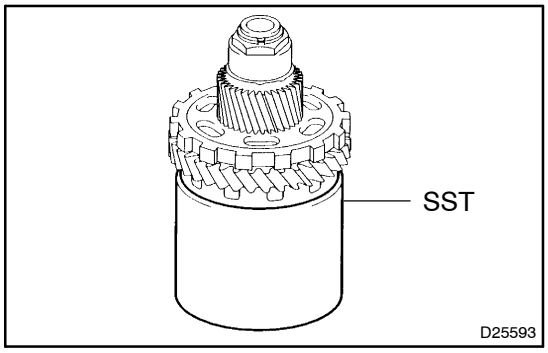
UNDERDRIVE PLANETARY GEAR ASSY (U140E/U140F)

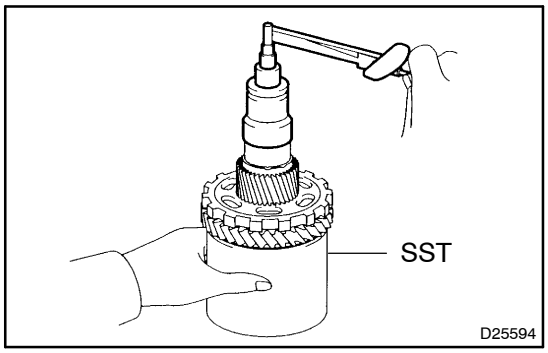
4006K–01

OVERHAUL



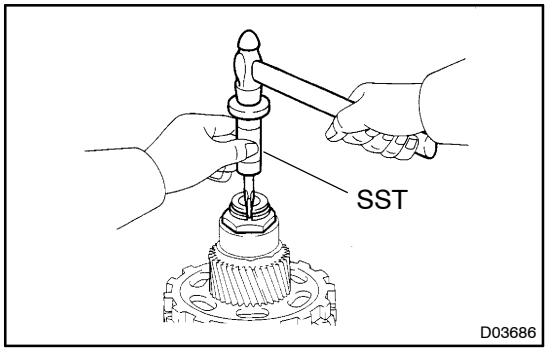
1. INSPECT UNDERDRIVE PLANETARY GEAR PRELOAD

(a) Using SST, fix the U/D planetary gear assy.
SST 09387–00050



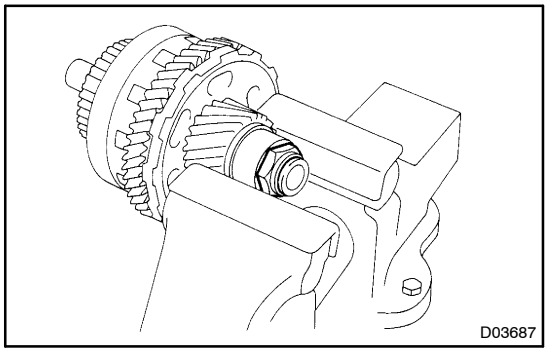
(b) Using SST and a torque wrench, measure the turning torque of U/D planetary gear assy while rotating the torque wrench at 60 rpm.
SST 09387–00050
Turning torque at 60 rpm.:
0.10 – 4.41 N·m (1.0 – 45 kgf·cm, 0.9 – 39 in.·lbf)

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



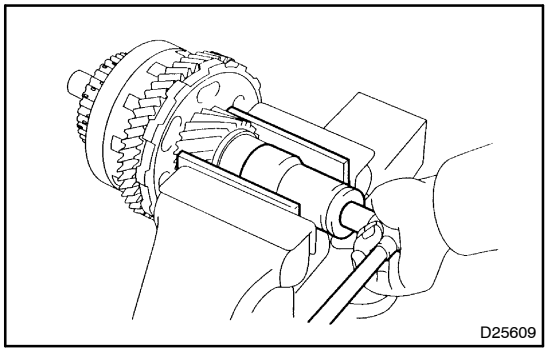
2. REMOVE UNDERDRIVE INPUT SHAFT NUT

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

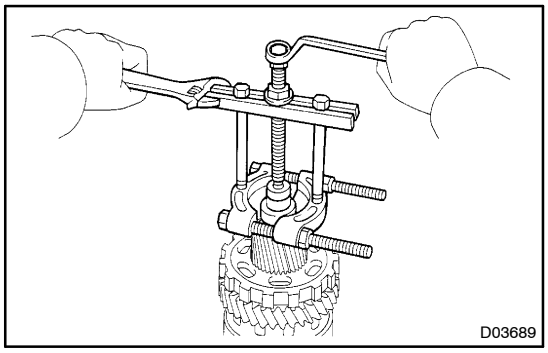


(b) Clamp the U/D planetary gear in soft jaw vise.

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

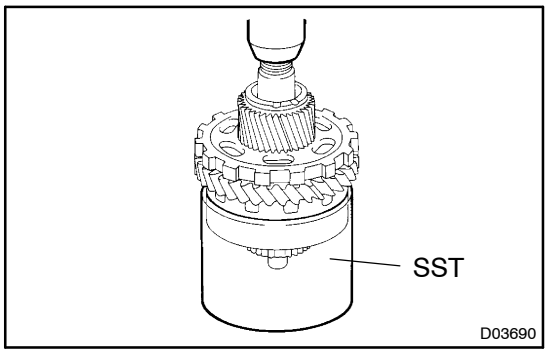


(c) Using a socket wrench, remove lock nut.



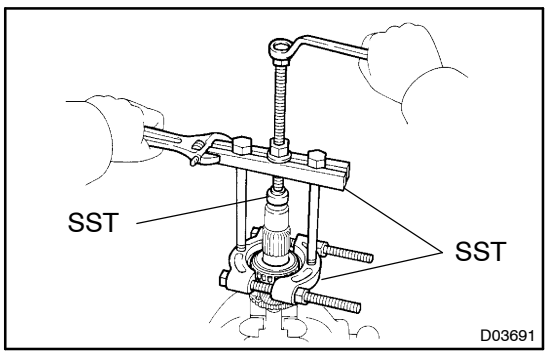
3. REMOVE CYLINDRICAL ROLLER BEARING RACE INNER

(a) Using SST, remove the cylindrical roller bearing race inner.
SST 09950–00020, 09950–00030, 09950–60010 (09951–00340)

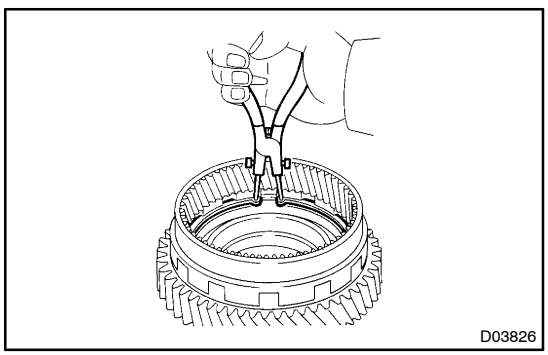


4. REMOVE UNDERDRIVE PLANETARY GEAR ASSY

(a) Using SST and press, remove the differential drive pinion, parking lock gear, counter driven gear with U/D planetary ring gear and front tapered roller bearing.
SST 09387–00050

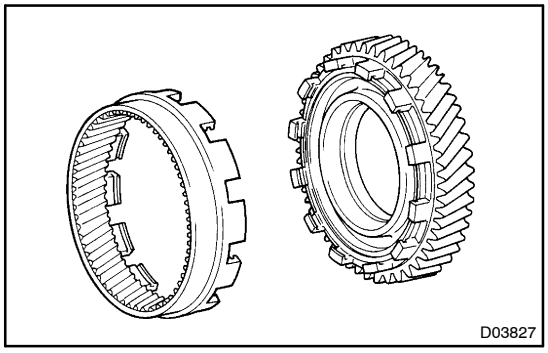


(b) Clamp the U/D planetary gear in soft jaw vise.
(c) Using SST, remove the rear tapered roller bearing form the U/D planetary gear.
SST 09950–00020, 09950–00030, 09950–60010 (09951–00340)

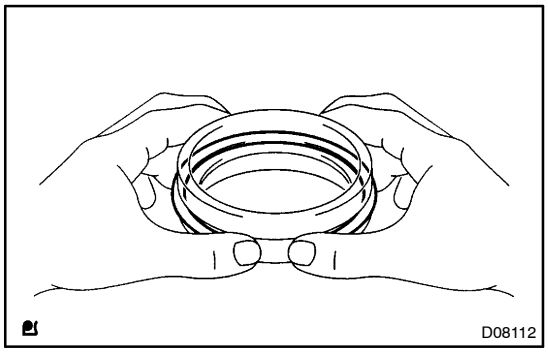


5. REMOVE UNDERDRIVE PLANETARY RING GEAR

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

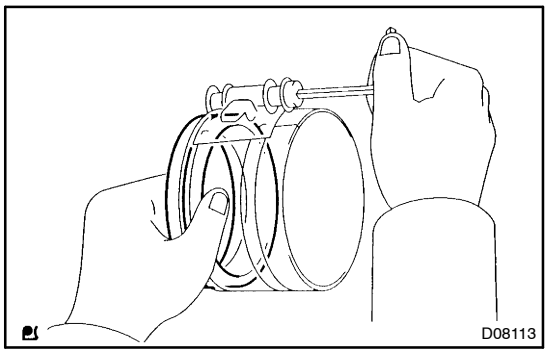


(b) Remove the U/D planetary ring gear from the counter driven gear.

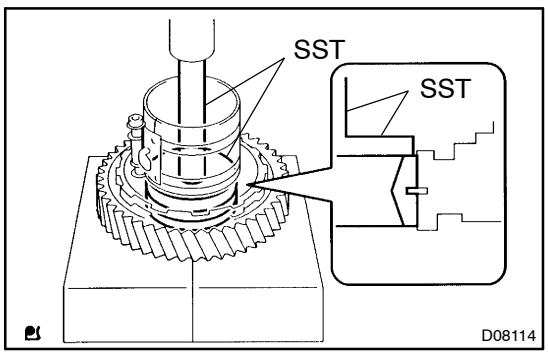


6. INSTALL UNDERDRIVE PLANETARY RING GEAR

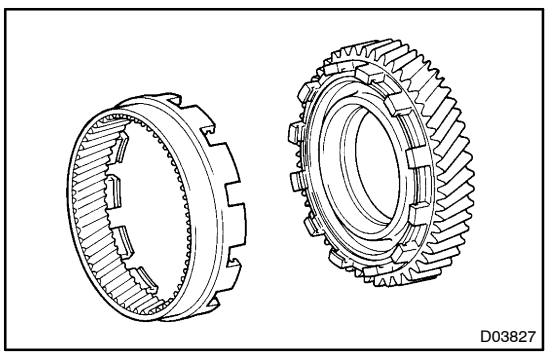
(a) Install a new snap ring to the outer race of the tapered roller bearing.



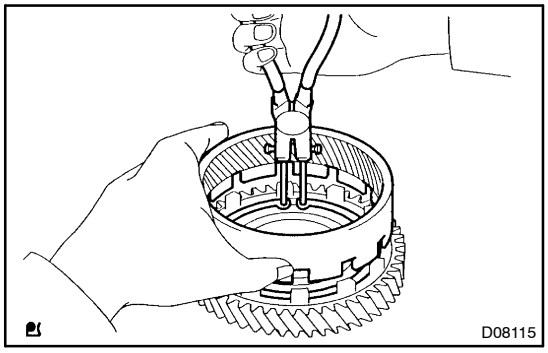
(b) Using a piston ring compressor, squeeze the snap ring.



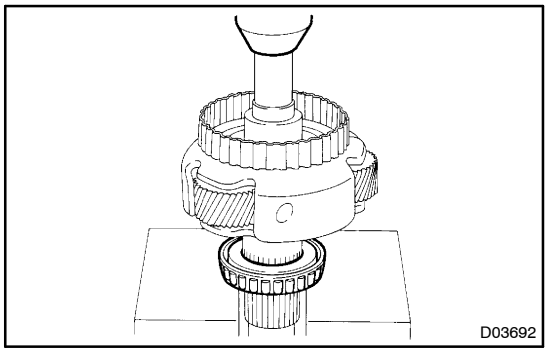
(c) Using SST a press, press in the outer race of the tapered roller bearing.
SST 09950–60020 (09951–00890), 09950–70010 (09951–07100)



(d) Install the U/D planetary ring gear to the counter driven gear.



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

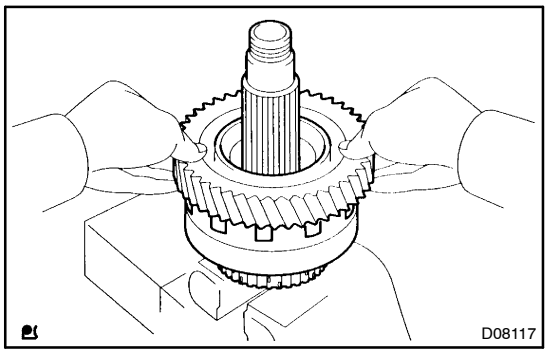


7. INSTALL UNDERDRIVE PLANETARY GEAR ASSY

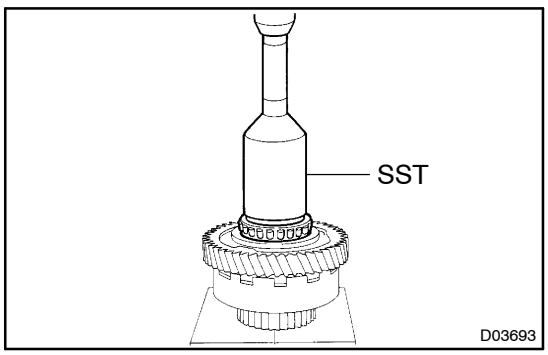
(a) Using a press, press in the rear tapered roller bearing to the U/D planetary gear.

NOTICE:

Press in the bearing until it becomes flat at the bottom.



(b) Install the counter driven gear with planetary ring gear to the U/D planetary gear.

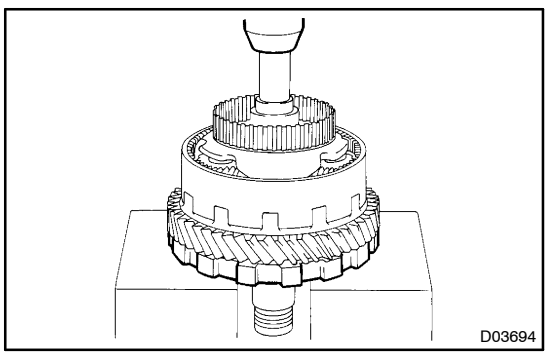


(c) Using a SST and a press, press in the front tapered roller bearing.

SST 09214–76011

NOTICE:

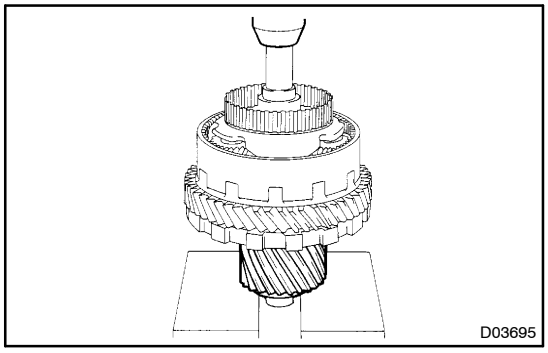
Press in the counter driven gear while rotating it.



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

NOTICE:

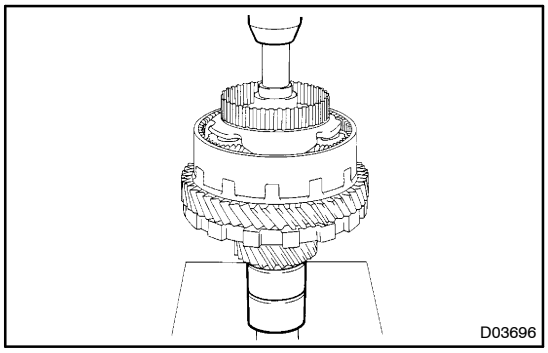
Press in the counter driven gear while rotating it.



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

NOTICE:

Press in the counter driven gear while rotating it.

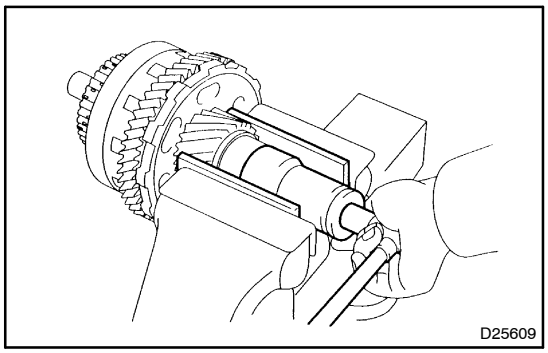


8. INSTALL CYLINDRICAL ROLLER BEARING RACE INNER

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

NOTICE:

Press in the counter driven gear while rotating it.



9. INSTALL UNDERDRIVE INPUT SHAFT NUT

(a) Clamp the U/D planetary gear in soft jaw vise.

NOTICE:

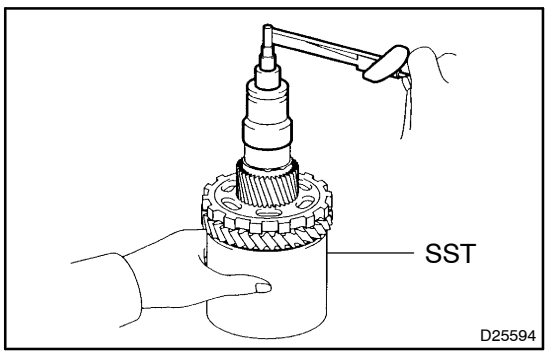
Be careful not to damage the differential drive pinion.

(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.).



10. INSPECT UNDERDRIVE PLANETARY GEAR PRELOAD

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

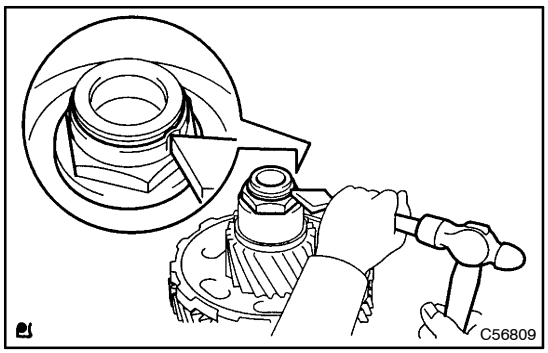
SST 09387–00050

Turning torque at 60 rpm.:

0.10 – 4.41 N·m (1.0 – 45 kgf·cm, 0.9 – 39 in.·lbf)

HINT:

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



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

NOTICE:

Make sure that there are no cracks on the nut.