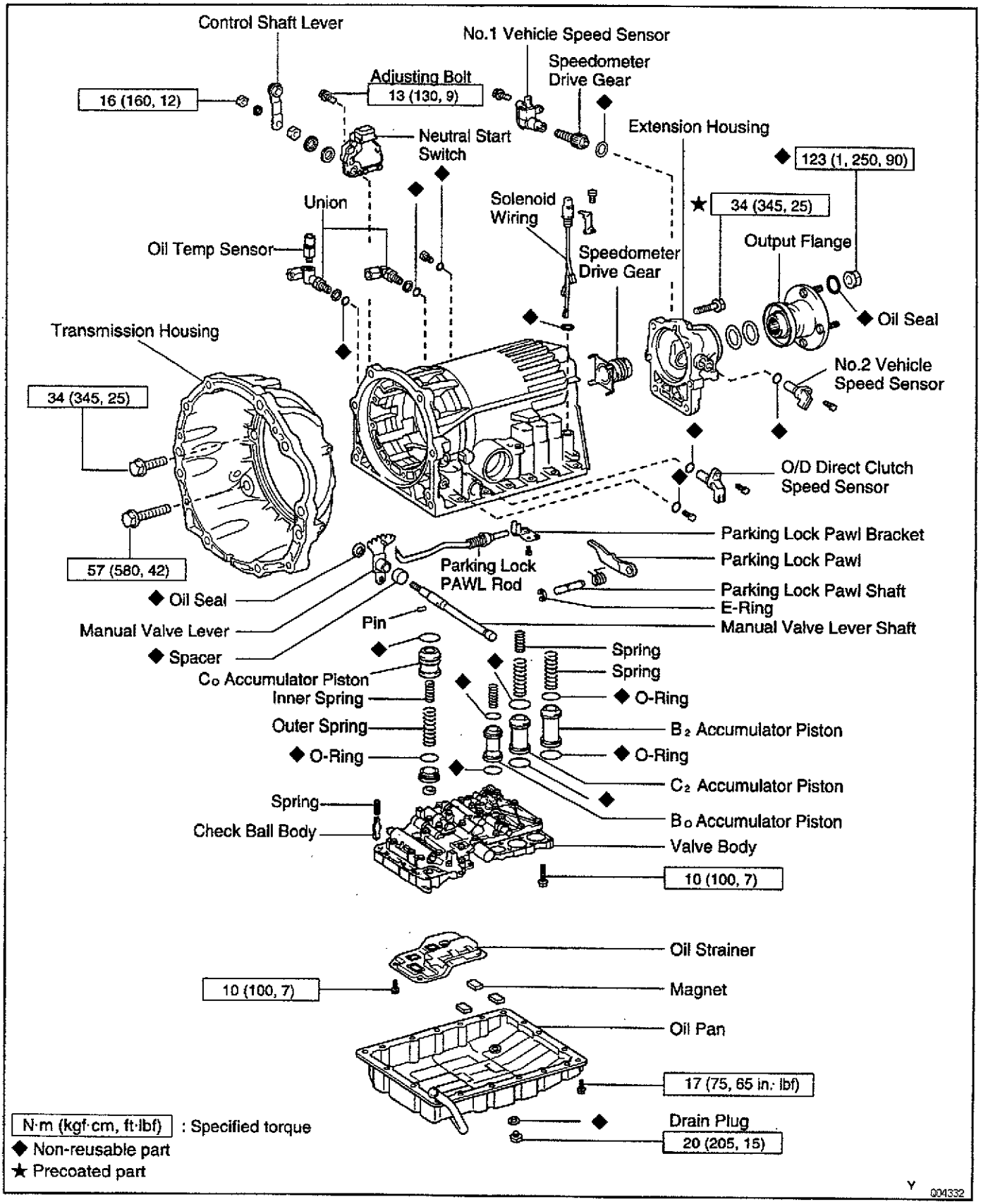
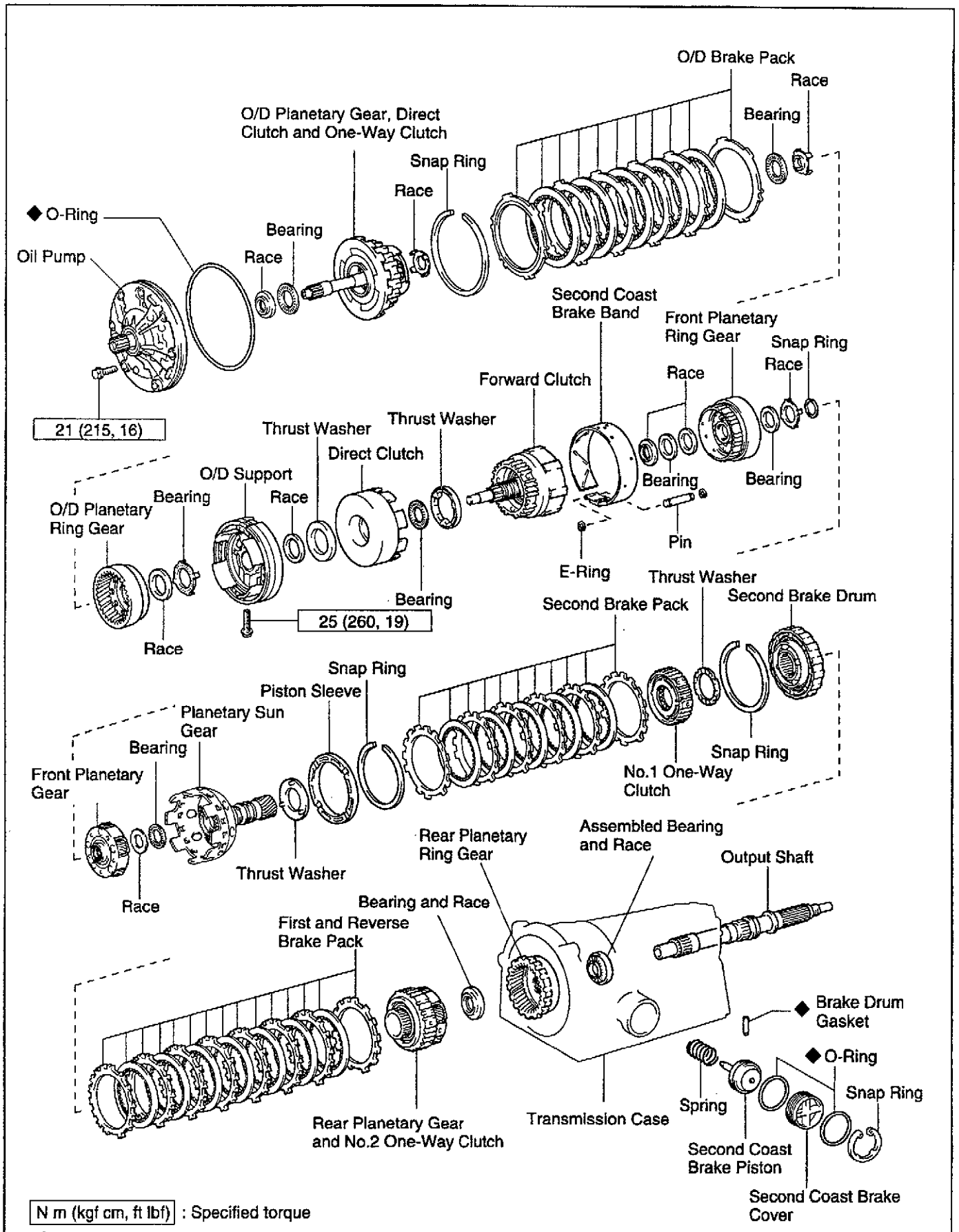
# COMPONENT PARTS REMOVAL

## COMPONENTS

AT00B–02






N m (kgf cm, ft lbf) : Specified torque

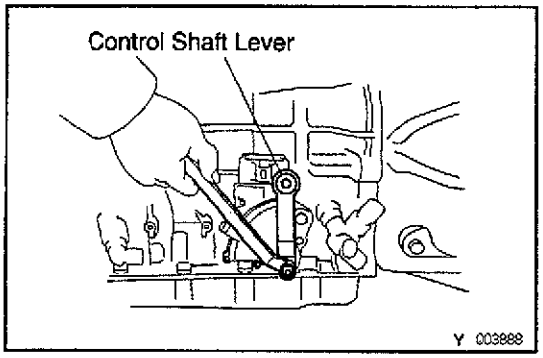
◆ Non-reusable part

Y 004333

004333

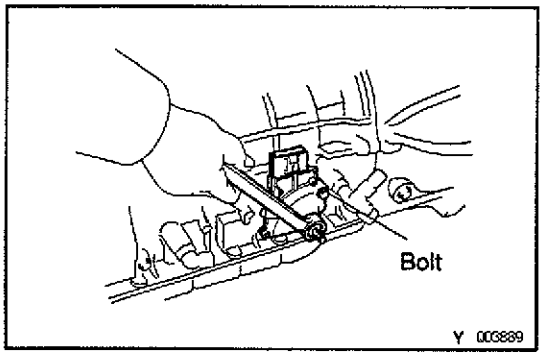
AT0DC−05

## TRANSMISSION DISASSEMBLY



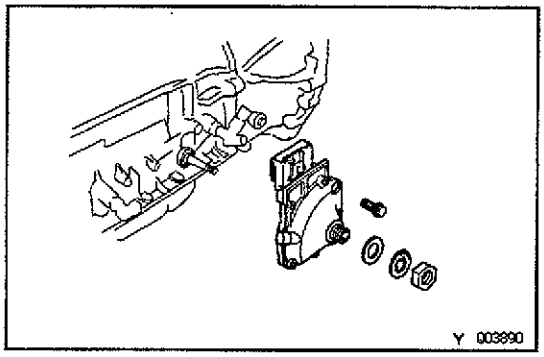

### 1. REMOVE CONTROL SHAFT LEVER



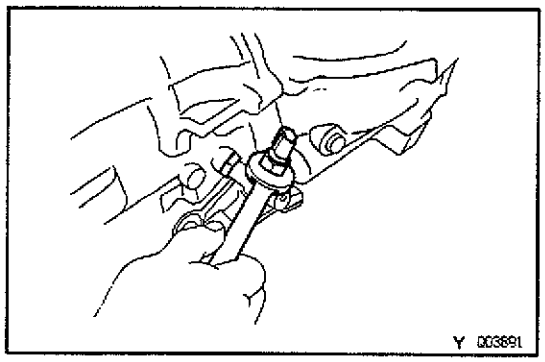



### 2. REMOVE PARK/NEUTRAL POSITION SWITCH

(a) Unstake the lock washer.
(b) Remove the nut and bolt.

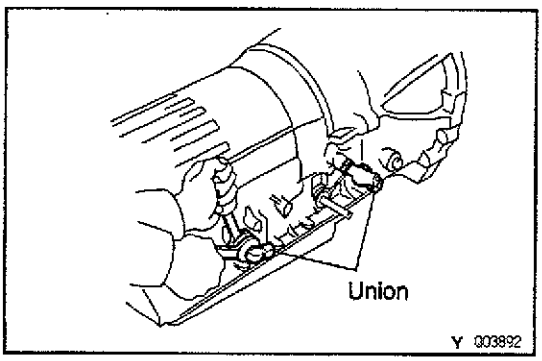



(c) Remove the park/neutral position switch.



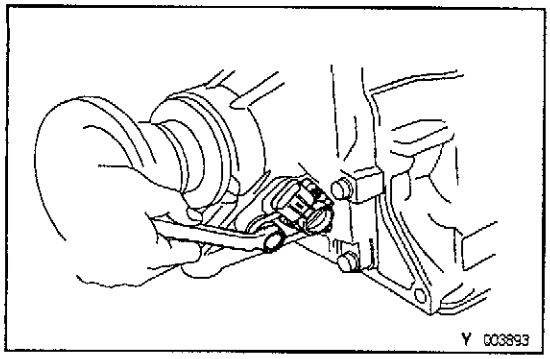

### 3. REMOVE OIL TEMPERATURE SENSOR

(a) Remove the oil temperature sensor.
(b) Remove the O−ring from the sensor.




### 4. REMOVE UNIONS

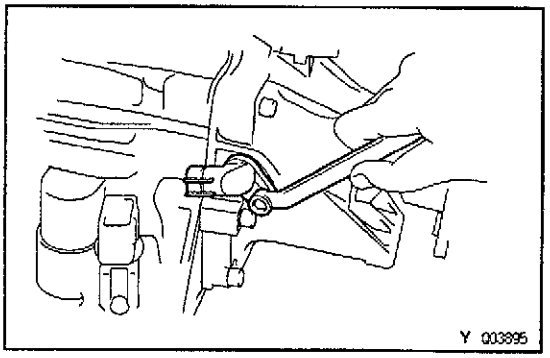
(a) Remove the 2 unions.
(b) Remove the O−ring from both unions.




**5. REMOVE NO.1 VEHICLE SPEED SENSOR**

(a) Remove the No.1 vehicle speed sensor.

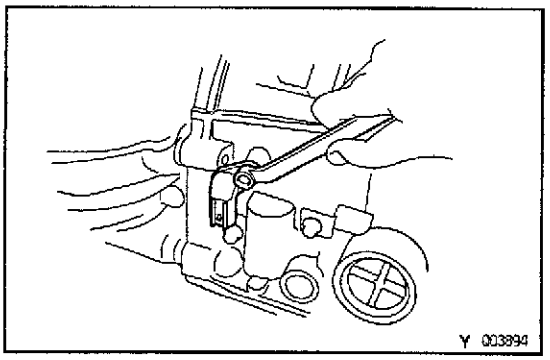
(b) Remove the O−ring from the sensor.




**6. REMOVE NO.2 VEHICLE SPEED SENSOR**

(a) Remove the No.2 vehicle speed sensor.

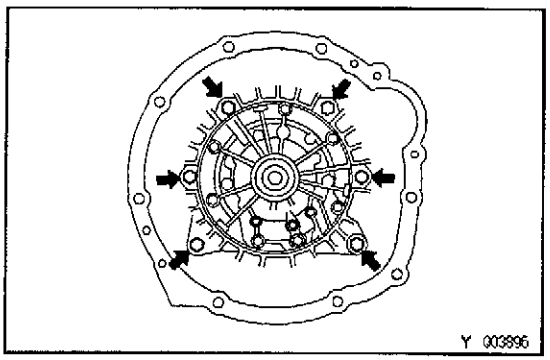
(b) Remove the O−ring from the sensor.




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

(a) Remove the O/D direct clutch speed sensor.

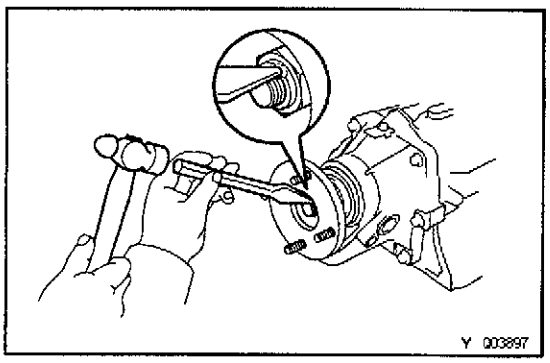
(b) Remove the O−ring from the sensor.




**8. REMOVE TRANSMISSION HOUSING**

(a) Remove the 6 bolts.

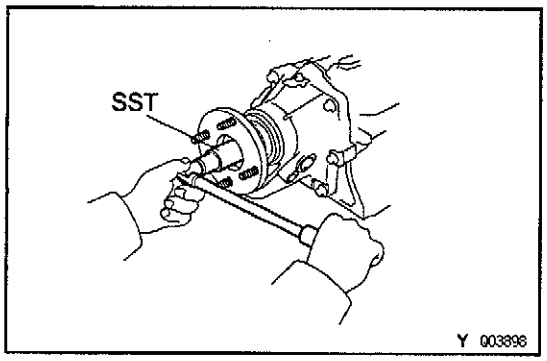
(b) Remove the transmission housing.



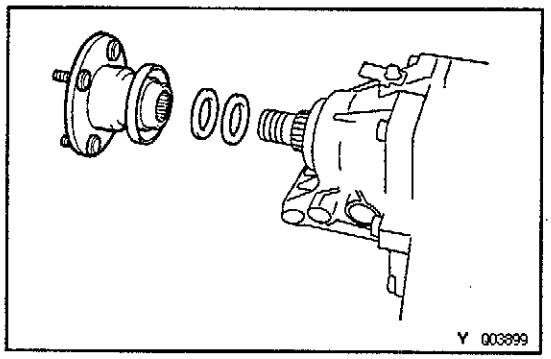

**9. REMOVE TRANSMISSION OUTPUT FLANGE**

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

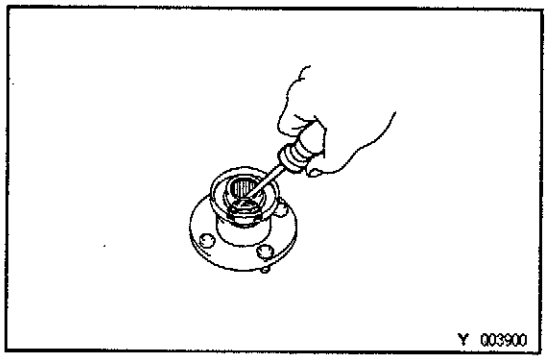
HINT: Shift the manual valve lever to the P position.



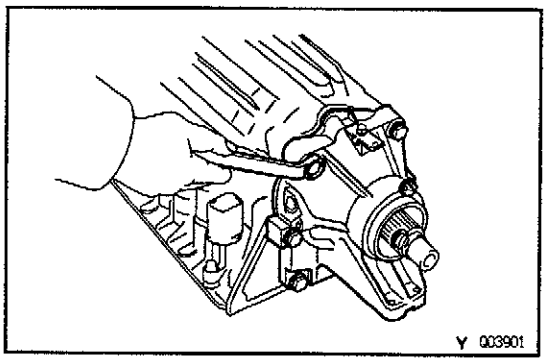

(b) Using SST, remove the nut.
SST 09060–20100




(c) Remove the output flange and 2 washers.



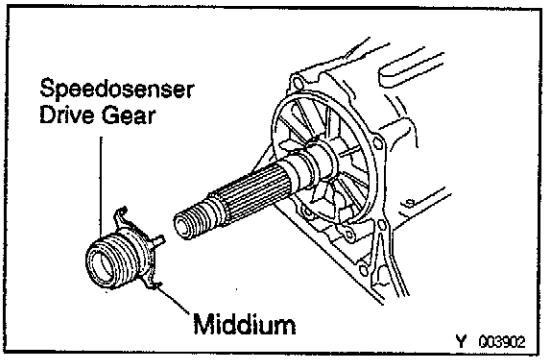

(d) Remove the oil seal from the output flange.




**10. REMOVE EXTENSION HOUSING**

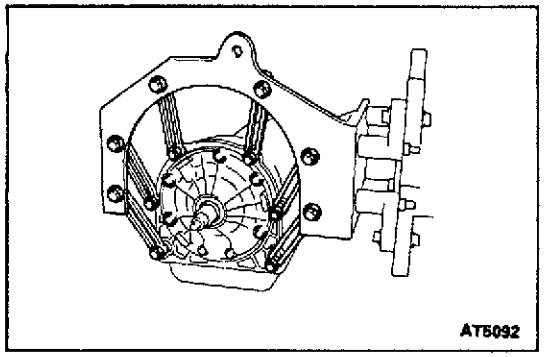
(a) Remove the 6 bolts.

(b) Using a brass bar and a hammer, remove the extension housing.



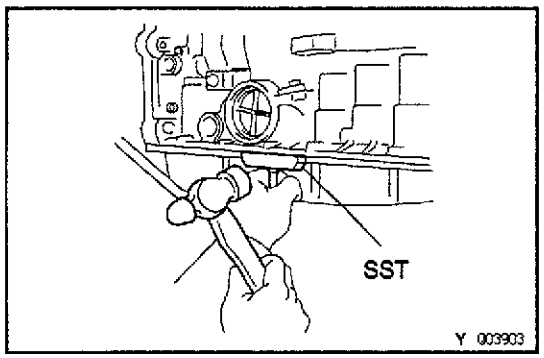

**11. REMOVE SPEEDOMETER DRIVE GEAR AND SENSOR ROTOR**

Remove the speedometer drive gear and sensor rotor from the output shaft.




**12. INSTALL TRANSMISSION CASE**

Install the transmission case on the overhaul attachment.




**13. REMOVE OIL PAN**

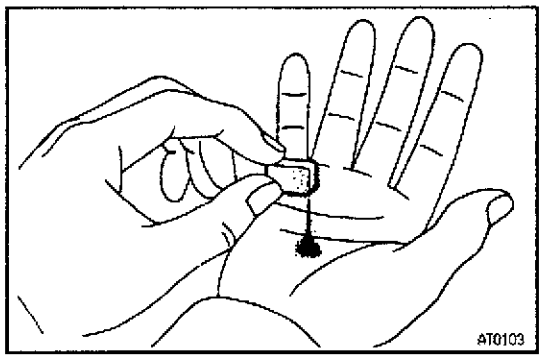
**NOTICE: Do not turn the transmission over as this will contaminate the valve body with any foreign matter at the bottom of the pan.**

(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.**

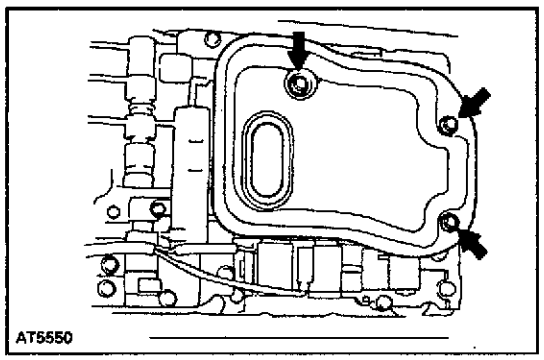



**14. EXAMINE PARTICLES IN PAN**

Remove the magnets and use them to collect steel particles.

Carefully lock at the foreign matter and particles in the pan and on the magnets to anticipate the type of wear you will find in the transmission:

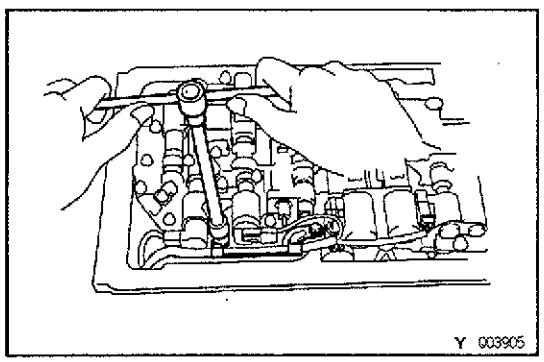
- Steel (magnetic): bearing, gear and clutch plate wear
- Brass (non−magnetic): bushing wear




**15. REMOVE OIL STRAINER**

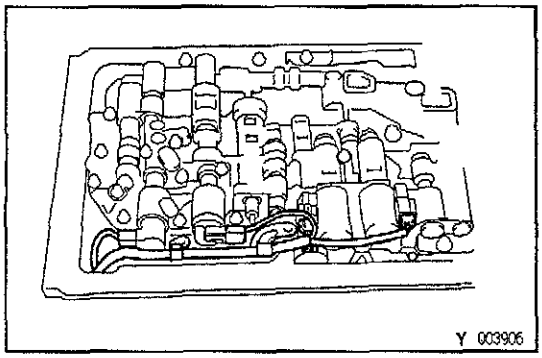
(a) Turn over the transmission.

(b) Remove the 3 bolts holding the oil strainer to the valve body.



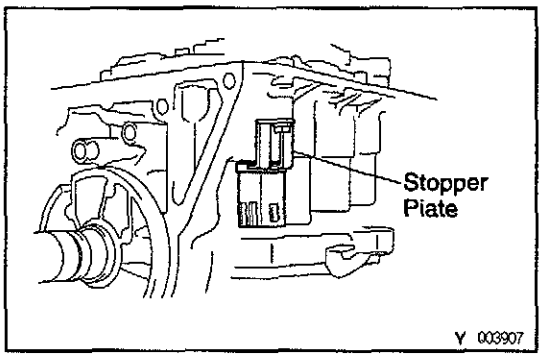

**16. REMOVE SOLENOID WIRING**

(a) Remove the 2 bolts and the clamp.

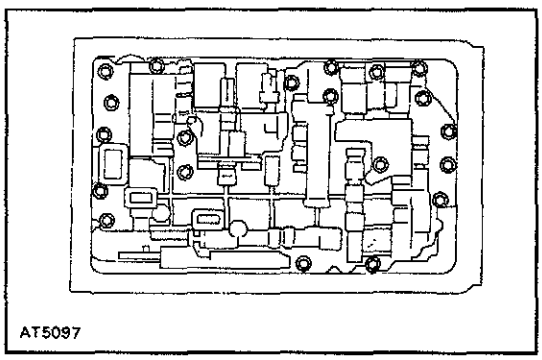



(b) Disconnect the 5 connectors from the solenoids.

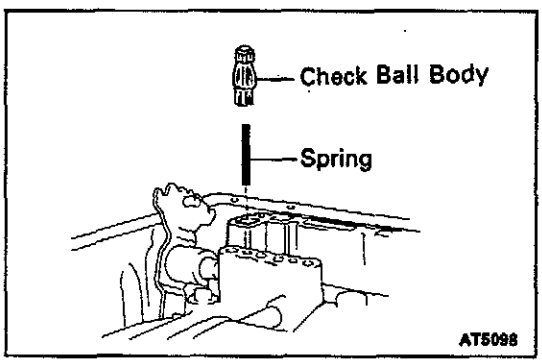




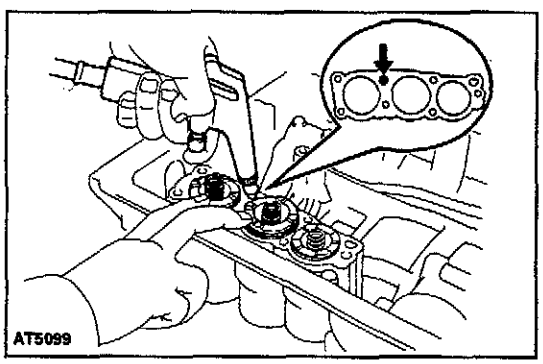

(c) Remove the stopper plate from the case.
(d) Pull the wiring out of the transmission case.
(e) Remove the O-ring from the grommet.



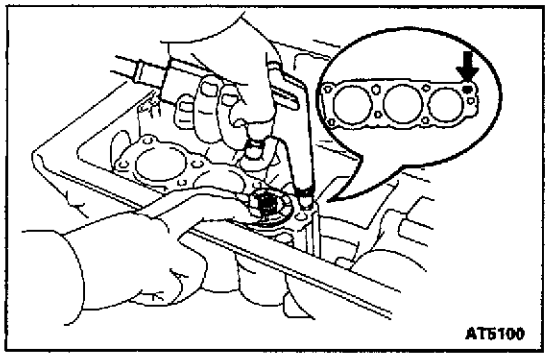

**17. REMOVE VALVE BODY**
(a) Remove the 20 bolts.
(b) Remove the valve body.




**18. REMOVE CHECK BALL BODY**
Remove the check ball body and spring.



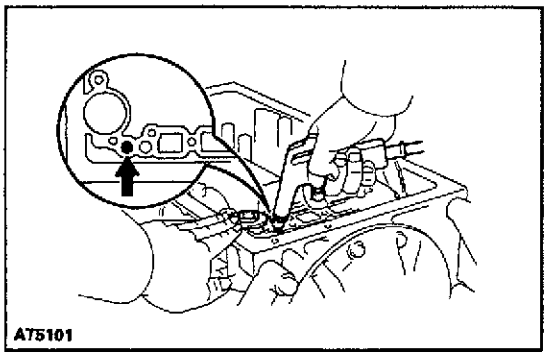

**19. REMOVE ACCUMULATOR SPRINGS AND PISTONS**
(a) Applying compressed air to the oil hole, remove the $B_2$ and $C_2$ accumulator pistons and 3 springs.
(b) Remove the O-rings from each piston.




(c) Applying compressed air to the oil hole, remove the $B_0$ accumulator piston and spring.

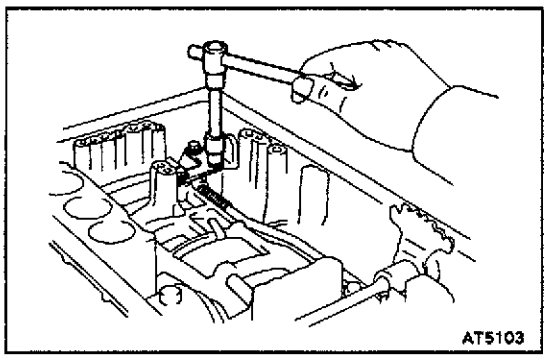
(d) Remove the O−rings from the piston.

**NOTICE: Take care as the $C_0$ accumulator piston may jump out.**



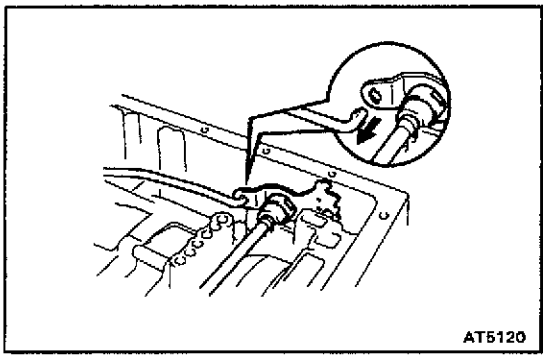

(e) Applying compressed air to the oil hole, remove the $C_0$ accumulator piston and spring.
HINT: The $C_0$ accumulator piston comes in 2 parts, so if only the top part is removed, after removing the spring reapply compressed air.

(f) Remove the O−ring from the piston.

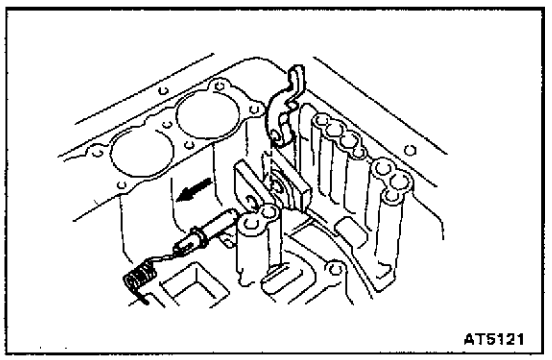



**20. REMOVE PARKING LOCK ROD AND PAWL**

(a) Remove the parking lock pawl bracket.

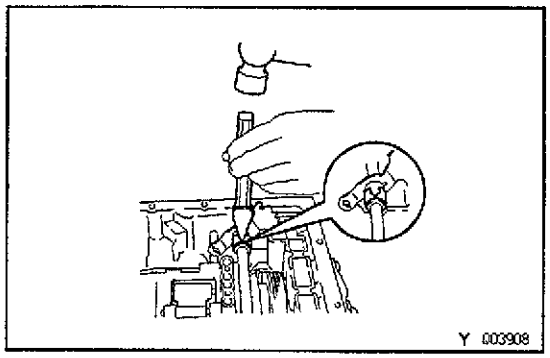



(b) Disconnect the parking lock rod from the manual valve lever.




(c) Pull the parking lock pawl shaft out from the front side, then remove the pawl and spring.

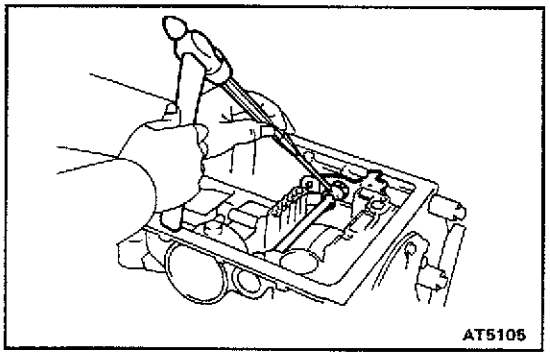
(d) Remove the E−ring from the shaft.




**21. REMOVE MANUAL VALVE LEVER SHAFT**

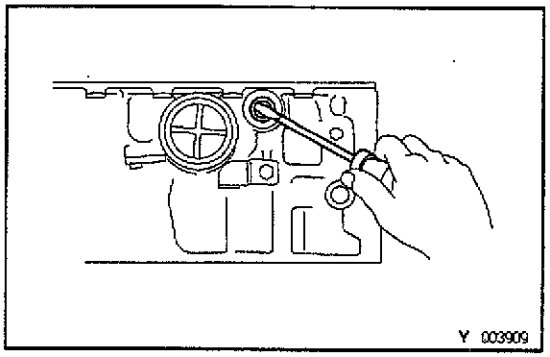
(a) Using a hammer and a chisel, cut off the spacer and remove it from the shaft.



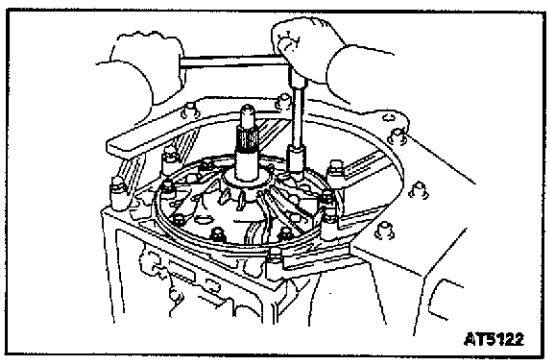



(b) Using a pin punch, drive out the spring pin.
HINT: Slowly drive out the spring pin so it does not fall into the transmission case.

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

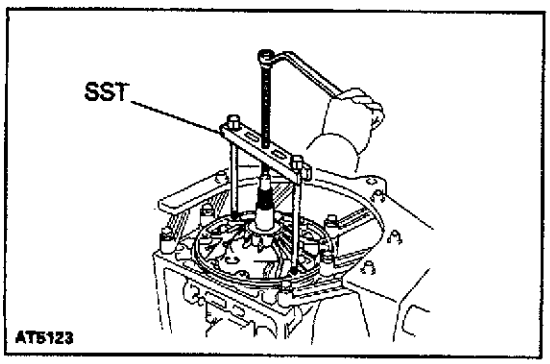



(d) Using a screwdriver, remove the oil seal.

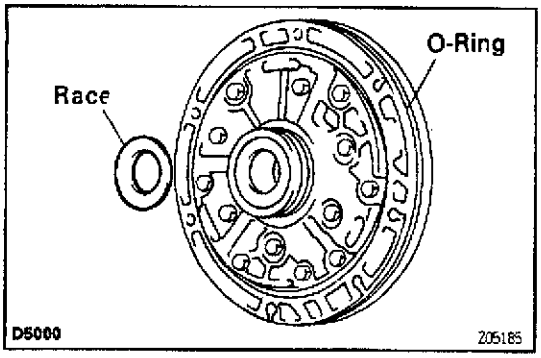



**22. REMOVE OIL PUMP**

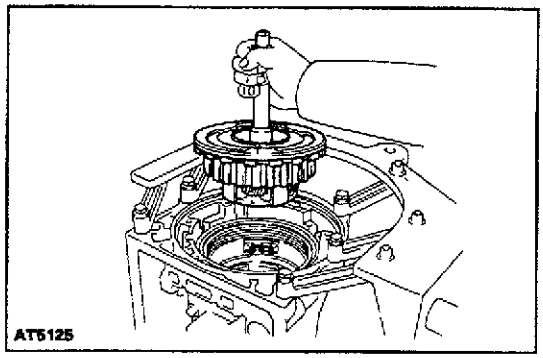
(a) Remove the 7 bolts holding the oil pump to the transmission case.




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

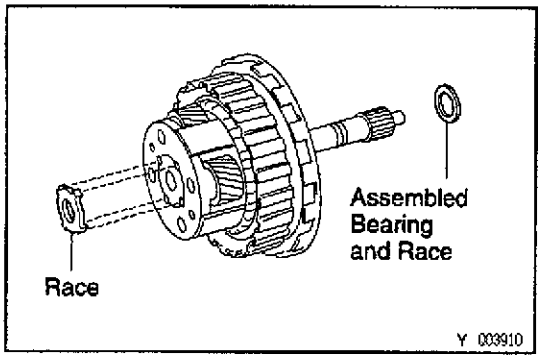



(c) Remove the race from the oil pump.
(d) Remove the O–ring from the oil pump.

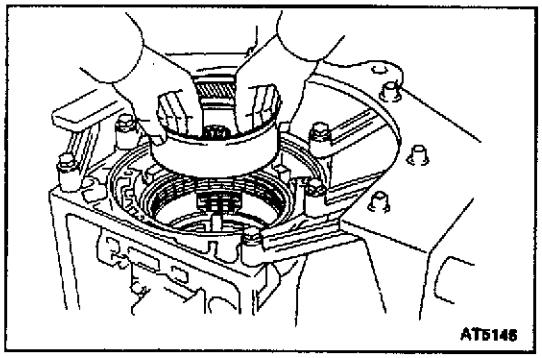



**23. REMOVE OVERDRIVE PLANETARY GEAR WITH OVERDRIVE DIRECT CLUTCH**

(a) Remove the overdrive planetary gear with the overdrive direct clutch from the transmission case.

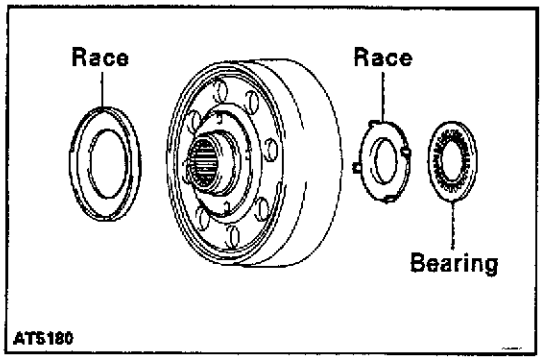



(b) Remove the race and assembled bearing and race.

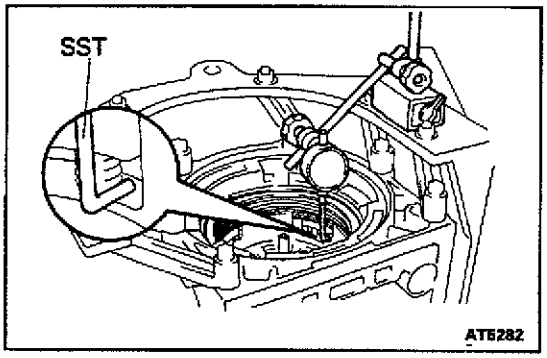



**24. REMOVE OVERDRIVE PLANETARY RING GEAR**

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

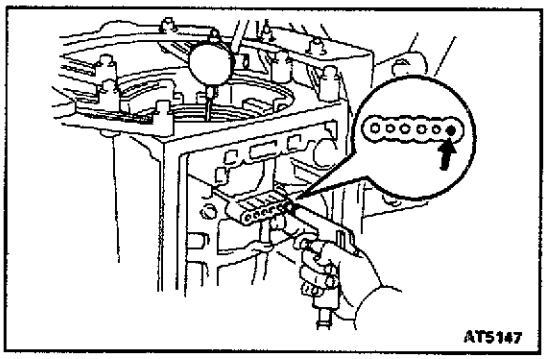



(b) Remove the bearing and races from the planetary ring gear.

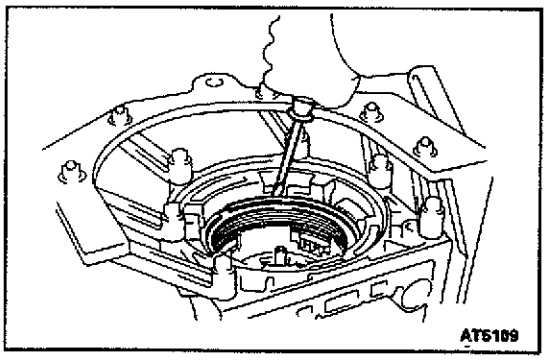



**25. CHECK PISTON STROKE OF OVERDRIVE BRAKE**

(a) Place SST and dial indicator onto the overdrive brake piston.
SST 09350–30020 (09350–06120)

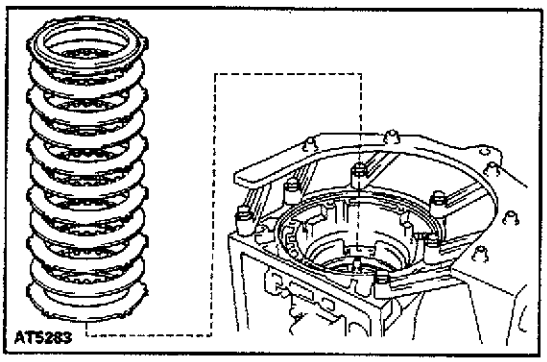



(b) Measure the stroke while applying and releasing compressed air (392–785 kPa, 4–8 kgf/cm² or 57–114 psi).
**Piston stroke:**
**1.75–2.05 mm (0.0689–0.0807 in.)**
If the values are non–standard, inspect the discs.

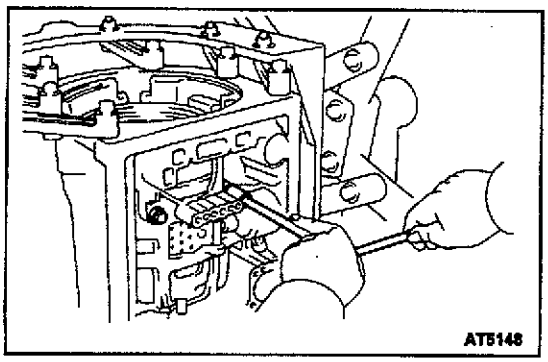



**26. REMOVE FLANGES, PLATES AND DISCS OF OVERDRIVE BRAKE**

(a) Remove the snap ring.

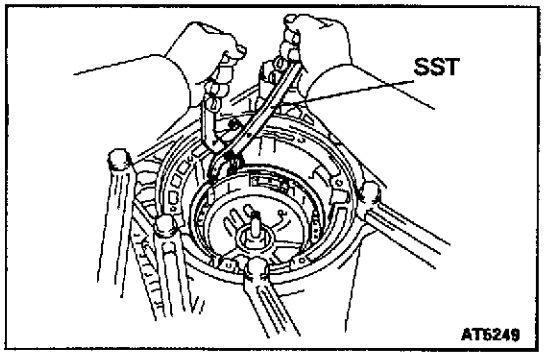



(b) Remove the flange, 5 plates and 5 discs.

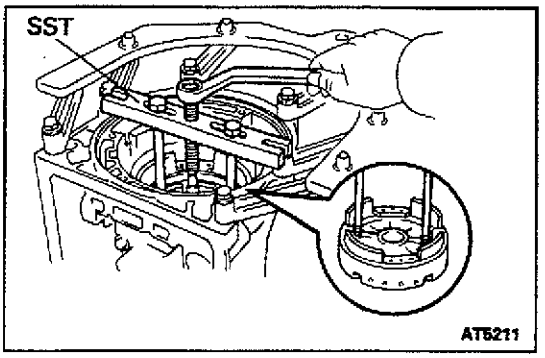



**27. REMOVE OVERDRIVE SUPPORT ASSEMBLY**

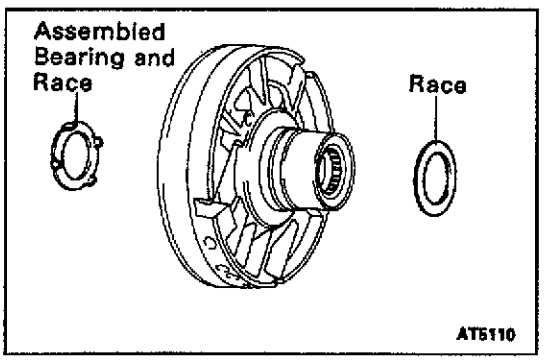
(a) Remove the 2 bolts holding the overdrive support assembly to the case.



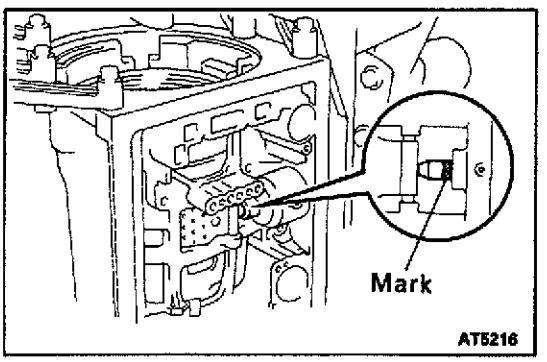

(b) Using SST, remove the snap ring.
SST 09350−30020 (09350−07060)




(c) Using SST, remove the overdrive support assembly.
SST 09350−30020 (09350−07020)

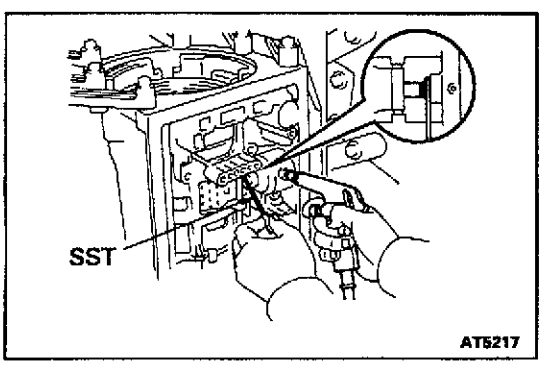



(d) Remove the assembled bearing and races from the overdrive support.

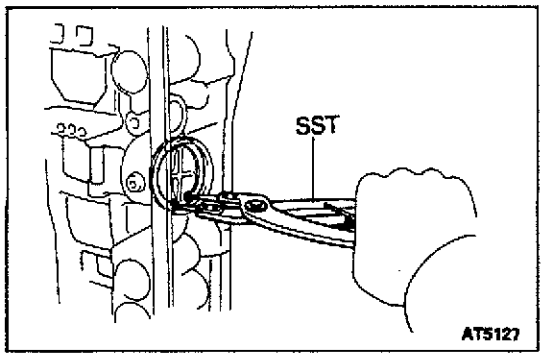



**28. CHECK PISTON ROD STROKE OF SECOND COAST BRAKE**

(a) Using a waterproof pen, place a mark on the second coast brake piston rod.



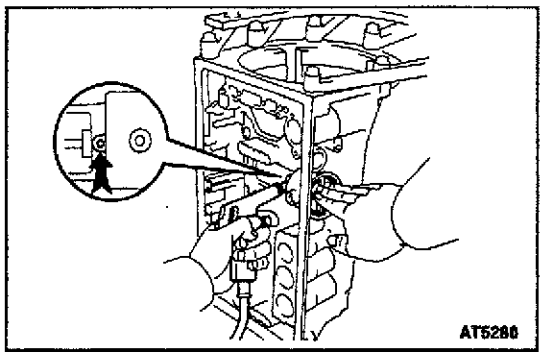

(b) Using SST, measure the stroke while applying and releasing compressed air (392−784 kPa, 4−8 kgf/cm² or 57−114 psi).
SST 09240−00020
**Piston rod stroke:**
**1.0 − 2.0 mm (0.039 − 0.079 in.)**
If the values are non−standard, inspect the brake band.



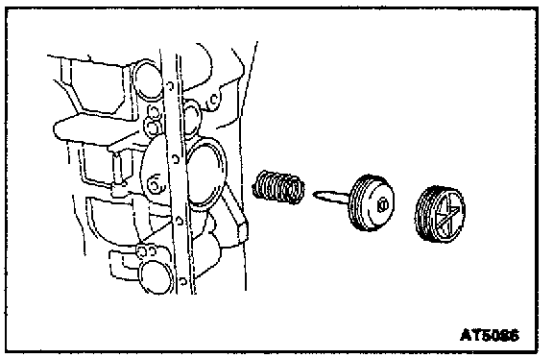

**29. REMOVE SECOND COAST BRAKE COVER, PISTON ASSEMBLY AND SPRING**

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

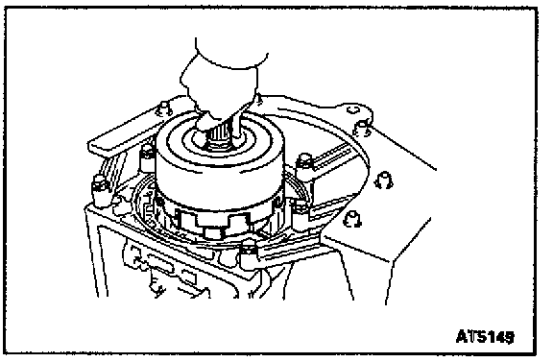





(b) Applying compressed air to the oil hole, remove the second cost brake cover, piston assembly and spring.

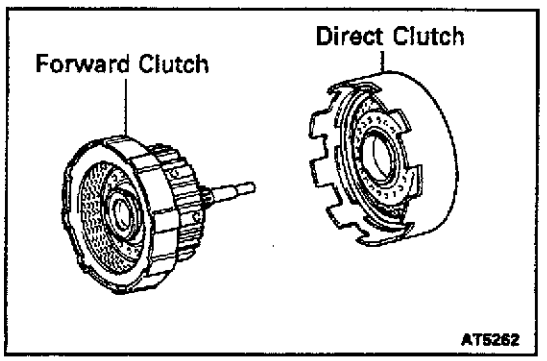



(c) Remove the 2 O–rings from the cover.

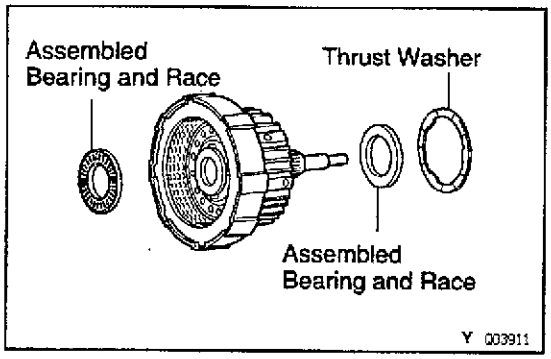



**30. REMOVE DIRECT CLUTCH WITH FORWARD CLUTCH**

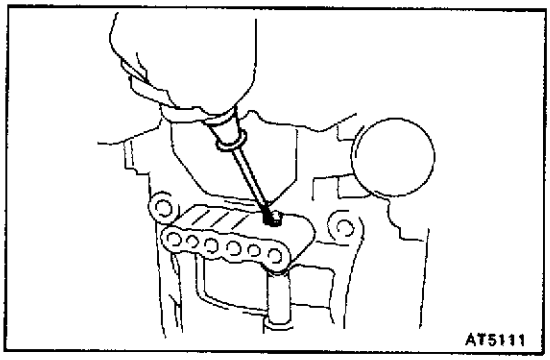
(a) Remove the direct clutch with forward clutch from the case.




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



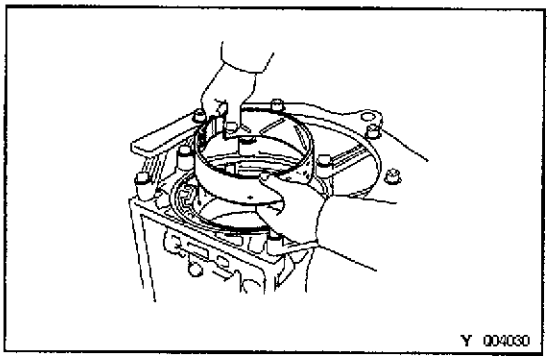

(c) Remove the assembled bearing and race, thrust washer and race from the forward clutch.



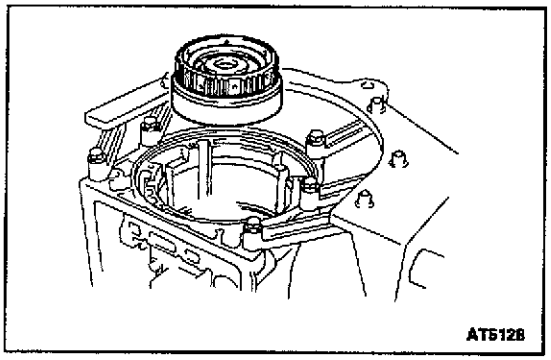

**31. REMOVE SECOND COAST BRAKE BAND**

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

(b) Remove the pin from the brake band.

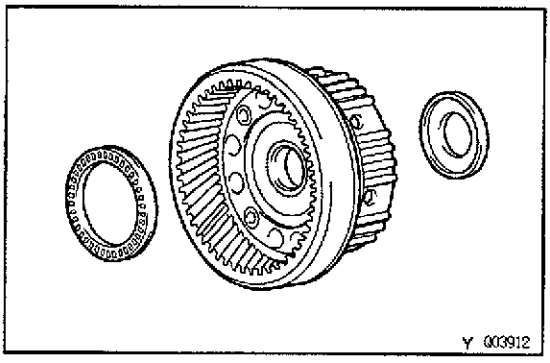



(c) Remove the second coast brake band from the case.

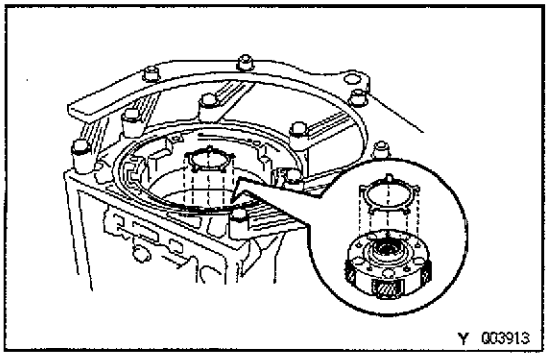



**32. REMOVE FRONT PLANETARY RING GEAR**

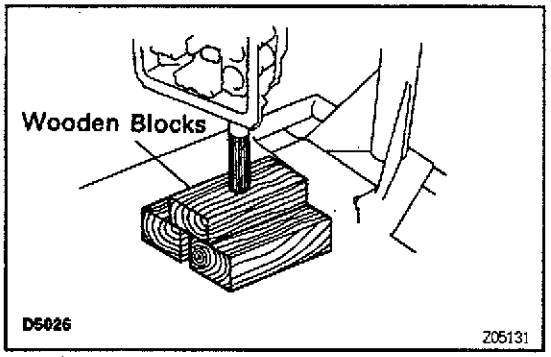
(a) Remove the front planetary ring gear from the case.



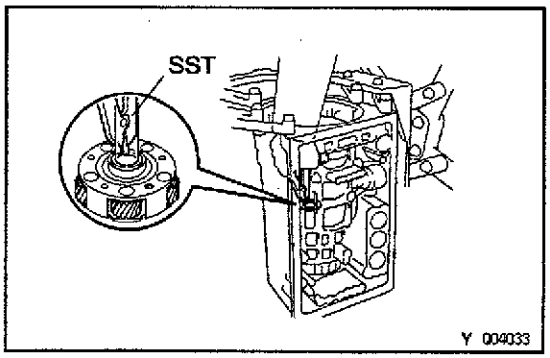

(b) Remove the bearing and race from the front planetary ring gear.




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



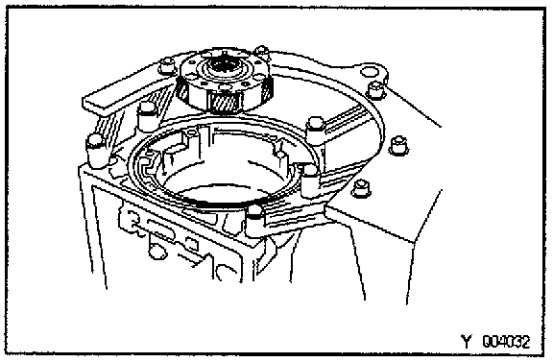

(d) With wooden blocks under the output shaft, stand the transmission on the output shaft.




**33. REMOVE OUTPUT SHAFT**

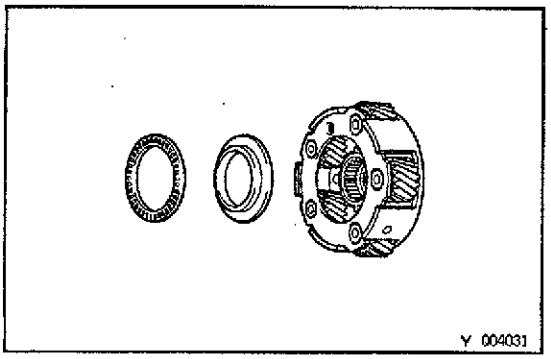
(a) Using SST, remove the snap ring.
SST 09350–30020 (09350–07070)
HINT: Pushing the output shaft towards the front makes it easier to remove.

(b) Remove the output shaft from the case.

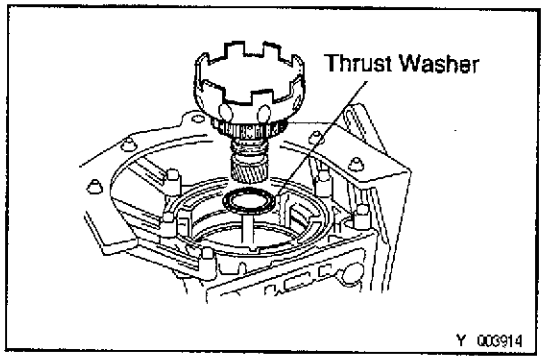



**34. REMOVE FRONT PLANETARY GEAR**

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



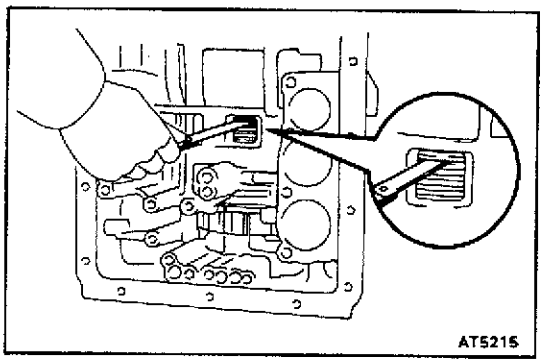

(b) Remove the bearing and race from the front planetary gear.




**35. REMOVE PLANETARY SUN GEAR WITH NO.1 ONE −WAY CLUTCH**

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

(b) Remove the thrust washer.



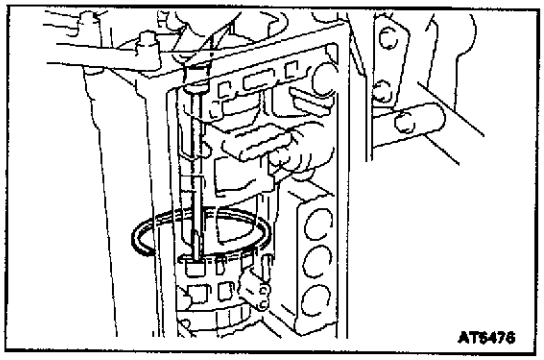

**36. CHECK PACK CLEARANCE OF SECOND BRAKE**

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

**Clearance:**

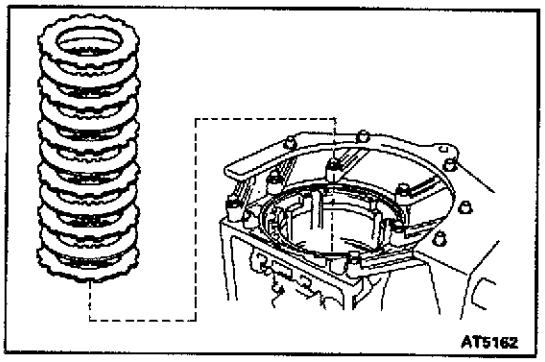
**0.49 − 1.11 mm (0.0193 − 0.0437 in.)**

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

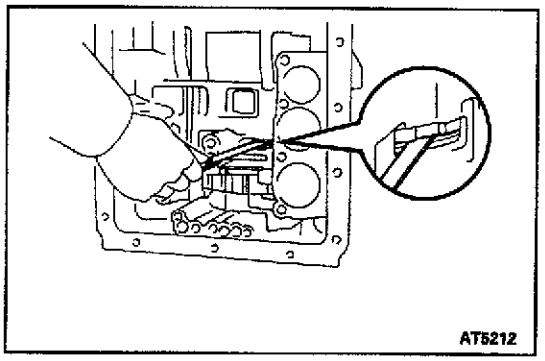



**37. REMOVE FLANGE, PLATES AND DISCS OF SECOND BRAKE**

(a) Remove the snap ring.




(b) Remove the flange, 5 plates and 5 discs as a set.



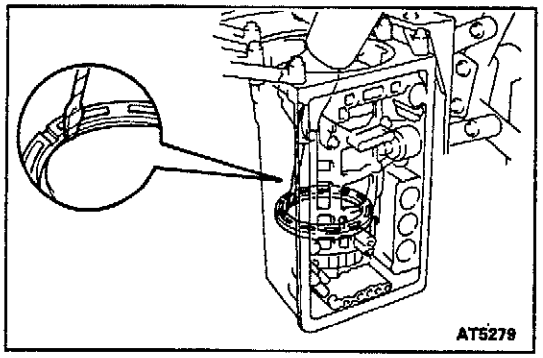

**38. CHECK PACK CLEARANCE OF FIRST AND REVERSE BRAKE**

Using a feeler gauge, measure the clearance between the plate and second brake drum.

**Clearance:**

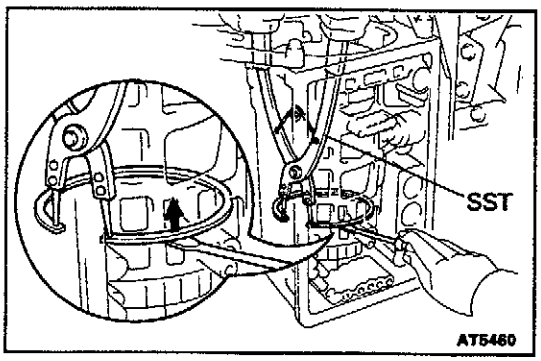
**0.7−1.0 mm (0.028−0.039 in.)**

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



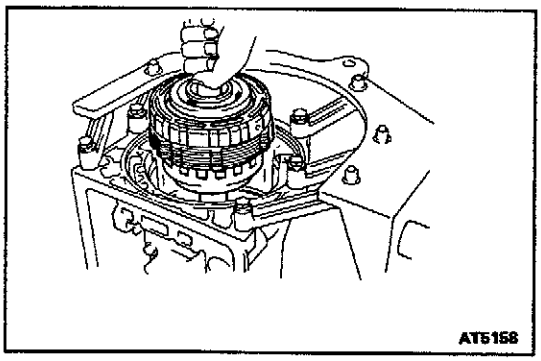

**39. REMOVE SECOND BRAKE PISTON SLEEVE**





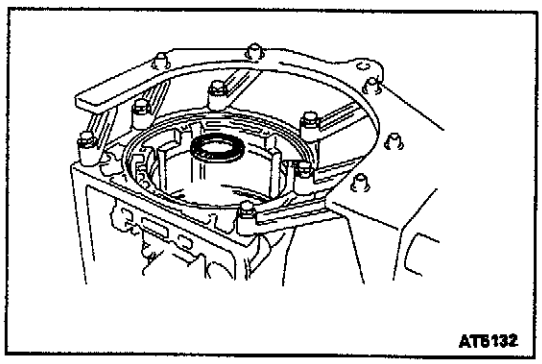

**40. REMOVE REAR PLANETARY GEAR AND SECOND BRAKE**

(a) Using SST and a screwdriver, remove the snap ring.
SST 09350−30020 (09350−07060)

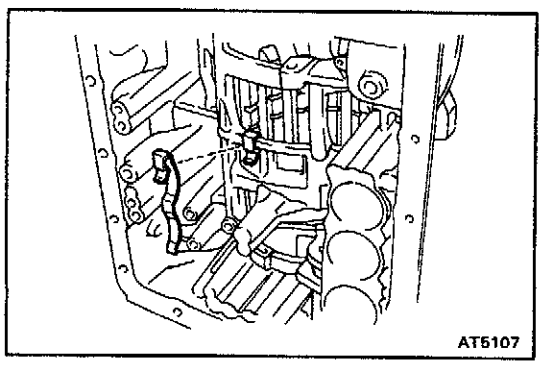



(b) Remove the output shaft.

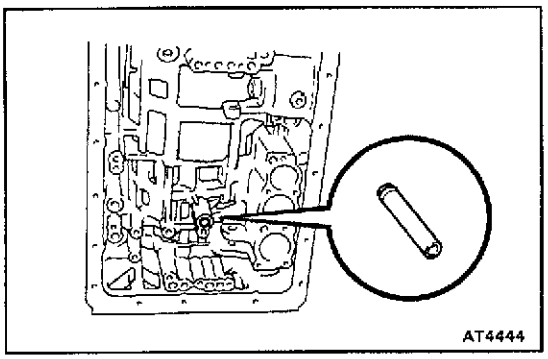
(c) Remove the rear planetary gear, second brake and first and reverse brake pack from the case.




(d) Remove the assembled bearing and race from the first and reverse brake.




(e) Remove the leaf spirng from the case.




**41. REMOVE BRAKE DRUM GASKET**