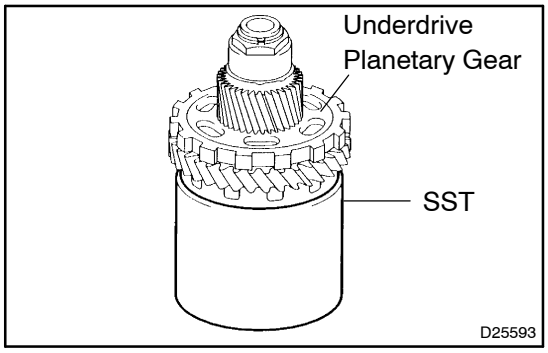
UNDERDRIVE PLANETARY GEAR ASSY (U151E/U151F)

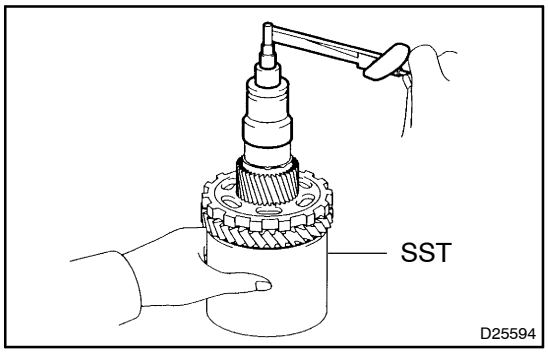
4006K–03

OVERHAUL



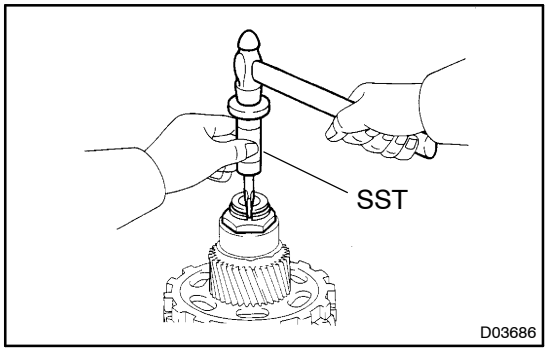
1. INSPECT UNDERDRIVE PLANETARY GEAR PRELOAD

(a) Using SST, fix the underdrive planetary gear assy.
SST 09387–00050



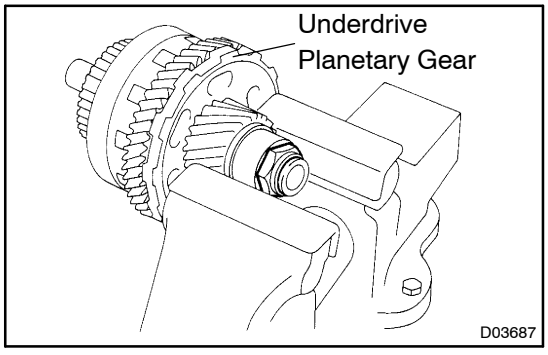
(b) Using SST and a torque wrench, measure the turning torque of underdrive planetary gear assy while rotating the torque wrench at 60 rpm.
SST 09387–00050
Turning torque at 60 rpm.:
0.50 – 1.42 N·m (5.1 – 14.5 kgf·cm, 0.06 – 0.17 in.·lbf)

HINT:
Use a torque wrench with a fulcrum length of 160 mm (6.3 in.).



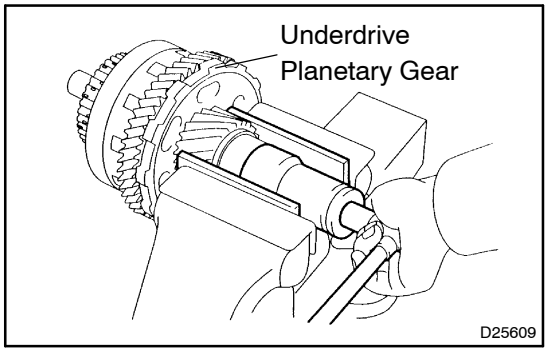
2. REMOVE FRONT PLANETARY GEAR NUT

(a) Using SST, loosen the staked part of the lock nut.
SST 09930–00010 (09931–00010, 09931–00020), 09387–00050

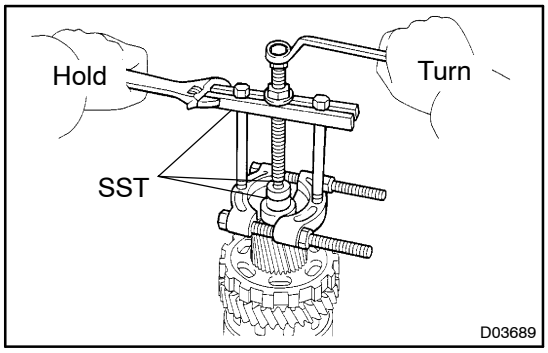


(b) Clamp the underdrive planetary gear in soft jaw vise.

NOTICE:
Be careful not to damage the differential drive pinion.



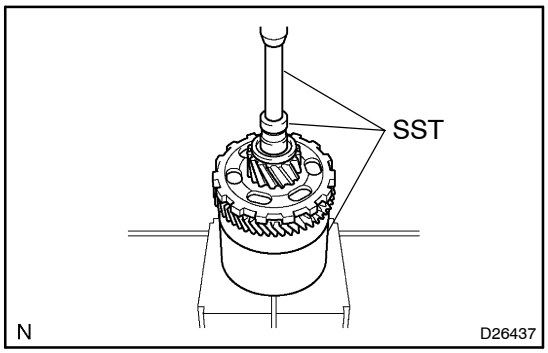
(c) Using a socket wrench, remove the lock nut.



3. REMOVE CYLINDRICAL ROLLER BEARING RACE INNER

(a) Using SST, remove the cylindrical roller bearing race inner.

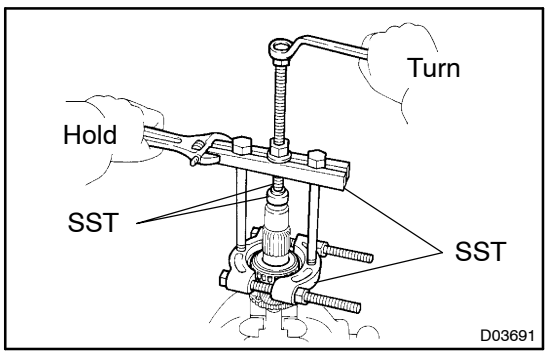
SST 09950–00020, 09950–00030, 09950–60010 (09951–00320), 09950–40011 (09957–04010)



4. REMOVE UNDERDRIVE PLANETARY GEAR ASSY

(a) Using SST and a press, remove the differential drive pinion, parking lock gear, counter driven gear with underdrive planetary ring gear and front tapered roller bearing.

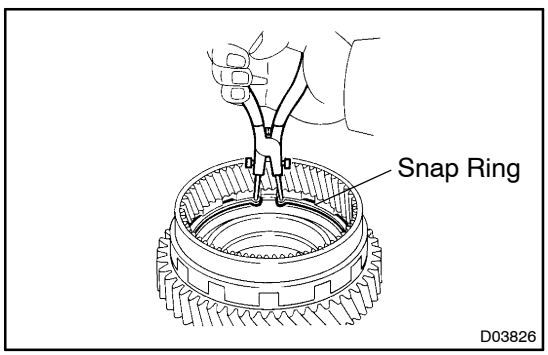
SST 09950–60010 (09951–00320), 09387–00050



(b) Clamp the underdrive planetary gear in soft jaw vise.

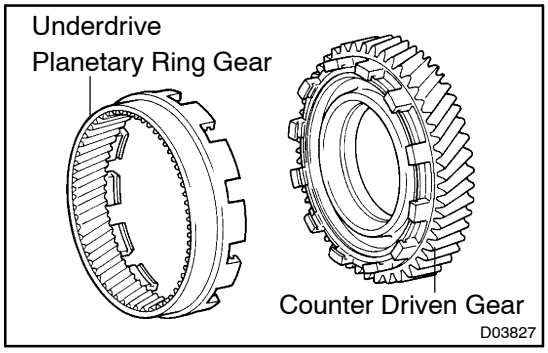
(c) Using SST, remove the rear tapered roller bearing form the underdrive planetary gear.

SST 09950–00020, 09950–00030, 09950–60010 (09951–00320), 09950–40011 (09957–04010)

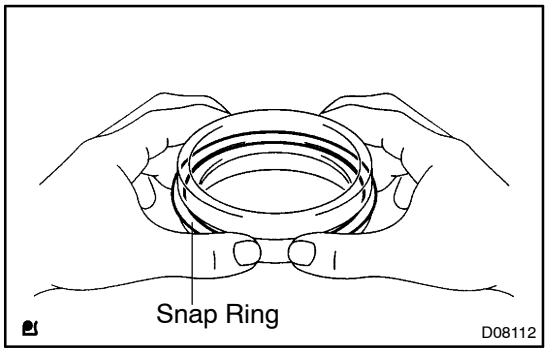


5. REMOVE UNDERDRIVE PLANETARY RING GEAR

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



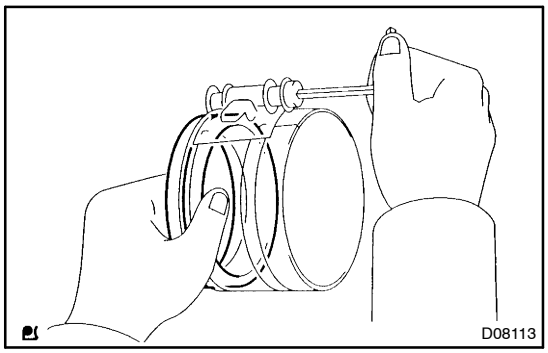
(b) Remove the underdrive planetary ring gear from the counter driven gear.



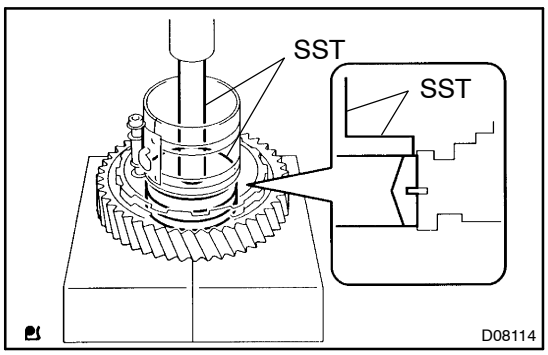
6. INSTALL UNDERDRIVE PLANETARY RING GEAR

(a) Install a new snap ring to the outer race of the tapered roller bearing.

HINT:
When replacing the bearing, also replace the counter driven gear with a new one.

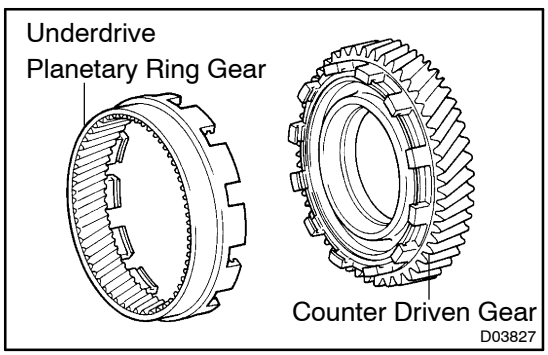


(b) Using a piston ring compressor, squeeze the snap ring.

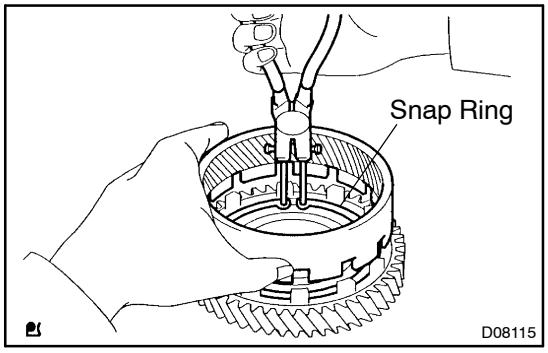


(c) Using SST and a press, press in the outer race of the tapered roller bearing.
SST 09950–60020 (09951–00890), 09950–70010 (09951–07100)

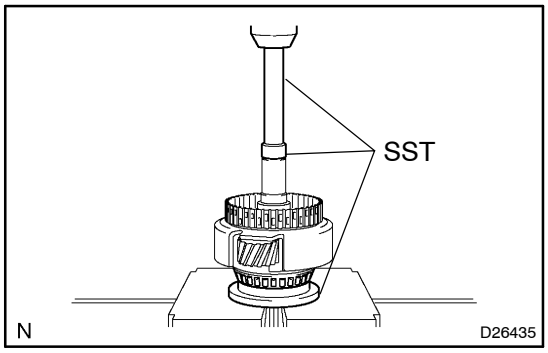
NOTICE:
Be sure not to damage on the snap ring during the outer race installation.



(d) Install the underdrive planetary ring gear to the counter driven gear.



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



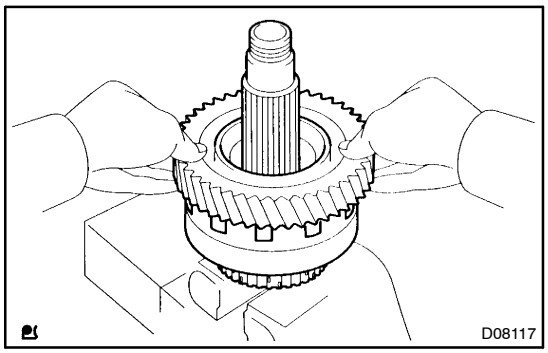
7. INSTALL UNDERDRIVE PLANETARY GEAR ASSY

(a) Using a press, press the rear tapered roller bearing to the underdrive planetary gear.

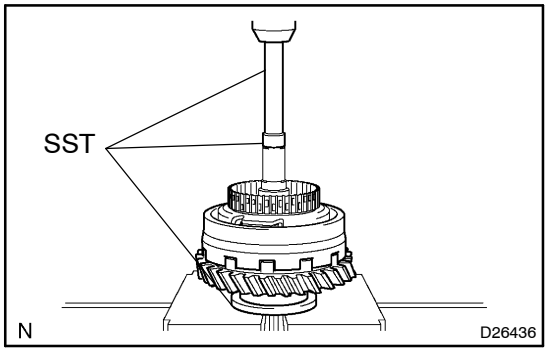
SST 09502–12010, 09950–60010 (09951–00260), 09950–70010 (09951–07100), 09316–20011

NOTICE:

Press the bearing until it becomes flat at the bottom.



(b) Install the counter driven gear with planetary ring gear to the underdrive planetary gear.

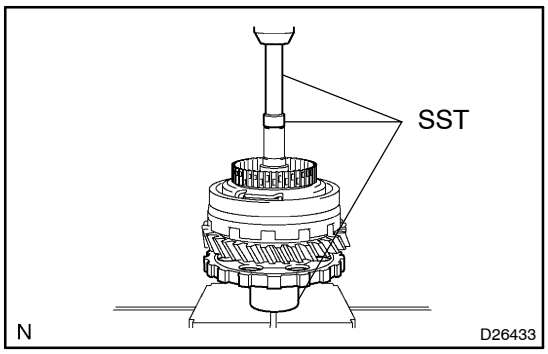


(c) Using SST and a press, press in the front tapered roller bearing.

SST 09502–12010, 09950–60010 (09951–00260), 09950–70010 (09951–07100), 09316–20011

NOTICE:

Press the counter driven gear while rotating it.

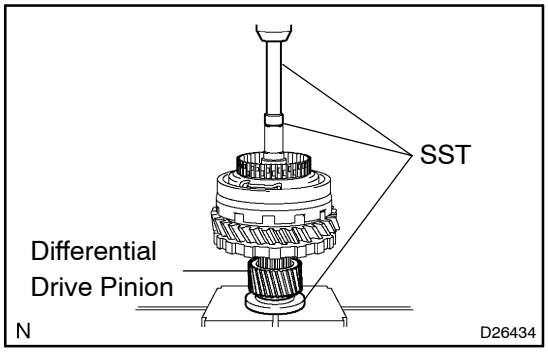


(d) Using a press, press in the parking lock gear.

SST 09502–12010, 09950–60010 (09951–00260), 09950–70010 (09951–07100), 09316–20011

NOTICE:

Press the counter driven gear while rotating it.



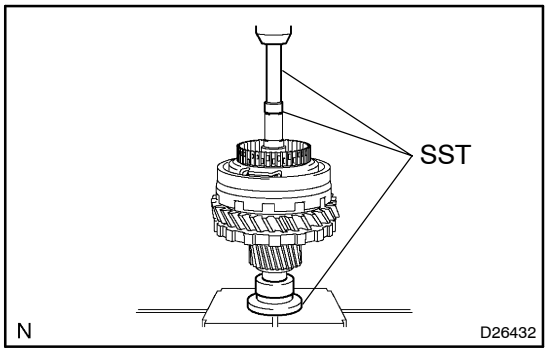
8. INSTALL DIFFERENTIAL DRIVE PINION

(a) Using a press, press the differential drive pinion.

SST 09726–40010, 09950–60010 (09951–00260), 09950–70010 (09951–07100)

NOTICE:

Press the counter driven gear while rotating it.



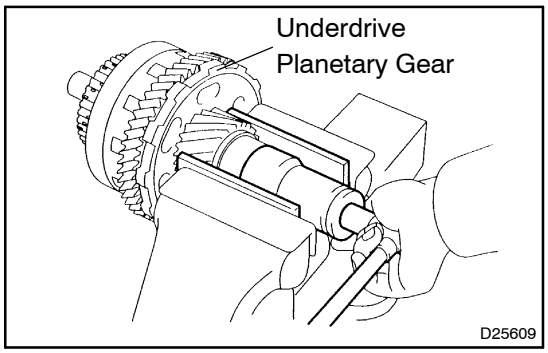
9. INSTALL CYLINDRICAL ROLLER BEARING RACE INNER

(a) Using a press, press the cylindrical roller bearing race inner.

SST 09506–35010, 09950–60010 (09951–00260), 09950–70010 (09951–07100)

NOTICE:

Press the counter driven gear while rotating it.



10. INSTALL FRONT PLANETARY GEAR NUT

(a) Clamp the underdrive planetary gear in soft jaw vise.

NOTICE:

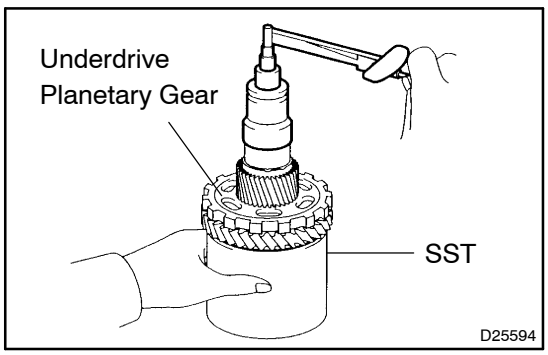
Be careful not to damage the differential drive pinion.

(b) Using a socket wrench, install a new lock nut.

Torque: 280 N·m (2,855 kgf·cm, 207 in.·lbf)

HINT:

Use a torque wrench with a fulcrum length of 750 mm (29.53 in.).



11. INSPECT UNDERDRIVE PLANETARY GEAR PRELOAD

(a) Using SST and a torque wrench, measure the turning torque of underdrive planetary gear assy while rotating the torque wrench at 60 rpm.

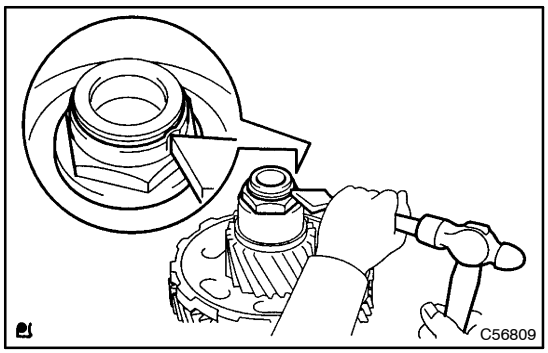
SST 09387–00050

Turning torque at 60 rpm.:

0.5 – 1.42 N·m (5.1 – 14.5 kgf·cm, 0.06 – 0.17 in.·lbf)

HINT:

Use a torque wrench with a fulcrum length of 160 mm (6.30 in.).



(b) Using a pin punch and hammer, stake the lock nut.

NOTICE:

Make sure that there are no cracks on the nut.