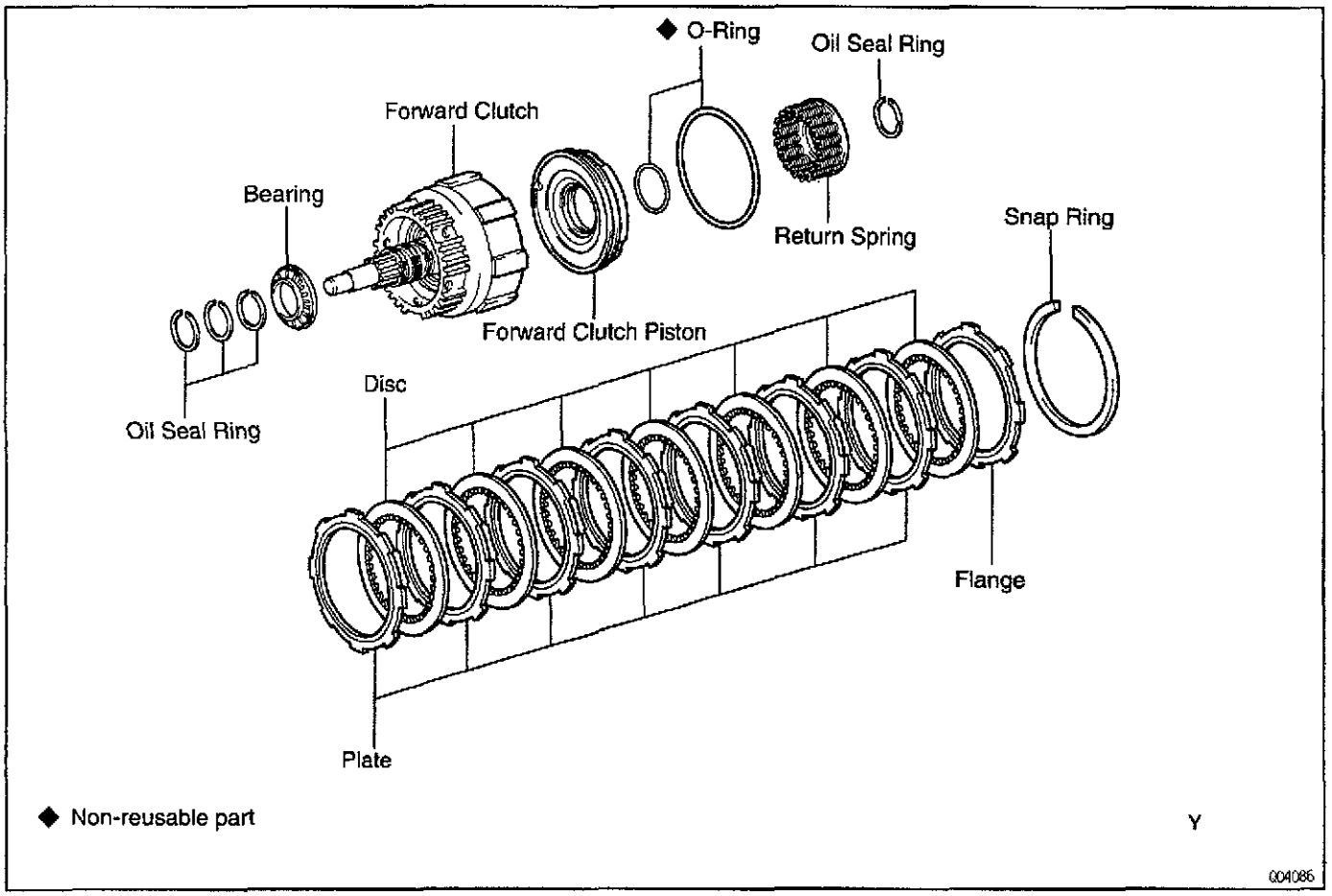
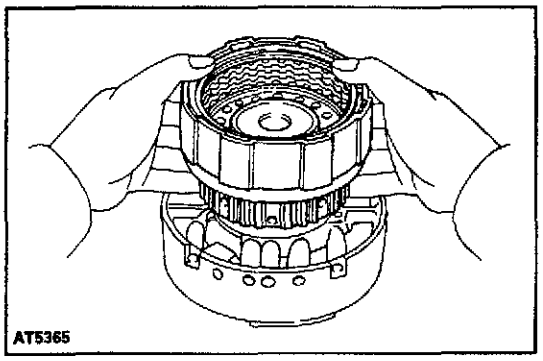
FORWARD CLUTCH

COMPONENTS

AT0E0−02





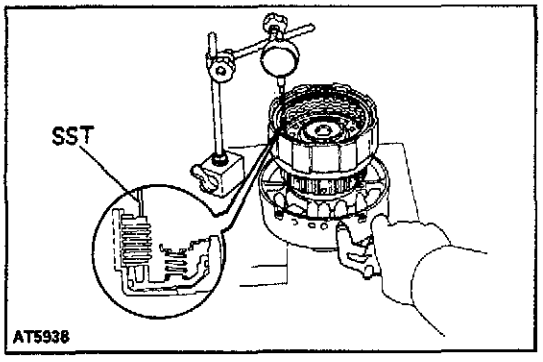
FORWARD CLUTCH DISASSEMBLY

AT0E1−04

1. PLACE FORWARD CLUTCH INTO OVERDRIVE SUPPORT

(a) Place wooden blocks, etc. to prevent forward clutch shaft from touching the work stand, and place the O/D support on them.

(b) Place the forward clutch onto the O/D support.



2. CHECK FORWARD CLUTCH PACK CLEARANCE

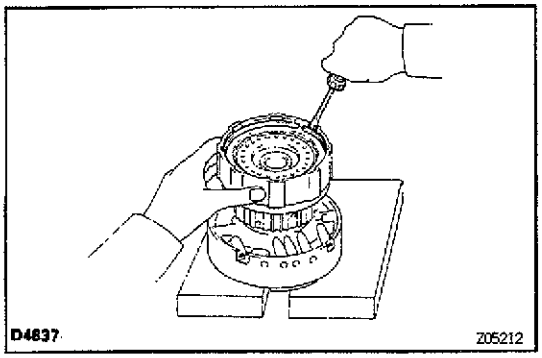
Using SST and a dial indicator, measure forward clutch pack clearance while applying and releasing compressed air (186−206 kPa, 1.9−21. kgf/cm², 27−30 psi).

SST 09350−30020 (09350−06120)

Pack clearance:

0.70−1.00 mm (0.0276−0.0394 in.)

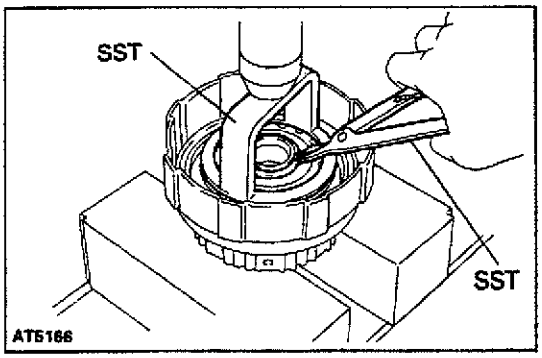
If the values are non−standard, inspect the discs.



3. REMOVE FLANGE, PLATES AND DISCS

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

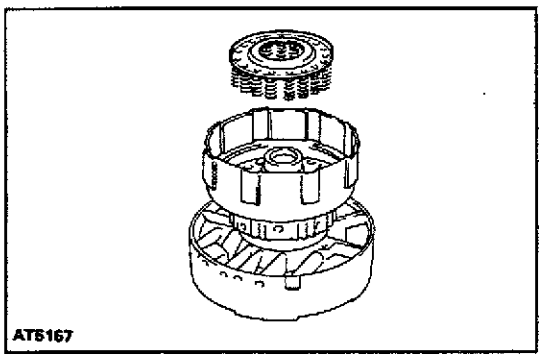
(b) Remove the flange, 7 plates and 7 discs.



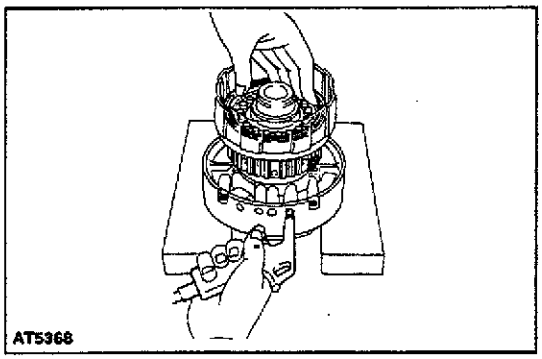
4. REMOVE PISTON RETURN SPRING

(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.

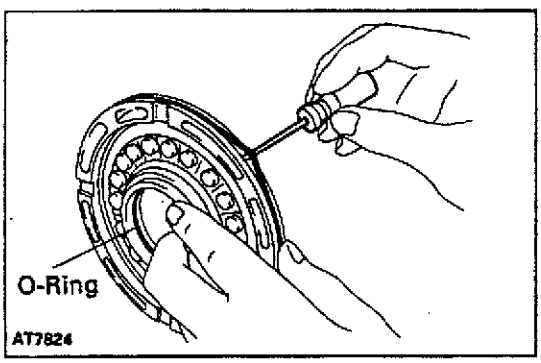


5. REMOVE FORWARD CLUTCH PISTON

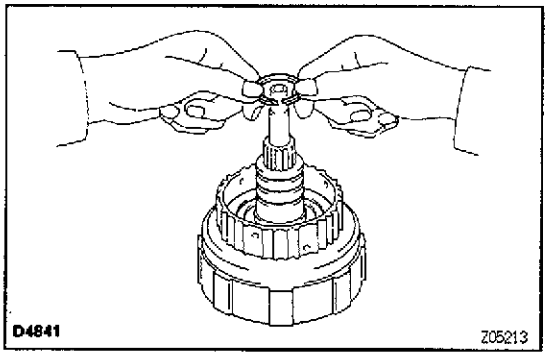
(a) Place the forward clutch drum onto the O/D support.

(b) Hold the forward clutch piston with hand, apply compressed air to the O/D support to remove the forward clutch piston.

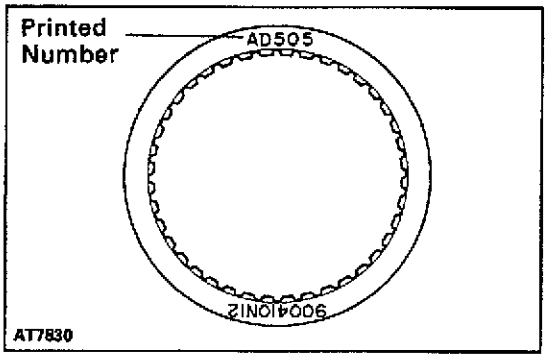
(c) Remove the forward clutch piston.



6. REMOVE 2 O–RINGS FROM PISTON



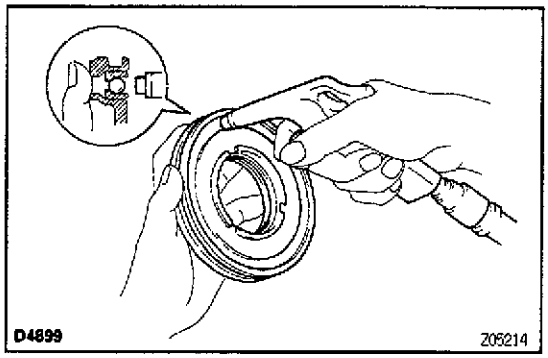
7. **REMOVE 3 OIL SEAL RINGS FROM FORWARD CLUTCH**



FORWARD CLUTCH INSPECTION

AT0E2-04

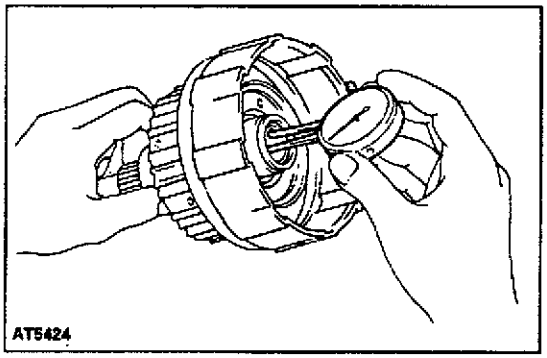
1. **INSPECT DISC, PLATE AND FLANGE**
Check to see if the sliding surface of the disc, plate and flange are worn or burnt. If necessary, replace them.
HINT:
- If the lining of the disc is peeling off or discolored, or even if a part of the printed numbers are defaced, replace all discs.
- Before assembling new discs, soak them in ATF for at least 15 minutes.



2. **CHECK FORWARD CLUTCH PISTON**

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

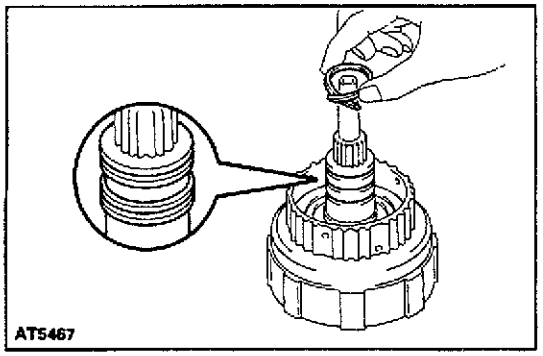
(b) Check that the valve does not leak by applying low–pressure compressed air.



3. **CHECK FORWARD CLUTCH DRUM BUSHING**
Using a dial indicator, measure the inside diameter of the forward clutch drum bushing.
Maximum inside diameter:
24.08 mm (0.9480 in.)
If the inside diameter is greater than the maximum, replace the forward clutch drum.

AT0E3-04

FORWARD CLUTCH ASSEMBLY



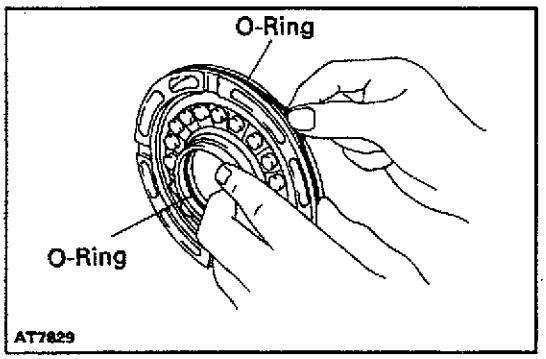
1. INSTALL OIL SEAL RINGS

(a) Coat the 3 oil seal rings with ATF.

(b) Install the 3 oil seal rings to the forward clutch drum groove, then snug them down by squeezing their ends together.

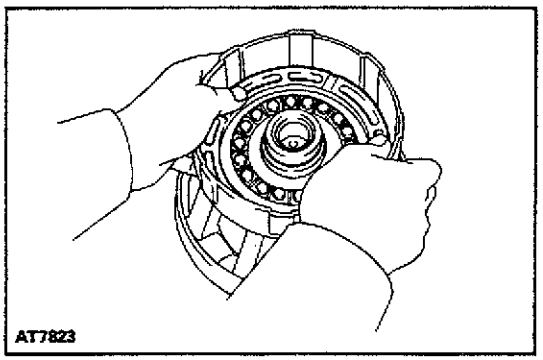
NOTICE: Do not spread the ring ends more than necessary.

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

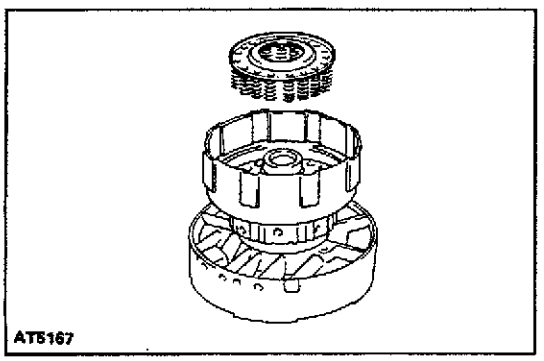


2. INSTALL FORWARD CLUTCH PISTON

(a) Coat 2 new O—rings with AFT and install them on the forward clutch piston.

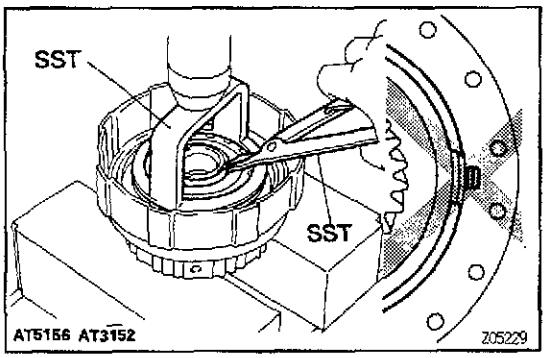


(b) Being careful not to damage the O—rings, press the clutch piston into the forward clutch drum with both hands.



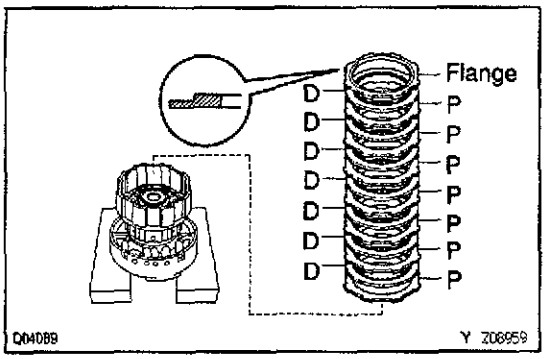
3. INSTALL PISTON RETURN SPRING

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



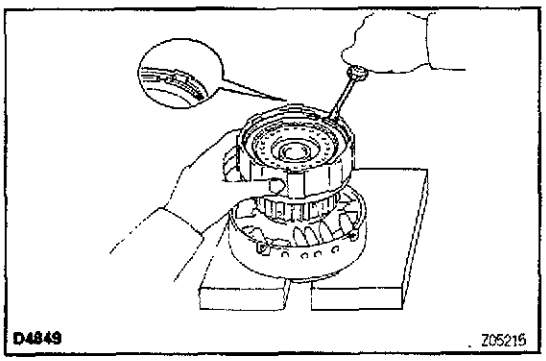
4. INSTALL PLATES, DISCS AND FLANGE

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

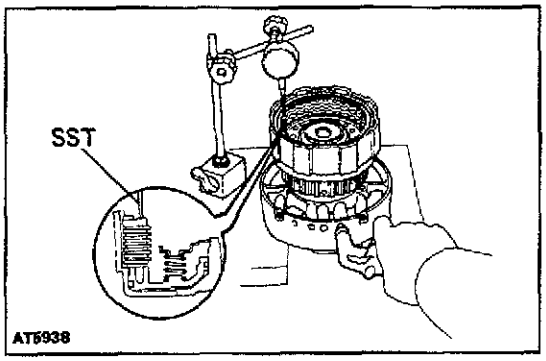
(b) Then install the flange, the rounded edge facing downward.
HINT: There are 6 different flange thicknesses.
Flange thickness

mm (in.)

No.	Thickness	No.	Thickness
42	4.0 (0.157)	45	3.4 (0.134)
44	3.8 (0.150)	60	3.2 (0.126)
62	3.6 (0.142)	61	3.0 (0.118)



(c) Install the snap ring with a screwdriver. Be sure the end gap of the snap ring is not aligned with the cutout portion of the forward clutch drum.



5. CHECK PACK CLEARANCE OF FORWARD CLUTCH

Using SST and a dial indicator, measure the forward 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:
0.70−1.00 mm (0.0276−0.0394 in.)

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