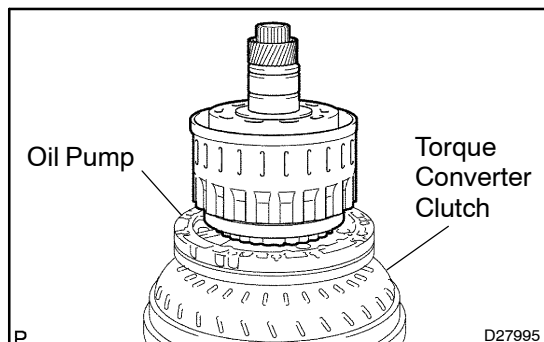
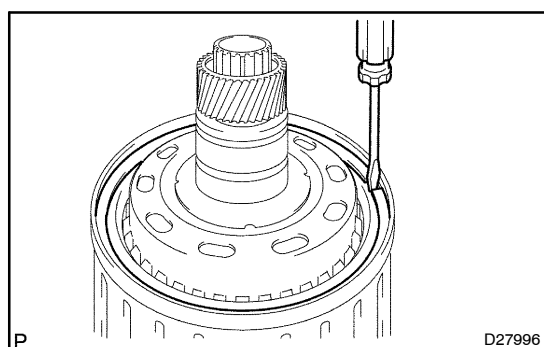


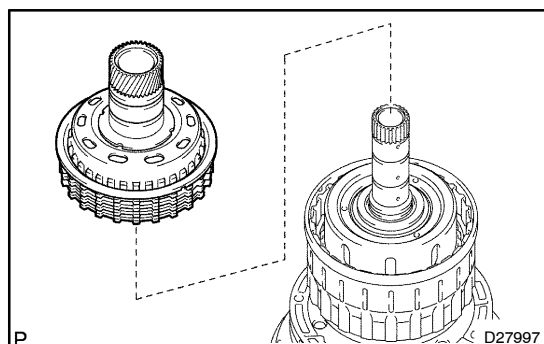
OVERHAUL

**1. FIX CLUTCH DRUM & INPUT SHAFT ASSY**

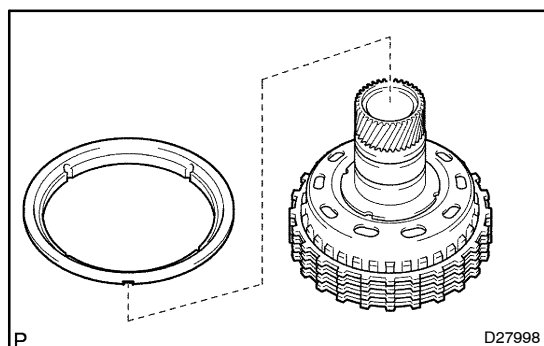
- (a) Place the oil pump onto the torque converter clutch, and then place the clutch drum & input shaft assy onto the oil pump.

**2. REMOVE REVERSE CLUTCH HUB SUB-ASSY**

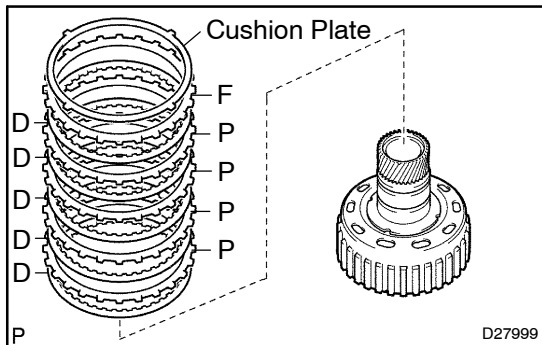
- (a) Using a screwdriver, remove the snap ring from the clutch drum and the input shaft assy.



- (b) Remove the reverse clutch hub sub assy, the reverse clutch reaction sleeve, the clutch cushion, the plate reverse clutch flange, the 5 reverse clutch discs, and the 4 clutch plates from the clutch drum assy.

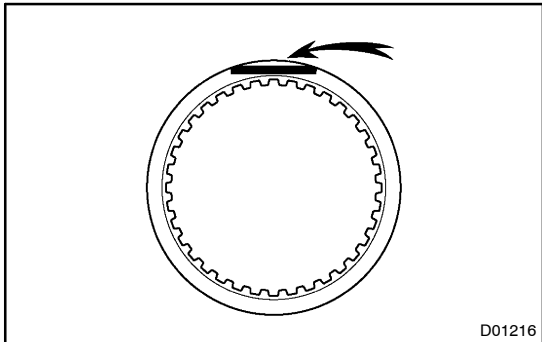
**3. REMOVE REVERSE CLUTCH REACTION SLEEVE**

- (a) Remove the reverse clutch reaction sleeve from the reverse clutch hub assy.



4. REMOVE REAR CLUTCH DISC

- (a) Remove the clutch cushion plate, the reverse clutch flange, the 4 plates and the 5 discs from the reverse clutch hub.

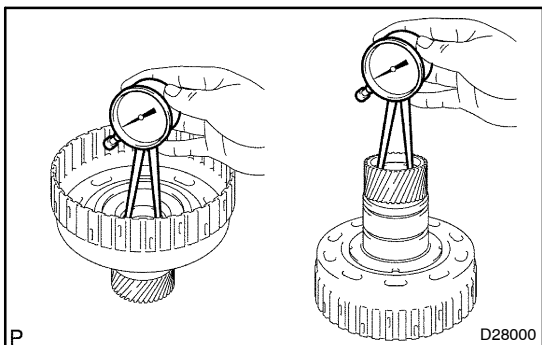


5. INSPECT REAR CLUTCH DISC

- (a) Check whether the sliding surface of the disc, the plate and the flange are worn or burnt. If necessary, replace them.

HINT:

- If the lining of the disc is peeled off or discolored, or even if only a part of the printed numbers is damaged, replace all discs.
- Before assembling new discs, soak them in ATF for at least 15 minutes.



6. INSPECT REVERSE CLUTCH HUB SUB-ASSY

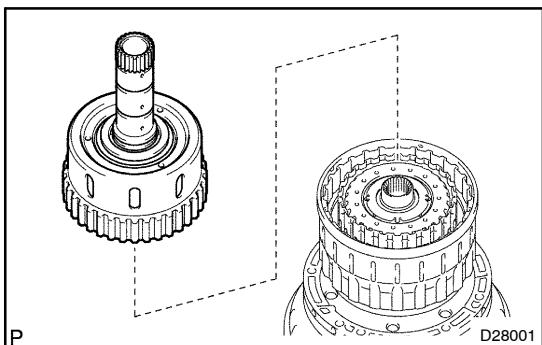
- (a) Using a dial indicator, measure the inside diameter of the reverse clutch hub bushing.

Standard drum bushing:

35.812 – 35.837 mm (1.4099 – 1.4109 in.)

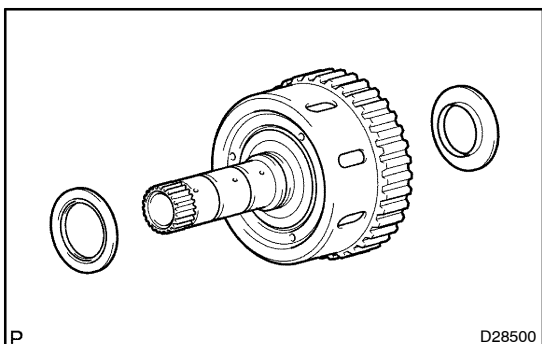
Maximum drum bushing: 35.887 mm (1.4129 in.)

If the inside diameter is greater than the maximum, replace the reverse clutch hub.

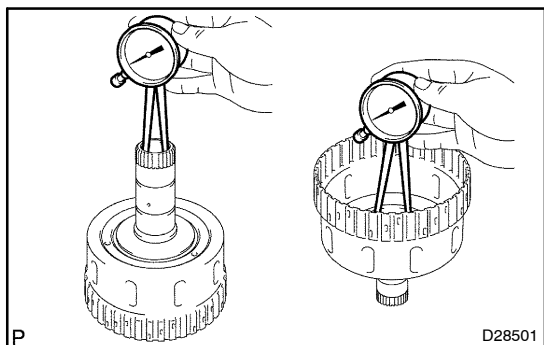


7. REMOVE FORWARD CLUTCH HUB SUB-ASSY

- (a) Remove the forward clutch hub sub assy from the clutch drum assy.



- (b) Remove the 2 thrust needle roller bearings from the forward clutch hub sub assy.



8. INSPECT FORWARD CLUTCH HUB SUB-ASSY

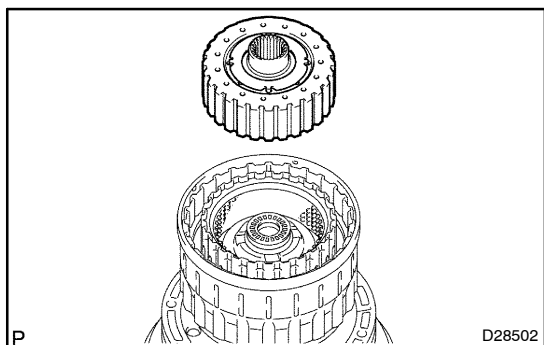
- (a) Using a dial indicator, measure the inside diameter of the forward clutch hub bushing.

Standard drum bushing:

26.037 – 26.062 mm (1.0251 – 1.0261 in.)

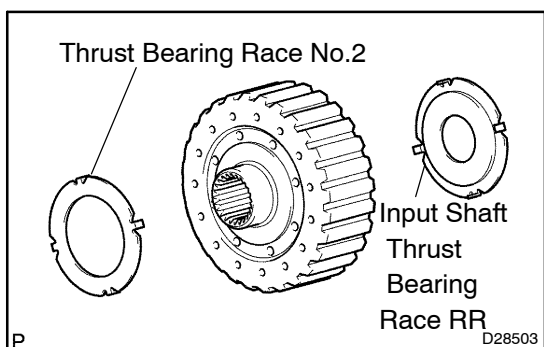
Maximum drum bushing: 26.112 mm (1.028 in.)

If the inside diameter is greater than the maximum, replace the forward clutch hub.

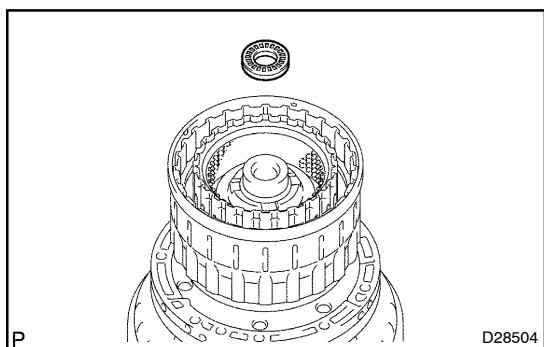


9. REMOVE MULTIPLE DISC CLUTCH CLUTCH HUB

- (a) Remove the multiple disc clutch clutch hub from the clutch drum assy.

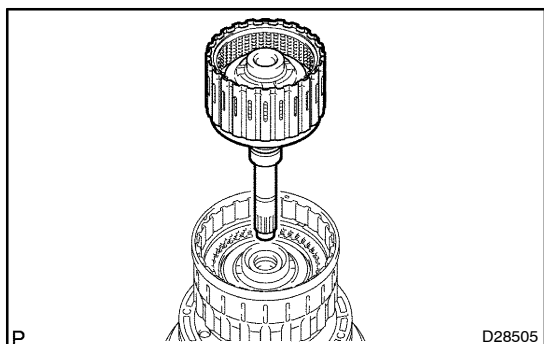


- (b) Remove the thrust bearing race No.2 and the input shaft thrust bearing race RR from the multiple disc clutch clutch hub.

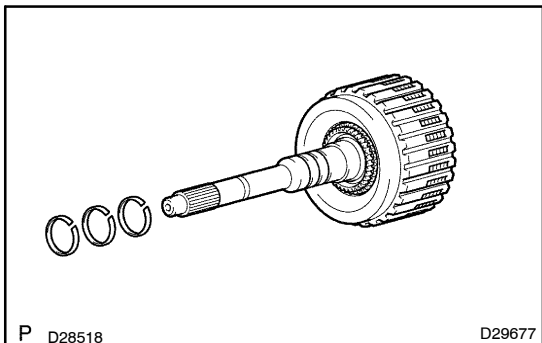


10. REMOVE INPUT SHAFT ASSY

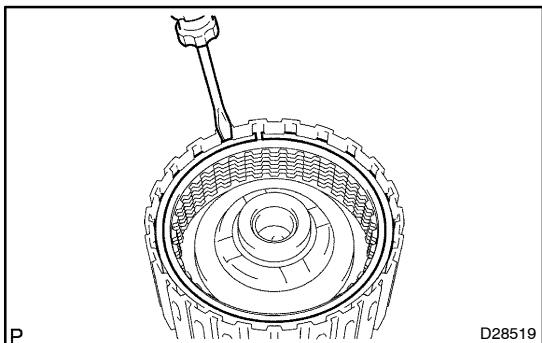
- (a) Remove the thrust needle roller bearing from the clutch drum assy.



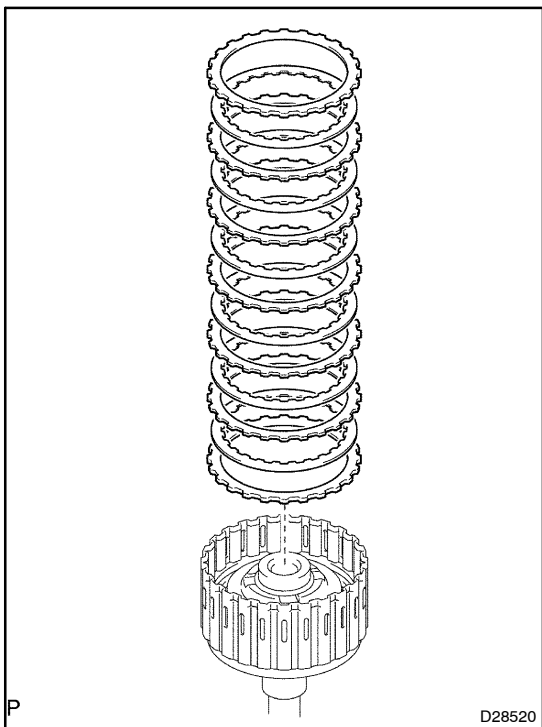
- (b) Remove the input shaft assy from the clutch drum assy.

**11. REMOVE INPUT SHAFT OIL SEAL RING**

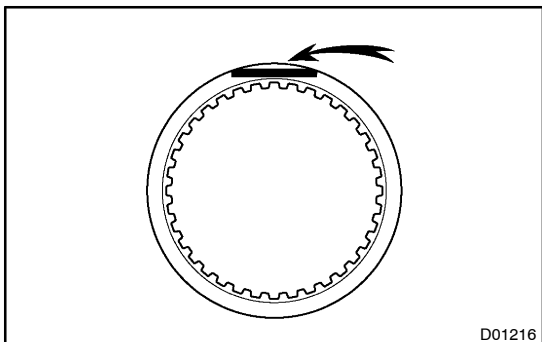
- (a) Remove the 3 oil seal rings from the input shaft assy.

**12. REMOVE FORWARD MULTIPLE DISC CLUTCH CLUTCH DISC**

- (a) Using a screwdriver, remove the hole snap ring.



- (b) Remove the 2 flanges, the 6 discs and the 5 plates from the input shaft assy.

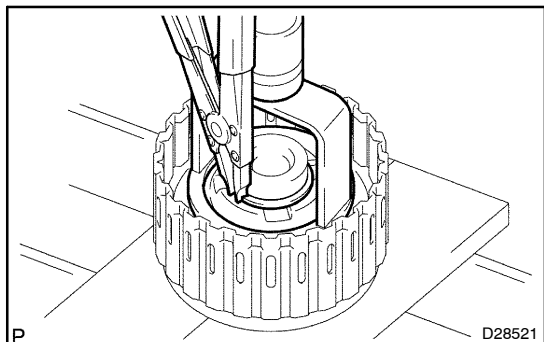
**13. INSPECT FORWARD MULTIPLE DISC CLUTCH CLUTCH DISC**

- (a) Check whether the sliding surface of the disc, the plate and the flange are worn or burnt. If necessary, replace them.

HINT:

- If the lining of the disc is peeled off or discolored, or even if only a part of the printed numbers is damaged, replace all discs.

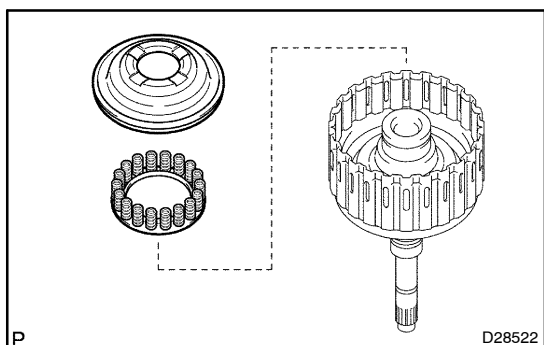
- Before assembling new discs, soak them in ATF for at least 15 minutes.



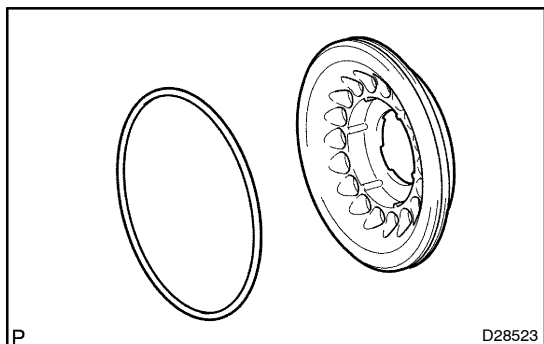
14. REMOVE CLUTCH BALANCER NO.1

- (a) Place SST on the clutch balancer No.1, and compress the return spring with a press.

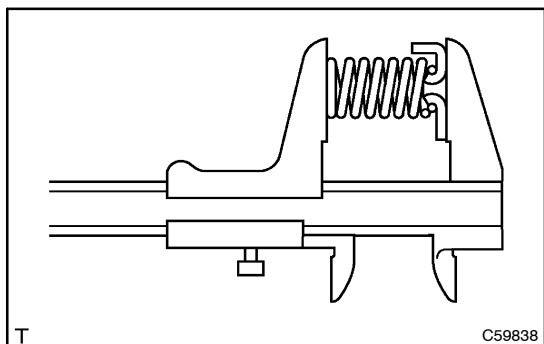
SST 09350-30020 (09350-07040, 09350-07070)



- (b) Remove the clutch balancer No.1 and the forward clutch return spring from the inputshaft assy.



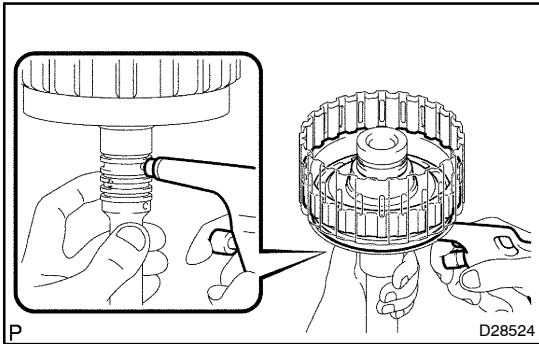
- (c) Remove the O-ring from the clutch balancer No.1.



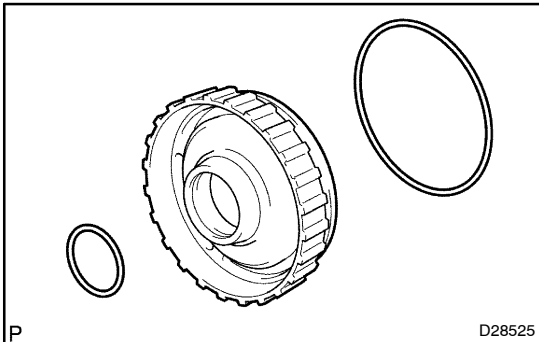
15. INSPECT FORWARD CLUTCH RETURN SPRING SUB-ASSY

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

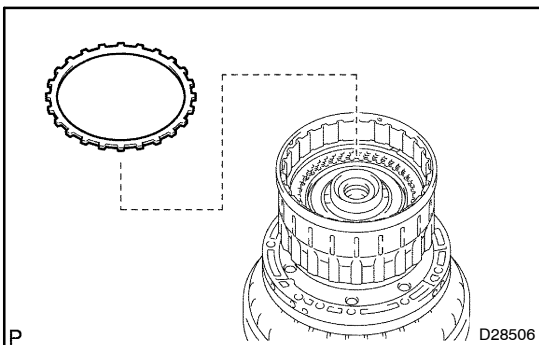
Standard free length: 26.74 mm (1.053 in.)

**16. REMOVE FORWARD CLUTCH PISTON**

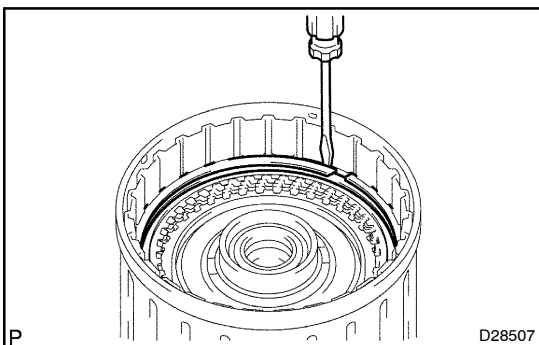
- (a) Holding the forward clutch piston by hand, apply compressed air (392 kPa, 4.0 kgf/cm², 57 psi) to the inputshaft to remove the forward clutch piston.



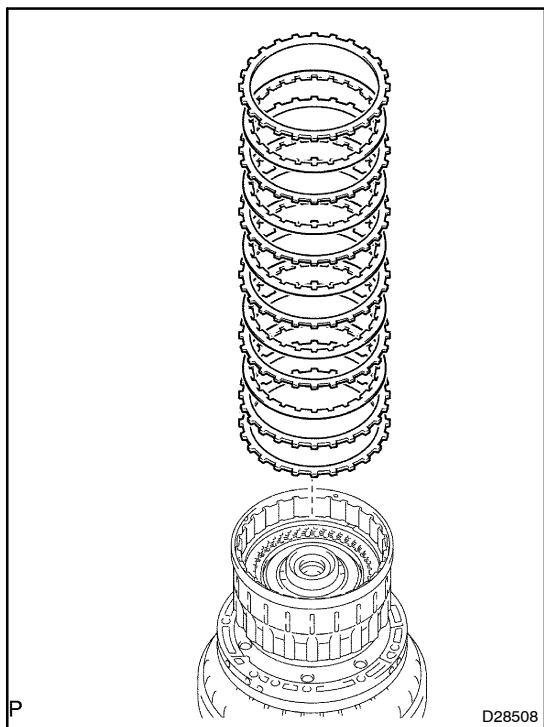
- (b) Remove the 2 O-rings from the forward clutch piston.

**17. REMOVE REVERSE CLUTCH FLANGE**

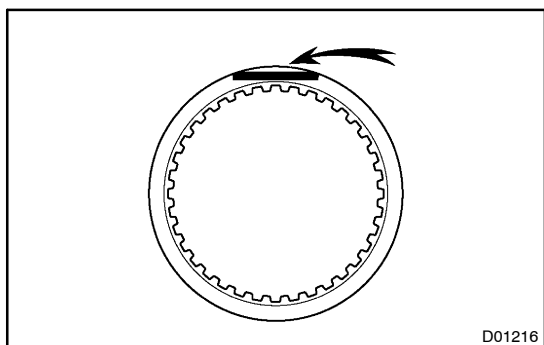
- (a) Remove the reverse clutch flange from the clutch drum assy.

**18. REMOVE DIRECT CLUTCH DISK**

- (a) Using a screwdriver, remove the 2 hole snap rings from the clutch drum assy.



- (b) Remove the reverse clutch flange, the 6 plates and the 5 discs from the clutch drum assy.

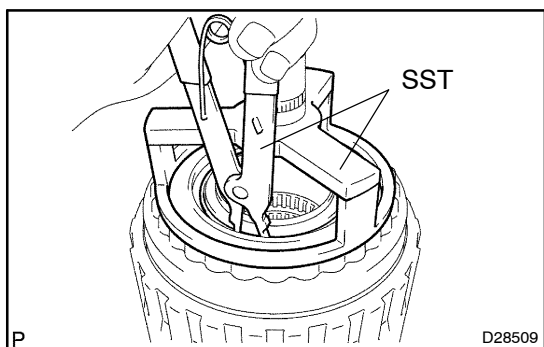


19. INSPECT DIRECT CLUTCH DISK

- (a) Check whether the sliding surface of the disc, the plate and the flange are worn or burnt. If necessary, replace them.

HINT:

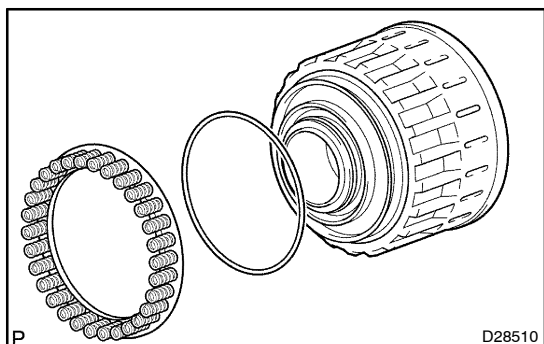
- If the lining of the disc is peeled off or discolored, or even if only a part of the printed numbers is damaged, replace all discs.
- Before assembling new discs, soak them in ATF for at least 15 minutes.



20. REMOVE CLUTCH BALANCER NO.3

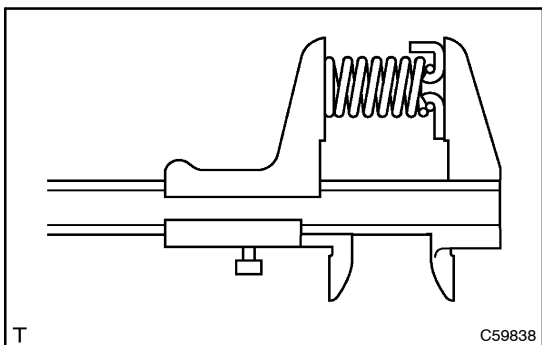
- (a) Place SST on the clutch balancer No.3, and compress the return spring with a press.

SST 09387-00070, 09350-30020 (09350-07070)



21. REMOVE REVERSE CLUTCH RETURN SPRING SUB-ASSY

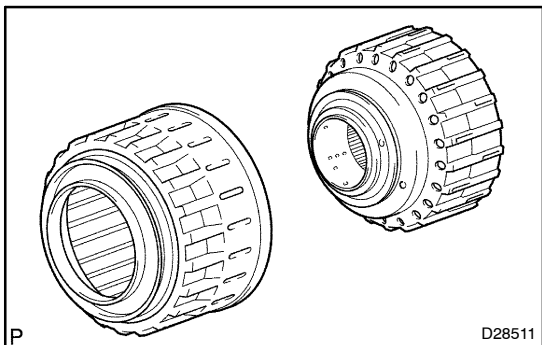
- (a) Remove the reverse clutch return spring and the O-ring from the reverse clutch piston.



22. INSPECT REVERSE CLUTCH RETURN SPRING SUB-ASSY

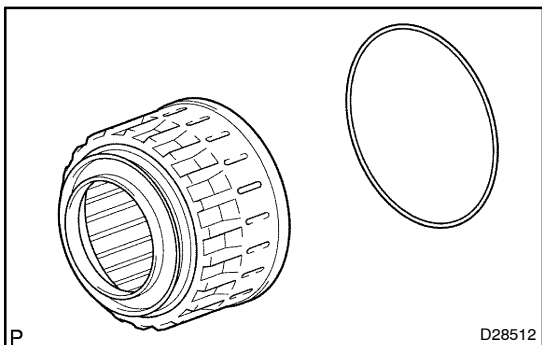
- (a) Using a vernier calipers, measure the free length of the spring together with the spring seat.

Standard free length: 21.04 mm (0.828 in.)

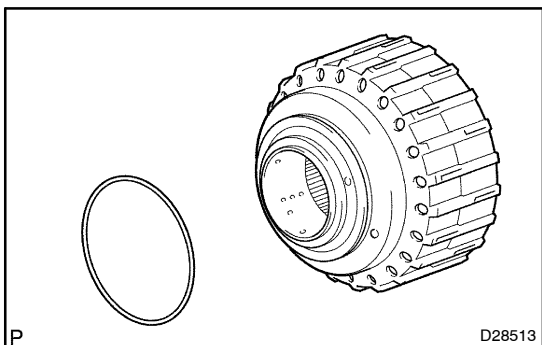


23. REMOVE REVERSE CLUTCH PISTON SUB-ASSY

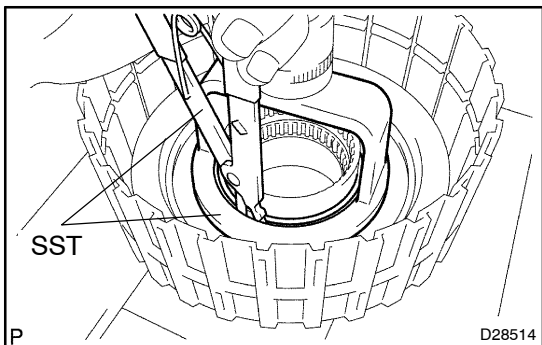
- (a) Remove the reverse clutch piston, sub assy from the clutch drum sub assy.



- (b) Remove the O-ring from the reverse clutch piston sub assy.



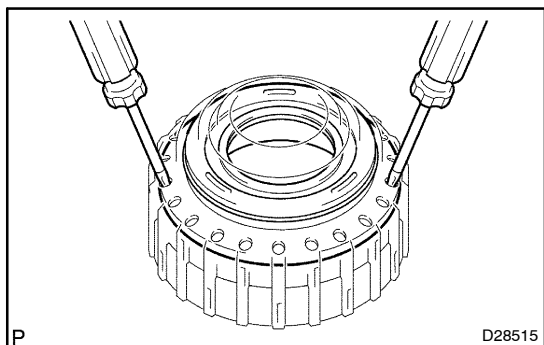
- (c) Remove the O-ring from the clutch drum sub assy.



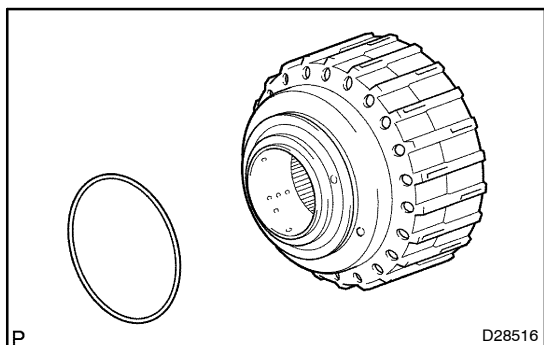
24. REMOVE DIRECT CLUTCH PISTON SUB-ASSY

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

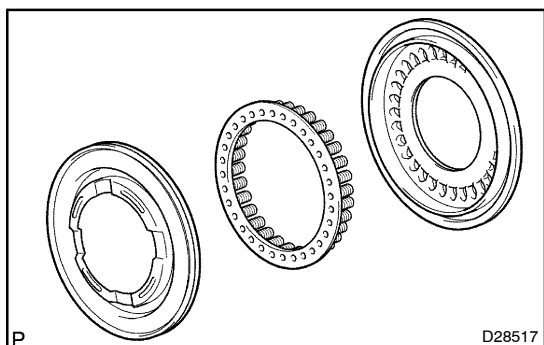
SST 09320-89010, 09350-30020 (09350-07070)



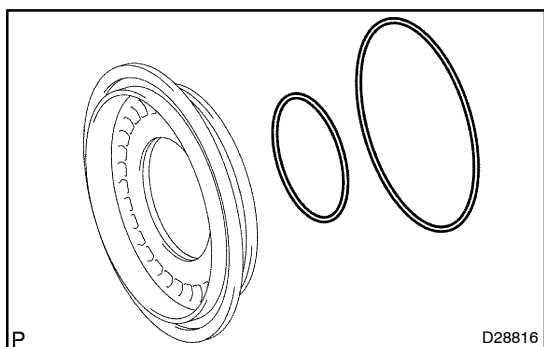
- (b) Using 2 screw drivers, remove the direct clutch piston sub assy from the clutch drum.



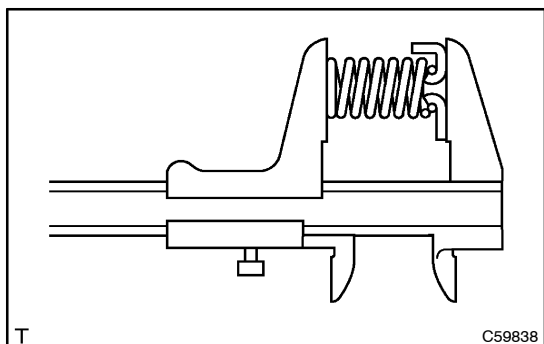
- (c) Remove the O-ring from the clutch drum.



- (d) Remove the clutch balancer No.2 and the direct clutch return spring sub assy from the direct clutch piston sub assy.

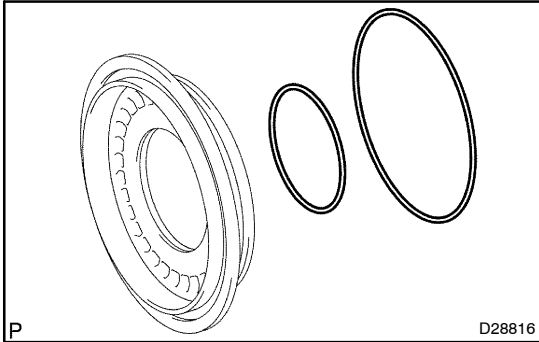


- (e) Remove the 2 O-rings from the direct clutch piston Sub-Assy.

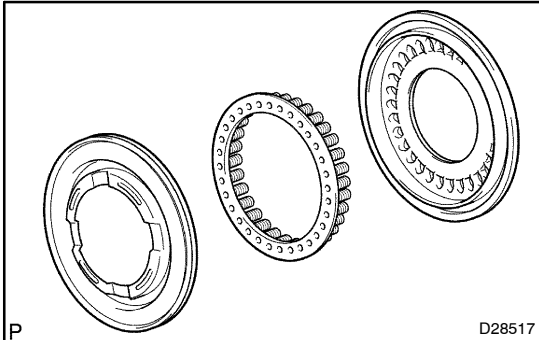


25. INSPECT DIRECT CLUTCH RETURN SPRING SUB-ASSY

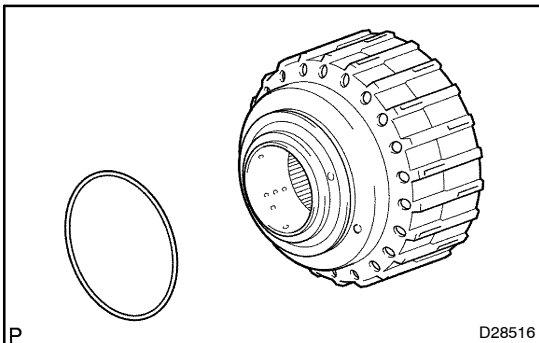
- (a) Using a vernier calipers, measure the free length of the spring together with the spring seat.
Standard free length: 19.51 mm (0.768 in.)

**26. INSTALL DIRECT CLUTCH PISTON SUB-ASSY**

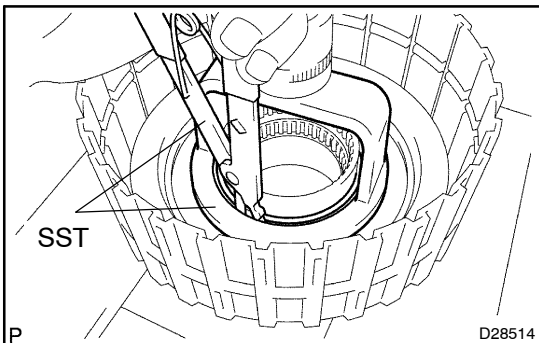
- (a) Coat 2 new O-rings with ATF, and install them in the direct clutch piston.



- (b) Install the clutch balancer No.2 and the direct clutch return spring to the direct clutch piston sub assembly.



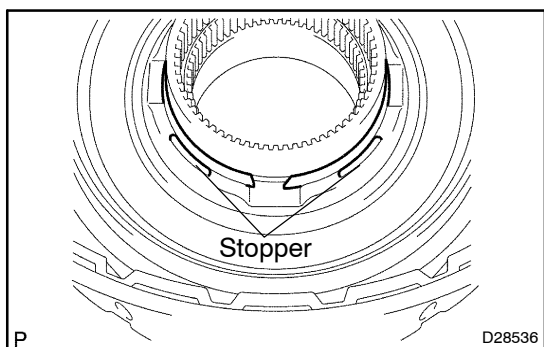
- (c) Coat a new O-ring with ATF, and install them on the clutch drum sub assembly.
- (d) Be careful not to damage the O-rings. Press in the direct clutch piston into the clutch drum with both hands.



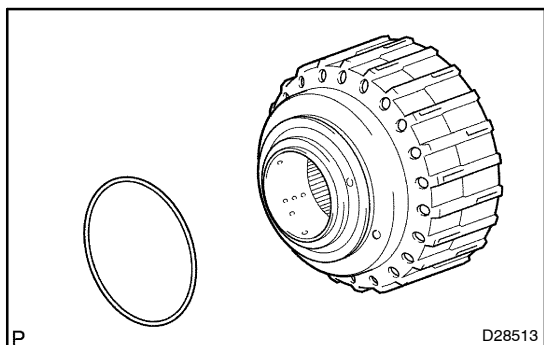
- (e) Place SST on the direct clutch piston, and compress the return spring with a press.
SST 09320-89010, 09350-30020 (09350-07070)
- (f) Install the snap ring with a snap ring expander.

NOTICE:

- Be sure the end gap of the snap ring is not aligned with the spring retainer claw.
- Stop Pressing when the spring sheet is lowered to the place 1 – 2 mm (0.039 – 0.078 in.) from the snap ring groove to prevent the spring sheet from being deformed.
- Do not expand the snap ring excessively.

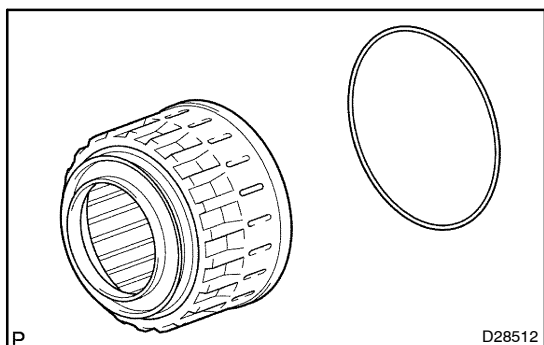


- (g) Set the end gap of the snap ring in the piston as shown in the illustration.

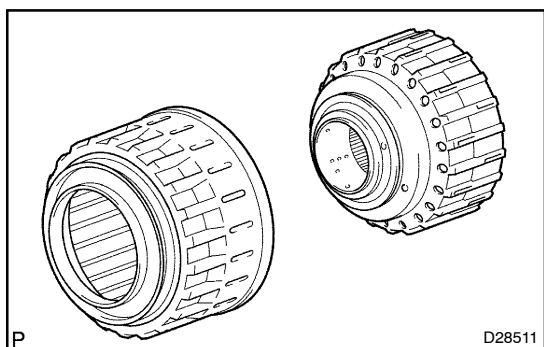


27. INSTALL REVERSE CLUTCH PISTON SUB-ASSY

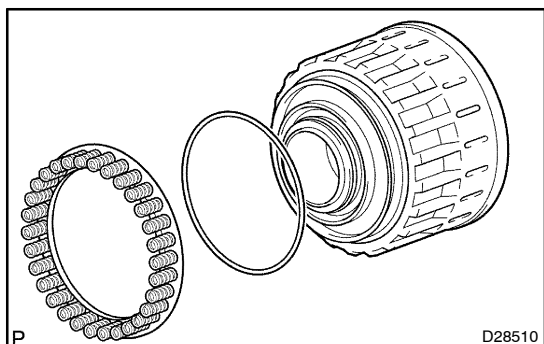
- (a) Coat a new O-ring with ATF, and install it on the clutch drum sub assy.



- (b) Coat a new O-ring with ATF, and install it on the reverse clutch piston sub assy.

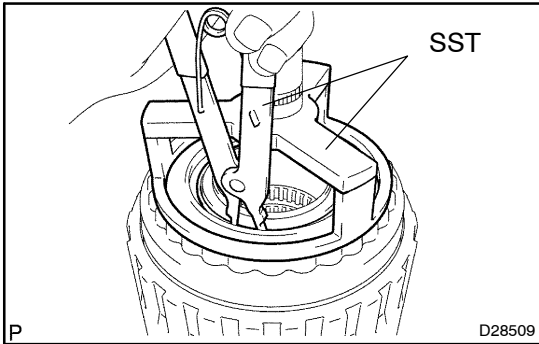


- (c) Be careful not to damage the O-ring. Press in the clutch drum sub assy into the reverse clutch piston with both hands.



28. INSTALL REVERSE CLUTCH RETURN SPRING SUB-ASSY

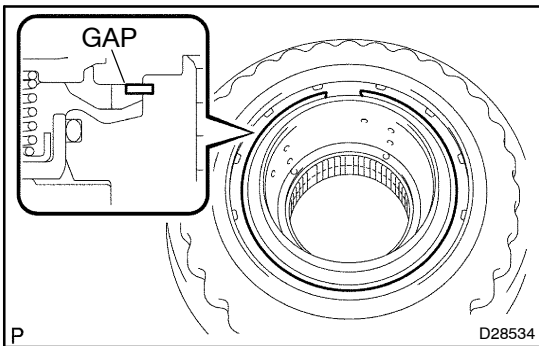
- (a) Coat a new O-ring with ATF, and install it on the reverse clutch piston sub assy.
(b) Install the reverse clutch return spring onto the reverse clutch piston sub assy.

**29. INSTALL CLUTCH BALANCER NO.3**

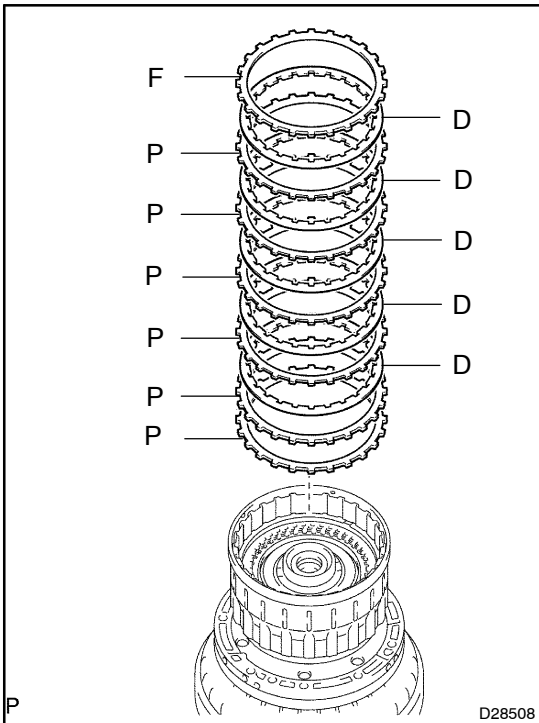
- (a) Place SST on the clutch balancer No.3, and compress the clutch balancer with a press.
SST 09387-00070, 09350-30020 (09350-07070)
- (b) Install the snap ring with a snap ring expander.
- (c) Be sure the end gap of the snap ring is not aligned with the spring retainer claw.

NOTICE:

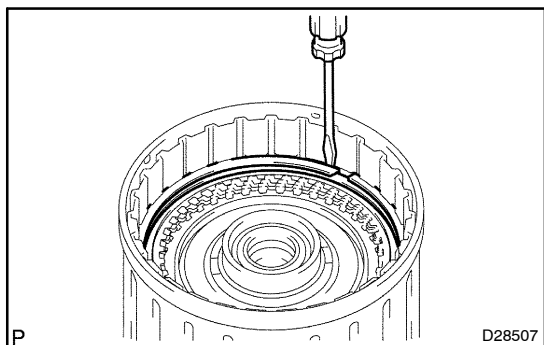
- **Stop pressing when the spring sheet is lowered to the place 1 – 2 mm (0.039 – 0.078 in.) from the snap ring groove to prevent the spring sheet from being deformed.**
- **Do not expand the snap ring excessively.**



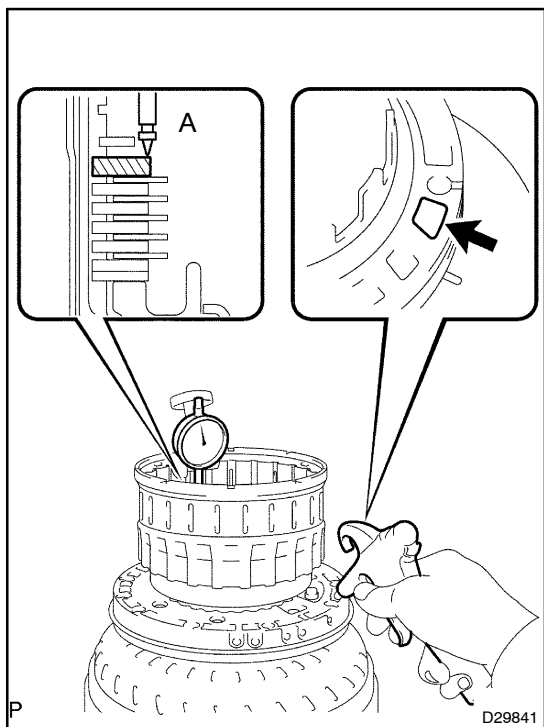
- (d) Set the end gap of the snap ring in the piston as shown in the illustration.

**30. INSTALL DIRECT CLUTCH DISK**

- (a) Install the reverse clutch flange, the 6 plates and the 5 discs on the clutch drum sub assy.



- (b) Using a screwdriver, install the 2 hole snap rings on the clutch drum sub assy.



31. INSPECT PACK CLEARANCE OF DIRECT CLUTCH

- (a) Using a dial gauge, measure the moving distance (distance A) of the clutch flange at the both end across a diameter while blowing air from the oil hole as shown in the illustration, and calculate the average.

Pack Clearance: 0.5 – 0.8 mm

NOTICE:

Install a selective flange (t 3.4 mm) when measuring the moving distance. (shaded area in the illustration.)

HINT:

Flange moving distance A = 0.26 – 1.14 mm

Pack Clearance = Flange moving distance A – 0.05 mm

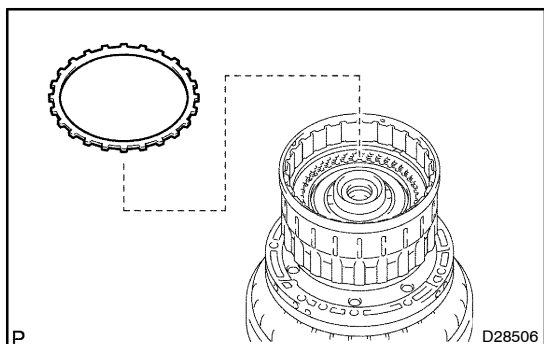
- (b) If the pack clearance is outside the standard, select & install a clutch flange that makes the pack clearance to be within the standard.

HINT:

Select the flange from 9 kinds (in thickness) of the selective flanges to adjust the pack clearance.

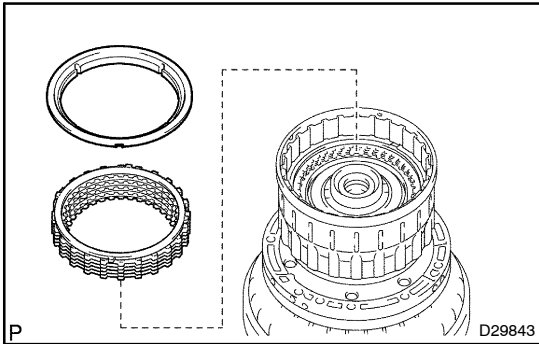
Flange thickness

No.	Thickness	No.	Thickness
0	3.0 (0.118)	5	3.5 (0.138)
1	3.1 (0.122)	6	3.6 (0.142)
2	3.2 (0.126)	7	3.7 (0.146)
3	3.3 (0.130)	8	3.8 (0.150)
4	3.4 (0.134)	–	–



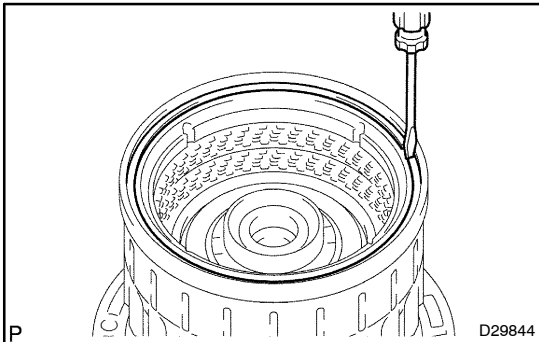
32. INSTALL REVERSE CLUTCH FLANGE

- (a) Install the reverse clutch flange to the clutch drum sub assy.



33. INSTALL REVERSE CLUTCH REACTION SLEEVE

- (a) Install the reverse clutch reaction sleeve, the clutch cushion plate, the reverse clutch flange, the 5 reverse clutch discs, and the 4 clutch plates to the reverse clutch hub.



- (b) Using a screwdriver, install the hole snap ring.

34. INSPECT PACK CLEARANCE OF REVERSE CLUTCH

- (a) Using a dial gauge, measure the reverse clutch piston stroke (distance A) and the moving distance (distance B) of the reverse clutch flange at the both end across a diameter while blowing air (392 kPa, 4 kgf/cm², 57 psi) from the oil hole as shown in the illustration, and calculate the average.

Pack Clearance: 0.5 – 0.8 mm

NOTICE:

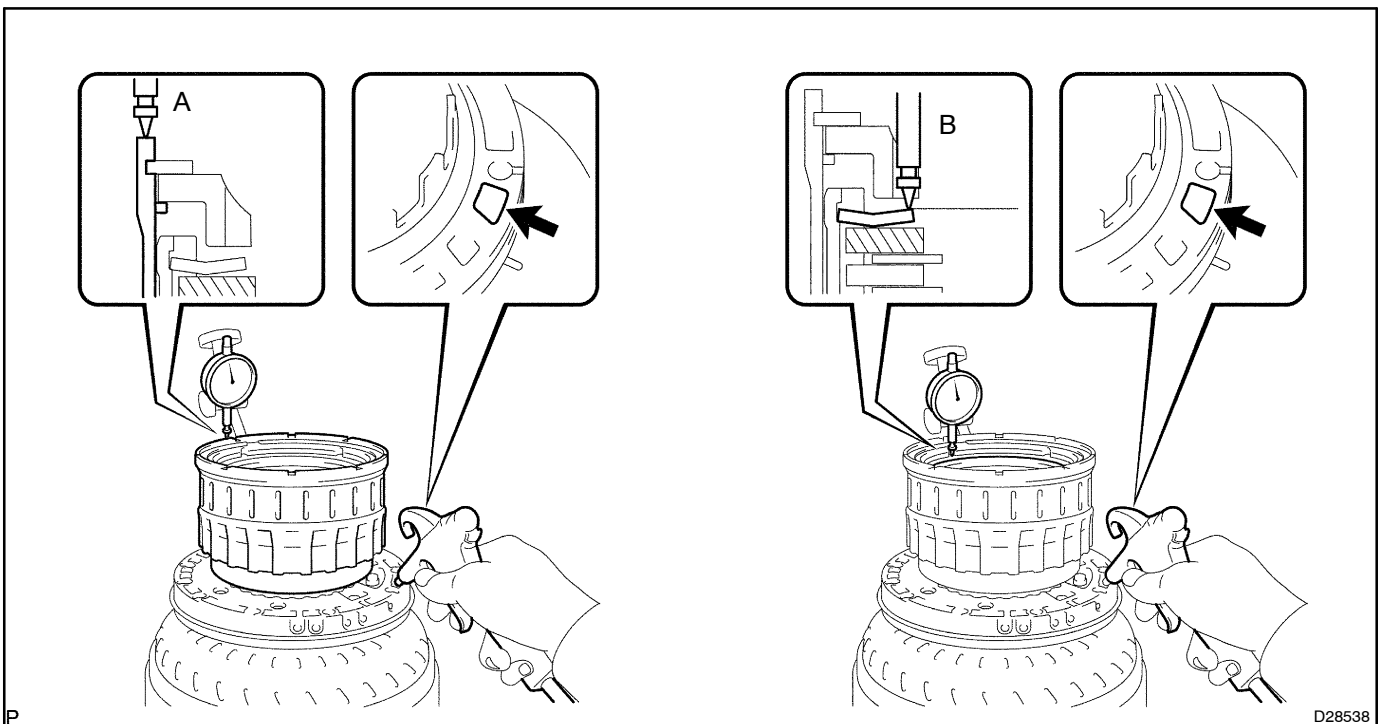
Install a selective flange (t 3.3 mm) when measuring the moving distance. (shaded area in the illustration.)

HINT:

Piston stroke A = 1.05 – 2.15 mm

Flange moving distance B = 0.72 – 1.08 mm

Pack Clearance = Piston stroke A – Flange moving distance B – 0.06



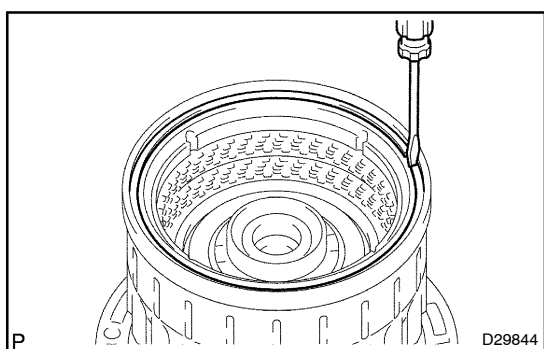
- (b) If the pack clearance is outside the standard, select & install a clutch flange that makes the pack clearance to be within the standard.

HINT:

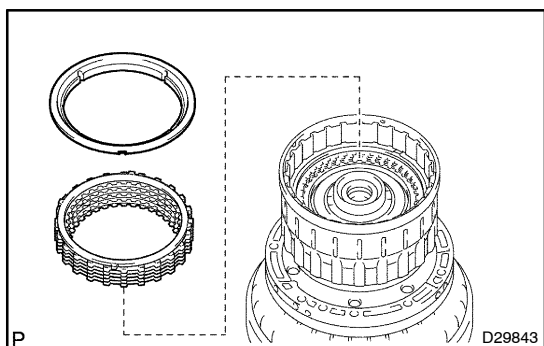
Select the flange from 11 kinds (in thickness) of the selective flanges to adjust the pack clearance.

Flange Thickness: mm (in.)

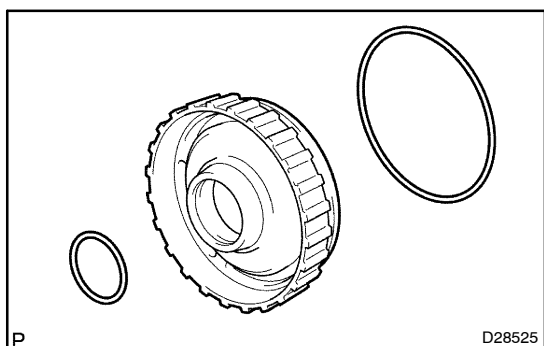
No.	Thickness	No.	Thickness
0	2.8 (0.110)	6	3.4 (0.134)
1	2.9 (0.114)	7	3.5 (0.138)
2	3.0 (0.118)	8	3.6 (0.142)
3	3.1 (0.122)	9	3.7 (0.146)
4	3.2 (0.126)	A	3.8 (0.150)
5	3.3 (0.130)		—

**35. REMOVE REVERSE CLUTCH REACTION SLEEVE**

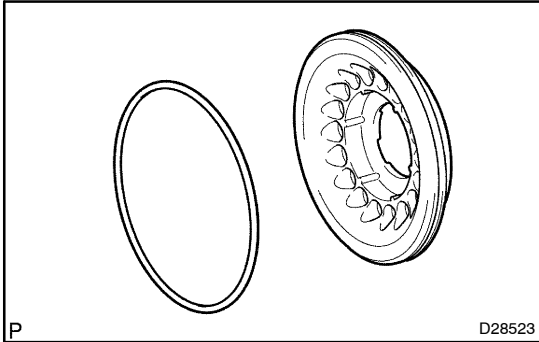
- (a) Using a screwdriver, remove the snap ring from the clutch drum Assy.



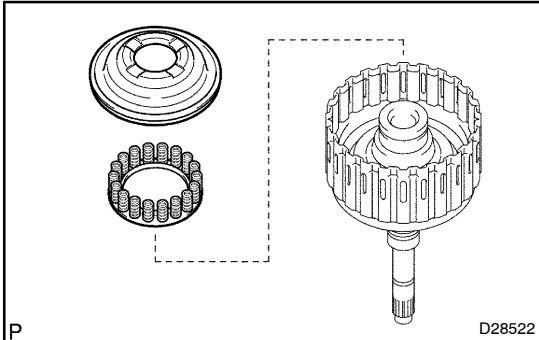
- (b) Remove the reverse clutch reaction sleeve, the clutch cushion plate, the reverse clutch flange, the 5 reverse clutch discs, and the 4 clutch plates from the reverse clutch hub sub Assy.

**36. INSTALL FORWARD CLUTCH PISTON**

- (a) Coat 2 new O-rings with ATF, and install them on the forward clutch piston.

**37. INSTALL CLUTCH BALANCER NO.1**

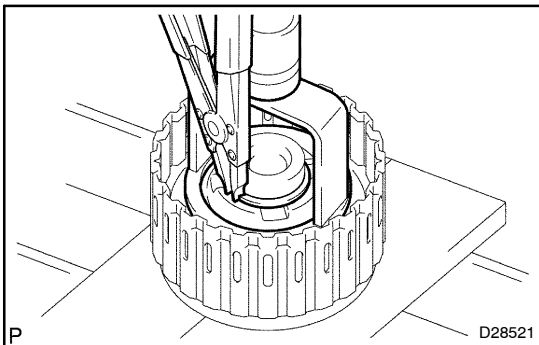
- (a) Coat a new O-ring with ATF and install it on the clutch balancer No.1.



- (b) Install the clutch balancer No.1 and the forward clutch return spring sub assy.

NOTICE:

Be careful not to damage the O-ring.



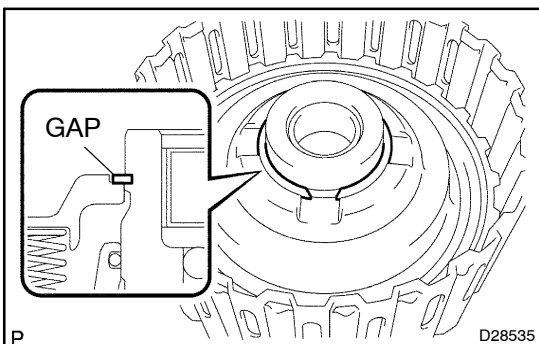
- (c) Place SST on the clutch balancer No.1, and compress the return spring with a press.

SST 09350-30020 (09350-07040, 09350-07070)

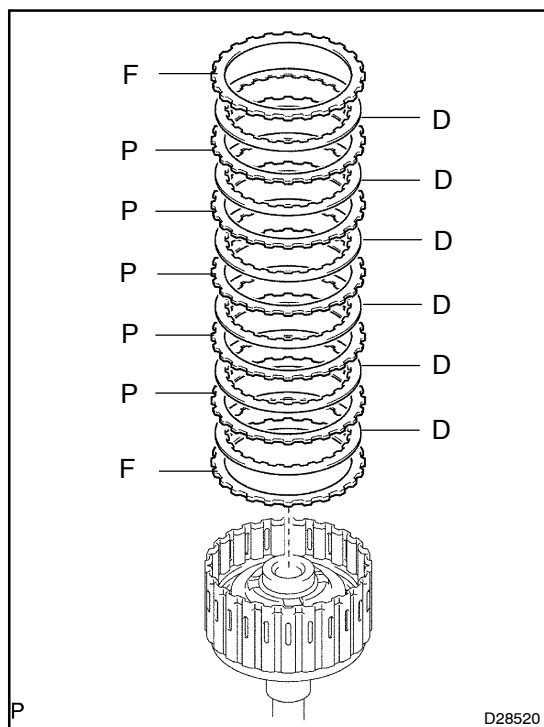
- (d) Install the snap ring with a snap ring expander.
(e) Be sure the end gap of the snap ring is not aligned with the spring retainer claw.

NOTICE:

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

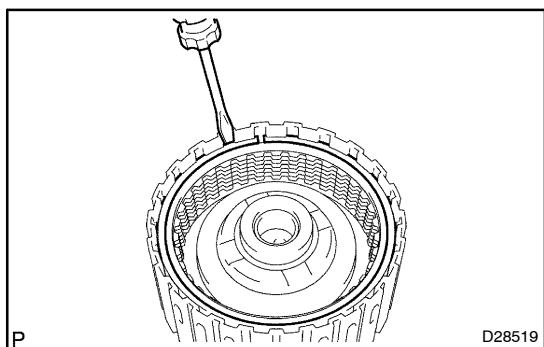


- (f) Set the end gap of the snap ring in the piston as shown in the illustration.

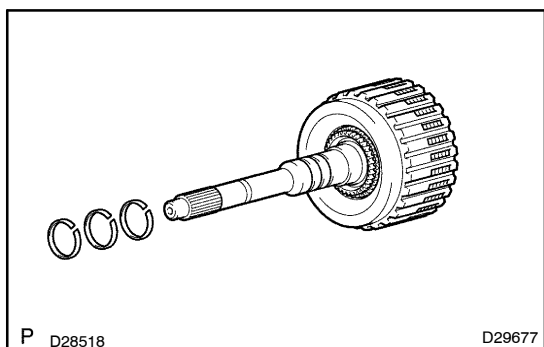


38. INSTALL FORWARD MULTIPLE DISC CLUTCH CLUTCH DISC

- (a) Install the 2 flanges, the 6 discs and the 5 plates to the input shaft assy.



- (b) Using a screwdriver, install the hole snap ring.



39. INSTALL INPUT SHAFT OIL SEAL RING

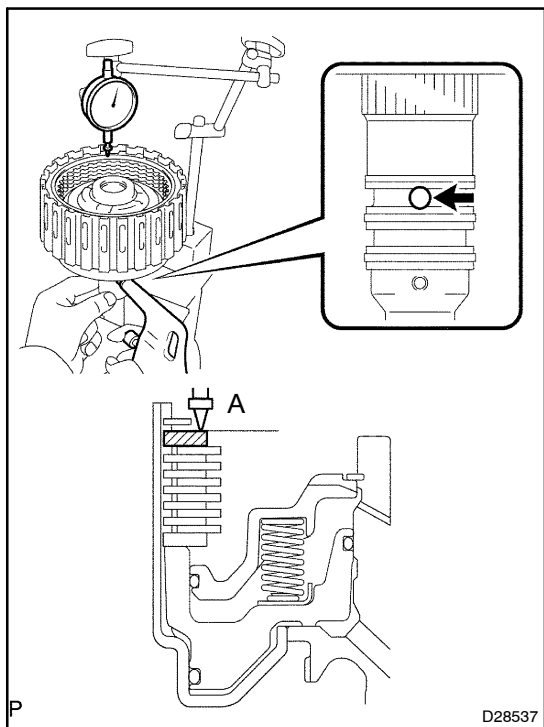
- (a) Coat the 3 oil seal rings with ATF.
- (b) Squeeze the ends of the 3 oil seal rings together, and then install them to the starter shaft groove.

NOTICE:

Do not over-spread the ring ends.

HINT:

After installing the oil seal rings, check that they rotate smoothly.

**40. INSPECT PACK CLEARANCE OF FORWARD CLUTCH**

- (a) Using a dial gauge, measure the moving distance (distance A) of the clutch flange at the both end across a diameter while blowing air from the oil hole as shown in the illustration, and calculate the average.

Pack Clearance: 0.6 – 0.9 mm

NOTICE:

Install a selective flange (t 3.4 mm) when measuring the moving distance. (shaded area in the illustration.)

HINT:

Flange moving distance A = 0.26 – 1.36 mm

Pack Clearance = Flange moving distance A – 0.01 mm

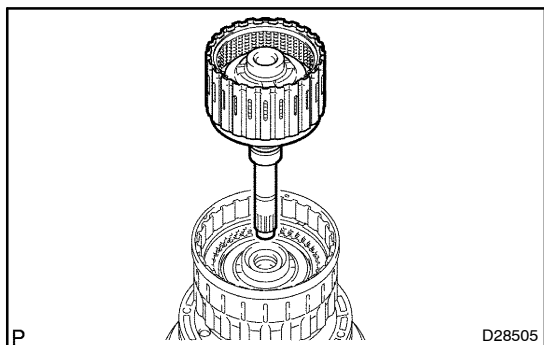
- (b) If the pack clearance is outside the standard, select & install a clutch flange that makes the pack clearance to be within the standard.

HINT:

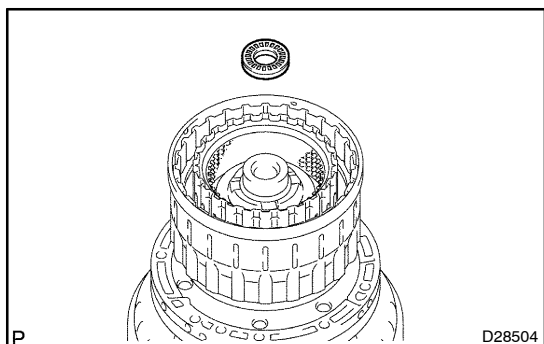
Select the flange from 11 kinds (in thickness) of the selective flanges to adjust the pack clearance.

Flange thickness

No.	Thickness	No.	Thickness
0	3.0 (0.118)	6	3.6 (0.142)
1	3.1 (0.122)	7	3.7 (0.146)
2	3.2 (0.126)	8	3.8 (0.150)
3	3.3 (0.130)	9	3.9 (0.154)
4	3.4 (0.134)	A	4.0 (0.158)
5	3.5 (0.138)		–

**41. INSTALL INPUT SHAFT ASSY**

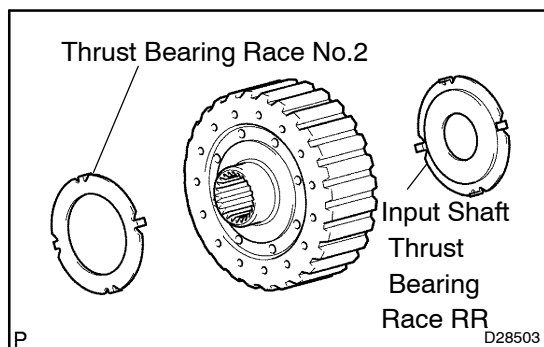
- (a) Install the input shaft assy to the clutch drum.



- (b) Install the thrust needle roller bearing to the clutch drum assy.

Thrust needle roller bearing diameter: mm (in.)

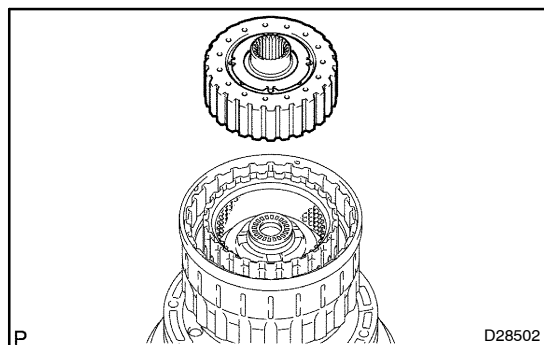
	Inside	Outside
Thrust needle roller bearing	21.3 (0.839)	41.1 (1.618)

**42. INSTALL MULTIPLE DISC CLUTCH CLUTCH HUB**

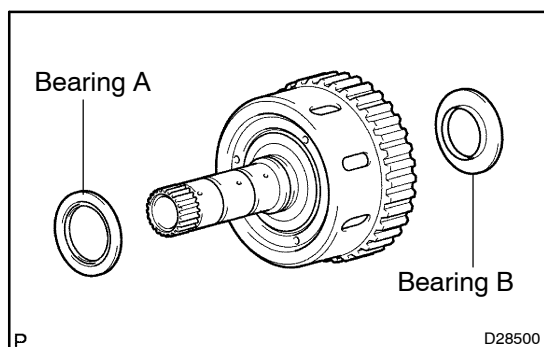
- (a) Install the thrust bearing race No.2 and the input shaft thrust bearing race RR to the multiple disc clutch clutch hub.

Bearing and race diameter: mm (in.)

	Inside	Outside
Thrust bearing race No.2	38.4 (1.512)	63.0 (2.480)
Input shaft bearing race RR	22.6 (0.890)	60.0 (2.362)



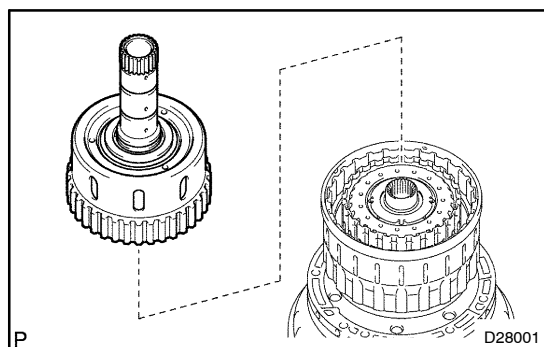
- (b) Install the multiple disc clutch clutch hub to the clutch drum assy.

**43. INSTALL FORWARD CLUTCH HUB SUB-ASSY**

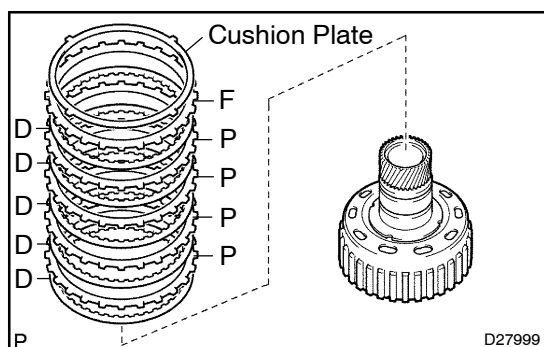
- (a) Install the 2 thrust needle roller bearings to the forward clutch hub sub assy.

Bearing and race diameter: mm (in.)

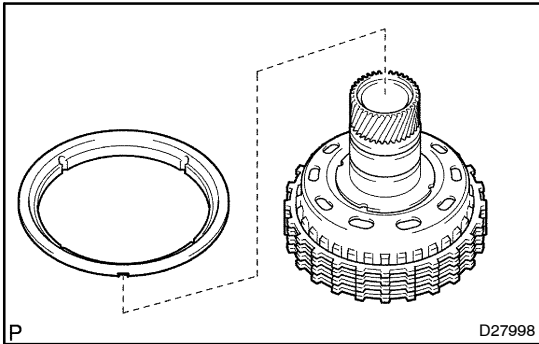
	Inside	Outside
Bearing A	42.5 (1.673)	61.2 (2.409)
Bearing B	33.3 (1.311)	56.6 (2.228)



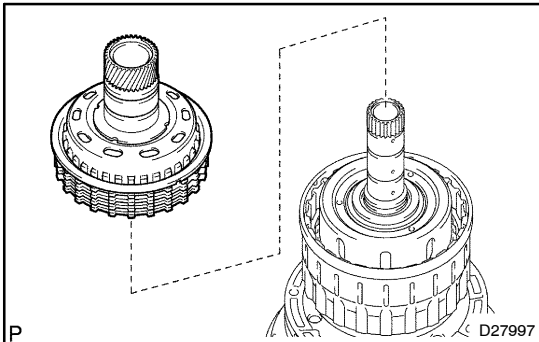
- (b) Install the forward clutch hub sub assy to the clutch drum assy.

**44. INSTALL REAR CLUTCH DISC**

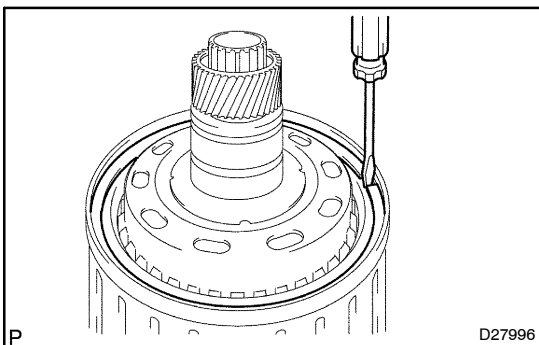
- (a) Install the clutch cushion plate, the reverse clutch flange, the 4 plates and the 5 discs to the reverse clutch hub.

**45. INSTALL REVERSE CLUTCH REACTION SLEEVE**

- (a) Install the reverse clutch reaction sleeve to the reverse clutch hub.

**46. INSTALL REVERSE CLUTCH HUB SUB-ASSY**

- (a) Install the reverse clutch hub sub assy, the reverse clutch reaction sleeve, the clutch cushion plate, the reverse clutch flange, the 5 reverse clutch discs, and the 4 clutch plates to the clutch drum assy.



- (b) Using a screwdriver, install the snap ring on the clutch drum and the input shaft assy.