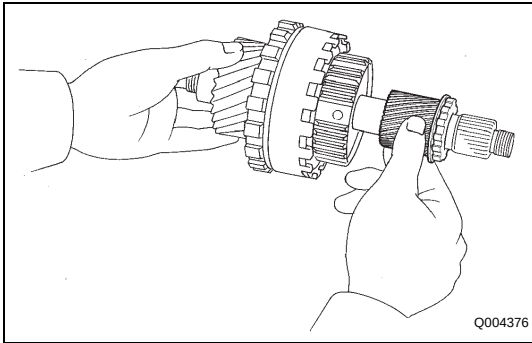


DISASSEMBLY

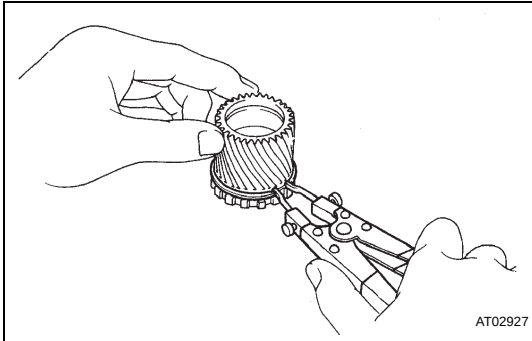
1. REMOVE UNDERDRIVE PLANETARY SUN GEAR SUB-ASSEMBLY

- (a) Remove the underdrive planetary sun gear sub-assembly from the counter shaft assembly.



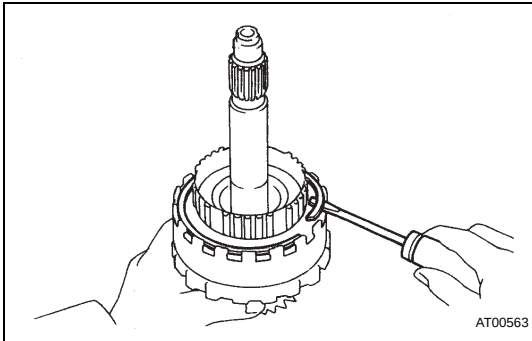
2. REMOVE UNDERDRIVE PLANETARY SUN GEAR HOLE SNAP RING

- (a) Using snap ring pliers, remove the underdrive planetary sun gear hole snap ring from the underdrive planetary sun gear sub-assembly.



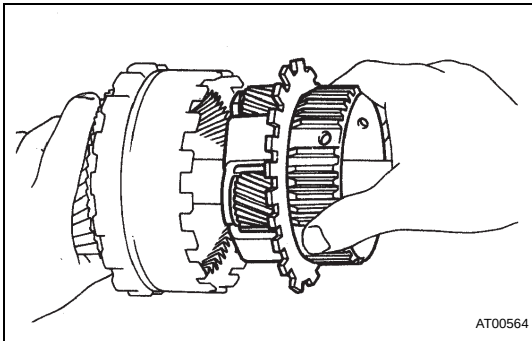
3. REMOVE UNDERDRIVE PLANETARY GEAR HOLE SNAP RING

- (a) Using a screwdriver, remove the underdrive planetary gear hole snap ring from the counter shaft assembly.



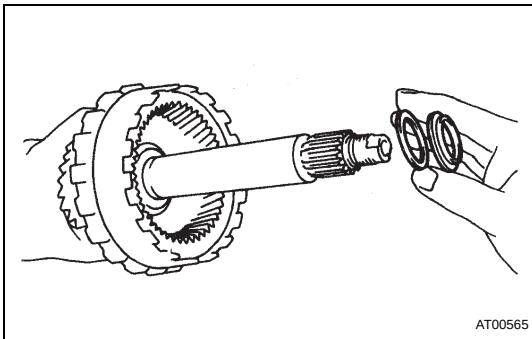
4. REMOVE UNDERDRIVE PLANETARY GEAR ASSEMBLY

- (a) Remove the underdrive planetary gear assembly from the counter shaft assembly.



5. REMOVE UNDERDRIVE INPUT SHAFT NEEDLE ROLLER BEARING

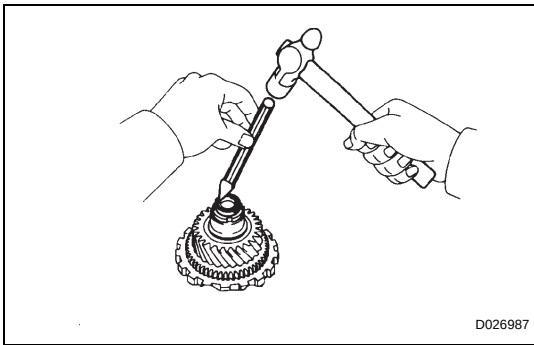
- (a) Remove the underdrive input shaft needle roller bearing from the counter shaft assembly.



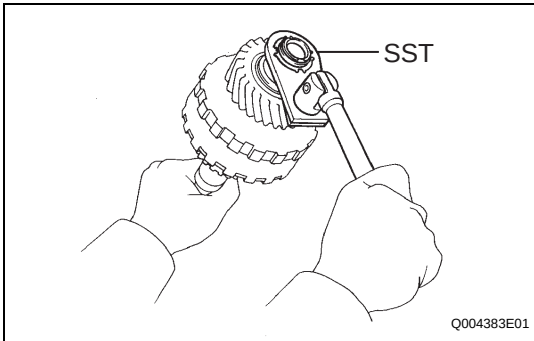
6. REMOVE UNDERDRIVE INPUT SHAFT THRUST BEARING RACE

- (a) Remove the underdrive input shaft thrust bearing race from the counter shaft assembly.

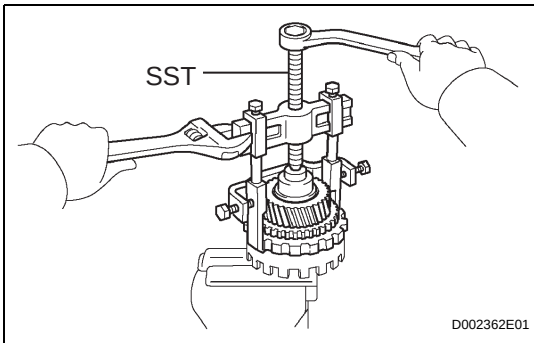
7. INSPECT COUNTER SHAFT ASSEMBLY (See page [AX-232](#))

**8. REMOVE UNDERDRIVE INPUT SHAFT NUT**

- (a) Using a chisel and hammer, unstick the underdrive input shaft nut.

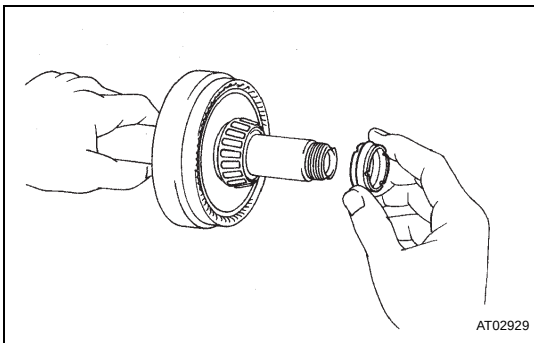


- (b) Using SST, remove the underdrive input shaft nut.
SST 09350-32014 (09351-32170)

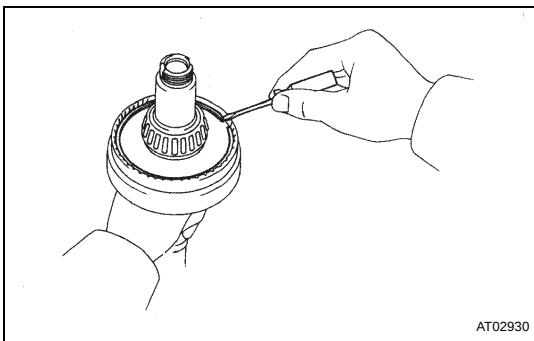
**9. REMOVE DIFFERENTIAL DRIVE PINION**

- (a) Using SST, remove the differential drive pinion with output differential drive pinion, underdrive cylinder roller bearing and front drive pinion front tapered roller bearing.

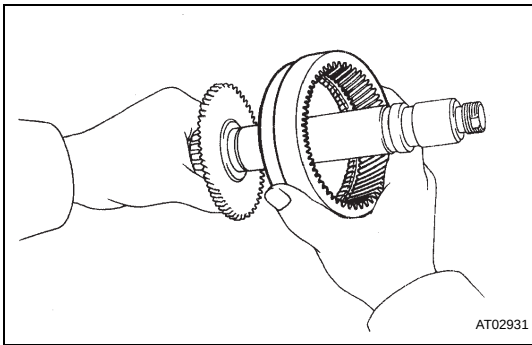
SST 09950-40011 (09951-04010, 09952-04010, 09953-04030, 09954-04010, 09955-04061, 09957-04010, 09958-04011)



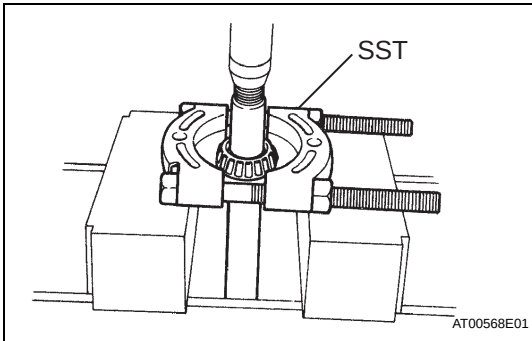
- (b) Remove the front differential drive pinion bearing spacer from the counter shaft assembly.

**10. REMOVE UNDERDRIVE PLANETARY RING GEAR**

- (a) Using a screwdriver, remove the snap ring from the counter shaft assembly.



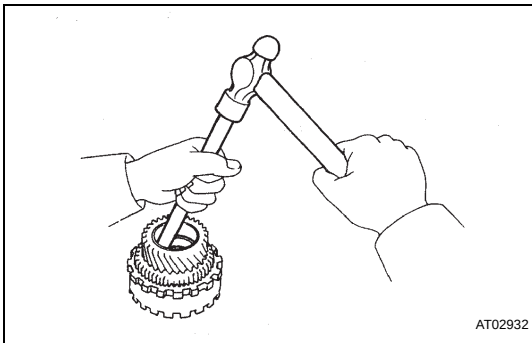
- (b) Remove the underdrive planetary ring gear from the counter shaft assembly.



11. REMOVE FRONT DRIVE PINION REAR TAPERED ROLLER BEARING

- (a) Using SST and a press, remove the front drive pinion rear tapered roller bearing from the counter shaft assembly.

SST 09950-00020

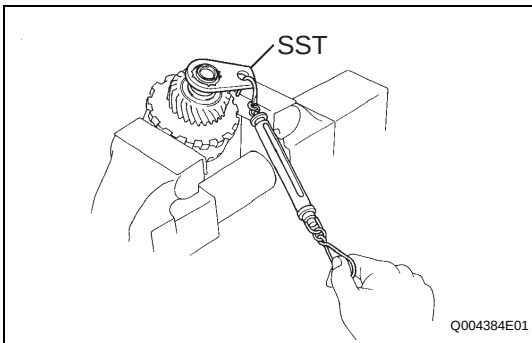


- (b) Using a brass bar and hammer, tap out the front drive pinion rear tapered roller bearing outer race.

12. INSPECT UNDERDRIVE PLANETARY SUN GEAR SUB-ASSEMBLY (See page AX-233)

13. INSPECT UNDERDRIVE PLANETARY GEAR ASSEMBLY (See page AX-233)

AX



INSPECTION

1. INSPECT COUNTER SHAFT ASSEMBLY

- (a) Using soft jaws, hold the differential drive pinion by a vise.
- (b) Using SST and spring tension gauge, measure the starting torque of the counter shaft assembly.

SST 09350-32014 (09351-32170)

Starting torque:

with spring tension gauge

1.2 to 2.0 kg (2.6 to 4.4 lb)

with torque wrench (hexagon nut side)

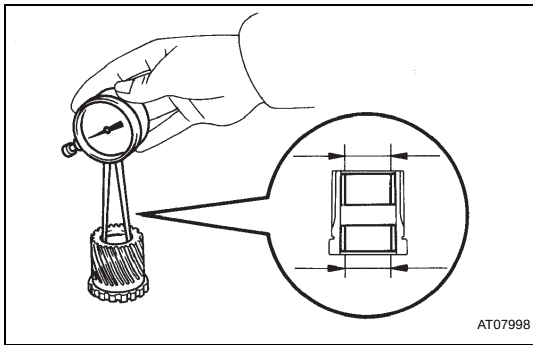
Torque: New bearing

0.6 to 1.0 N*m (6 to 10 kgf*cm, 5.2 to 8.7 in.*lbf)

Reused bearing

0.3 to 0.5 N*m (3 to 5 kgf*cm, 2.6 to 4.3 in.*lbf)

If the torque exceeds the limit, replace the spacer.



2. INSPECT UNDERDRIVE PLANETARY SUN GEAR SUB-ASSEMBLY

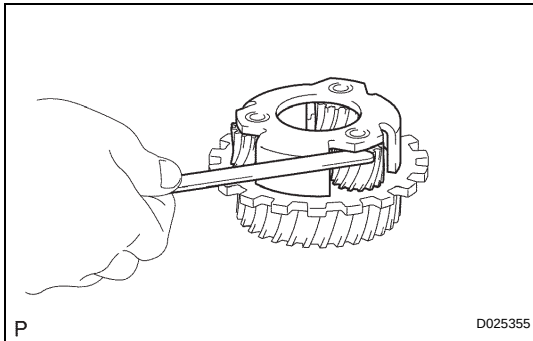
- (a) Using a caliper gauge, measure the bushing inside diameter of the underdrive planetary sun gear sub-assembly as shown in the illustration.

Standard inside diameter:

29.800 to 29.825 mm (1.17323 to 1.17421 in.)

Maximum inside diameter:

29.870 mm (1.17598 in.)



3. INSPECT UNDERDRIVE PLANETARY GEAR ASSEMBLY

- (a) Using a feeler gauge, measure the planetary pinion gear thrust clearance.

Standard clearance:

0.2 to 0.5 mm (0.008 to 0.020 in.)

Maximum clearance:

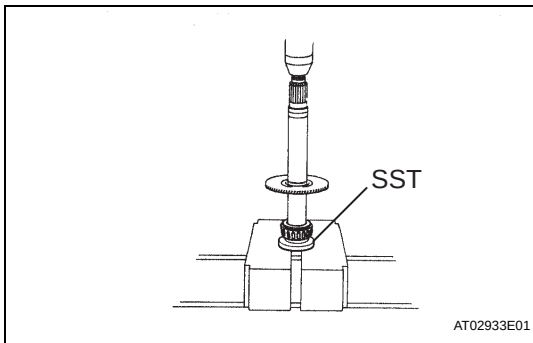
0.5 mm (0.020 in.)

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

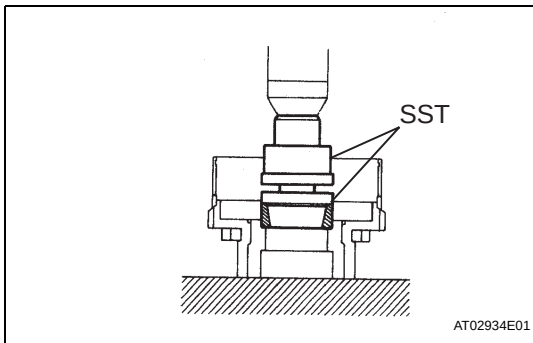
REASSEMBLY

1. INSTALL FRONT DRIVE PINION REAR TAPERED ROLLER BEARING

- (a) Using SST and a press, press in the front drive pinion rear tapered roller bearing of the thick inner race side.

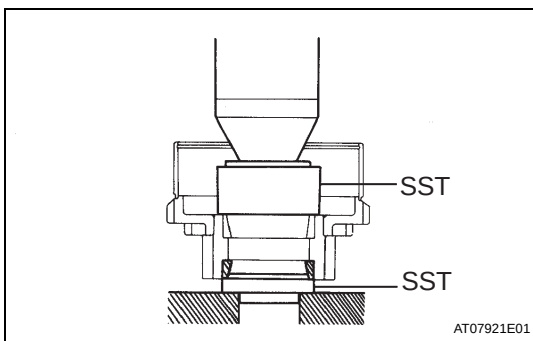


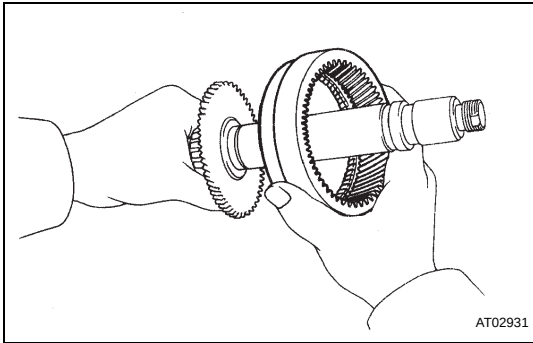
- (b) Using SST and a press, press in the thick front drive pinion rear tapered roller bearing outer race to the flange side of the differential drive pinion.



- (c) Using SST and a press, press in the thick front drive pinion front tapered roller bearing race to the other side.

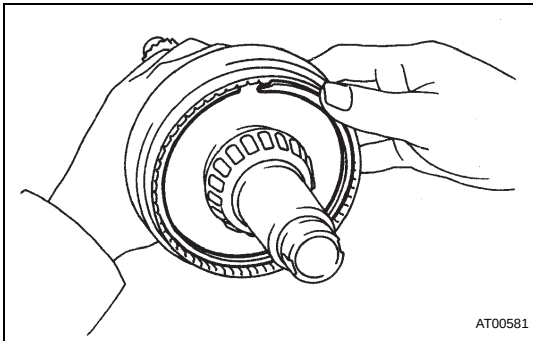
SST 09350-32014 (09351-32180)



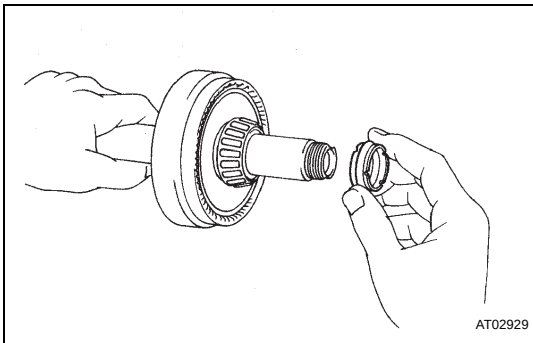


2. INSTALL UNDERDRIVE PLANETARY RING GEAR

- (a) Install the underdrive planetary ring gear to the counter shaft assembly.

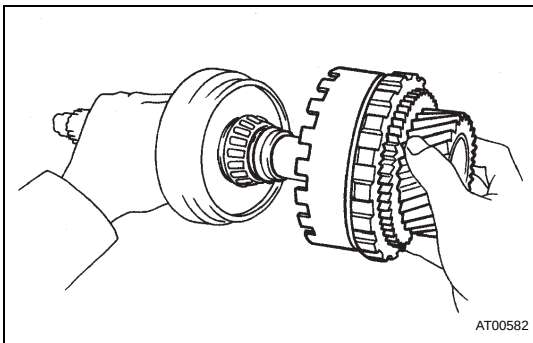


- (b) Install the snap ring to the counter shaft assembly.
SST 09350-32014 (09351-32090, 09351-32180, 09351-32150)

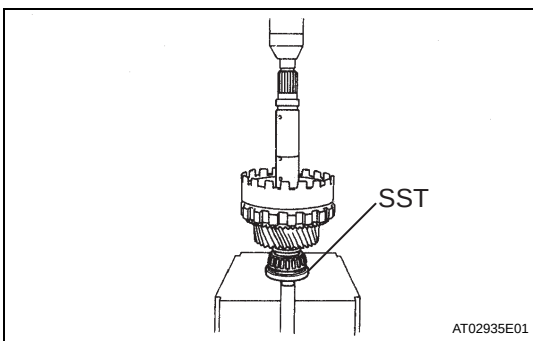


3. INSTALL DIFFERENTIAL DRIVE PINION

- (a) Install a new front differential drive pinion bearing spacer to the counter shaft assembly.



- (b) Install the differential drive pinion to the counter shaft assembly.



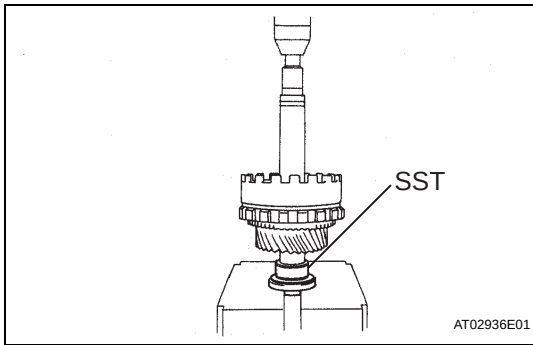
4. INSTALL FRONT DRIVE PINION FRONT TAPERED ROLLER BEARING

- (a) Using SST and a press, press in the another front drive pinion front tapered roller bearing.

SST 09350-32014 (09351-32180)

NOTICE:

Be sure there is some clearance between the output flange and bearing.



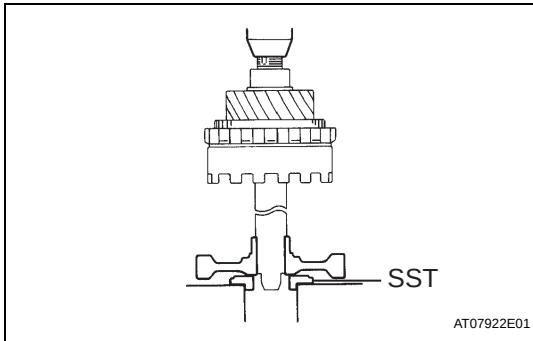
5. INSTALL UNDERDRIVE CYLINDRICAL ROLLER BEARING

- (a) Using SST and a press, press in the underdrive cylinder roller bearing.

SST 09350-32014 (09351-32180)

NOTICE:

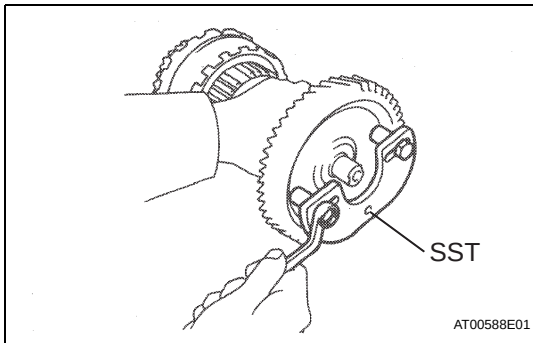
Be sure there is some clearance.



6. ADJUST COUNTER SHAFT ASSEMBLY

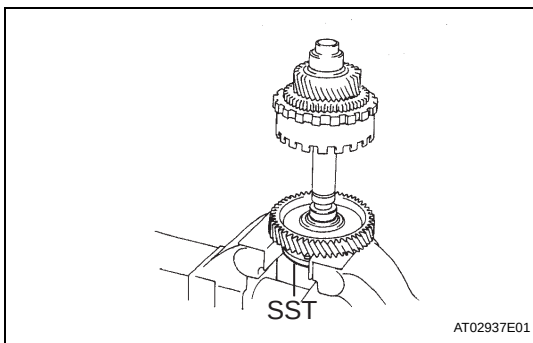
- (a) Using SST and a press, press in the counter driven gear to the counter shaft assembly.

SST 09350-32014 (09351-32100)



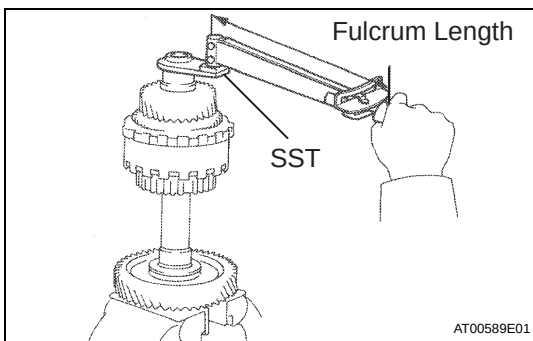
- (b) Install SST to the counter driven gear.

SST 09350-32014 (09351-32032)



- (c) Secure the counter shaft assembly by holding the SST by a vise.

SST 09350-32014 (09351-32032)



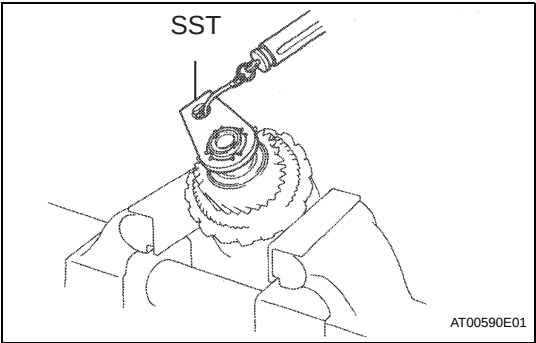
- (d) Temporarily install a new lock nut, and using SST, tighten the underdrive input shaft nut until the counter shaft starting torque comes to the specified value.

SST 09350-32014 (09351-32170)

Torque: (Reference)

180 N*m (1,835 kgf*cm, 132 ft.*lbf)

- (e) Use a torque wrench with a fulcrum length of 42 cm (16.54 in.).



- (f) Using soft jaws, hold the drive pinion by a vise.
- (g) Using SST and spring tension gauge, measure the starting torque of the counter shaft assembly.

SST 09350-32014 (09351-32170)

Starting torque:

with tension gauge

1.2 to 2.0 kg (2.6 to 4.4 lb)

with torque wrench (hexagon nut side)

Torque: New bearing

0.6 to 1.0 N*m (6 to 10 kgf*cm, 5.2 to 8.7 in.*lbf)

Reused bearing

0.3 to 0.5 N*m (3 to 5 kgf*cm, 2.6 to 4.3 in.*lbf)

If the starting torque exceeds the limit, replace the spacer and retorque.

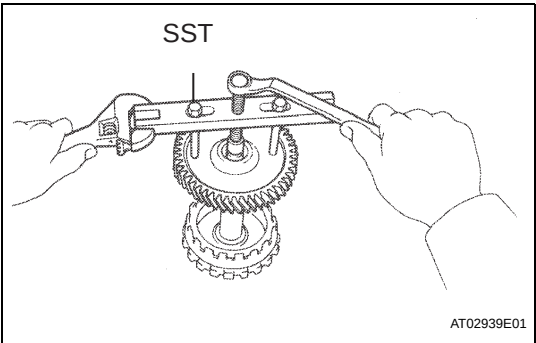
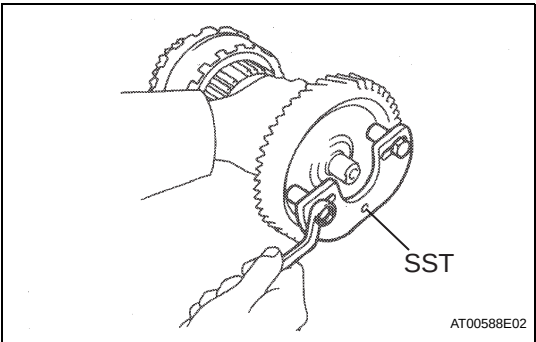
HINT:

Before measuring the starting torque, snug down the bearing by turning the counter shaft.

- (h) Using a punch and hammer, stake the underdrive input shaft nut.

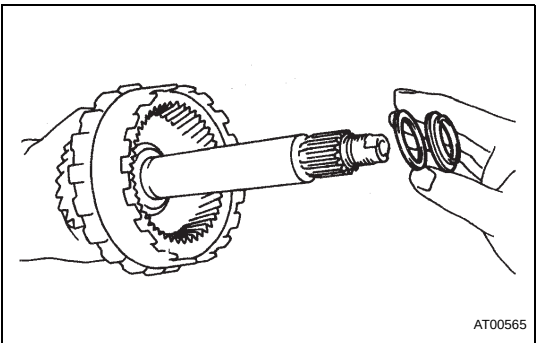
- (i) Remove SST from the counter driven gear.

SST 09350-32014 (09351-32032)



- (j) Using SST, remove the counter driven gear from the counter shaft assembly.

SST 09350-32014 (09351-32061)



7. INSTALL UNDERDRIVE INPUT SHAFT THRUST BEARING RACE

- (a) Coast the underdrive input shaft thrust bearing race with petroleum jelly and install them to the counter shaft assembly.

Race: mm (in.)

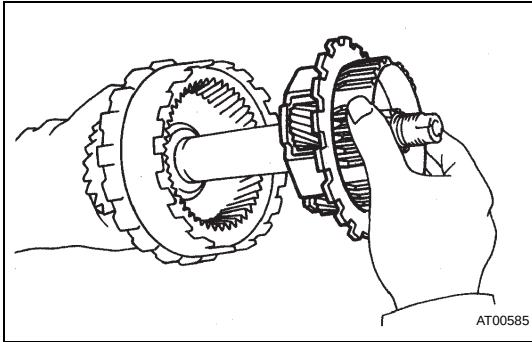
	Outer diameter	Inner diameter
Race	41.8 mm (1.646 in.)	30.0 mm (1.181 in.)

8. INSTALL UNDERDRIVE INPUT SHAFT NEEDLE ROLLER BEARING

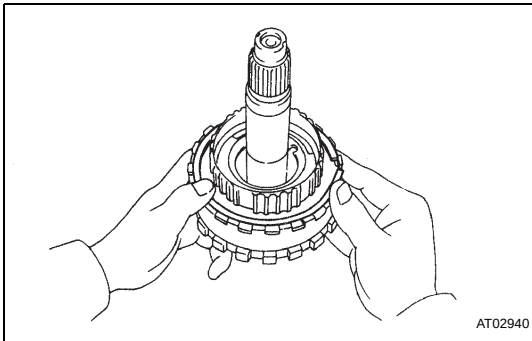
- (a) Coat the underdrive input shaft needle roller bearing with petroleum jelly and install them to the counter shaft assembly.

Bearing: mm (in.)

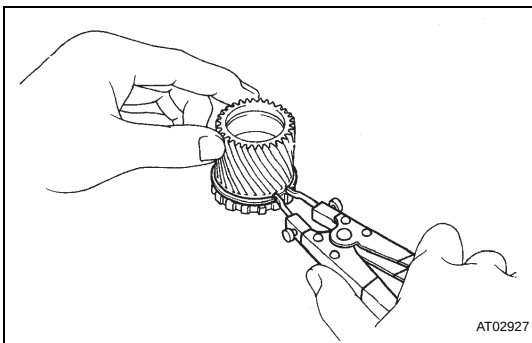
	Outer diameter	Inner diameter
Bearing	43.85 mm (1.7264 in.)	31.0 mm (1.220 in.)

**9. INSTALL UNDERDRIVE PLANETARY GEAR ASSEMBLY**

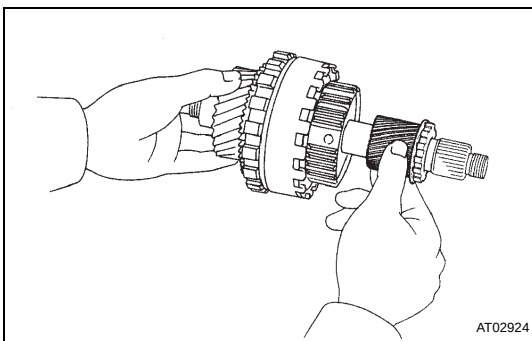
- (a) Install the underdrive planetary gear assembly to the counter shaft assembly.



- (b) Install the underdrive planetary gear hole snap ring to the counter shaft assembly.

**10. INSTALL UNDERDRIVE PLANETARY SUN GEAR HOLE SNAP RING**

- (a) Using snap ring pliers, install the underdrive planetary sun gear hole snap ring to the underdrive planetary sun gear sub-assembly.

**11. INSTALL UNDERDRIVE PLANETARY SUN GEAR SUB-ASSEMBLY**

- (a) Install the underdrive planetary sun gear sub-assembly to the counter shaft assembly.