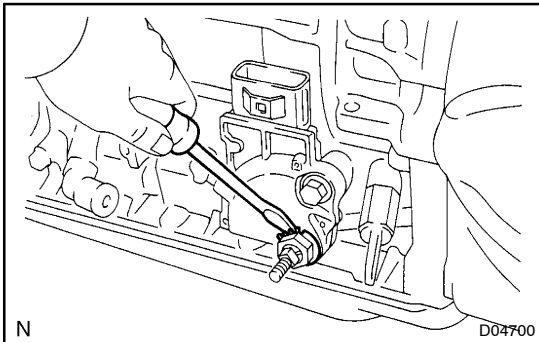


DISASSEMBLY

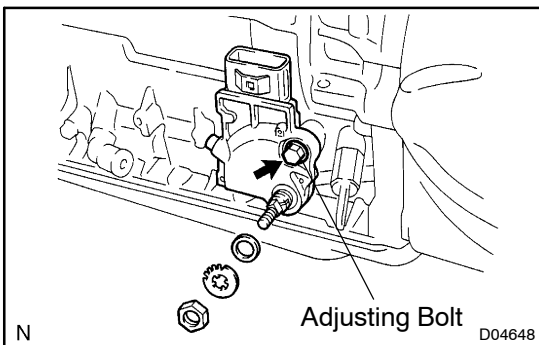
1. REMOVE CONTROL SHAFT LEVER

Remove the nut, washer and control shaft lever.



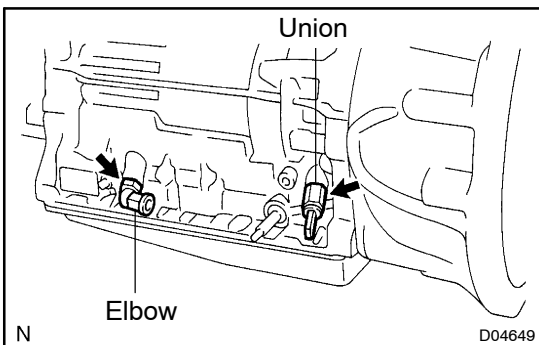
2. REMOVE NEUTRAL START SWITCH

(a) Using a screwdriver, unstake the lock washer.



(b) Remove the nut, lock washer, grommet and adjusting bolt.

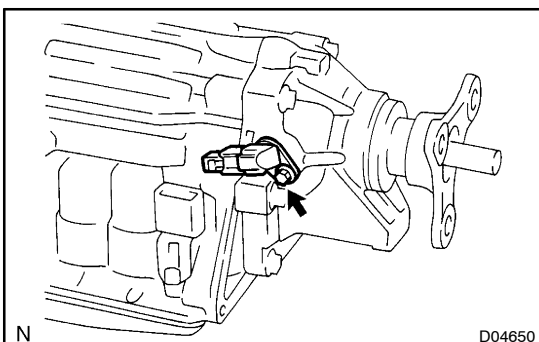
(c) Remove the neutral start switch.



3. REMOVE UNION AND ELBOW

(a) Remove the union and elbow.

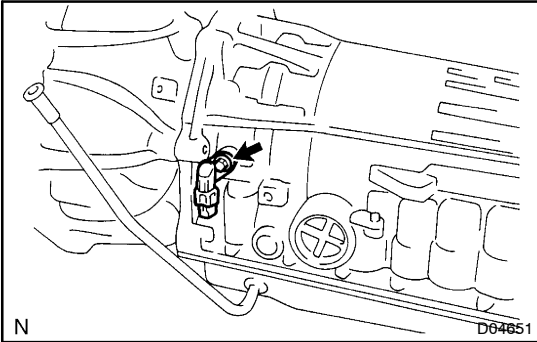
(b) Remove the O-ring from the union and elbow.



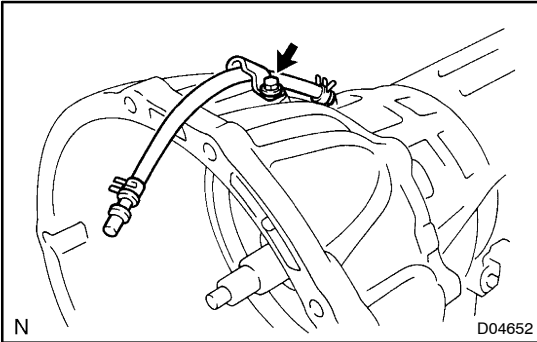
4. REMOVE SPEED SENSOR

(a) Remove the bolt and speed sensor.

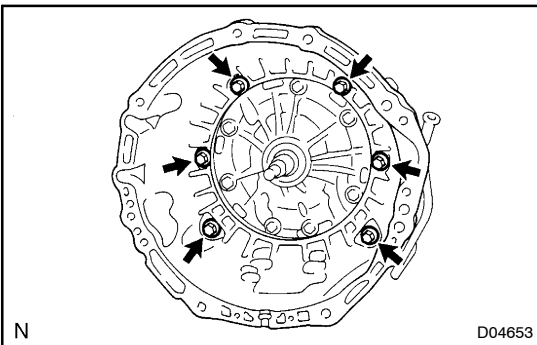
(b) Remove the O-ring from the speed sensor.

**5. REMOVE O/D DIRECT CLUTCH SPEED SENSOR**

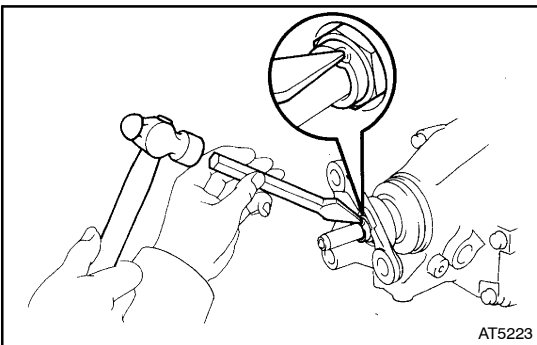
- (a) Remove the bolt and O/D direct clutch speed sensor.
- (b) Remove the O-ring from the O/D direct clutch speed sensor.

**6. REMOVE TRANSMISSION HOUSING**

- (a) Remove the bolt and breather hose.



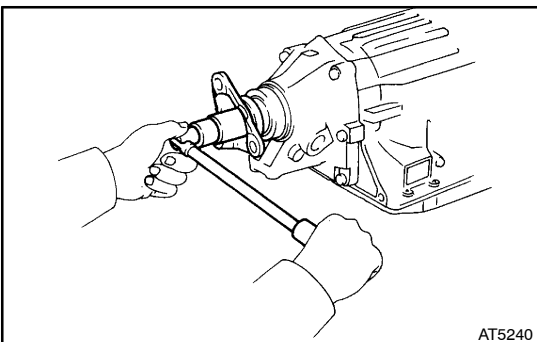
- (b) Remove the 6 bolts and transmission housing.

**7. REMOVE TRANSMISSION OUTPUT FLANGE**

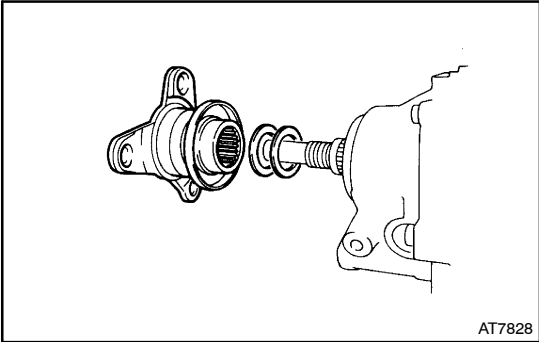
- (a) Using a chisel and hammer, loosen the staked part of the nut.

HINT:

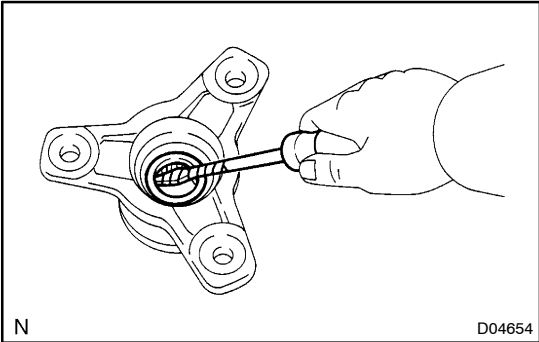
Shift the manual valve lever to the P range.



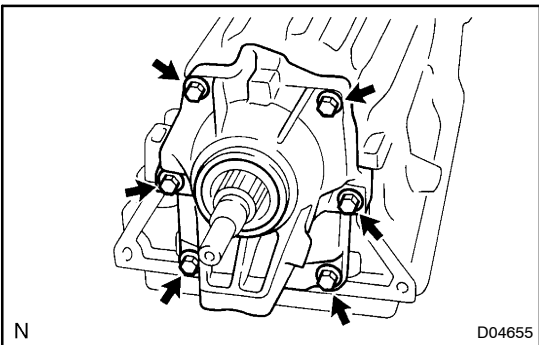
- (b) Using a deep socket wrench of 30 mm, remove the nut.



(c) Remove the transmission output flange and 2 washers.

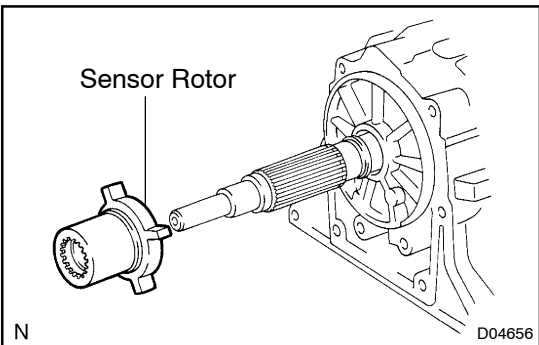


(d) Using a screwdriver, remove the oil seal from the transmission output flange.

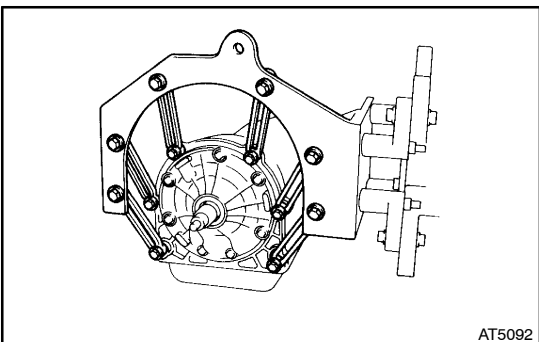


8. REMOVE EXTENSION HOUSING

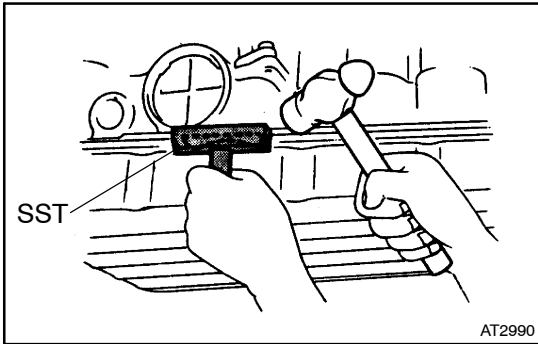
- (a) Remove the 6 bolts.
- (b) Using a brass bar and hammer, tap the extension housing and remove it.



9. REMOVE SENSOR ROTOR FROM OUTPUT SHAFT



10. INSTALL TRANSMISSION CASE ON OVERHAUL ATTACHMENT



11. REMOVE OIL PAN

NOTICE:

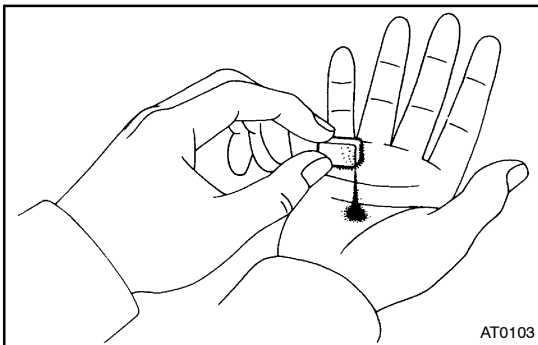
Do not turn the transmission over as this will contaminate the valve body with any foreign matter at the bottom of the pan.

- (a) Remove the 19 bolts.
- (b) Insert the blade of SST between the transmission case and oil pan, cut off applied sealer.

SST 09032-00100

NOTICE:

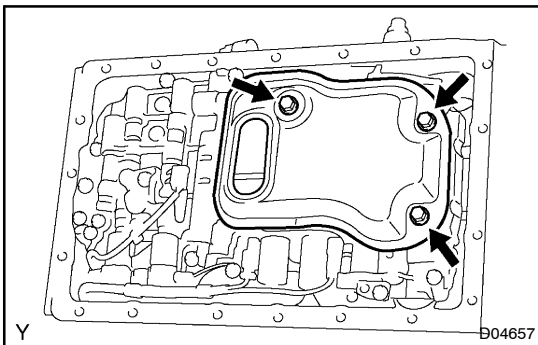
Be careful not to damage the oil pan flange.



12. EXAMINE PARTICLES IN PAN

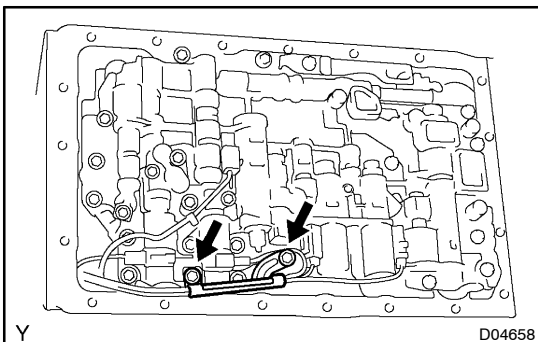
Remove the magnets and use them to collect any steel chips. Look carefully at the chips and particles in the pan and on the magnet to anticipate what type of wear you will find in the transmission.

- Steel (magnetic): bearing, gear and clutch plate wear
- Brass (non-magnetic): bushing wear



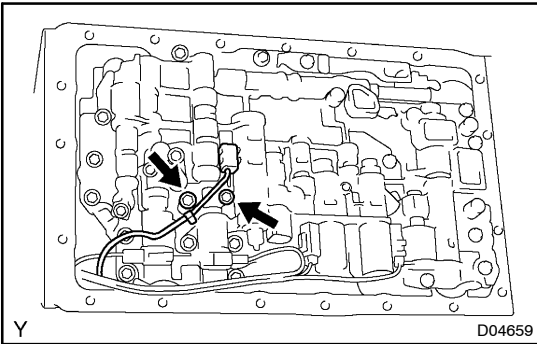
13. REMOVE OIL STRAINER

- (a) Turn over the transmission.
- (b) Remove the 3 bolts and oil strainer from the valve body.

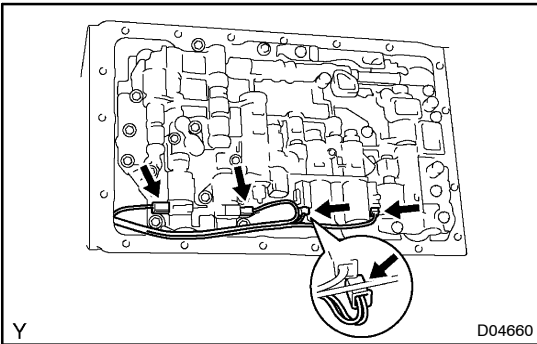


14. REMOVE SOLENOID WIRING

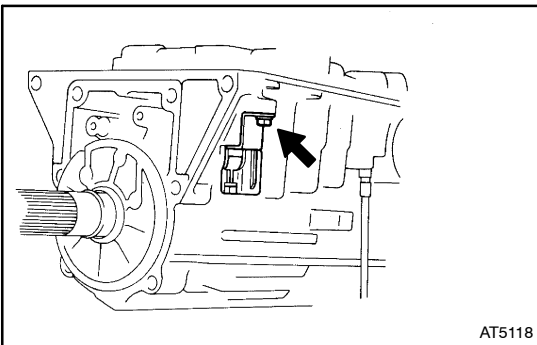
- (a) Remove the 2 bolts and solenoid wiring clamp.



- (b) Remove the 2 set bolts of the clamp and disconnect the ATF Temp. sensor.

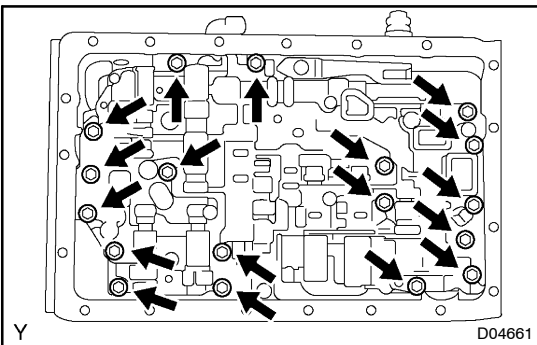


- (c) Disconnect the 5 connectors from the solenoid valves.

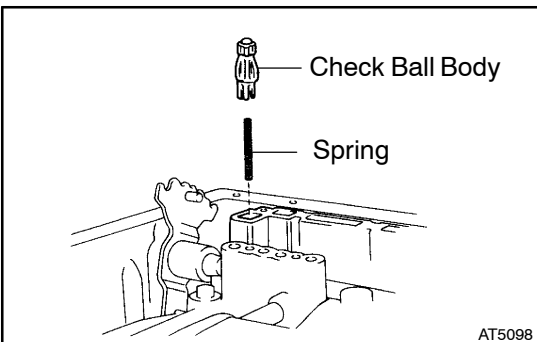


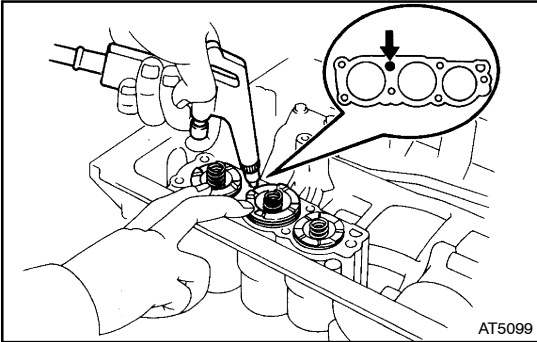
- (d) Remove the bolt and pull the solenoid wiring out of the transmission case.
- (e) Remove the O-ring from the solenoid wiring.

15. REMOVE 18 BOLTS AND VALVE BODY

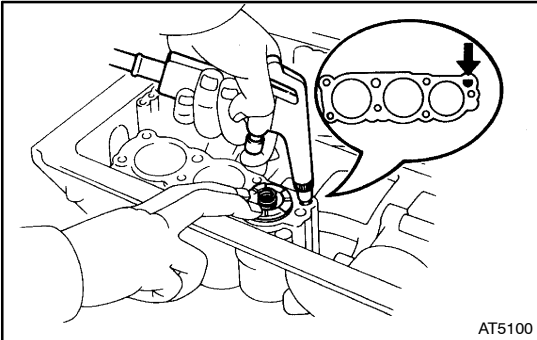


16. REMOVE CHECK BALL BODY AND SPRING



**17. REMOVE ACCUMULATOR PISTON AND SPRING**

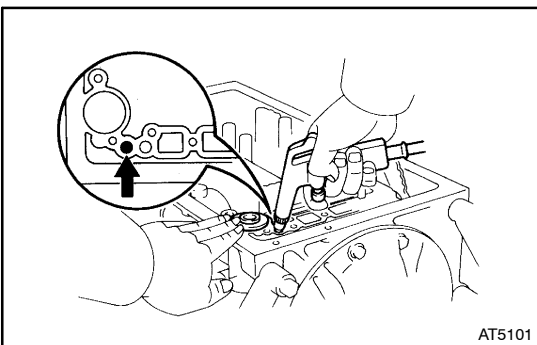
- (a) Applying compressed air (392 – 785 kPa, 4 – 8 kgf/cm², 57 – 114 psi) to the oil hole, remove the B₂ and C₂ accumulator pistons and 3 springs.
- (b) Remove the O-rings from each piston.



- (c) Applying compressed air (392 – 785 kPa, 4 – 8 kgf/cm², 57 – 114 psi) to the oil hole, remove the B₀ accumulator piston and spring.
- (d) Remove the O-rings from the piston.

NOTICE:

Take care as the C₀ accumulator piston may jump out.

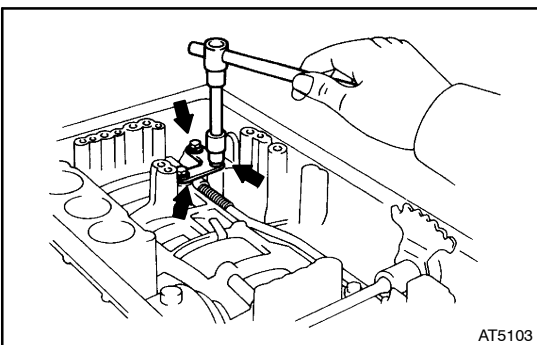


- (e) Applying compressed air (392 – 785 kPa, 4 – 8 kgf/cm², 57 – 114 psi) to the oil hole, remove the C₀ accumulator piston and springs.

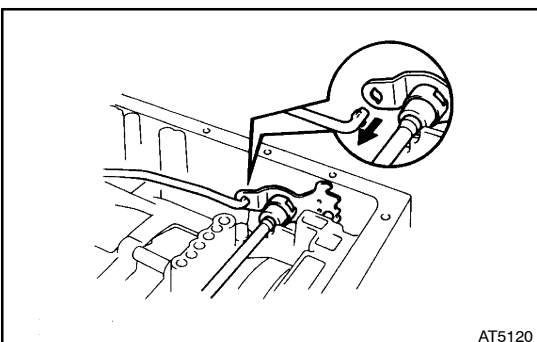
HINT:

The C₀ accumulator piston is deviated in 2 parts, so if only the top part is removed, after removing the spring reapply compressed air to remove the bottom part.

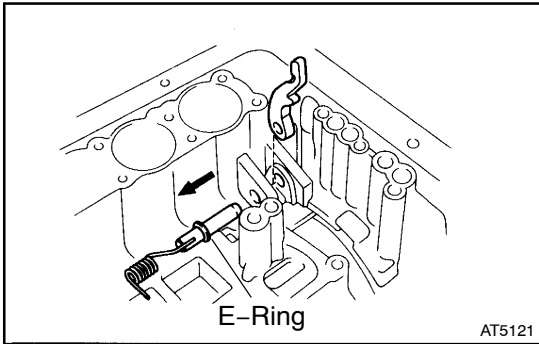
- (f) Remove the O-rings from the piston.

**18. REMOVE PARKING LOCK ROD AND PAWL**

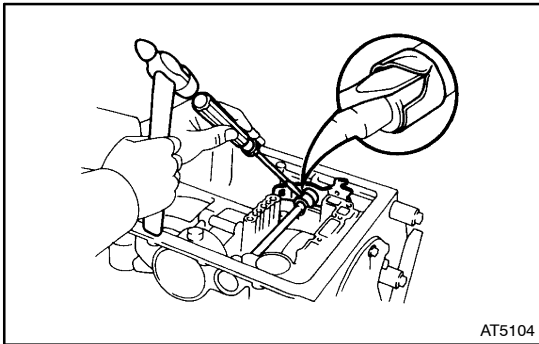
- (a) Remove the 3 bolts and parking lock pawl bracket.



- (b) Disconnect the parking lock rod from the manual valve lever.

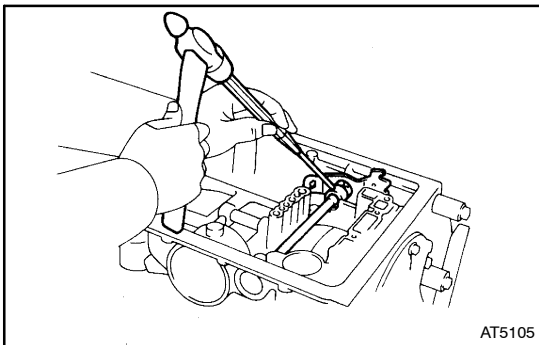


- (c) Pull out the parking lock pawl shaft from the front side, then remove the parking lock pawl and spring.
- (d) Remove the E-ring from the parking lock pawl shaft.



19. REMOVE MANUAL VALVE LEVER SHAFT

- (a) Using a screwdriver and hammer, cut off the spacer and remove it from the manual lever shaft.

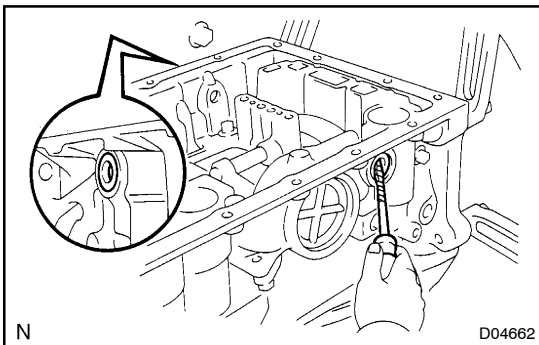


- (b) Using a pin punch and hammer, drive out the spring pin.

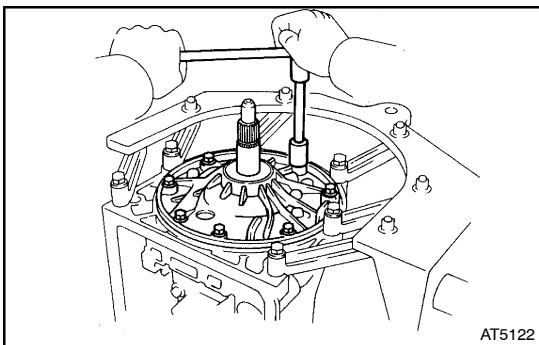
HINT:

Slowly drive out the spring pin so it does not fall into the transmission case.

- (c) Pull the manual valve lever shaft out through the case and remove the manual valve lever.

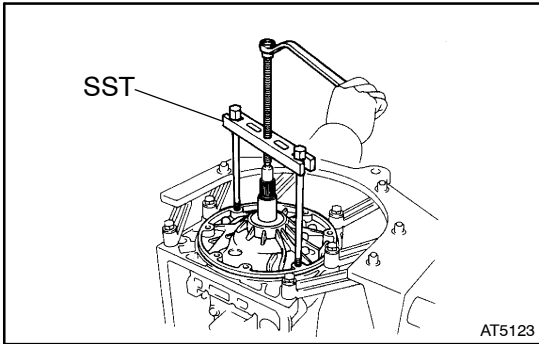


- (d) Using a screwdriver, remove the 2 oil seals.

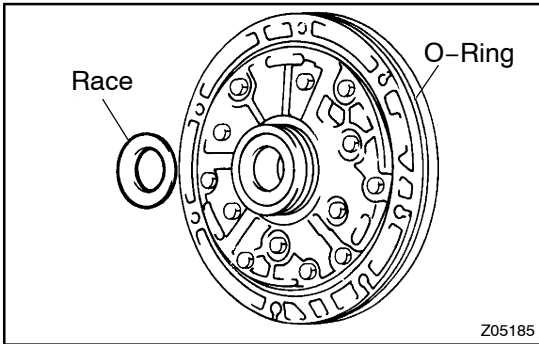


20. REMOVE OIL PUMP

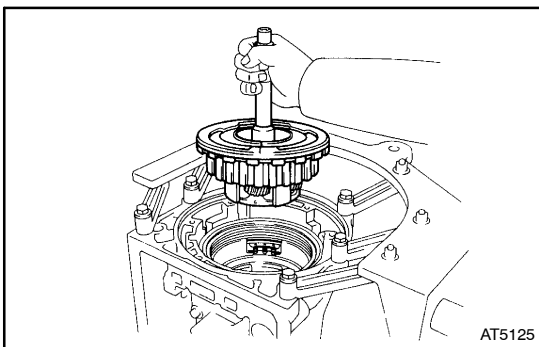
- (a) Remove the 7 bolts holding the oil pump to the transmission case.



- (b) Using SST, remove the oil pump.
SST 09350-30020 (09350-07020)

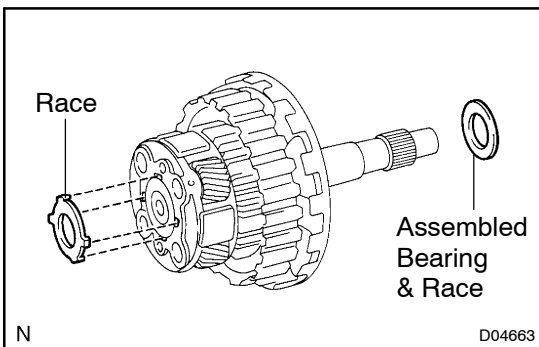


- (c) Remove the race and O-ring from the oil pump.

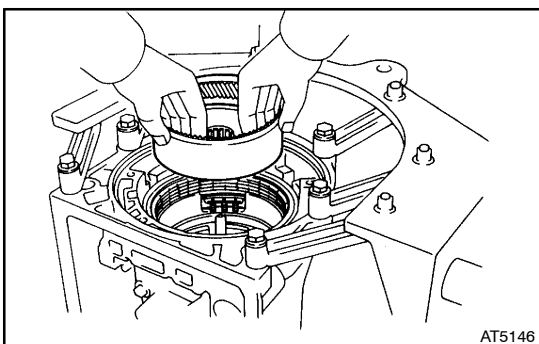


21. REMOVE O/D PLANETARY GEAR UNIT WITH O/D DIRECT CLUTCH

- (a) Remove the O/D planetary gear unit with the O/D direct clutch from the transmission case.

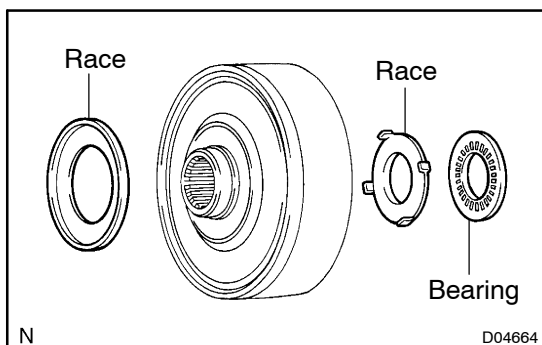


- (b) Remove the race and assembled bearing & race.

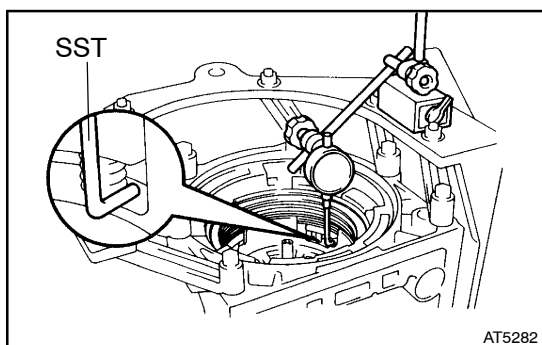


22. REMOVE O/D PLANETARY RING GEAR

- (a) Remove the O/D planetary ring gear from the transmission case.

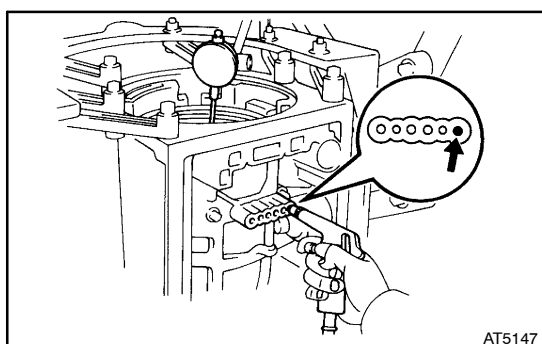


- (b) Remove the bearing and 2 races from the planetary ring gear.

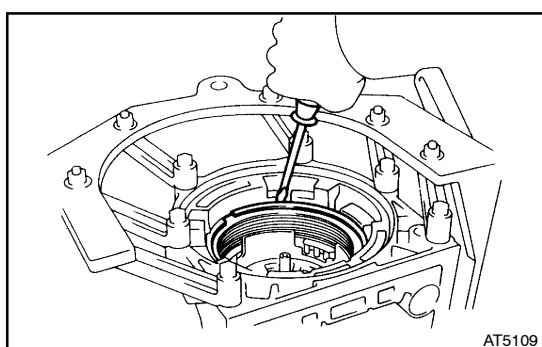


23. CHECK PISTON STROKE OF O/D BRAKE

- (a) Place SST and a dial indicator onto the O/D brake piston.
SST 09350-30020 (09350-06120)

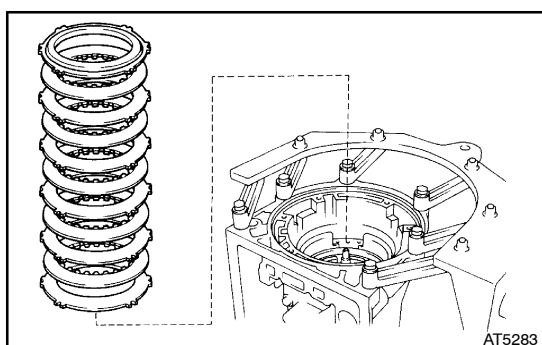


- (b) Measure the stroke while applying and releasing compressed air (392 – 785 kPa, 4 – 8 kgf/cm², 57 – 114 psi).
Piston stroke: 1.75 – 2.05 mm (0.0689 – 0.0807 in.)
If the stroke is non-standard, inspect the discs.



24. REMOVE FLANGE, PLATE AND DISC OF O/D BRAKE

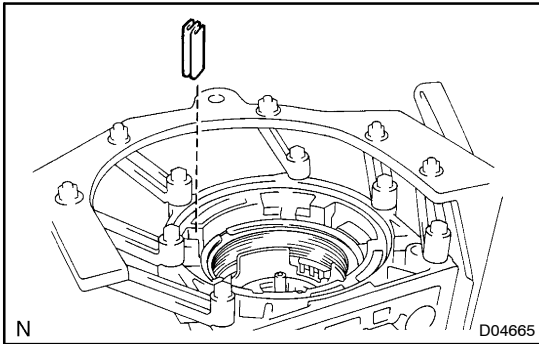
- (a) Using a screwdriver, remove the snap ring.



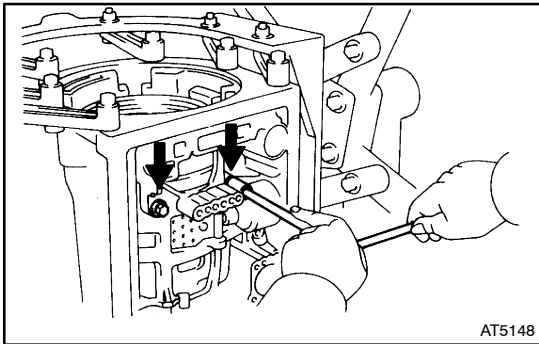
- (b) Remove the O/D brake pack as a set.

HINT:

Flange, 5 plates and discs.

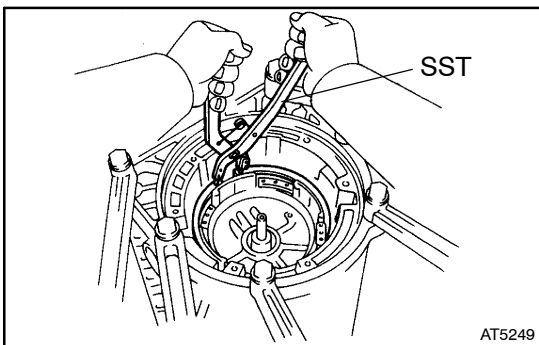


(c) Remove the spring from the transmission case.

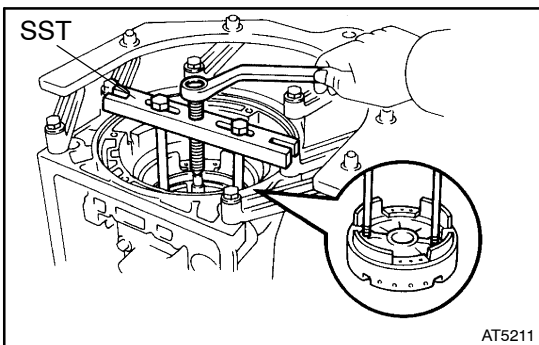


25. REMOVE O/D SUPPORT

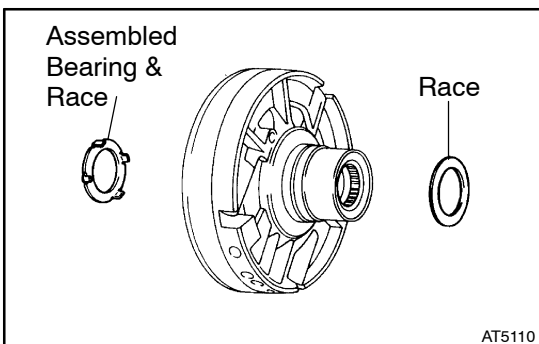
(a) Remove the 2 bolts holding the O/D support from the transmission case.



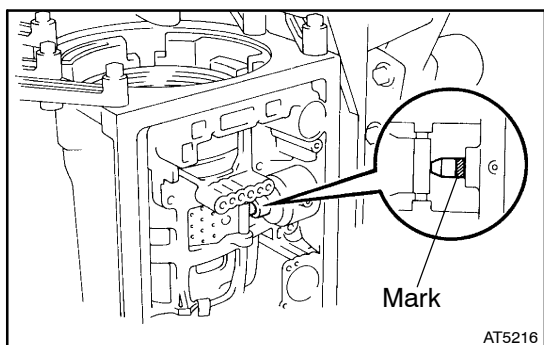
(b) Using SST, remove the snap ring.
SST 09350-30020 (09350-07060)



(c) Using SST, remove the O/D support.
SST 09350-30020 (09350-07020)

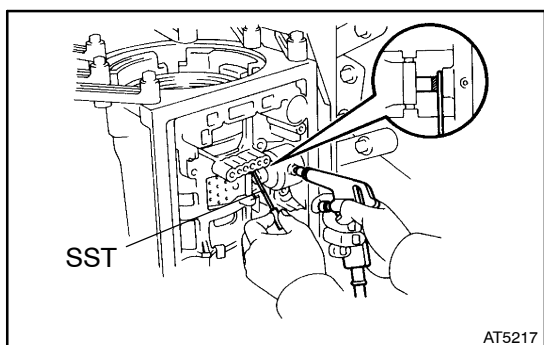


(d) Remove the assembled bearing & race and race from the O/D support.



26. CHECK PISTON ROD STROKE OF 2ND COAST BRAKE

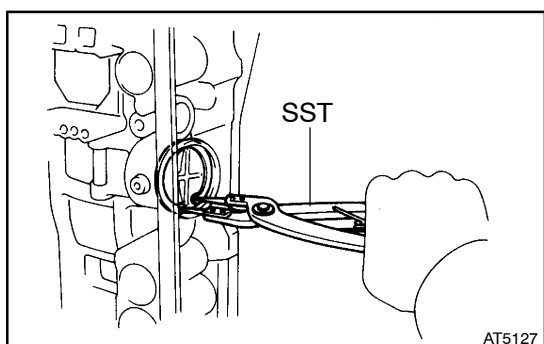
- (a) Using a water proof pen, place a mark on the 2nd coast brake piston rod, as shown.



- (b) Using SST, measure the stroke while applying compressed air (392 – 784 kPa, 4 – 8 kgf/cm², 57 – 114 psi).
SST 09240-00020

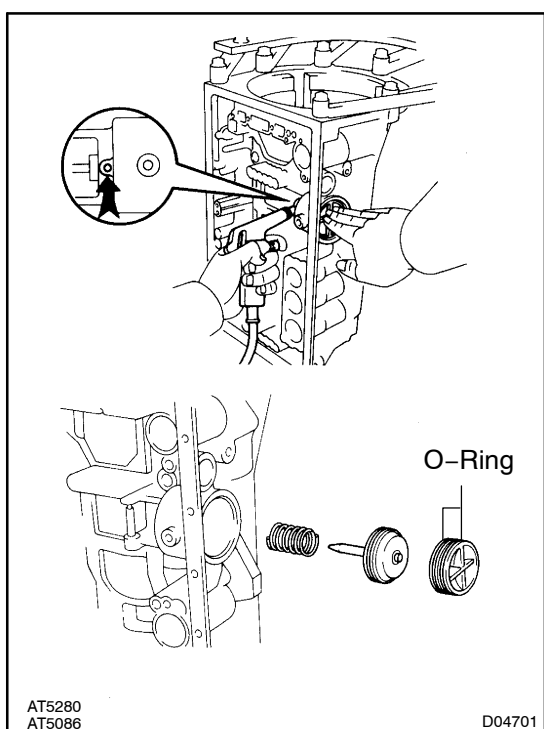
Piston rod stroke: 2.0 – 3.0 mm (0.079 – 0.118 in.)

If the stroke is non-standard, inspect the brake band.

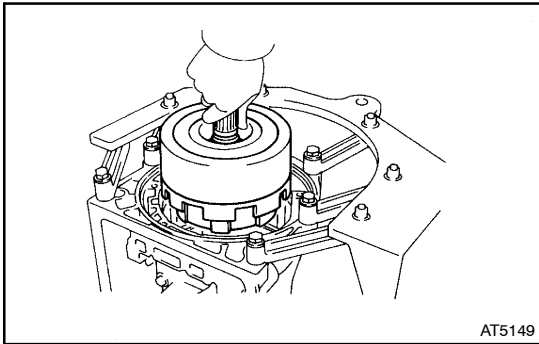


27. REMOVE 2ND COAST BRAKE COVER, PISTON ASSEMBLY AND SPRING

- (a) Using SST, remove the snap ring.
SST 09350-30020 (09350-07060)

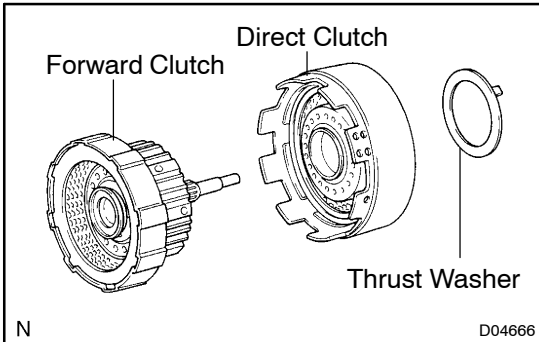


- (b) Applying compressed air (392 – 784 kPa, 4 – 8 kgf/cm², 57 – 114 psi) to the oil hole, remove the 2nd coast brake cover, piston assembly and spring.
- (c) Remove the 2 O-rings from the 2nd coast brake cover.



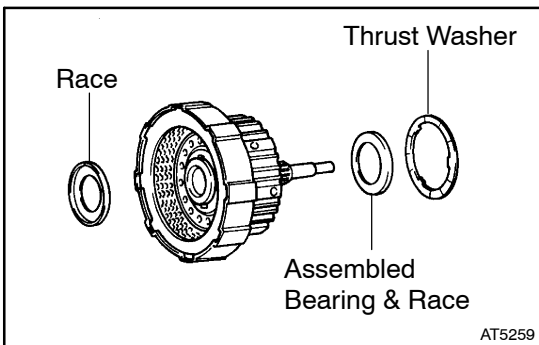
28. REMOVE DIRECT CLUTCH WITH FORWARD CLUTCH

(a) Remove the direct clutch with the forward clutch from the transmission case.

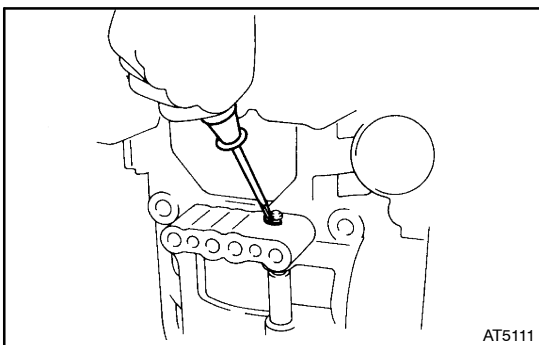


(b) Remove the direct clutch from the forward clutch.

(c) Remove the thrust washer from the direct clutch.



(d) Remove the assembled bearing & race, thrust washer and race from the forward clutch.

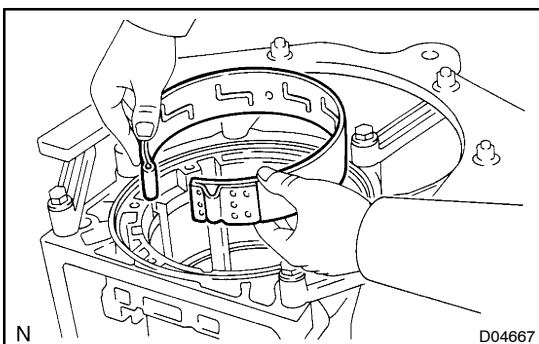


29. REMOVE 2ND COAST BRAKE BAND

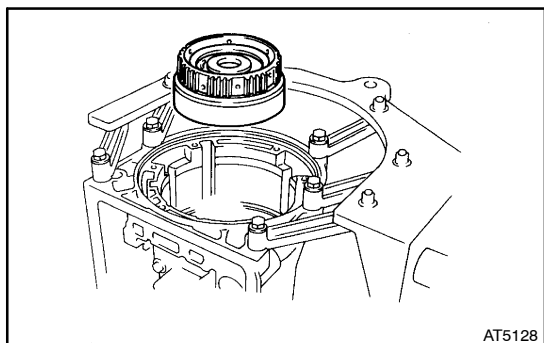
(a) Using a screwdriver, remove the E-ring from the pin.

(b) Remove the pin from the brake band.

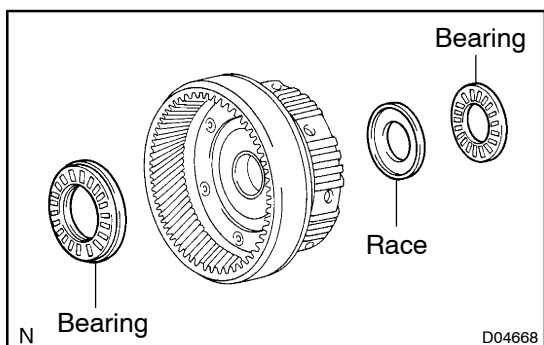
(c) Remove the E-ring from the pin.



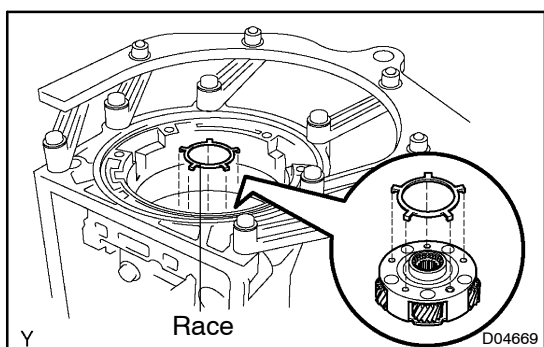
(d) Remove the 2nd coast brake band from the transmission case.

**30. REMOVE FRONT PLANETARY RING GEAR**

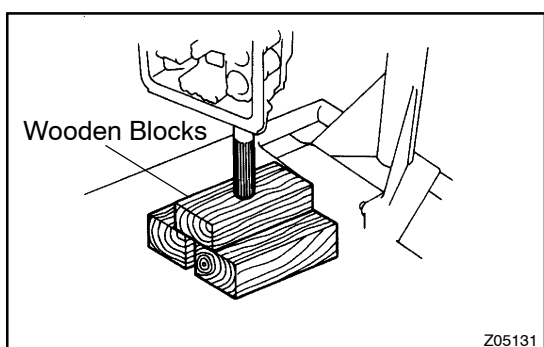
- (a) Remove the front planetary ring gear from the transmission case.



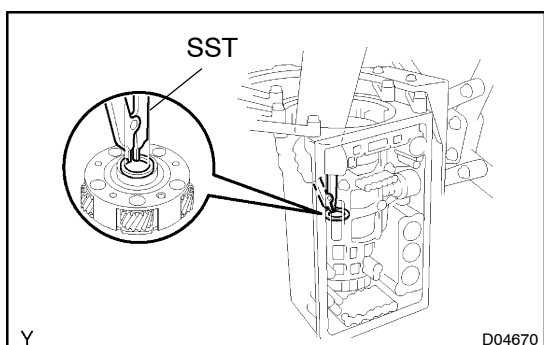
- (b) Remove the 2 bearings and race from the front planetary ring gear.



- (c) Remove the race from the front planetary gear.



- (d) With wooden blocks under the output shaft, stand the transmission on the output shaft.

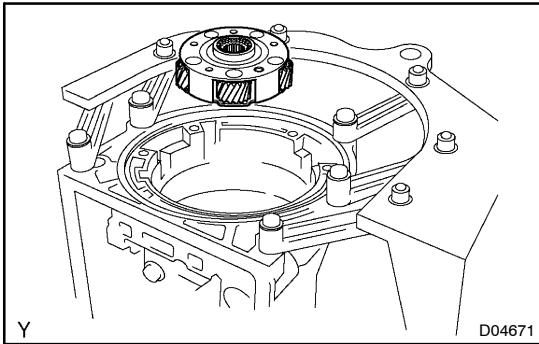
**31. REMOVE OUTPUT SHAFT**

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

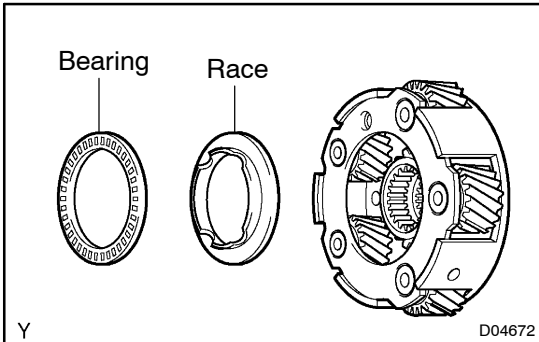
HINT:

Pushing the output shaft towards the front makes it easier to remove.

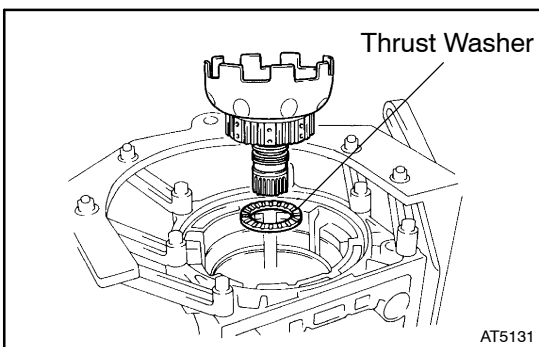
- (b) Remove the output shaft from the transmission case.

**32. REMOVE FRONT PLANETARY GEAR**

(a) Remove the front planetary gear from the transmission case.

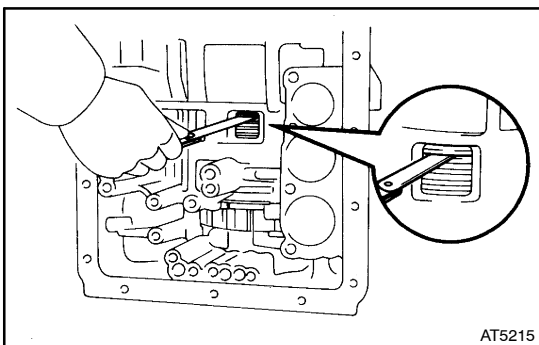


(b) Remove the bearing and race from the front planetary gear.

**33. REMOVE PLANETARY SUN GEAR WITH NO.1 ONE-WAY CLUTCH**

(a) Remove the planetary sun gear with the No.1 one-way clutch from the transmission case.

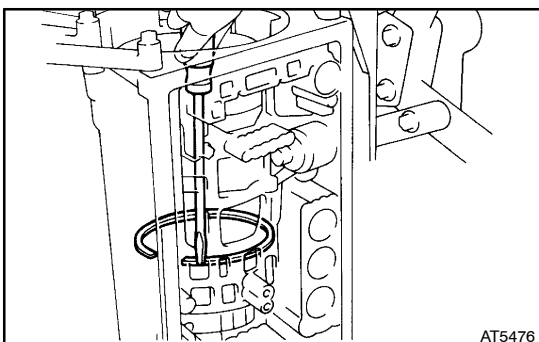
(b) Remove the thrust washer.

**34. CHECK PACK CLEARANCE OF 2ND BRAKE**

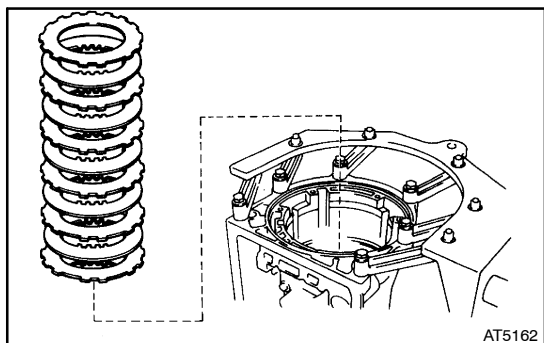
Using a feeler gauge, measure the clearance between the snap ring and flange, as shown.

Clearance: 0.62 - 1.98 mm (0.0244 - 0.0780 in.)

If the clearance is non-standard, inspect the discs.

**35. REMOVE FLANGE, PLATE AND DISC OF 2ND BRAKE**

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

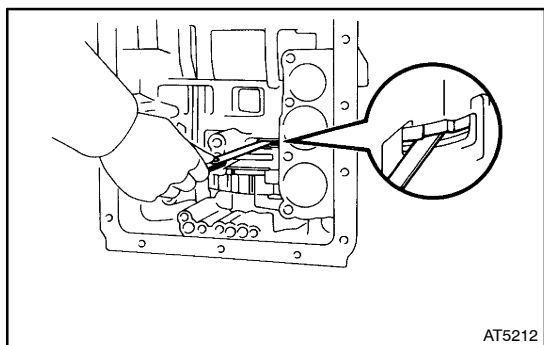


(b) Remove the 2nd brake pack as a set.

HINT:

Flange, 5 plates and discs.

AT5162



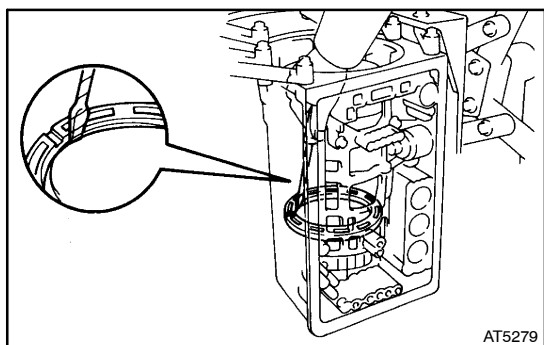
36. CHECK PACK CLEARANCE OF 1ST & REVERSE BRAKE

Using a feeler gauge, measure the clearance between the plate and 2nd brake drum, as shown.

Clearance: 0.7 - 1.0 mm (0.028 - 0.039 in.)

If the clearance is non-standard, inspect the discs.

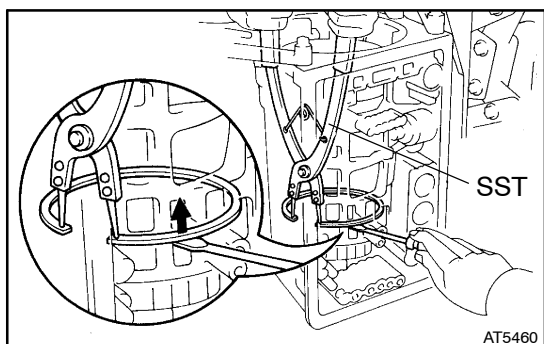
AT5212



37. REMOVE 2ND BRAKE PISTON SLEEVE

Using a screwdriver, remove the 2nd brake piston sleeve from the transmission case.

AT5279

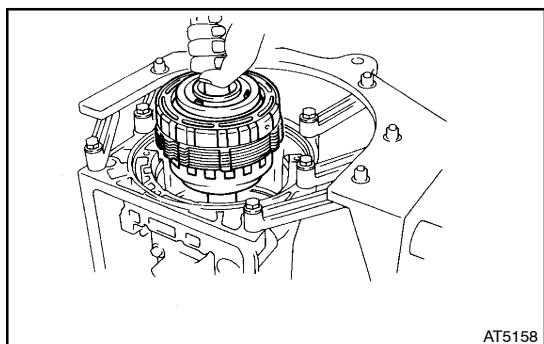


38. REMOVE REAR PLANETARY GEAR UNIT, 2ND BRAKE AND 1ST & REVERSE BRAKE PACK

(a) Using SST and a screwdriver, remove the snap ring.

SST 09350-30020 (09350-07060)

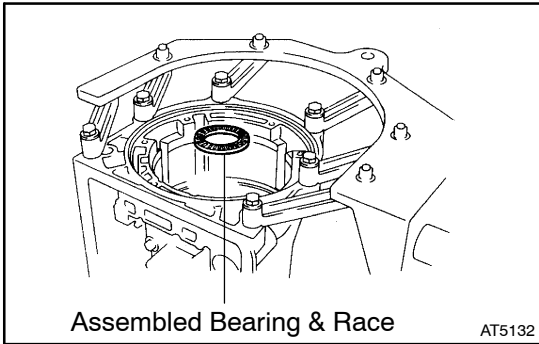
AT5460



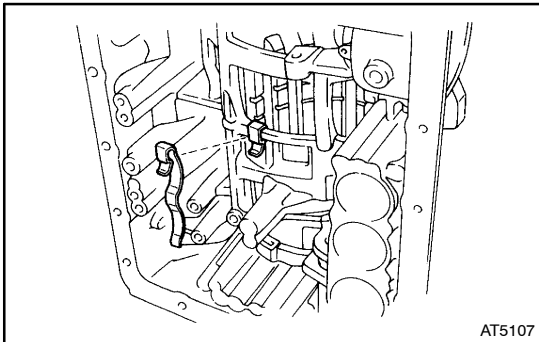
(b) Install the output shaft.

(c) Remove the rear planetary gear, rear planetary ring gear, 2nd brake and 1st & reverse brake pack from the transmission case.

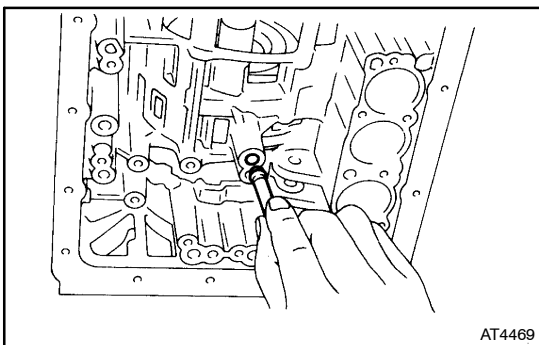
AT5158



- (d) Remove the assembled bearing & race from the transmission case.



- (e) Remove the leaf spring from the transmission case.



39. REMOVE BRAKE DRUM GASKET