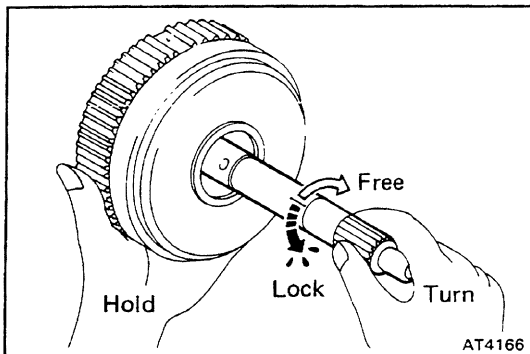
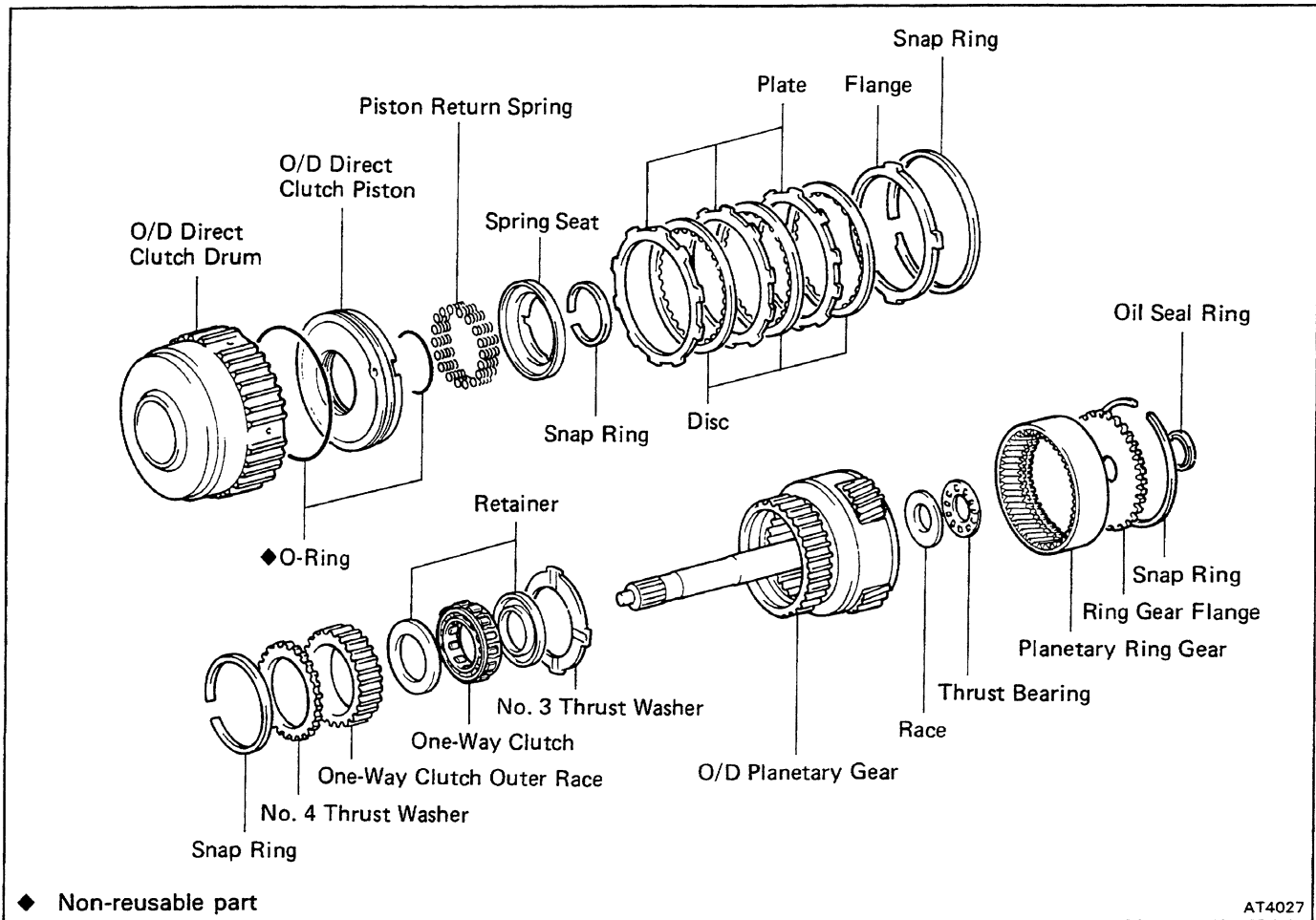


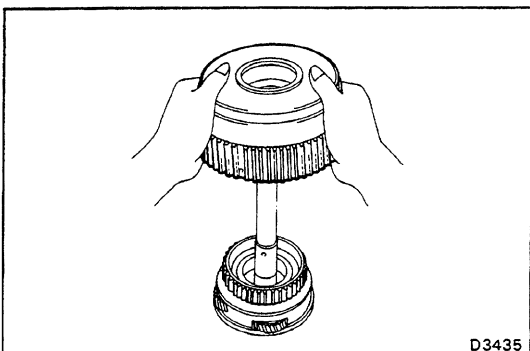
Overdrive Planetary Gear Overdrive Direct Clutch and Overdrive One-Way Clutch COMPONENTS



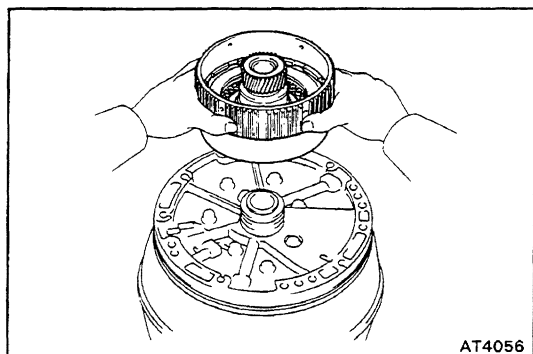
DISASSEMBLY OF OVERDRIVE PLANETARY GEAR, OVERDRIVE DIRECT CLUTCH AND OVERDRIVE ONE-WAY CLUTCH

1. CHECK OPERATION OF ONE-WAY CLUTCH

Hold the O/D direct clutch drum and turn the input shaft. The input shaft should turn freely clockwise and should lock counterclockwise.

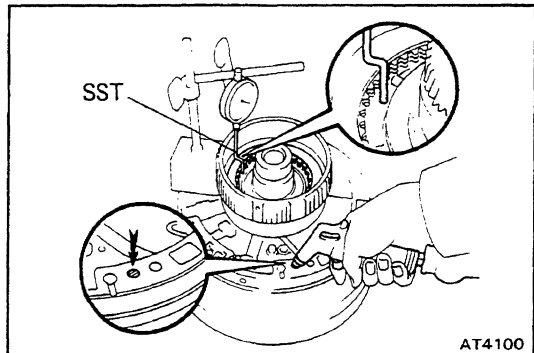


2. REMOVE OVERDRIVE DIRECT CLUTCH ASSEMBLY FROM OVERDRIVE PLANETARY GEAR



3. CHECK PISTON STROKE OF OVERDRIVE DIRECT CLUTCH

- (a) Place the oil pump onto the torque converter, and then place the O/D direct clutch assembly onto the oil pump.

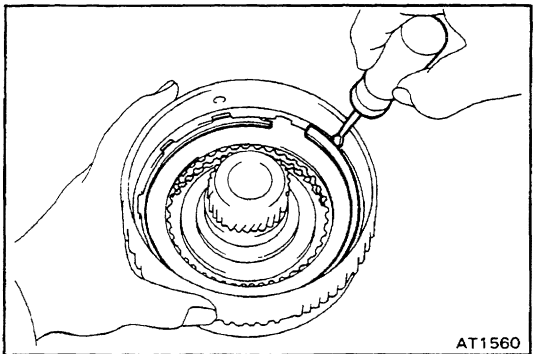


- (b) Using SST and a dial indicator, measure the piston stroke by applying and releasing the compressed air (4 – 8 kg/cm², 57 – 114 psi or 392 – 785 kPa) as shown.

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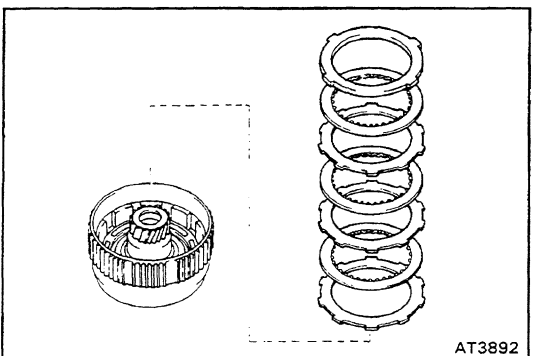
Piston stroke: 1.10 – 1.70 mm (0.0433 – 0.0669 in.)

If the piston stroke is not as specified, inspect the discs.

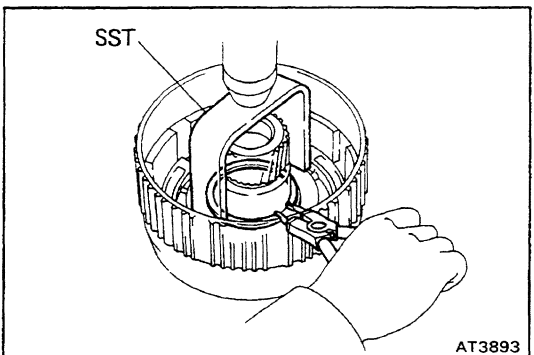


4. REMOVE FLANGE, PLATES AND DISCS

- (a) Using a screwdriver, remove the snap ring.



- (b) Remove the flange, three discs and three plates.

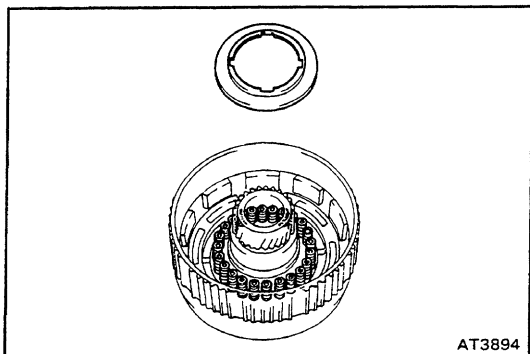


5. REMOVE PISTON RETURN SPRING

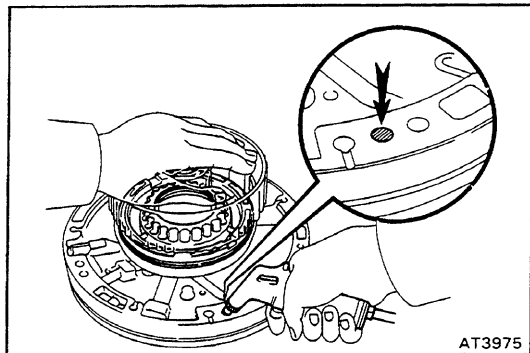
- (a) Place SST on the spring seat, and compress the return spring with a shop press.

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- (b) Using snap ring pliers, remove the snap ring.

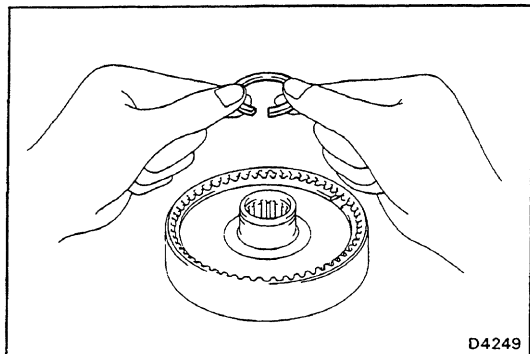


- (c) Remove the spring seat and twenty-four return springs.

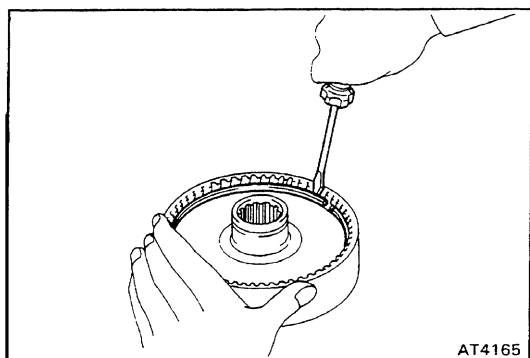


6. REMOVE OVERDRIVE DIRECT CLUTCH PISTON

- (a) Place the oil pump onto the torque converter, and then place the O/D direct clutch onto the oil pump.
(b) Hold the clutch piston with hand, apply compressed air into the oil hole of the oil pump to remove the clutch piston.
(c) Remove the two O-rings from the clutch piston.

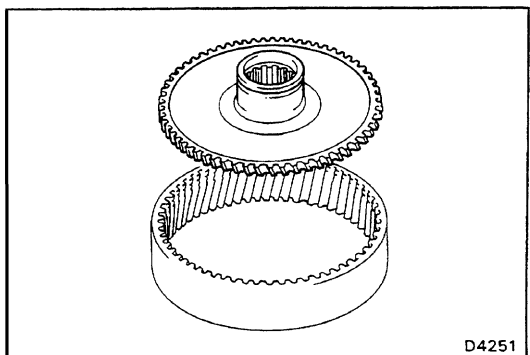


7. REMOVE OIL SEAL RING FROM RING GEAR FLANGE

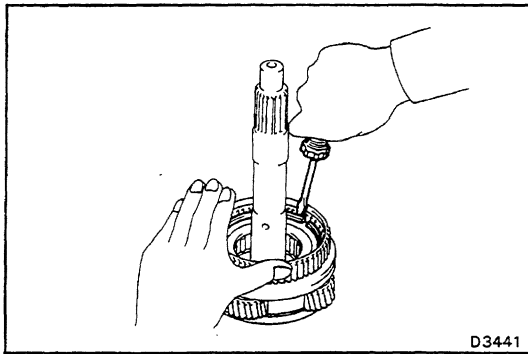


8. REMOVE RING GEAR FLANGE

- (a) Using a small screwdriver, remove the snap ring.

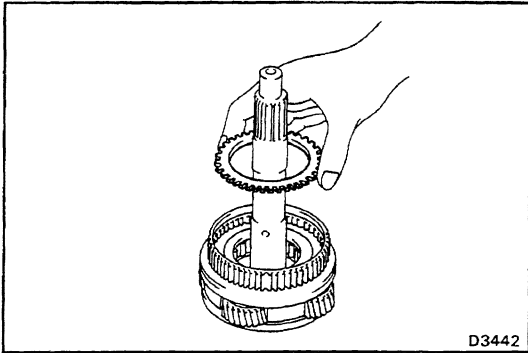


- (b) Remove the ring gear flange.

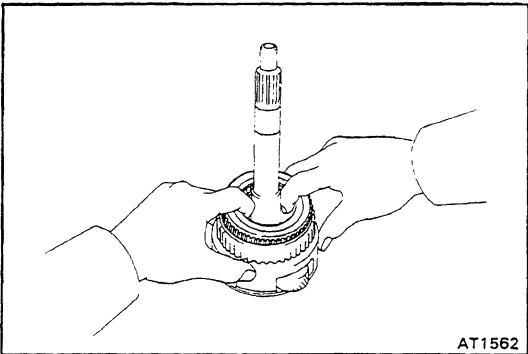


9. REMOVE ONE-WAY CLUTCH FROM OVERDRIVE PLANETARY GEAR

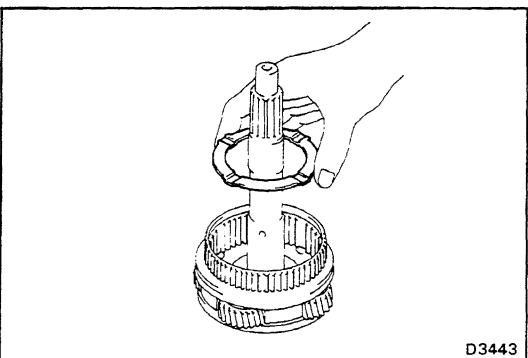
(a) Using a small screwdriver, remove the snap ring.



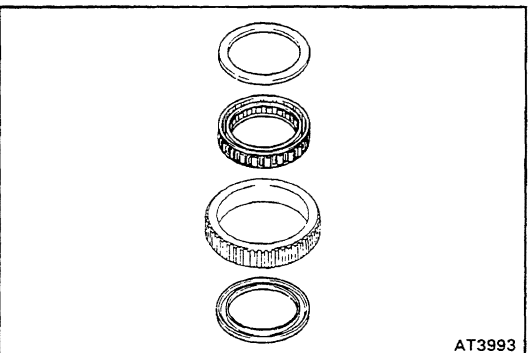
(b) Remove the No.4 thrust washer.



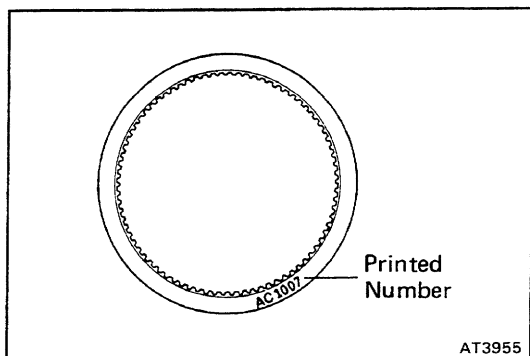
(c) Remove the one-way clutch together with the outer race.



(d) Remove the No. 3 thrust washer.



(e) Remove the two retainers and one-way clutch from the outer race.



INSPECTION OF OVERDRIVE PLANETARY GEAR AND OVERDRIVE DIRECT CLUTCH

1. INSPECT DISCS, PLATES AND FLANGE

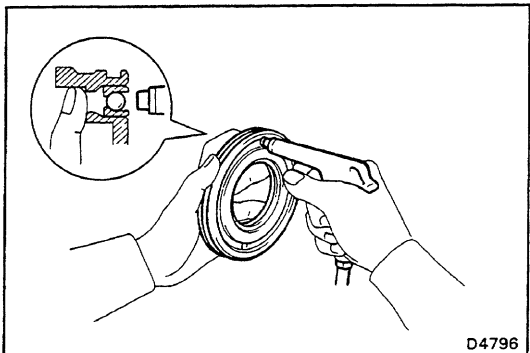
Check to see if the sliding surface of the disc, plate and flange are worn or burnt. If necessary, replace them.

HINT:

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

2. INSPECT OVERDRIVE DIRECT CLUTCH PISTON

- (a) Check that check ball is free by shaking the piston.
- (b) Check that the valve does not leak by applying low-pressure compressed air.



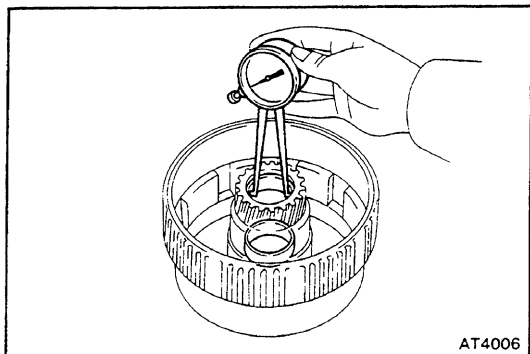
3. INSPECT BUSHINGS OF OVERDRIVE DIRECT CLUTCH DRUM

Using a dial indicator, measure the inside diameter.

Standard inside diameter: 26.500 – 26.521 mm
(1.0433 – 1.0441 in.)

Maximum inside diameter: 26.57 mm (1.0461 in.)

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



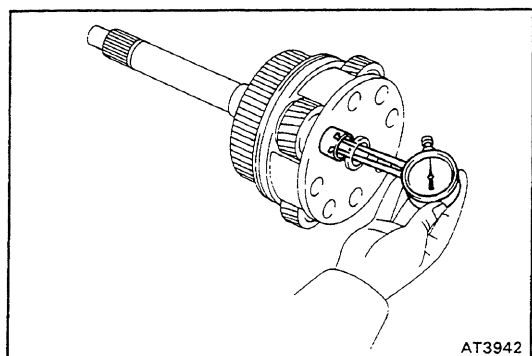
4. INSPECT BUSHINGS OF OVERDRIVE PLANETARY GEAR

Using a dial indicator, measure the inside diameter.

Standard inside diameter: 12.000 – 12.018 mm
(0.4724 – 0.4731 in.)

Maximum inside diameter: 12.07 mm (0.4752 in.)

If the inside diameter is greater than maximum, replace the planetary gear.



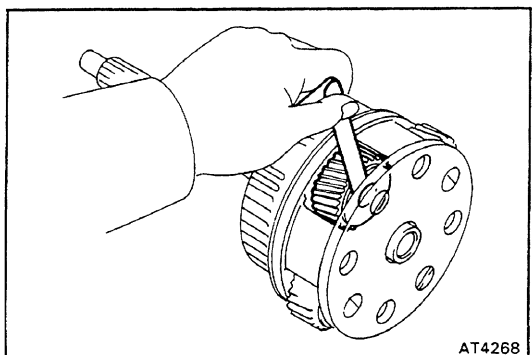
5. INSPECT PLANETARY PINION GEAR THRUST CLEARANCE

Using a feeler gauge, measure the clearance between the pinions and carrier.

Standard clearance: 0.20 – 0.59 mm
(0.0079 – 0.0232 in.)

Maximum clearance: 0.80 mm (0.0315 in.)

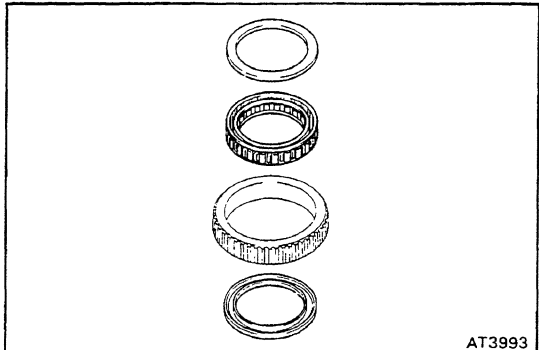
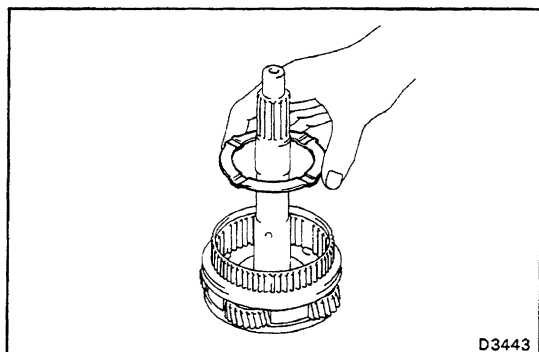
If the thrust clearance is greater than maximum, replace the planetary gear.



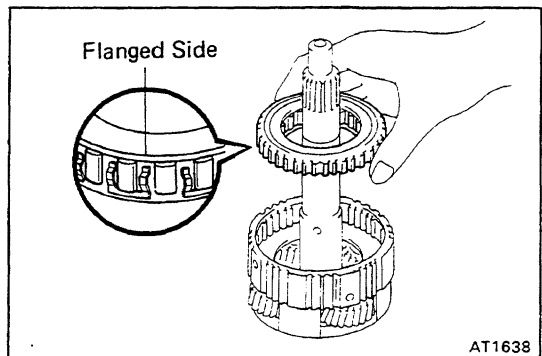
ASSEMBLY OF OVERDRIVE PLANETARY GEAR OVERDRIVE DIRECT CLUTCH AND OVERDRIVE ONE-WAY CLUTCH

1. INSTALL ONE-WAY CLUTCH TO OVERDRIVE PLANETARY GEAR

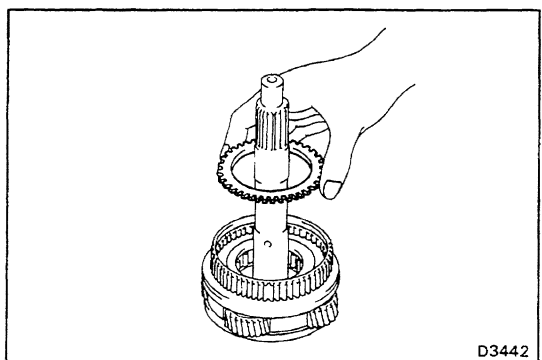
(a) Install the No.3 thrust washer, facing the grooved side upward.



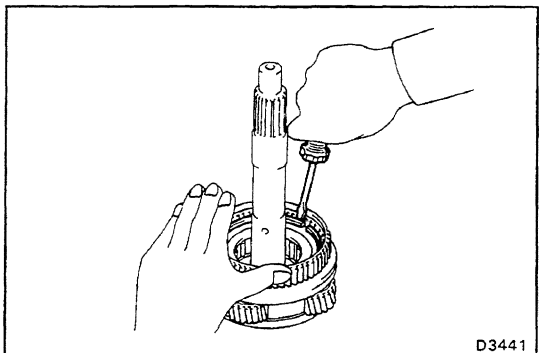
(b) Install the one-way clutch and two retainers into the outer race.



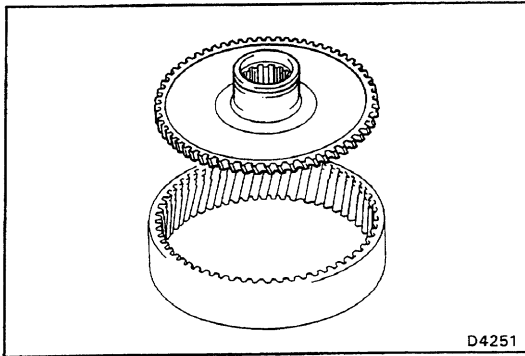
(c) Install the one-way clutch and outer race assembly facing the flanged side of the one-way clutch upward.



(d) Install the No.4 thrust washer.

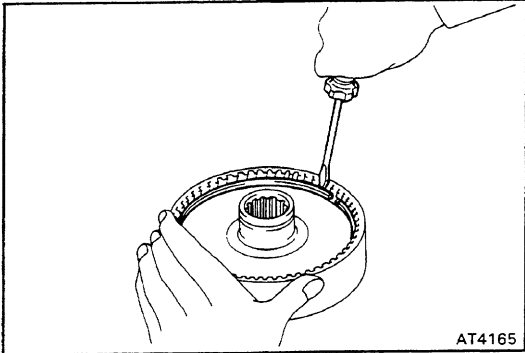


(e) Using a screwdriver, install the snap ring.

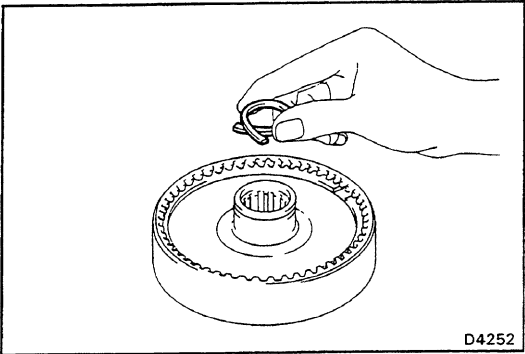


2. INSTALL RING GEAR FLANGE TO OVERDRIVE PLANETARY RING GEAR

(a) Install the ring gear flange as shown.



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

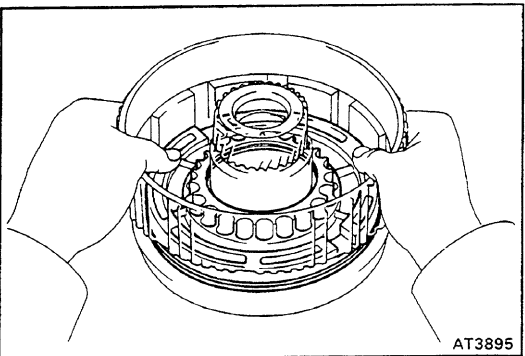


3. INSTALL OIL SEAL RING

Coat the oil seal ring with ATF, and install it to the ring gear flange.

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

HINT: After installing the oil seal ring, check that it moves smoothly.

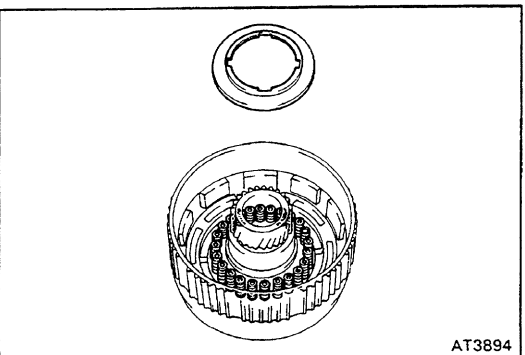


4. INSTALL OVERDRIVE DIRECT CLUTCH PISTON

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

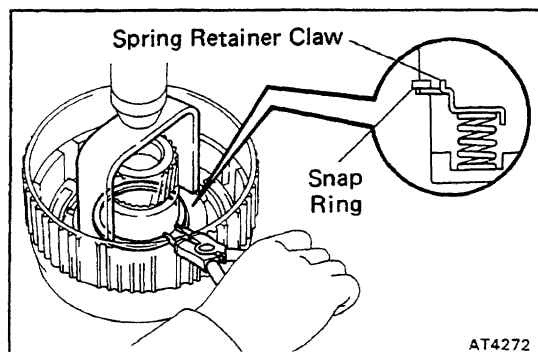
(b) Push in the clutch piston into the clutch drum with both hands.

NOTICE: Be careful not to damage the O-rings.



5. INSTALL PISTON RETURN SPRING

(a) Place the twenty-four return springs and spring seat on the clutch piston.

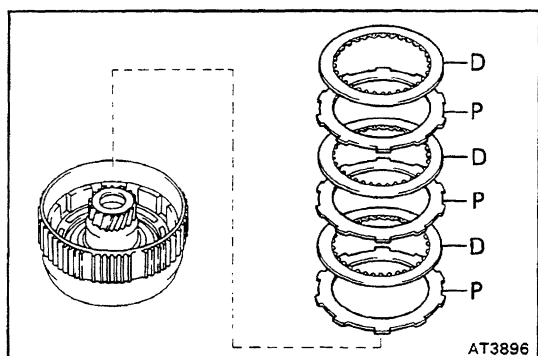


(b) place SST on the spring seat, and compress the return spring with a shop press.

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(c) Using snap ring pliers, install the snap ring.

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

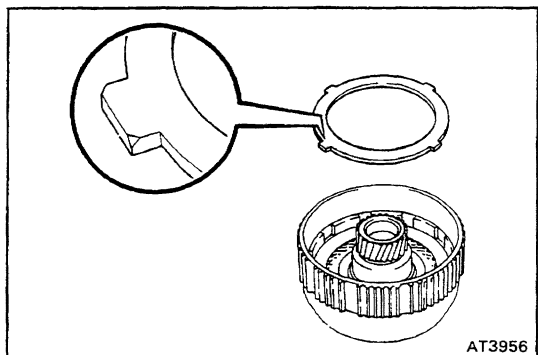


6. INSTALL PLATES, DISCS AND FLANGE

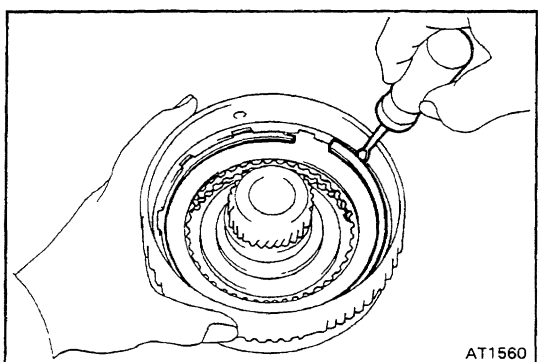
(a) Install the three plates and three discs in order:

P = Plate D = Disc

P-D-P-D-P-D

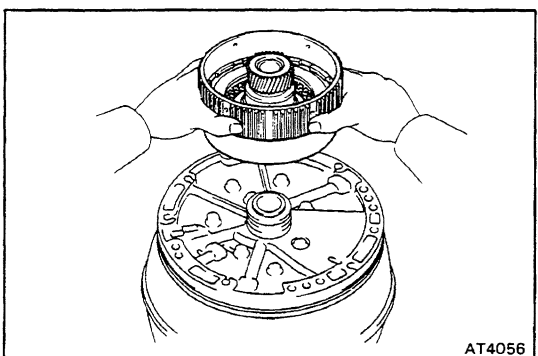


(b) Install the flange, facing the rounded edge upward.



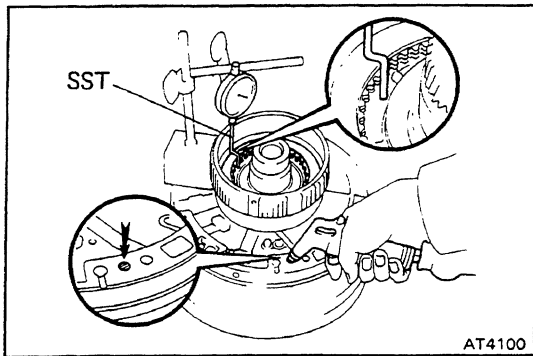
(c) Using a screwdriver, install the snap ring.

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



7. CHECK PISTON STROKE OF OVERDRIVE DIRECT CLUTCH

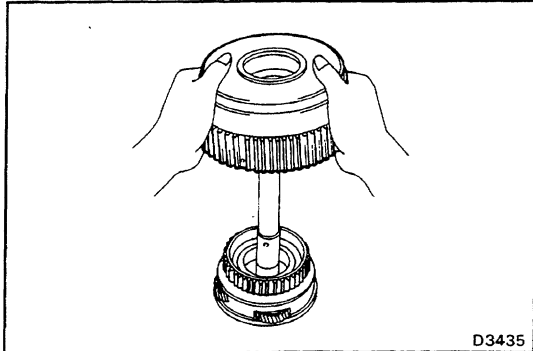
(a) Place the oil pump onto the torque converter, and then place the O/D direct clutch assembly onto the oil pump.



- (b) Using SST and a dial indicator, measure the piston stroke by applying and releasing the compressed air (4 – 8 kg/cm², 57 – 114 psi or 392 – 785 kPa) as shown. SST 09350-36010 (09350-06110)

Piston stroke: 1.10 – 1.70 mm (0.0433 – 0.0669 in.)

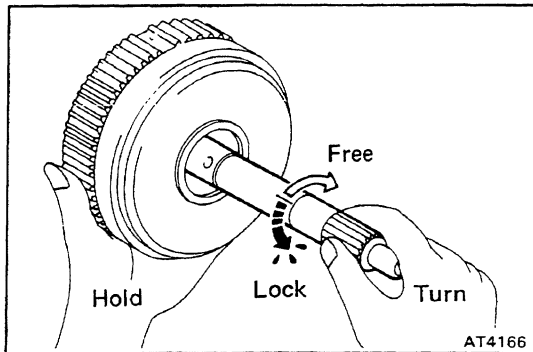
If the piston stroke is less than specified, parts may have been assembled incorrectly, check and reassembled again.



8. INSTALL OVERDRIVE DIRECT CLUTCH ASSEMBLY

Install the direct clutch assembly onto the O/D planetary gear.

HINT: Mesh the spline of the O/D planetary gear with the flukes of the discs by rotating and pushing the O/D direct clutch counterclockwise.



9. CHECK OPERATION OF ONE-WAY CLUTCH

Hold the O/D direct clutch drum and turn the input shaft.

The input shaft should turn freely clockwise and should lock counterclockwise.