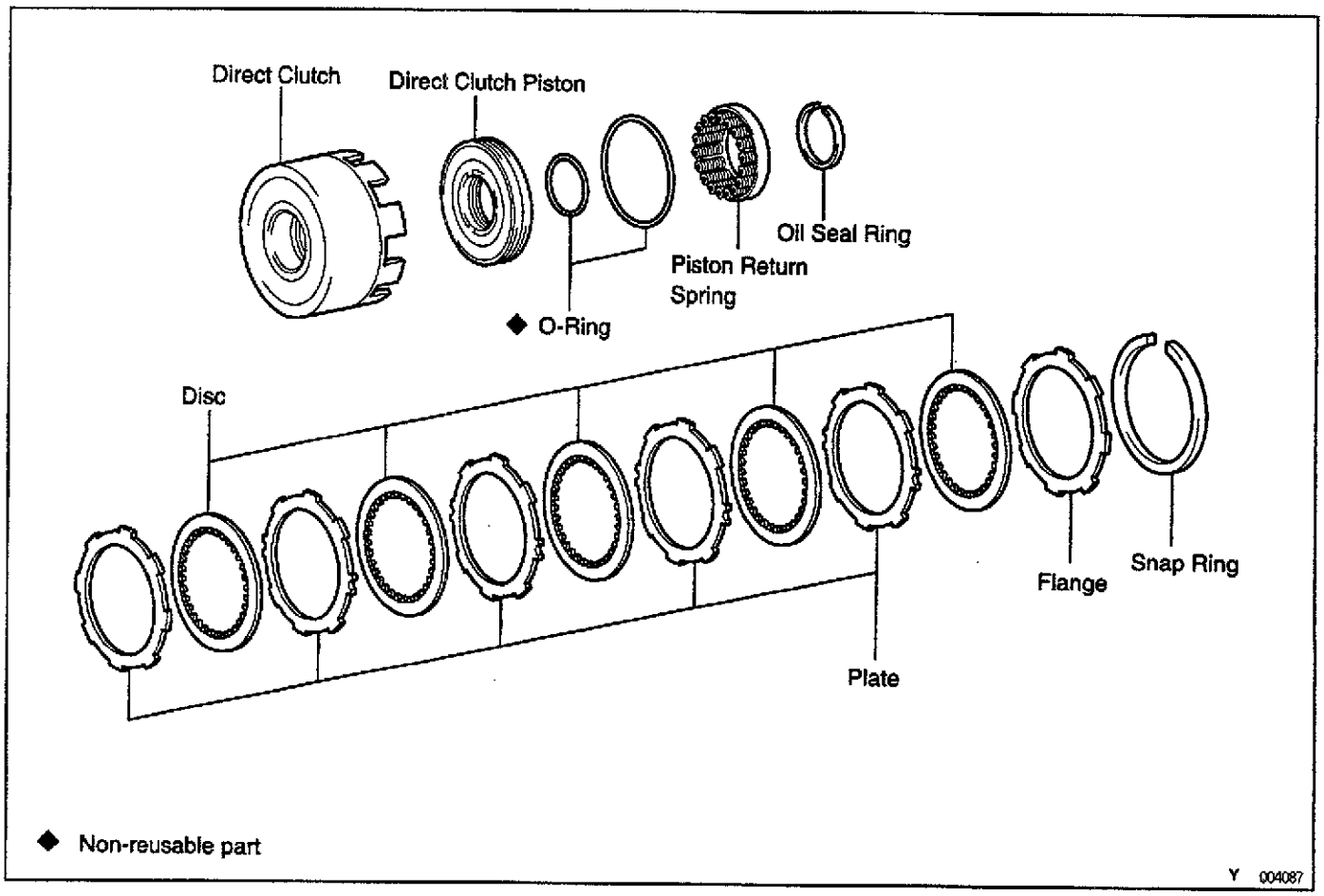
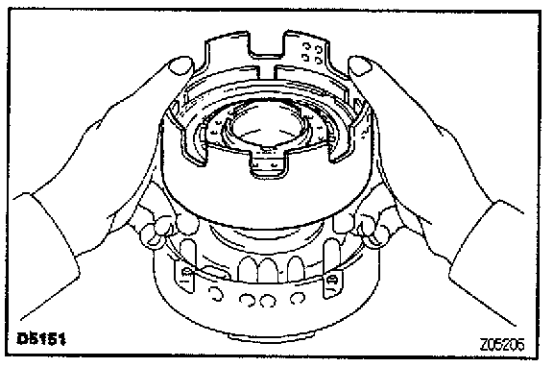
# DIRECT CLUTCH

## COMPONENTS

AT0DW−02



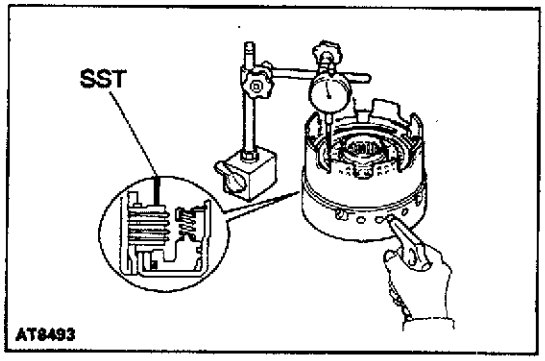




## DIRECT CLUTCH DISASSEMBLY

AT0DX−04

### 1. CHECK PACK CLEARANCE OF DIRECT CLUTCH

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



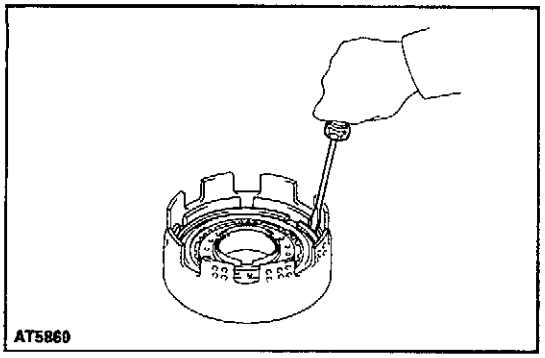

(b) Using SST and a dial indicator, measure the direct clutch pack clearancewhile applying and releasing compressed air (186−206 kPa, 1.9−2.1 kgf/cm², 27−30 psi).

SST 09350−30020 (09350−06120)

**Pack clearance:**

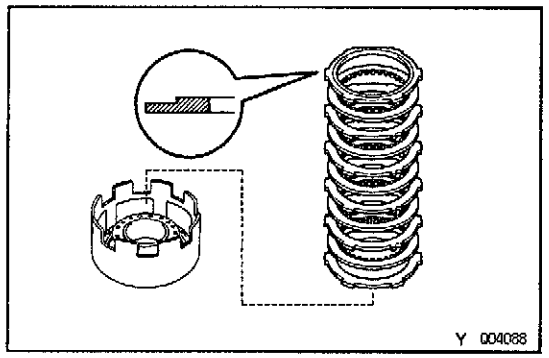
**0.50 − 0.80 mm (0.0197 − 0.0315 in.)**

If the values are non−standard inspect the discs.

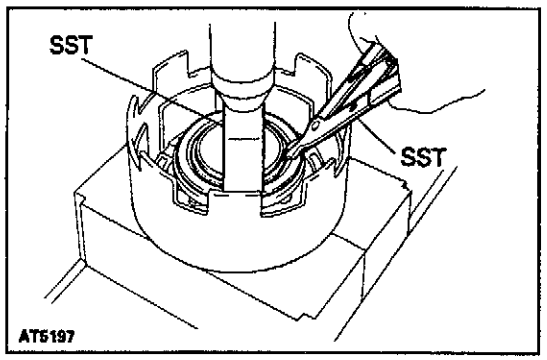



**2. REMOVE FLANGE, PLATES AND DISCS**

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



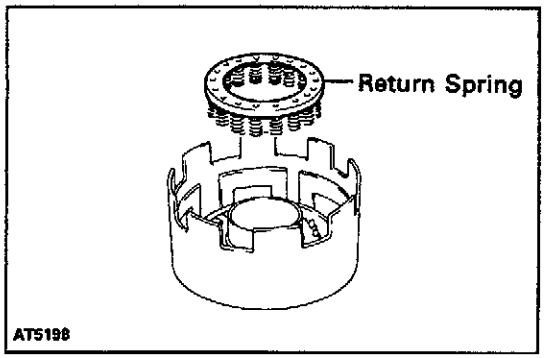

(b) Remove the flange, 5 plates and 5 discs.



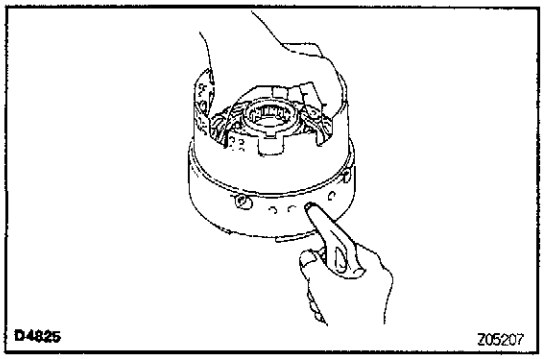

**3. REMOVE PISTON RETURN SPRING**

(a) Place SST on the spring retainer and compress the return spring with a shop press.
SST 09350-30020 (09350-07040)

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




(c) Remove the piston return spring.

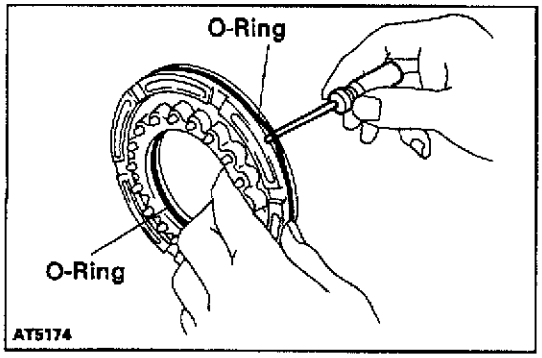



**4. REMOVE DIRECT CLUTCH PISTON**

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

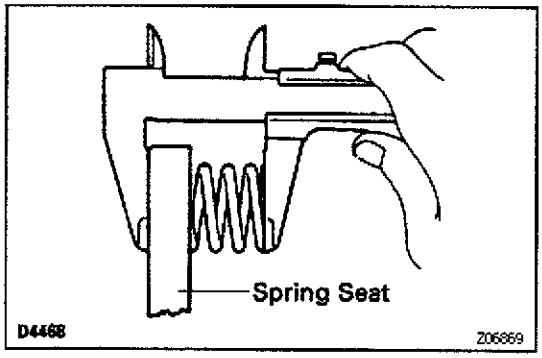
(b) Hold the direct clutch piston and apply compressed air to the O/D support to remove the direct clutch piston.
HINT: Make sure the direct clutch piston is square in the drum before applying compressed air.

(c) Remove the direct clutch piston.




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






## DIRECT CLUTCH INSPECTION

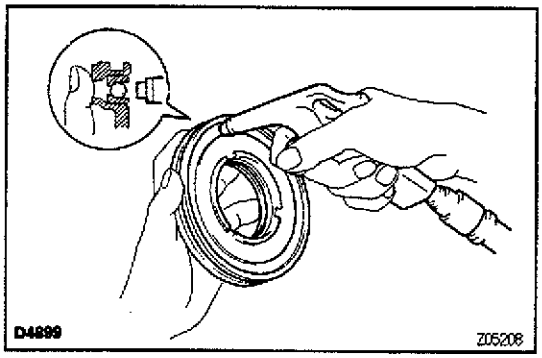
AT0DY–04

**1. CHECK DIRECT CLUTCH PISTON RETURN SPRING**

Check the spring free length together with the spring seat.

**Standard free length:**

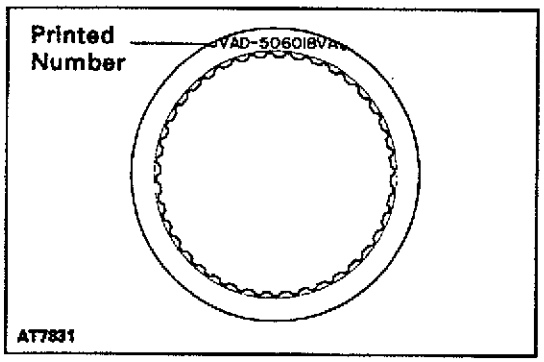
**23.25 mm (0.9154 in.)**




**2. CHECK DIRECT CLUTCH PISTON**

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

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

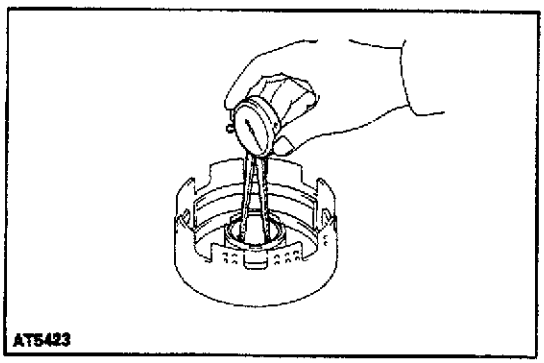



**3. INSPECT DISC, PLATE AND FLANGE**

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 numbers are defaced, replace all discs.
- Before assembling new discs, soak them in ATF for at least 15 minutes.



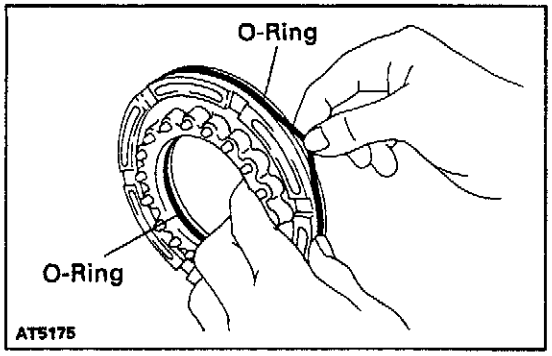

**4. CHECK DIRECT CLUTCH BUSHING**

Using a dial 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.

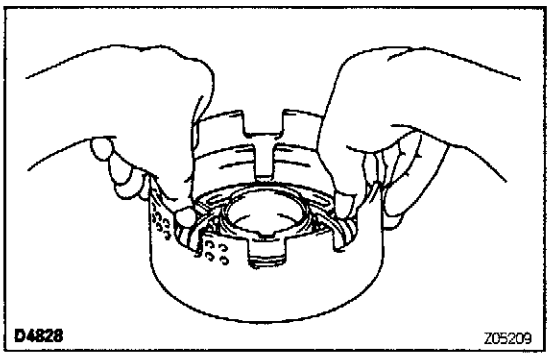



## DIRECT CLUTCH ASSEMBLY

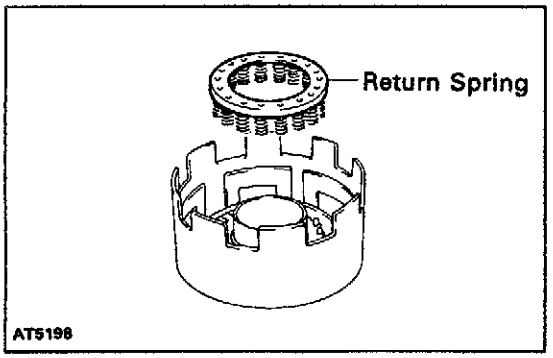
AT00Z−04

### 1. INSTALL DIRECT CLUTCH PISTON TO DIRECT CLUTCH DRUM

(a) Coat new O−rings with ATF and install them on the direct clutch piston.

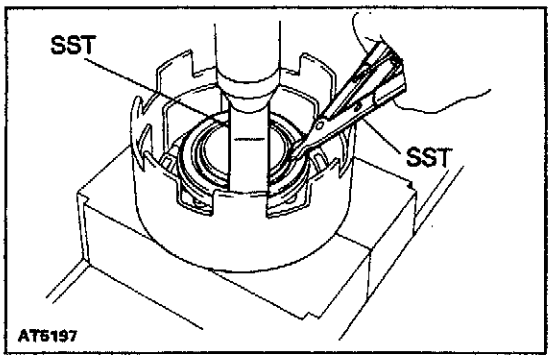



(b) Being careful not to damage the O−rings, press in the direct clutch piston into the clutch drum with both hands.



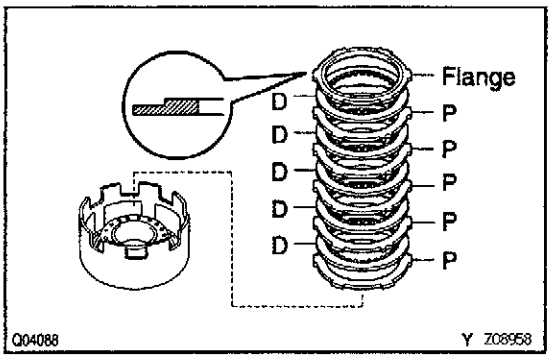

### 2. INSTALL PISTON RETURN SPRING

(a) Install the piston return spring.




(b) Place SST on the spring retainer, and compress the return spring with a shop press.
SST 09350−30020 (09350−07040)

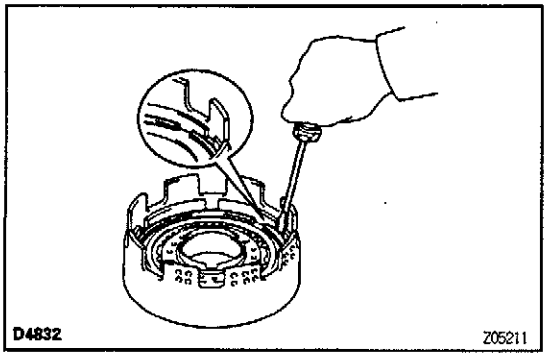
(c) Using SST, install the snap ring.
SST 09350−30020 (09350−07070)
Be sure the end gap of the snap ring is not aligned with the spring retainer claw.



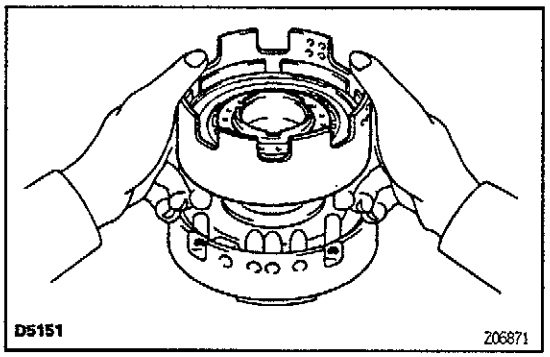

### 3. INSTALL PLATES, DISCS AND FLANGE

(a) Install the plates and discs.
Install in order: P = Plate D = Disk
P−D−P−D−P−D−P−D−P−D

(b) Install the flange, the flat end facing downward.

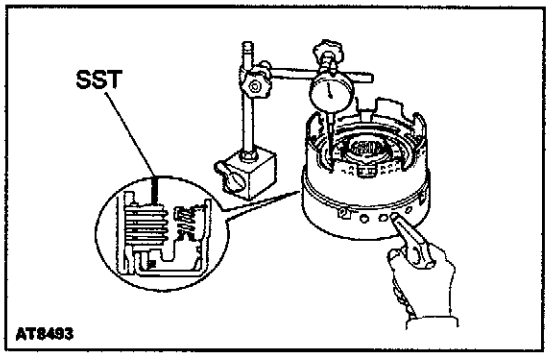



(c) Using a screwdriver, install the snap ring. Be sure the end gap of the snap ring is not aligned with the cutout portion of the direct clutch drum.




**4. CHECK PISTON STROKE 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/cm², 27−30 psi).

SST 09350−30020 (09350−06120)

**Pack clearance:**

**0.50 − 0.80 mm (0.0197 − 0.0315 in.)**

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

If the pack clearance is non−standard, select another flange.

HINT: There are 9 different flange thicknesses.

**Flange thickness**

mm (in.)

| No. | Thickness | No. | Thickness |
|---|---|---|---|
| 86 | 2.7 (0.106) | 30 | 3.3 (0.130) |
| 85 | 2.8 (0.110) | 29 | 3.4 (0.134) |
| 84 | 2.9 (0.114) | 28 | 3.5 (0.138) |
| 33 | 3.0 (0.118) | 27 | 3.6 (0.142) |
| 32 | 3.1 (0.122) | 34 | 3.7 (0.146) |
| 31 | 3.2 (0.126) | − | − |