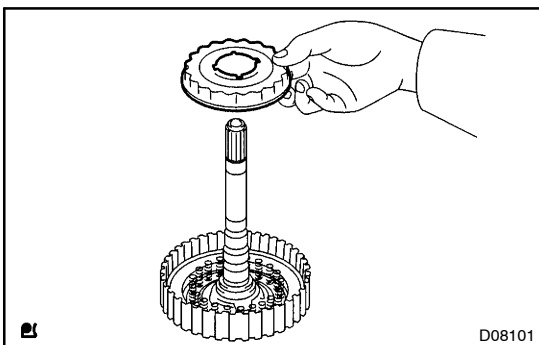
- (a) Coat the direct clutch piston with ATF, and install it to the direct clutch drum.

NOTICE:

Be careful not to damage the lip seal of the direct clutch piston.



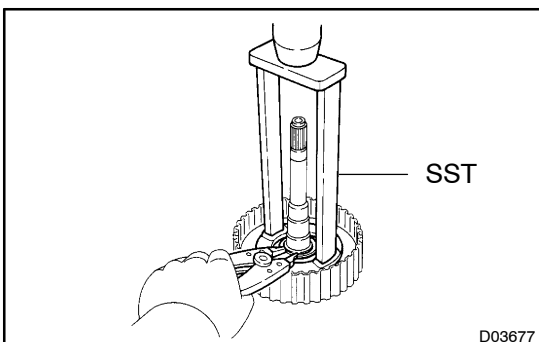
- (b) Install the piston return spring to the direct clutch drum.



- (c) Install the clutch balancer to the direct clutch drum.

NOTICE:

Be careful not to damage the lip seal of the direct clutch balancer.



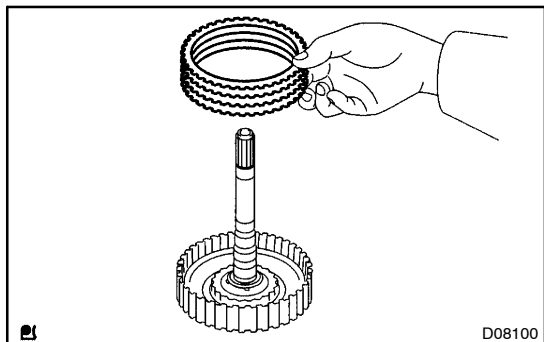
- (d) Place SST on the clutch balancer and compress the piston return spring with a press.

SST 09387-00020

- (e) Using a snap ring expander, install the snap ring to the direct clutch drum.

NOTICE:

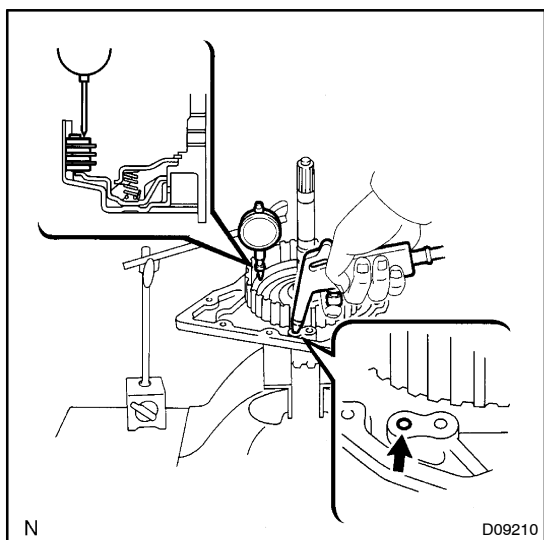
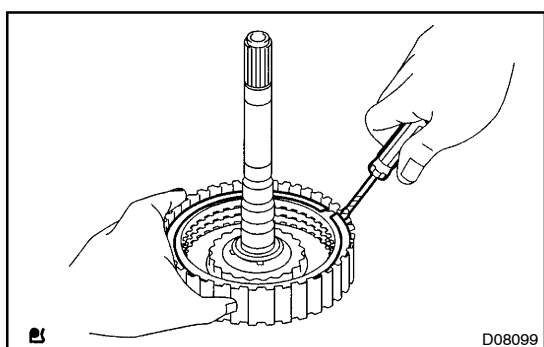
- **Be sure the end gap of the snap ring is not aligned with the clutch balancer claw.**



- Stop the press when the spring sheet is lowered to the place 1 – 2 mm (0.039 – 0.078 in.) from the snap ring groove.
- This prevents the spring sheet from being deformed.
- Do not expand the snap ring excessively.

7. INSTALL DIRECT MULTIPLE DISC CLUTCH CLUTCH DISC

- 1MZ-FE:
Install the 4 plates, 4 discs and flange to the direct clutch drum.
- 2AZ-FE:
Install the 3 plates, 3 discs and flange to the direct clutch drum.
- Using a screwdriver, install the snap ring.
- Check that the end gap of the snap ring is not aligned with one of the cutouts.



8. INSPECT PACK CLEARANCE OF DIRECT CLUTCH

- Install the direct clutch on the transaxle rear cover.
- Using a dial indicator, measure the direct clutch pack clearance while applying and releasing compressed air (392 kPa, 4.0 kgf/cm², 57 psi).

Pack clearance:

0.605 – 0.825 mm (0.02382 – 0.03248 in.)

If the pack clearance is less than the minimum, parts may have been assembled incorrectly, so check and reassemble again.

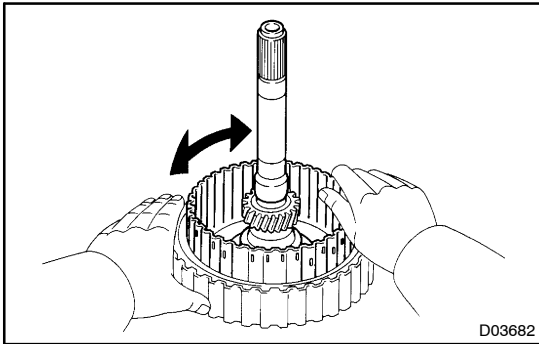
If the stroke is non-standard, select another flange.

HINT:

There are 6 flanges in different thickness.

Flange thickness: mm (in.)

No.	Thickness	No.	Thickness
1	3.0 (0.118)	4	3.3 (0.130)
2	3.1 (0.122)	5	3.4 (0.134)
3	3.2 (0.126)	6	3.5 (0.138)



9. INSPECT DIRECT MULTIPLE DISC CLUTCH CLUTCH DISC

- (a) Check that the disc rotates when rotating the disc after inserting the rear planetary sun gear.

NOTICE:

Do not place the rear planetary sun gear in a vise.