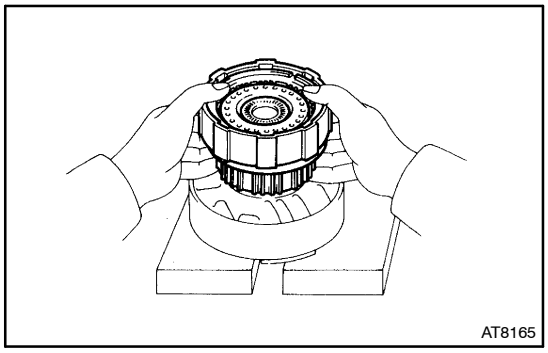
400VW–01

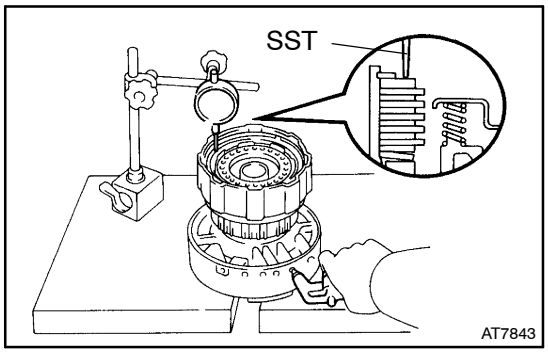
OVERHAUL



1. FIX FORWARD CLUTCH ASSY

(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 in the O/D support.



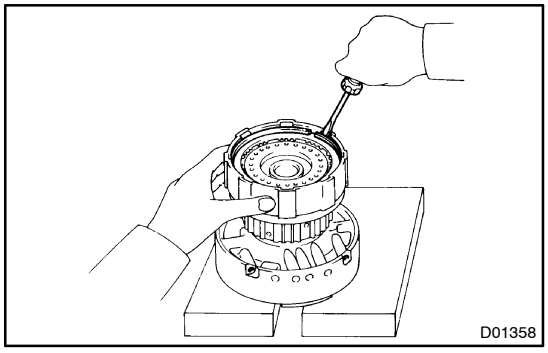
2. INSPECT PISTON STROKE OF FORWARD CLUTCH

(a) Using SST and a dial indicator, measure forward clutch piston stroke while applying and releasing compressed air (392 kPa, 4.0 kgf/cm^2, 57 psi).

SST 09350–30020 (09350–06120)

Piston stroke: 0.60 – 1.00 mm (0.024 – 0.039 in.)

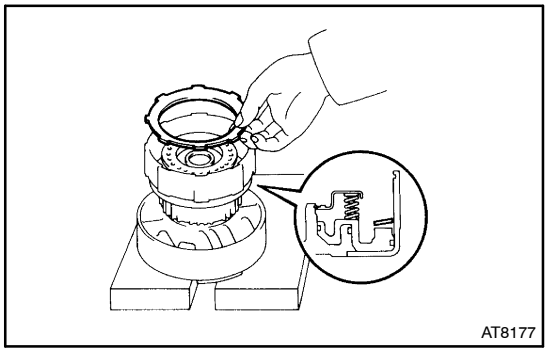
If the piston stroke is outside the standard, inspect the discs.



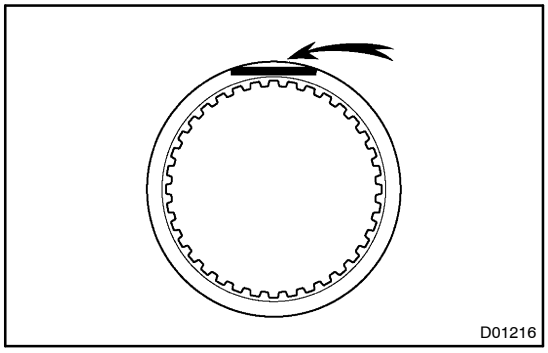
3. REMOVE FORWARD MULTIPLE DISC CLUTCH CLUTCH DISC

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

(b) Remove the flange, the 6 plates and the 6 discs.



(c) Remove the cushion plate.

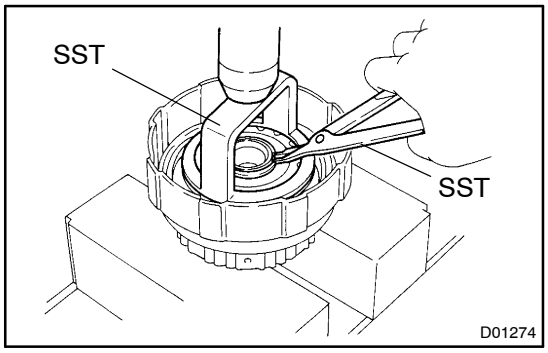


4. INSPECT FORWARD MULTIPLE DISC CLUTCH CLUTCH DISC

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

HINT:

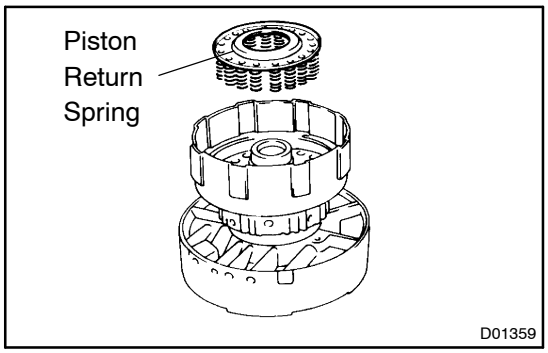
- If the lining of the disc is peeled off or discolored, or even if only a part of the printed numbers is corroded, replace all discs.
- Before assembling new discs, soak them in ATF for at least 15 minutes.



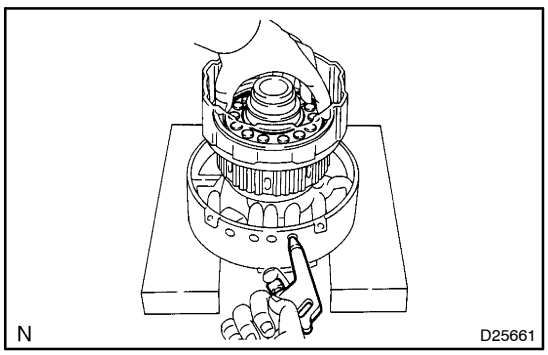
5. REMOVE FORWARD CLUTCH RETURN SPRING SUB–ASSY

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

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



(c) Remove the piston return spring.

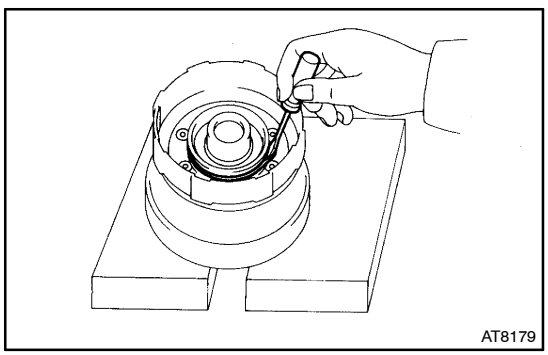


6. REMOVE FRONT CLUTCH PISTON SUB–ASSY

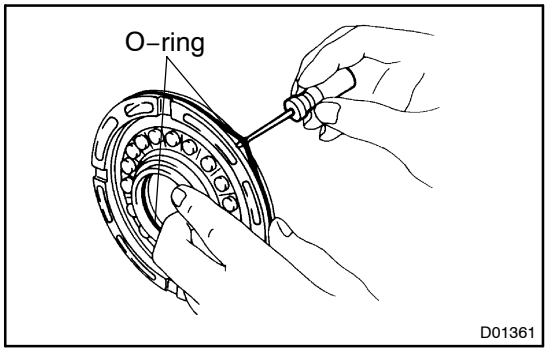
(a) Place the forward clutch drum onto the O/D support.

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

(c) Remove the forward clutch piston.

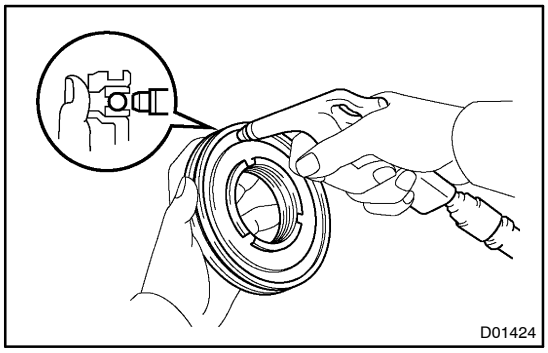


(d) Remove the O– ring from the forward clutch drum.



7. REMOVE FORWARD CLUTCH PISTON O–RING

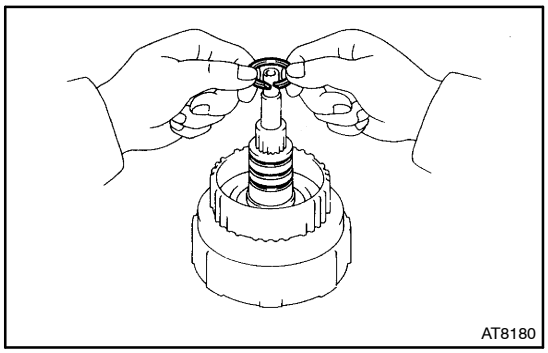
(a) Using a small screwdriver, remove the 2 O–rings.



8. INSPECT FRONT CLUTCH PISTON SUB–ASSY

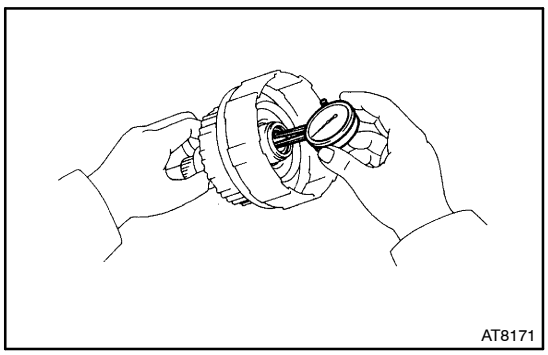
(a) Check that the check ball is free by shaking the piston.

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



9. REMOVE INPUT SHAFT OIL SEAL RING

(a) Remove the 3 oil seal rings from the forward clutch drum groove.

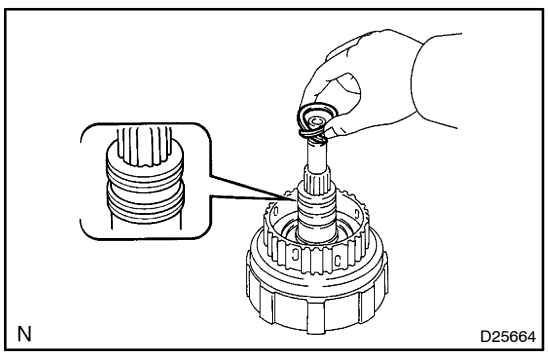


10. INSPECT INPUT SHAFT SUB–ASSY

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

Maximum inside diameter: 24.08 mm (0.948 in.)

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



11. INSTALL INPUT SHAFT OIL SEAL RING

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

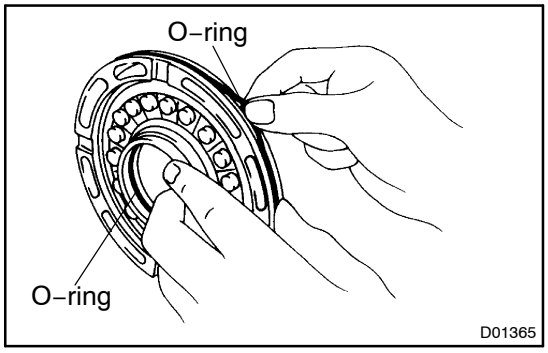
(b) Squeeze the ends of the 3 oil seal rings toghether, and then install them to the forward clutch drum groove.

NOTICE:

Do not over–spread the ring ends.

HINT:

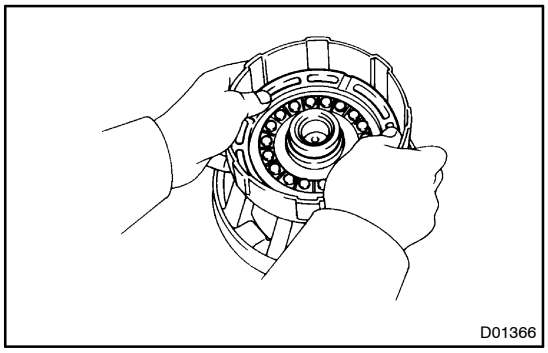
After installing the oil seal rings, check that they rotate smoothly.



12. INSTALL FORWARD CLUTCH PISTON O–RING

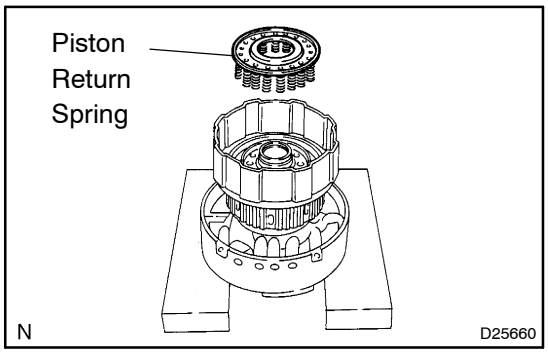
(a) Coat a new O–ring with ATF, and install it on the forward clutch drum.

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



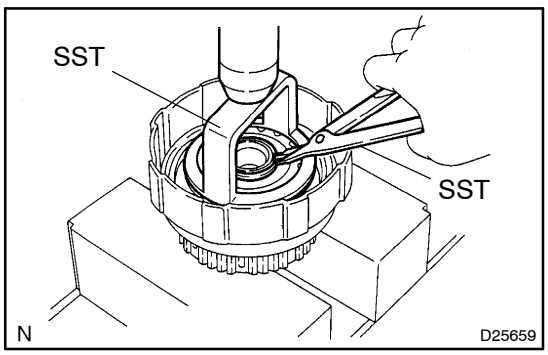
13. INSTALL FRONT CLUTCH PISTON SUB–ASSY

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



14. INSTALL FORWARD CLUTCH RETURN SPRING SUB–ASSY

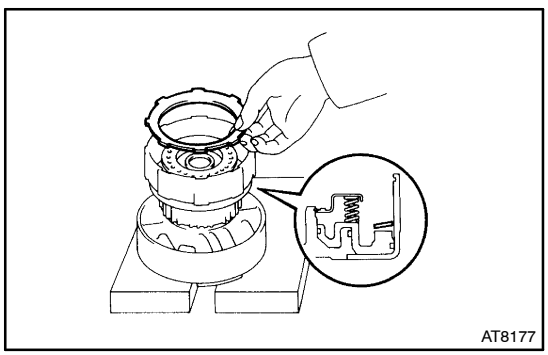
(a) Install the piston return spring.
SST 09350–30020 (09350–07040, 09350–07070)



(b) Place SST on the spring retainer, and compress the return spring with a press.

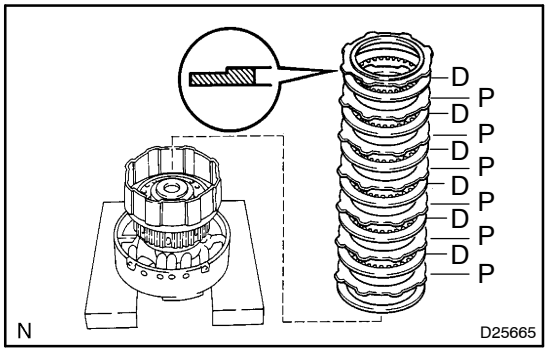
NOTICE:

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



15. INSTALL FORWARD MULTIPLE DISC CLUTCH CLUTCH DISC

(a) Install the cushion plate.



(b) Install the 6 plates and 6 discs.

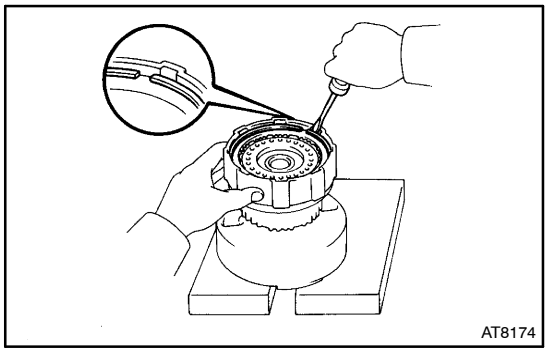
Install in order: P = Plate, D = Disc

P – D – P – D – P – D – P – D – P – D – P – D

HINT:

Only the thickness of the plate on the bottom is 1.4 mm (0.055 in.) and that of the other plates is 1.8 mm (0.071 in.).

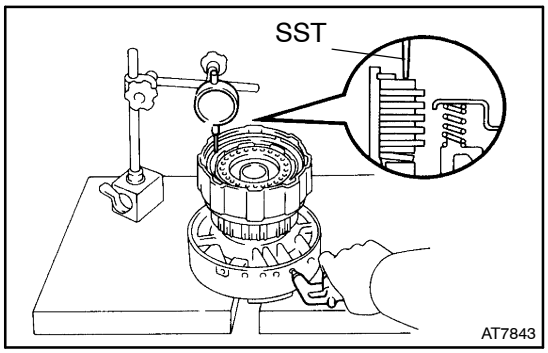
(c) Then install the flange with the flat end facing downward.



(d) Install the snap ring with a screwdriver.

NOTICE:

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



16. INSPECT PISTON STROKE OF FORWARD CLUTCH

(a) Using SST and a dial indicator, measure the forward clutch piston stroke while applying and releasing compressed air (392 kPa, 4.0 kgf/cm^2, 57 psi).

SST 09350–30020 (09350–06120)

Piston stroke: 0.60 – 1.00 mm (0.024 – 0.039 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 outside the standard, select another flange.

HINT:

There are 8 different flanges in thickness.

Flange thickness

No.	Thickness	No.	Thickness
90	3.0 (0.118)	94	3.8 (0.150)
91	3.2 (0.126)	95	4.0 (0.157)
92	3.4 (0.134)	96	4.2 (0.165)
93	3.6 (0.142)	97	4.4 (0.173)