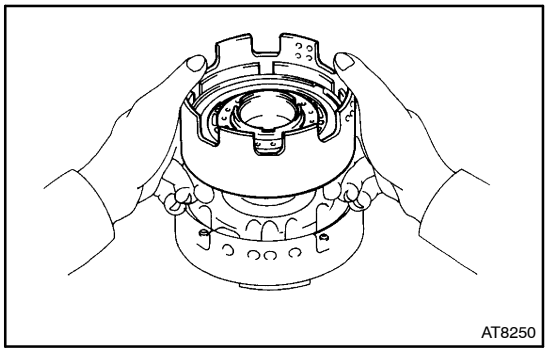
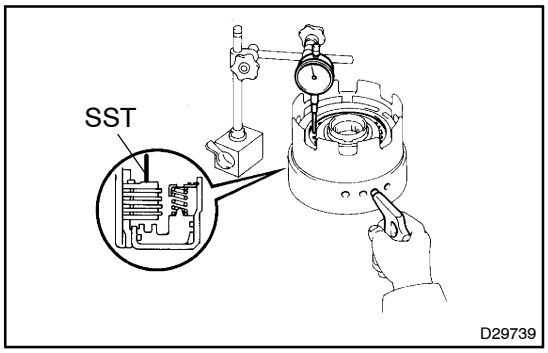
400VQ–01

OVERHAUL



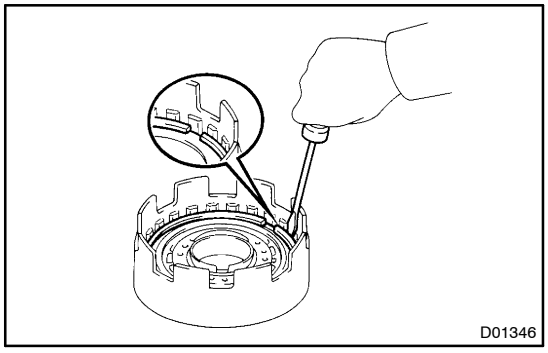
1. INSPECT PACK CLEARANCE OF DIRECT CLUTCH

(a) Place the direct clutch assembly onto the O/D support assembly.



(b) Using SST and a dial indicator, measure the direct clutch pack clearance while applying and releasing compressed air (186 – 206 kPa, 1.9 – 2.1 kgf/cm^2, 27 – 30 psi).
SST 09350–30020 (09350–06120)
Pack Clearance: 0.40 – 0.70 mm (0.016 – 0.028 in.)

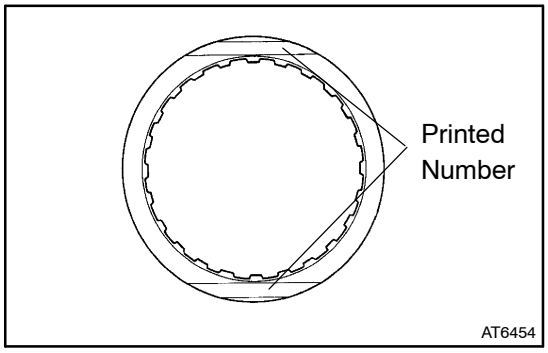
If the pack clearance is outside the standard inspect the discs.



2. REMOVE DIRECT CLUTCH FLANGE

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

(b) Remove the flange, the 5 plates and the 5 discs.

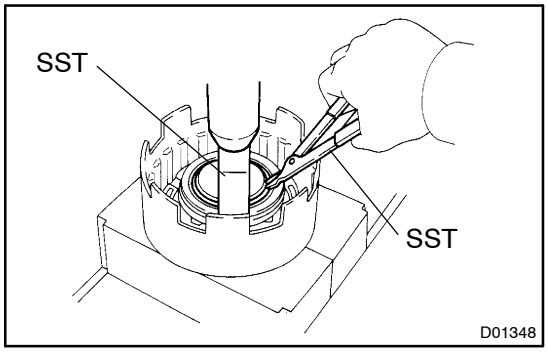


3. INSPECT DIRECT CLUTCH FLANGE

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

HINT:

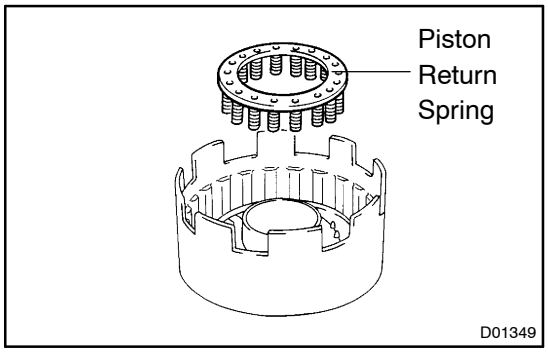
- If the lining of the disc is peeled off or discolored, or even if only a part of the printed numbers is corroded, replace all discs.
- Before assembling new discs, soak them in ATF for at least 15 minutes.



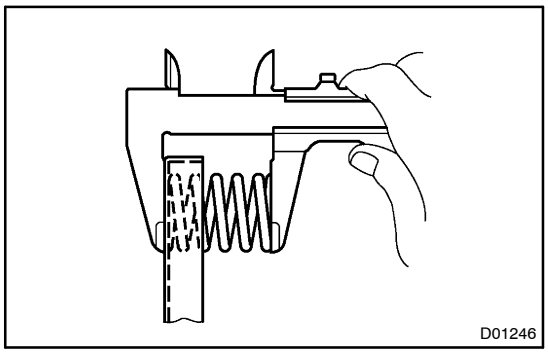
4. REMOVE DIRECT CLUTCH RETURN SPRING SUB–ASSY

(a) Place SST on the piston return spring and compress.
SST 09350–30020 (09350–07040)

(b) Using SST, remove the snap ring.
SST 09350–30020 (09350–07070)

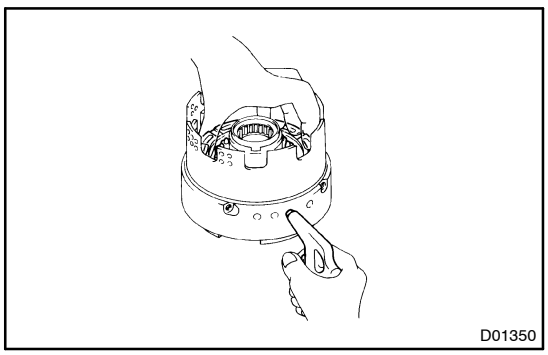


(c) Remove the piston return spring.



5. INSPECT DIRECT CLUTCH RETURN SPRING SUB–ASSY

(a) Measure the free length of the spring together with the spring seat.
Standard free length: 21.32 mm (0.839 in.)



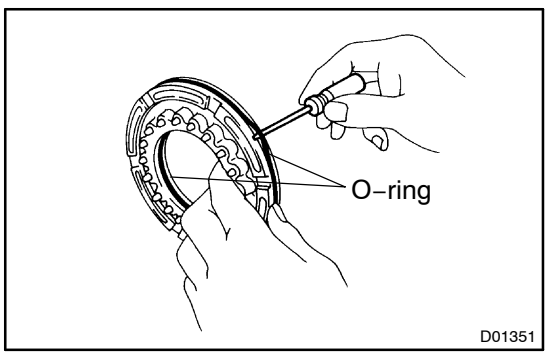
6. REMOVE DIRECT CLUTCH PISTON SUB–ASSY

(a) Place the direct clutch drum onto the O/D support.

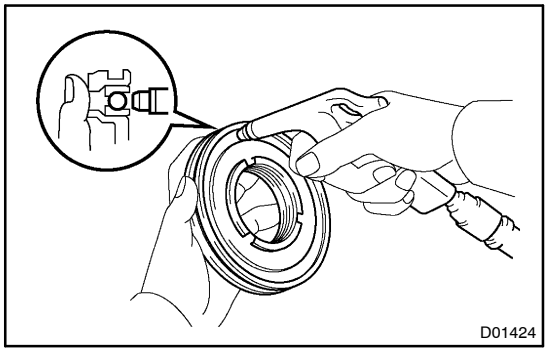
(b) Hold the direct clutch piston, and apply compressed air (196 kPa, 2.0 kgf/cm^2, 28.5 psi) to the O/D support to remove the direct clutch piston.

HINT:
Make sure the direct clutch piston is at a right angle to the drum before applying compressed air.

(c) Remove the direct clutch piston.



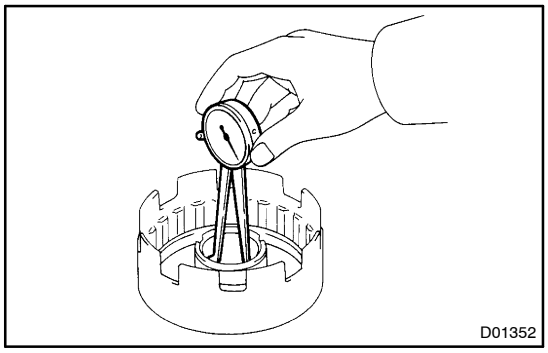
(d) Using a small screwdriver, remove the 2 O–rings from the piston.



7. INSPECT DIRECT CLUTCH PISTON SUB–ASSY

(a) Check that the check ball is free by shaking the piston.

(b) Check that the valve does not have leaks by applying low–pressure compressed air.

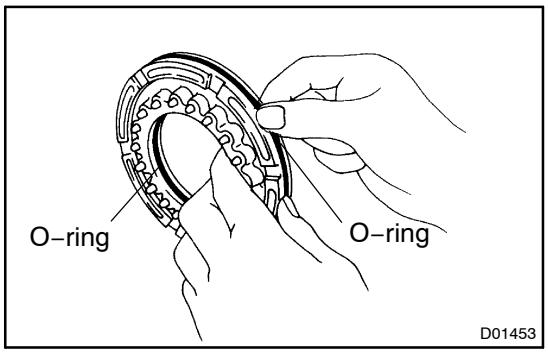


8. INSPECT DIRECT CLUTCH DRUM SUB–ASSY

(a) Using a deal indicator, measure the inside diameter of the clutch drum bushing.

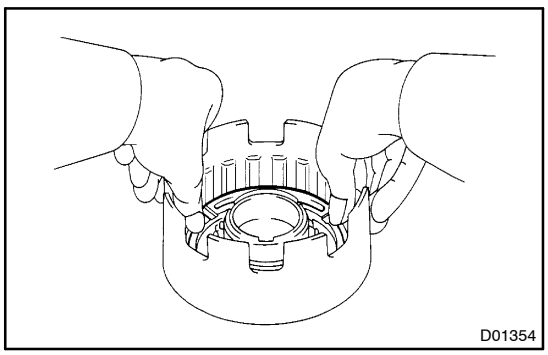
Maximum inside diameter: 53.97 mm (2.1248 in.)

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

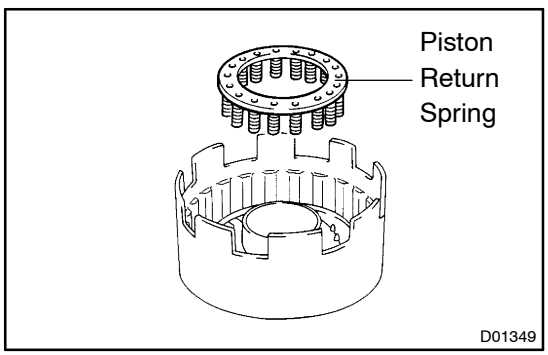


9. INSTALL DIRECT CLUTCH PISTON SUB–ASSY

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

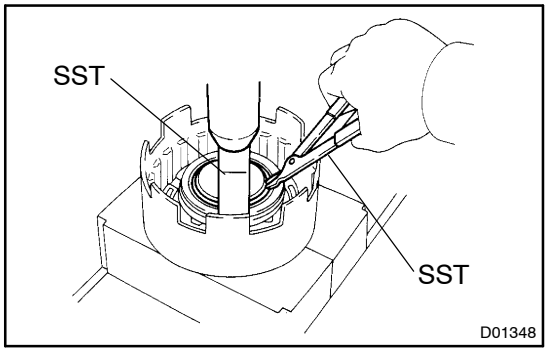


(b) Be careful not to damage the O–rings, and press in the direct clutch piston into the clutch drum with both hands.



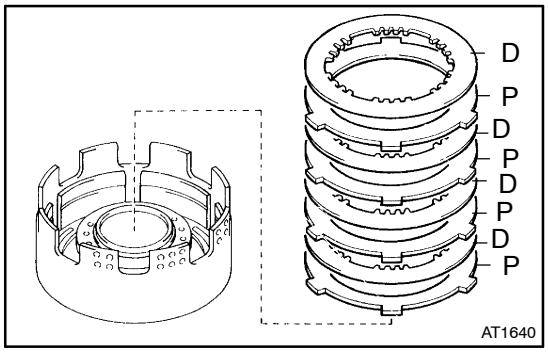
10. INSTALL DIRECT CLUTCH RETURN SPRING SUB–ASSY

(a) Install the piston return spring.

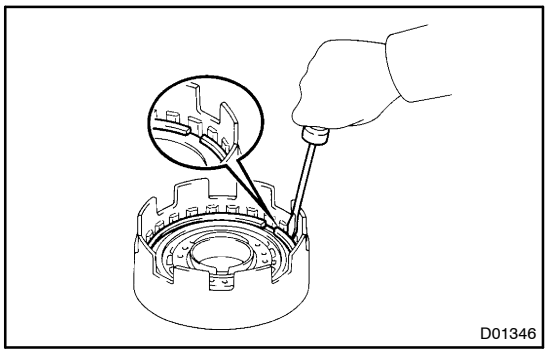


(b) Place SST on the spring retainer, and compress the return spring with a press.
SST 09350–30020 (09350–07040)
(c) Using SST, install the snap ring.
SST 09350–30020 (09350–07070)

NOTICE:
Be sure the end gap of the snap ring is not aligned with the spring retainer claw.

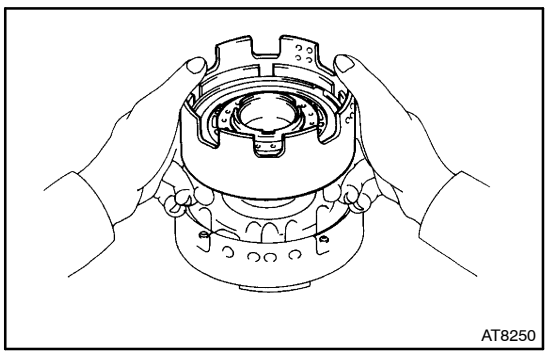


11. INSTALL DIRECT CLUTCH FLANGE
(a) Install the cushion plate.
(b) Install the 5 plates and the 5 discs.
Install in order: P = Plate, D = Disc
P – D – P – D – P – D – P – D
(c) Install the flange with the flat end facing downward.

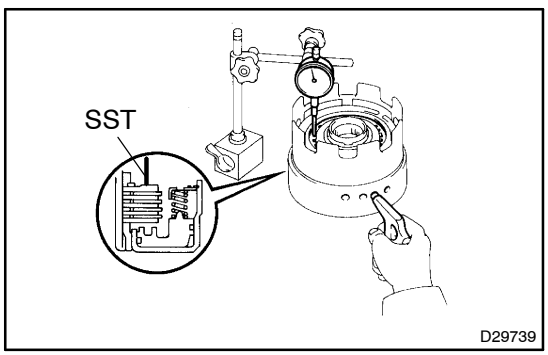


(d) Using a screwdriver, install the snap ring.

NOTICE:
Be sure the end gap of the snap ring is not aligned with the cutout portion of the direct clutch drum.



12. INSPECT PACK CLEARANCE OF DIRECT CLUTCH
(a) Place the direct clutch assembly onto the O/D support assembly.



(b) Using SST and a dial indicator, measure the direct clutch piston stroke while applying and releasing compressed air (392 kPa, 4.0 kgf/cm^2, 57 psi).
SST 09350–30020 (09350–06120)
Pack Clearance: 0.40 – 0.70 mm (0.016 – 0.028 in.)

If the pack clearance is less than the limit of piston stroke, parts may have been assembled incorrectly, so check and reassemble again.
If the pack clearance is outside the standard, select another flange.

HINT:

There are 8 different flanges in thickness.

Flange thickness: mm (in.)

No.	Thickness	No.	Thickness
53	3.3 (0.130)	57	3.7 (0.146)
54	3.4 (0.134)	58	3.8 (0.150)
55	3.5 (0.138)	60	4.0 (0.157)
56	3.6 (0.142)	62	4.2 (0.165)