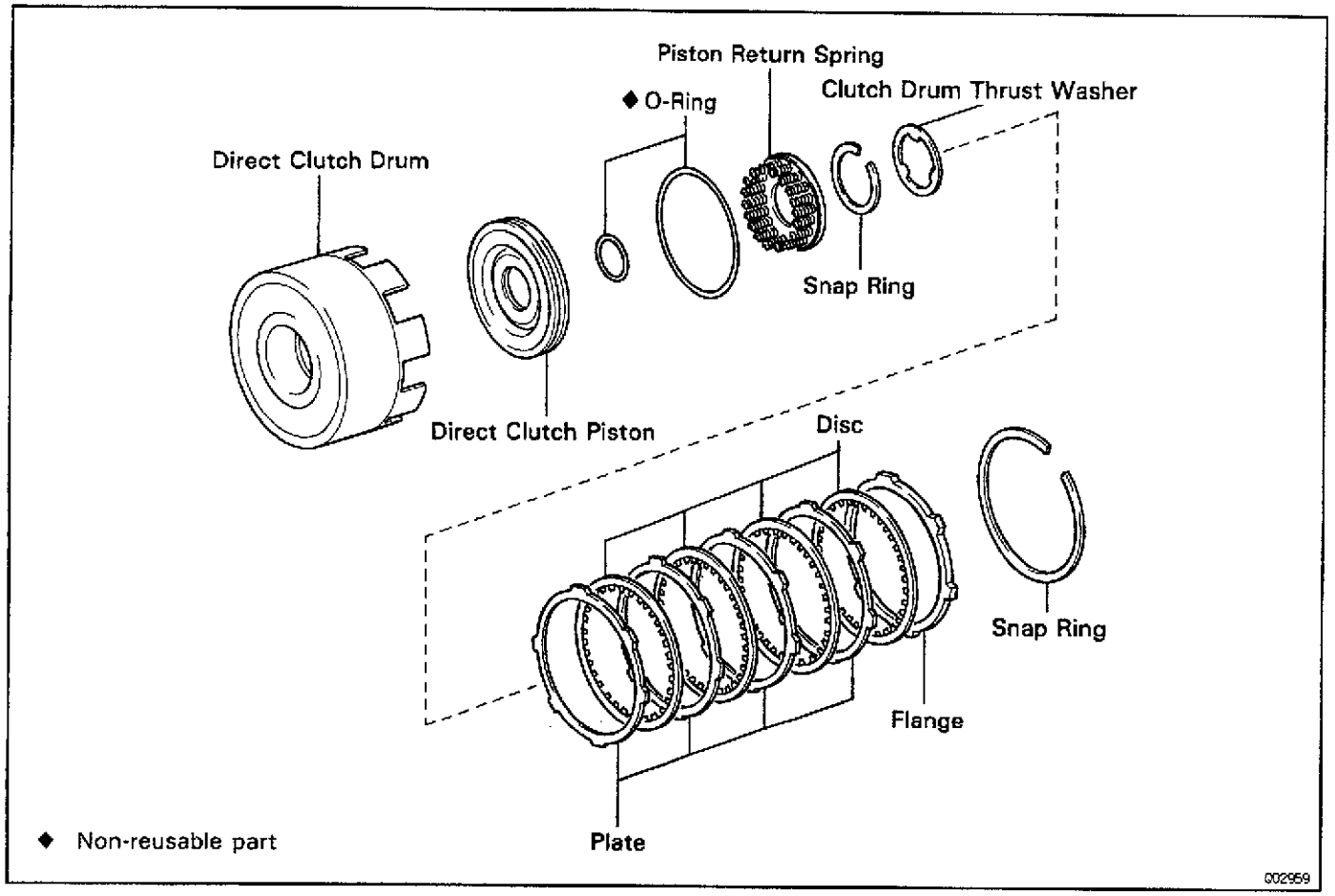
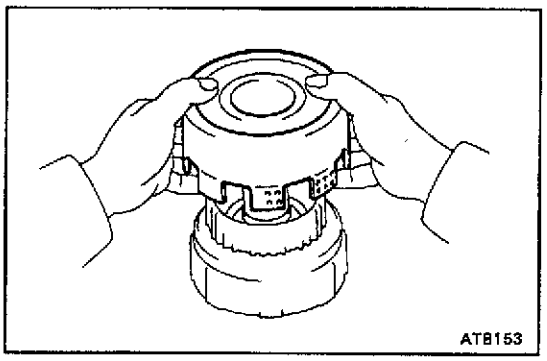
DIRECT CLUTCH

COMPONENTS

AT05K–05

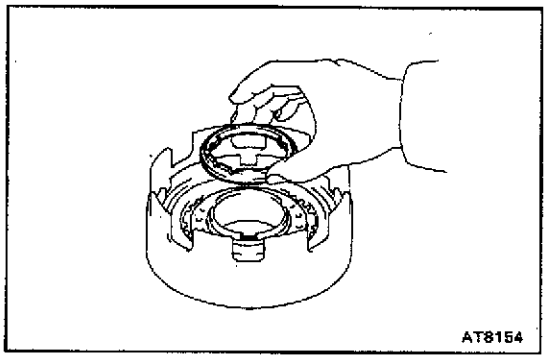




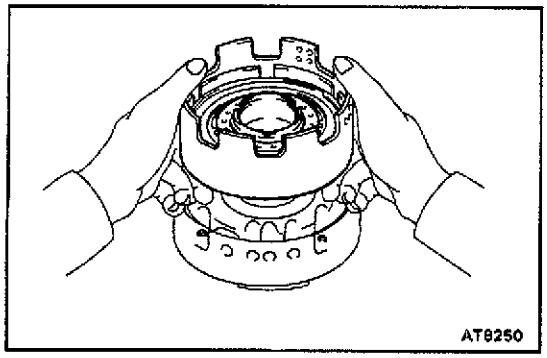
DIRECT CLUTCH DISASSEMBLY

AT05L–07

1. REMOVE DIRECT CLUTCH DRUM FROM FORWARD CLUTCH

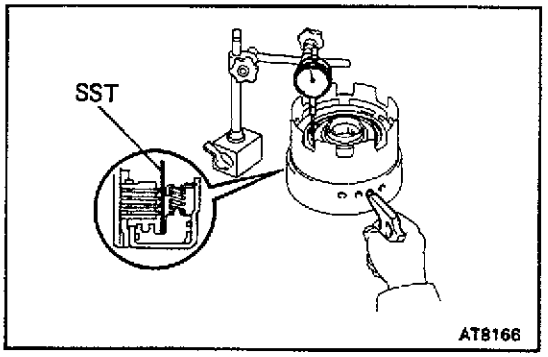


2. REMOVE CLUTCH DRUM THRUST WASHER FROM DIRECT CLUTCH

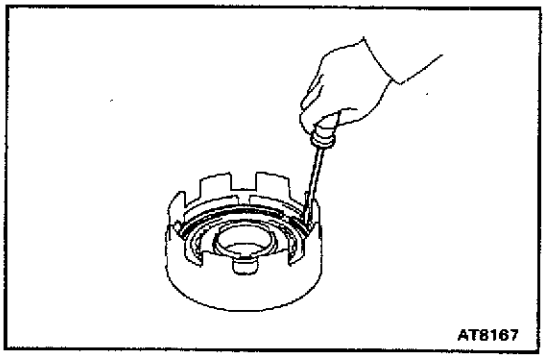


3. CHECK PISTON STROKE OF DIRECT CLUTCH

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

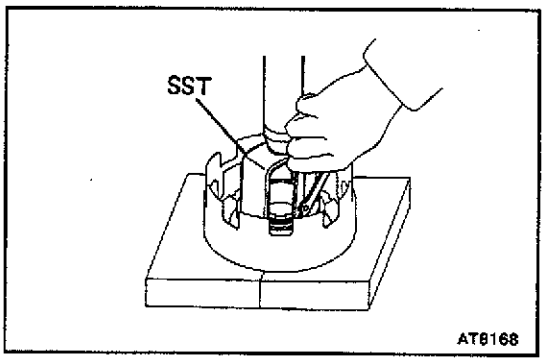


(b) Using SST and a dial indicator, measure the direct clutch piston stroke while applying and releasing compressed air (392–785 kPa, 4–8 kgf/cm², 57–114 psi).
SST 09350–30020 (09350–06120)
Piston stroke:
1.37–1.60 mm (0.0359–0.0630 in.)
If the values are non–standard, inspect the discs.



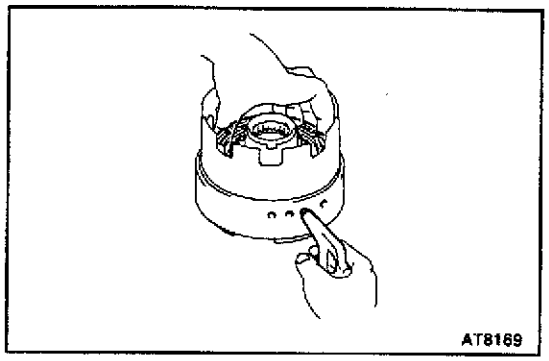
4. REMOVE FLANGE, PLATES AND DISCS

(a) Using a screwdriver, remove the snap ring from the direct clutch drum.
(b) Remove the flange, plates and discs.



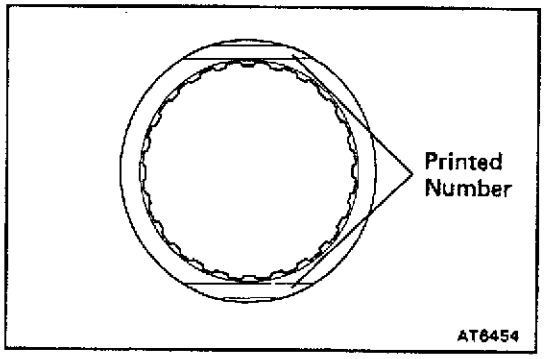
5. REMOVE PISTON RETURN SPRING

(a) Place SST on the spring retainer and compress the return spring with a shop press.
SST 09350–30020 (09350–07040)
(b) Using snap ring pliers, remove the snap ring.
(c) Remove the piston return spring.



6. REMOVE DIRECT CLUTCH PISTON

(a) Place the direct clutch drum onto the O/D support.
(b) Hold the direct clutch piston, apply compressed air to the O/D support to remove the direct clutch piston.
(c) Remove the direct clutch piston.
(c) Remove the 2 O–rings from the piston.



DIRECT CLUTCH INSPECTION

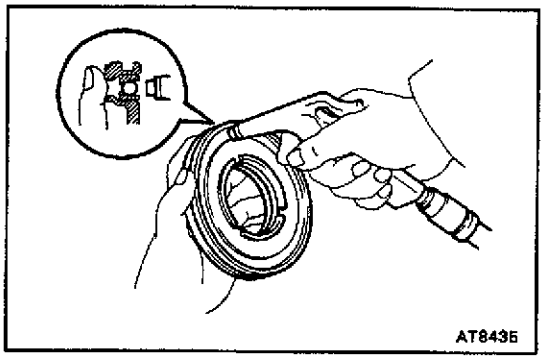
AT05M–08

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:

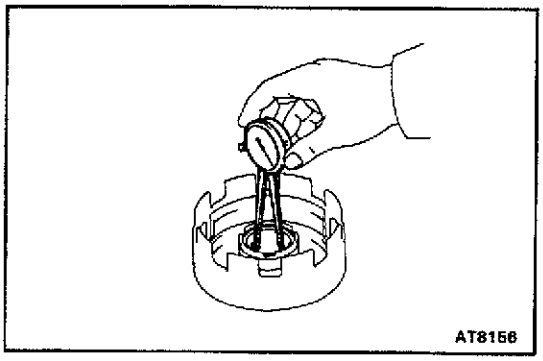
- If the lining of the disc is peeling off or discolored, or even if a part of the printed numbers are defaced, replace all discs.
- Before assembling new discs, soak them in ATF for at least 15 minutes.



2. CHECK 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.



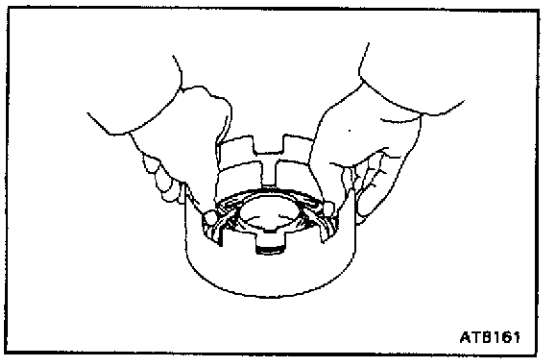
3. CHECK DIRECT CLUTCH DRUM BUSHING

Using a dial indicator, measure the inside diameter of the clutch drum bushing.

Maximum inside diameter:

53.99 mm (2.1256 in.)

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



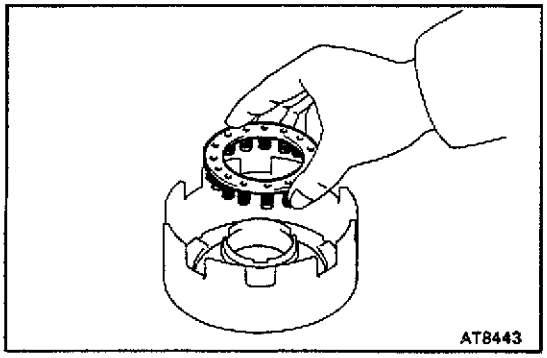
DIRECT CLUTCH ASSEMBLY

AT06N–08

1. INSTALL DIRECT CLUTCH PISTON TO DIRECT CLUTCH DRUM

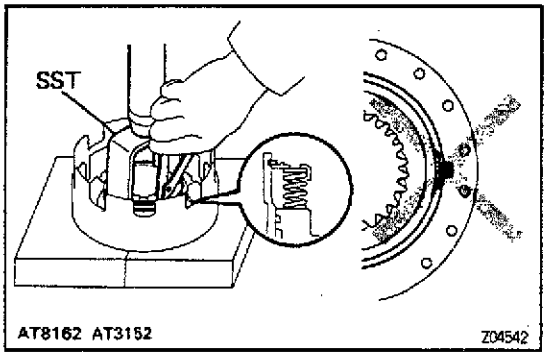
(a) Coat new O–rings with ATF and install them on the direct clutch piston.

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



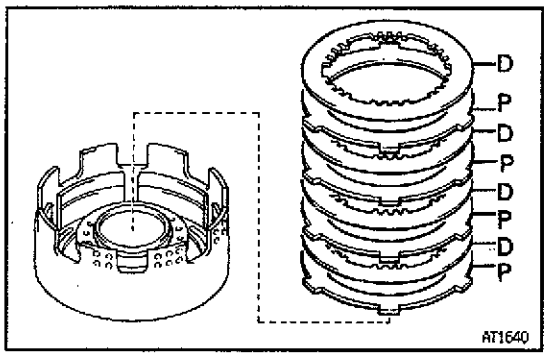
2. INSTALL PISTON RETURN SPRING

(a) Install the piston return spring.



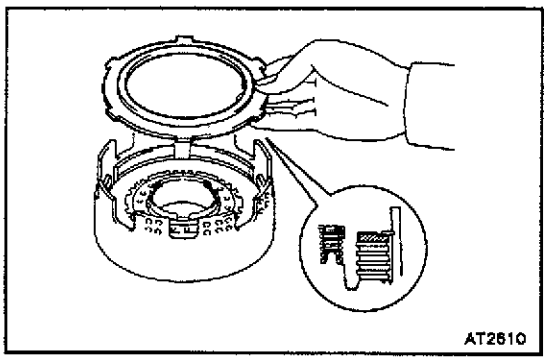
(b) Place SST on the spring retainer, and compress the return spring with a shop press.
SST 09350–30020 (09350–07040)

(c) Install the snap ring with snap ring pliers. Be sure the end gap of the snap ring is not aligned with the spring retainer.

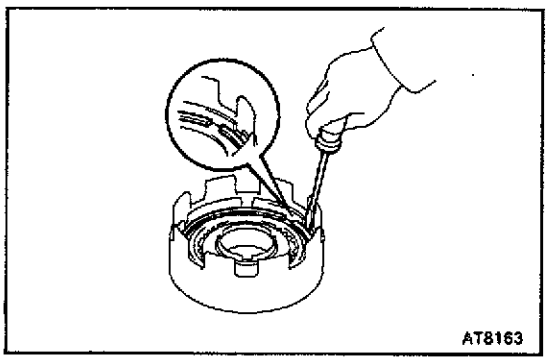


3. INSTALL PLATES, DISCS AND FLANGE

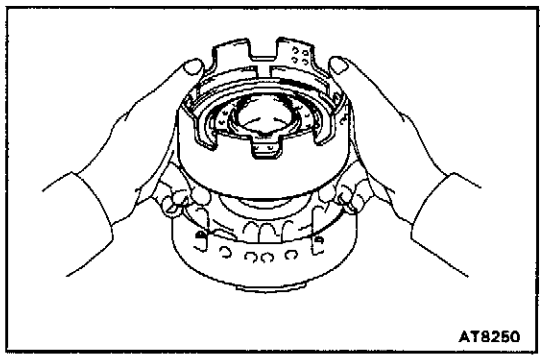
(a) Install the plates and discs.
Install in order: P = Plate D = Disc
P–D–P–D–P–D–P–D



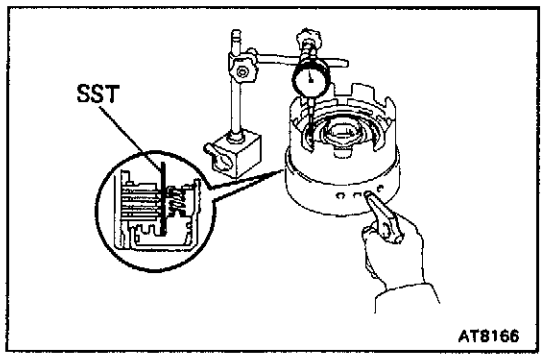
(b) Install the flange, the flat end facing downward.



(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 direct clutch drum.



AT



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 piston stroke while applying and releasing compressed air (392–785 kPa, 4–8 kgf/cm², 57–114 psi).

SST 09350–30020 (09350–06120)

Piston stroke:

1.37–1.60 mm (0.0539–0.0630 in.)

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

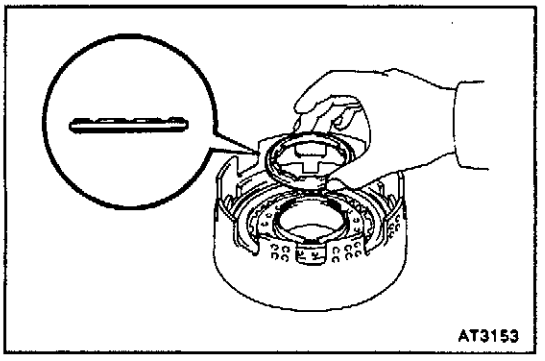
If the piston stroke is non–standard, select another flange.

HINT: There are 8 different thicknesses for the flange.

Flange thickness

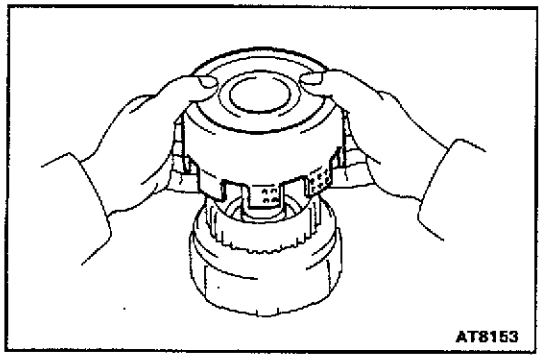
mm (in.)

No.	Thickness	No.	Thickness
33	3.0 (0.118)	29	3.4 (0.134)
32	3.1 (0.122)	28	3.5 (0.138)
31	3.2 (0.126)	27	3.6 (0.142)
30	3.3 (0.130)	34	3.7 (0.146)



5. INSTALL CLUTCH DRUM THRUST WASHER

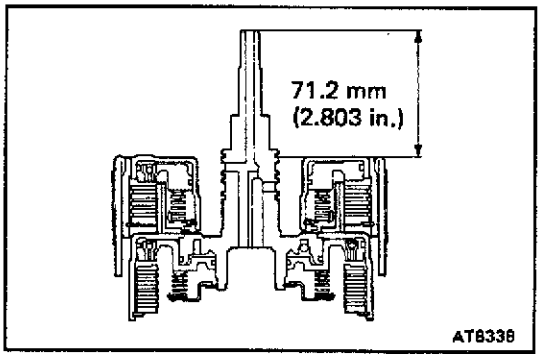
Coat the thrust washer with petroleum jelly and install it onto the direct clutch.



6. INSTALL DIRECT CLUTCH TO FORWARD CLUTCH

(a) Align the flukes of discs in the direct clutch.

(b) Install the direct clutch onto the forward clutch.



(c) Check that the distance from the direct clutch end to the forward clutch end is 71.2 mm (2.803 in.).
If the distance is less than the above value, parts may have been assembled incorrectly, check and reassemble again.