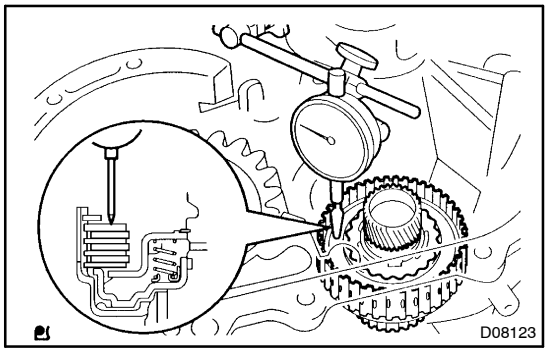
UNDERDRIVE CLUTCH ASSY (U140E/U140F)

4006J–01

OVERHAUL



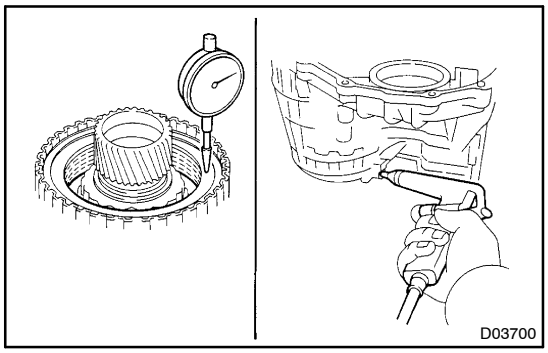
1. INSPECT UNDERDRIVE PACK CLEARANCE

(a) Install the U/D clutch to the transaxle case.

NOTICE:

Be careful not to damage the oil seal rings.

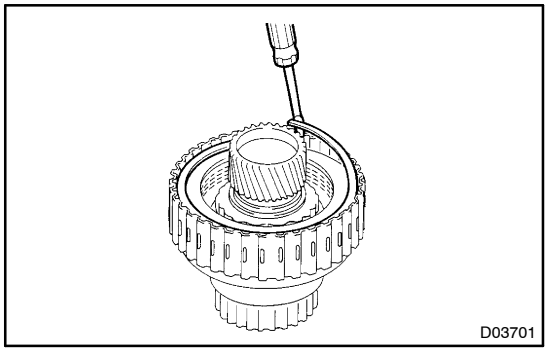
(b) Install a dial indicator as shown in the illustration.



(c) Measure the U/D clutch pack clearance while applying and releasing compressed air (392 kPa, 4.0 kgf/cm^2, 57 psi).

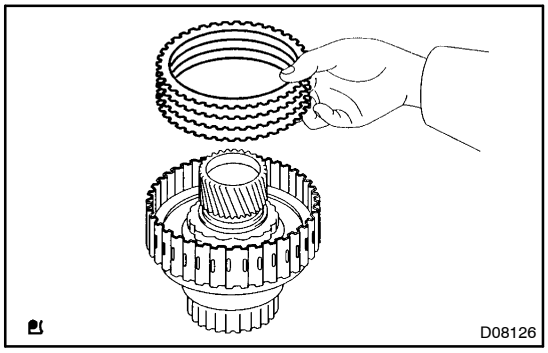
Pack clearance: 1.51 – 1.90 mm (0.0594 – 0.0748 in.)

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



2. REMOVE UNDERDRIVE CLUTCH FLANGE NO.1 HOLE SNAP RING

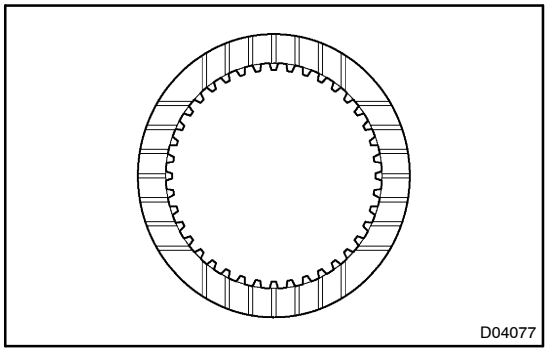
(a) Using a screwdriver, remove the U/D clutch flange No. 2 snap ring.



3. REMOVE UNDERDRIVE CLUTCH DISC NO.1

(a) 1MZ–FE:
Remove the flange, 4 discs and 4 plates from the U/D clutch drum.

(b) 2AZ–FE:
Remove the flange, 3 discs and 3 plates from the U/D clutch drum.

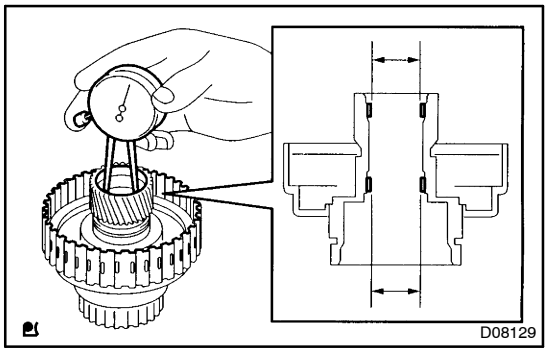


4. INSPECT UNDERDRIVE CLUTCH DISC NO.1

(a) 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.

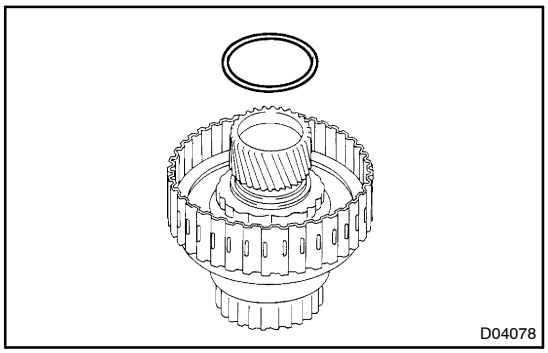


5. INSPECT UNDERDRIVE CLUTCH DRUM SUB–ASSY

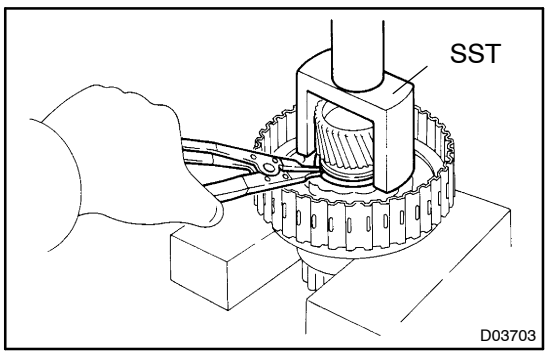
(a) Using a dial indicator, measure the inside diameter of the U/D clutch drum bushing.

Standard drum bushing:
37.06 – 37.08 mm (1.4591 – 1.4598 in.)
Maximum drum bushing: 37.13 mm (1.4618 in.)

If the inside diameter is greater than the maximum, replace the U/D clutch drum.



6. REMOVE UNDERDRIVE CLUTCH DRUM O–RING



7. REMOVE UNDERDRIVE CLUTCH PISTON SET

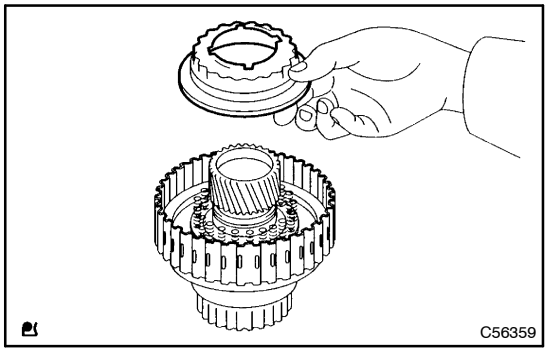
(a) Place SST on the clutch balancer and compress the spring with a press.

SST 09350–32014 (09351–32070)

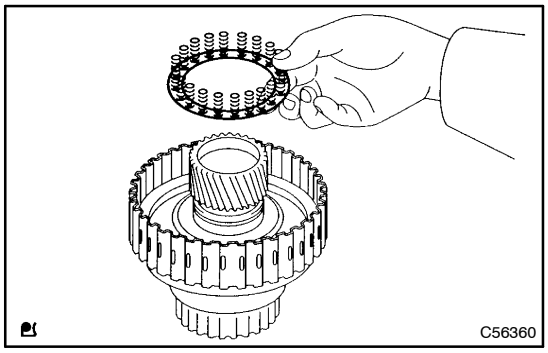
(b) Using a snap ring expander, remove the snap ring.

NOTICE:

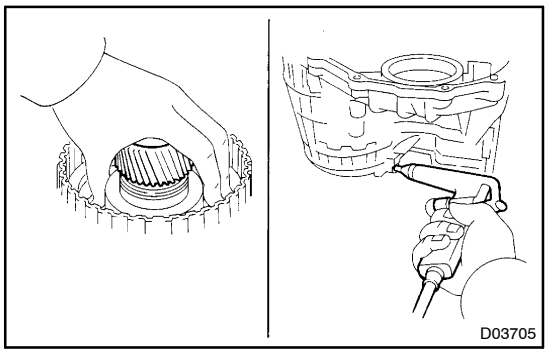
- **Stop the press when the spring sheet is lowered to the place 1 – 2 mm (0.039 – 0.078 in.) from the snap ring grove.**
- **This prevents the spring sheet from being deformed.**
- **Do not expand the snap ring excessively.**



(c) Remove the clutch balancer from the U/D clutch drum.



(d) Remove the piston return spring from the U/D clutch drum.

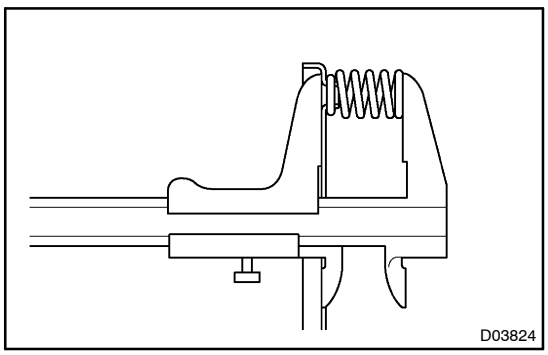


(e) Install the U/D clutch to the transaxle case.

NOTICE:

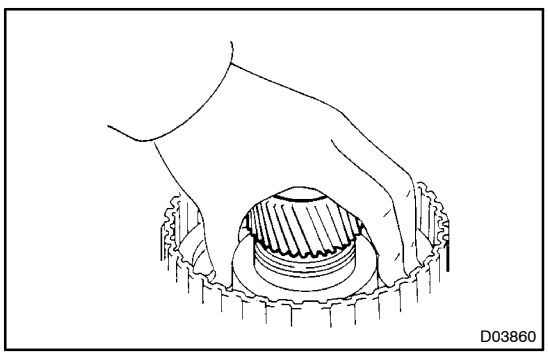
Be careful not to damage the oil seal rings.

(f) Holding the U/D clutch piston with your hand, apply compressed air (392 kPa, 4.0 kgf/cm^2, 57 psi) to the transaxle case to remove the U/D clutch piston.



8. INSPECT UNDERDRIVE CLUTCH RETURN SPRING SUB–ASSY

(a) Using vernier calipers, measure the free length of the spring together with the spring seat.
Standard free length: 17.14 mm (0.6752 in.)

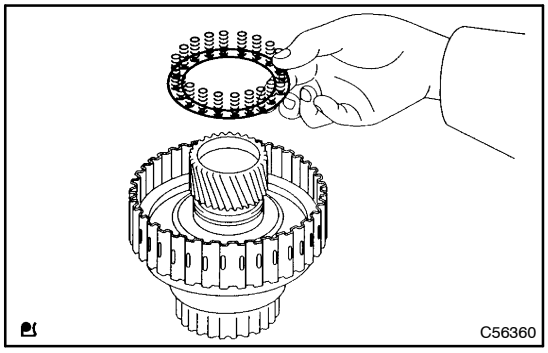


9. INSTALL UNDERDRIVE CLUTCH PISTON SET

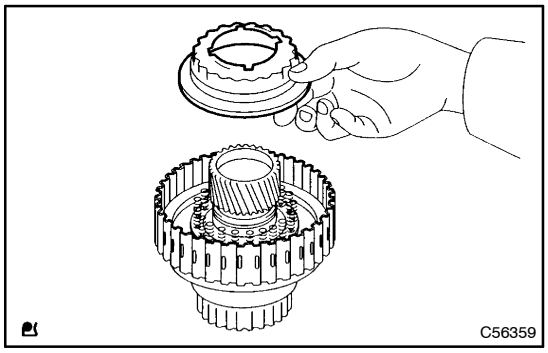
(a) Coat the U/D clutch piston with ATF, install it to the U/D clutch piston drum.

NOTICE:

Be careful not to damage the O–ring.



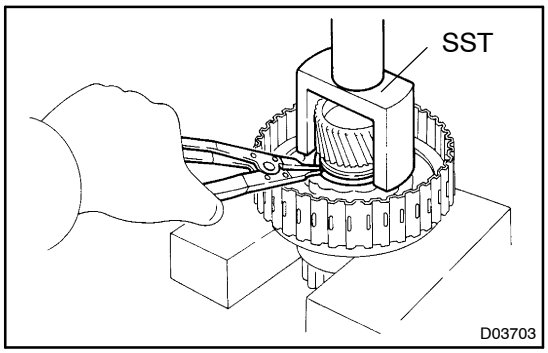
(b) Install the piston return spring to the U/D clutch drum.



(c) Install the clutch balancer to the U/D clutch drum.

NOTICE:

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

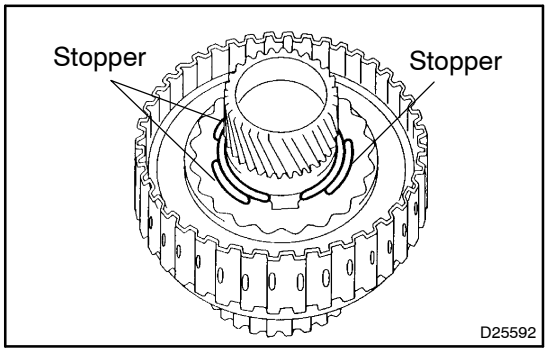


(d) Place SST on the clutch balancer and compress the piston return spring with a press.
SST 09350–32014 (09351–32070)

(e) Using a snap ring expander, install the snap ring to the U/D clutch drum.

NOTICE:

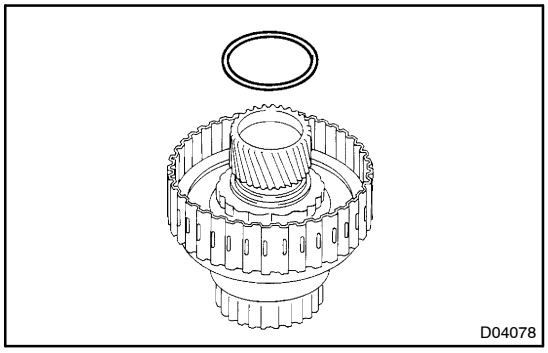
- **Be sure the end gap of the snap ring is not aligned with the clutch balancer's claw.**
- **Stop the press when the spring sheet is lowered to the place 1 – 2 mm (0.039 – 0.078 in.) from the snap ring grove.**
- **This prevents the spring sheet from being deformed.**
- **Do not expand the snap ring excessively.**



(f) Set the end gap of the snap ring in the U/D clutch drum shown in the illustration.

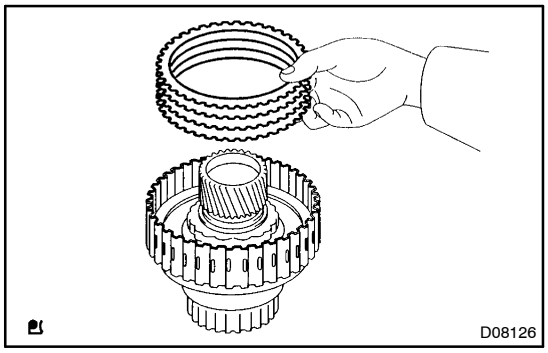
NOTICE:

The end gap of the snap ring should not coincide with any of the stopper.



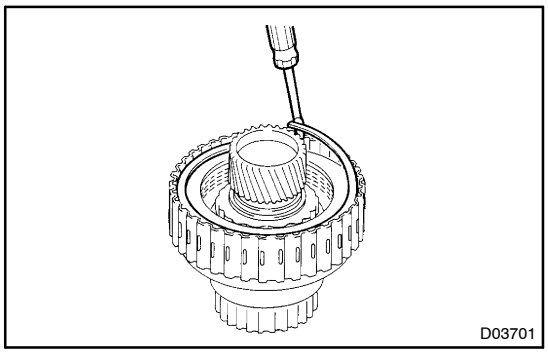
10. INSTALL UNDERDRIVE CLUTCH DRUM O–RING

(a) Coat the new O–ring with ATF, install it to the U/D clutch drum.



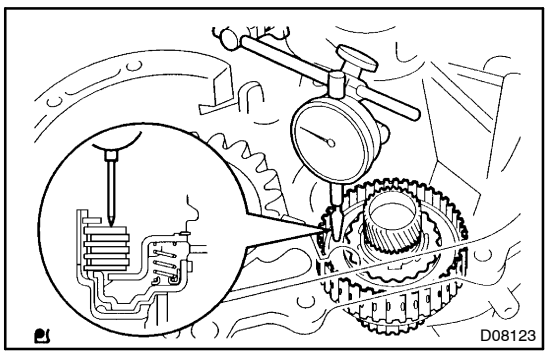
11. INSTALL UNDERDRIVE CLUTCH DISC NO.1

(a) 1MZ–FE:
Install the 4 plates, 4 discs and flange to the U/D clutch drum.
(b) 1MZ–FE:
Install the 3 plates, 3 discs and flange to the U/D clutch drum.



12. INSTALL UNDERDRIVE CLUTCH FLANGE NO.1 HOLE SNAP RING

(a) Using a screwdriver, install the U/D clutch flange No. 2 hole snap ring.
(b) Check that the end gap of snap ring is not aligned with one of the cutouts.



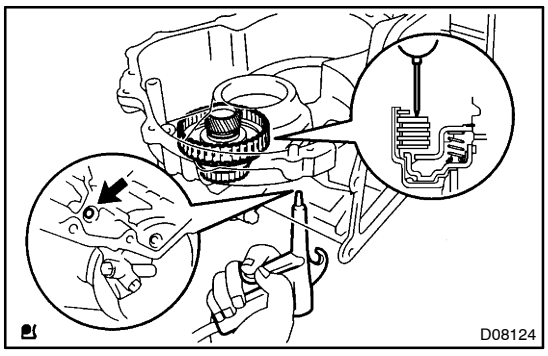
13. INSPECT UNDERDRIVE PACK CLEARANCE

(a) Install the U/D clutch to the transaxle case.

NOTICE:

Be careful not to damage the oil seal rings.

(b) Set a dial indicator as shown in the illustration.



(c) Measure the U/D clutch piston stroke while applying and releasing compressed air (392 kPa, 4.0 kgf/cm^2, 57 psi).
Park clearance: 1.51 – 1.90 mm (0.0594 – 0.0748 in.)

If the pack clearance is less than the minimum, parts may have been assembled incorrectly, so check and reassemble again.
If the park clearance is non–standard, select another flange.
HINT:
There are 3 flanges in different thickness.

Flange thickness: mm (in.)

No.	Thickness	No.	Thickness
1	3.0 (0.118)	3	3.4 (0.134)
2	3.2 (0.126)	–	–