

4. Main Shaft Assembly

A: DISASSEMBLY

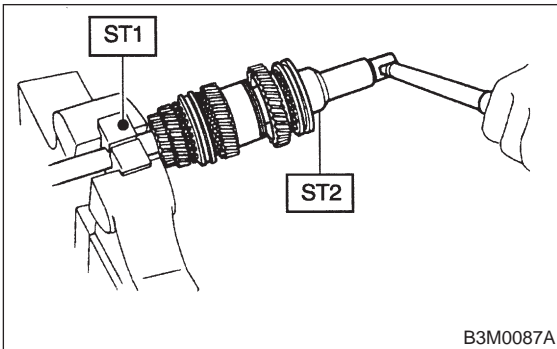
1. 2200 cc MODEL

- 1) Put vinyl tape around main shaft splines to protect oil seal from damage. Then pull out oil seal and needle bearing by hand.
- 2) Remove lock nut from transmission main shaft assembly.

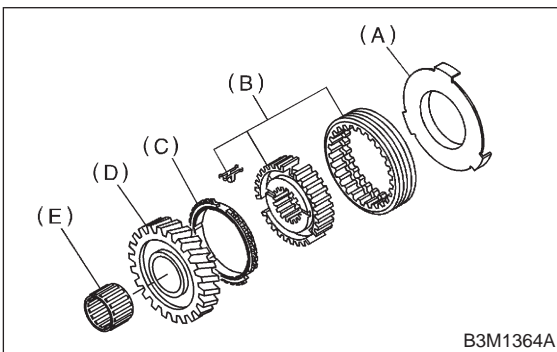
NOTE:

Remove caulking before taking off lock nut.

- ST1 498937000 TRANSMISSION HOLDER
 ST2 499987003 SOCKET WRENCH (35)



- 3) Remove insert stopper plate, sleeve and hub assembly No. 2, baulk ring, 5th drive gear, and needle bearing.



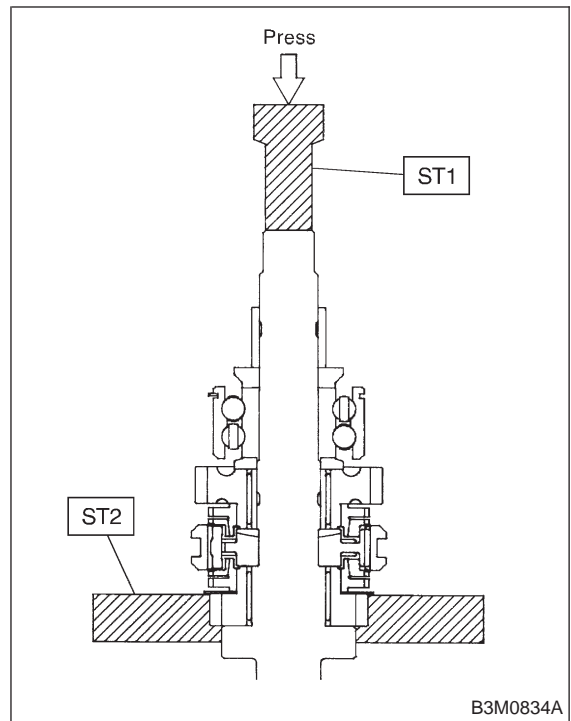
- (A) Insert stopper plate
- (B) Sleeve and hub assembly No. 2
- (C) Baulk ring
- (D) 5th drive gear
- (E) Needle bearing (32 × 36 × 25.7)

- 4) Using ST1 and ST2, remove the rest of parts.

NOTE:

Replace sleeve and hub with new ones. Do not attempt to disassemble because they must engage at a specified point. If they should be disassembled, marking engagement point on splines beforehand.

- ST1 899864100 REMOVER
 ST2 899714110 REMOVER



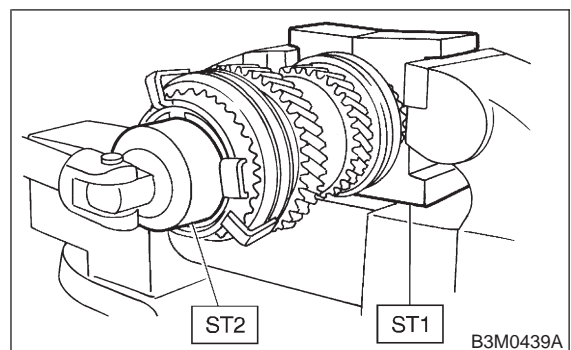
2. 2500 cc MODEL

- 1) Put vinyl tape around main shaft splines to protect oil seal from damage. Then pull out oil seal and needle bearing by hand.
- 2) Remove lock nut from transmission main shaft assembly.

NOTE:

Remove caulking before taking off lock nut.

- ST1 498937000 TRANSMISSION HOLDER
 ST2 499987003 SOCKET WRENCH (35)

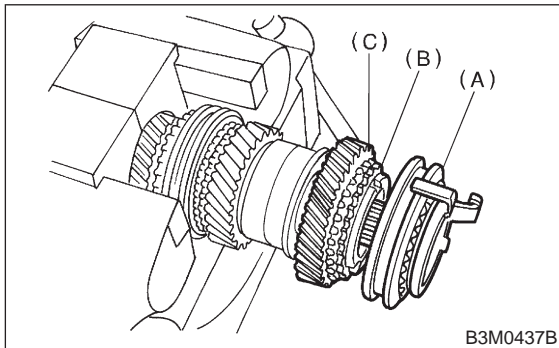


SERVICE PROCEDURE

[W4A2] 3-1

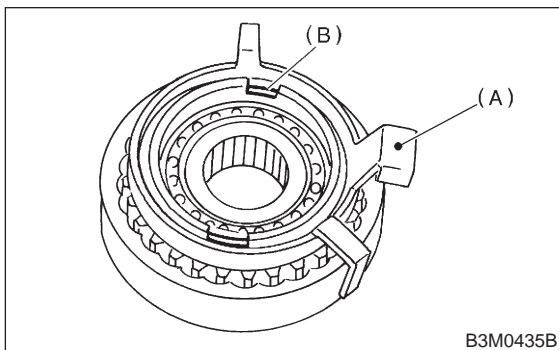
4. Main Shaft Assembly

3) Remove 5th-Rev sleeve and hub assembly, baulk ring, 5th drive gear and needle bearing (32 × 36 × 25.7).



- (A) 5th-Rev sleeve and hub ASSY
- (B) Baulk ring
- (C) 5th drive gear

4) Remove snap ring and synchro cone stopper from 5th-Rev sleeve and hub assembly.



- (A) Synchro cone stopper
- (B) Snap ring

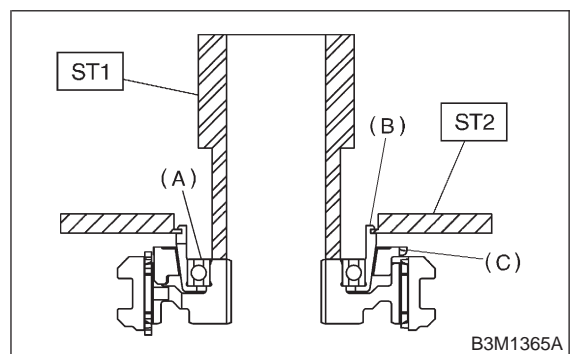
5) Using ST1, ST2 and a press, remove ball bearing, synchro cone and baulk ring (Rev).

NOTE:

- Replace sleeve and hub with new ones. Do not attempt to disassemble because they must engage at a specified point. If they should be disassembled, mark engagement point on splines beforehand.

- Do not reuse ball bearing.

ST1 499757002 SNAP RING PRESS
ST2 498077400 SYNCHRO CONE
REMOVER



- (A) Ball bearing
- (B) Synchro cone
- (C) Baulk ring

3-1 [W4B0]

4. Main Shaft Assembly

SERVICE PROCEDURE

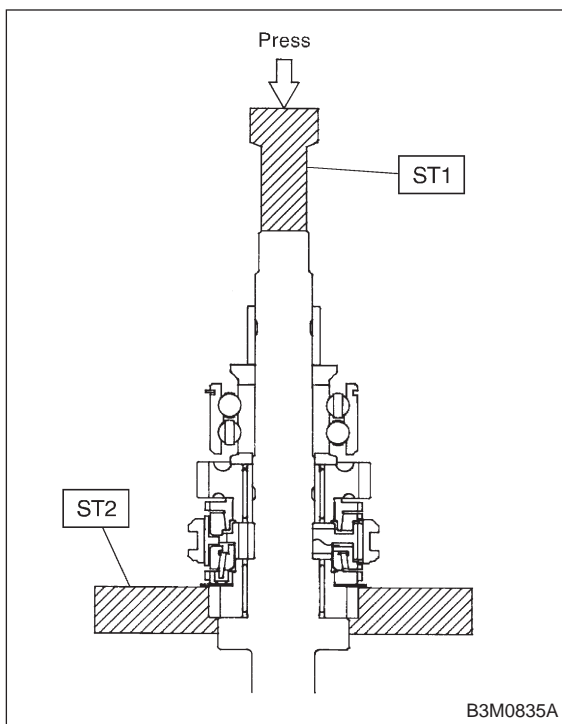
6) Using ST1 and ST2, remove the rest of parts.

NOTE:

Replace sleeve and hub with new ones. Do not attempt to disassemble because they must engage at a specified point. If they should be disassembled, marking engagement point on splines beforehand.

ST1 899864100 REMOVER

ST2 899714110 REMOVER



B: ASSEMBLY

CAUTION:

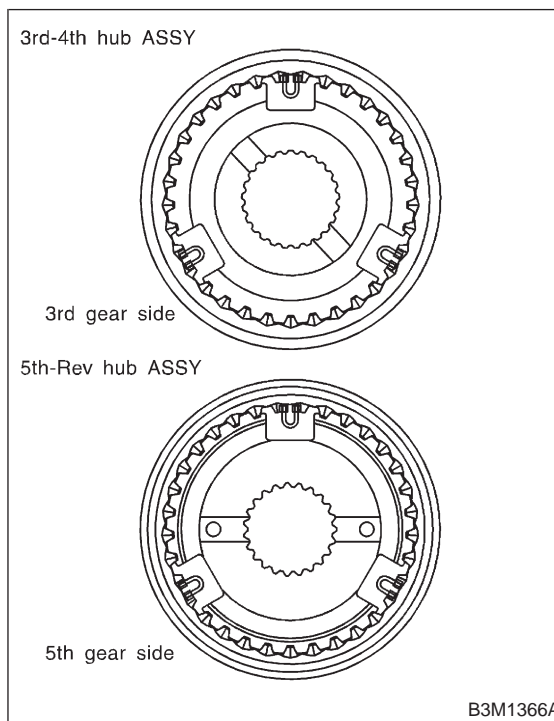
Do not apply pressure in excess of 10 kN (1 ton, 1.1 US ton, 1.0 Imp ton) during installation.

1. 2200 cc MODEL

1) Assemble sleeve and hub assembly for 3rd-4th and, 5th synchronizing.

NOTE:

Position open ends of spring 120° apart.



2) Install 3rd drive gear, baulk ring, and sleeve and hub assembly for 3rd-4th needle bearing (32 × 36 × 25.7) on transmission main shaft.

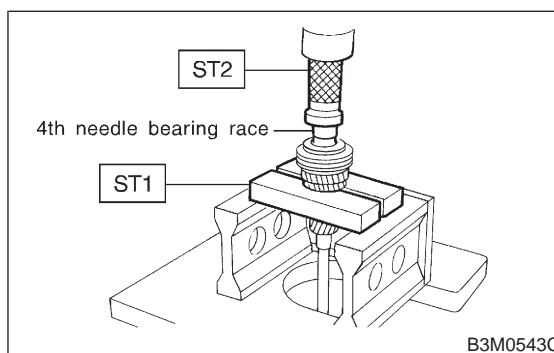
NOTE:

Align groove in baulk ring with shifting insert.

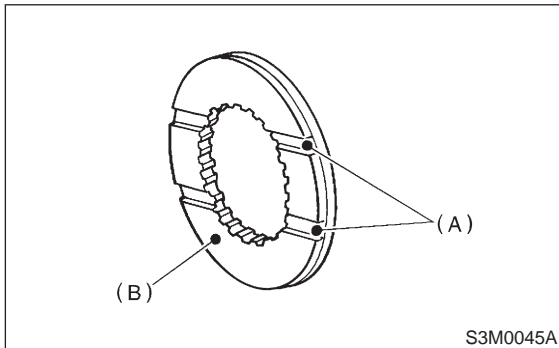
3) Install 4th needle bearing race onto transmission main shaft using ST1, ST2 and a press.

ST1 899714110 REMOVER

ST2 499877000 RACE 4-5 INSTALLER

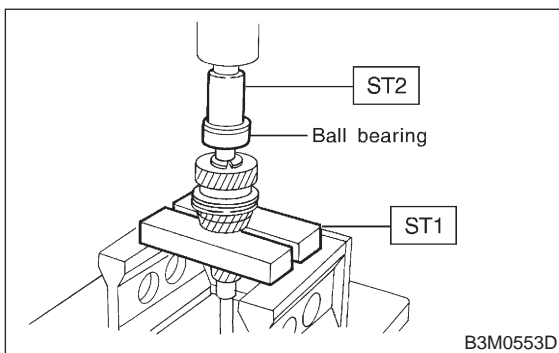


4) Install baulk ring, needle bearing (32 × 30 × 25.7), 4th drive gear and 4th gear thrust washer to transmission main shaft.



- (A) Groove
- (B) 4th gear side

5) Drive ball bearing onto the rear section of transmission main shaft using ST1, ST2 and a press.
ST1 899714110 REMOVER
ST2 499877000 RACE 4-5 INSTALLER

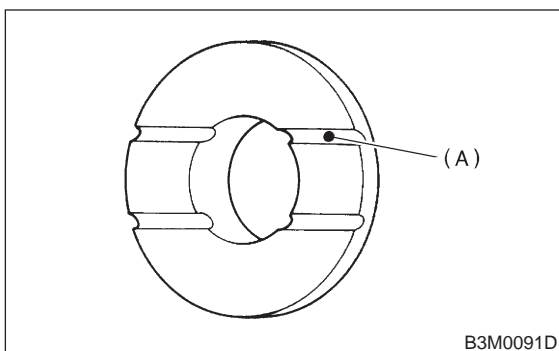


6) Using ST1 and ST2, install the 5th gear thrust washer and 5th needle bearing race onto the rear section of transmission main shaft.

NOTE:

Face thrust washer in the correct direction.

ST1 899714110 REMOVER
ST2 499877000 RACE 4-5 INSTALLER

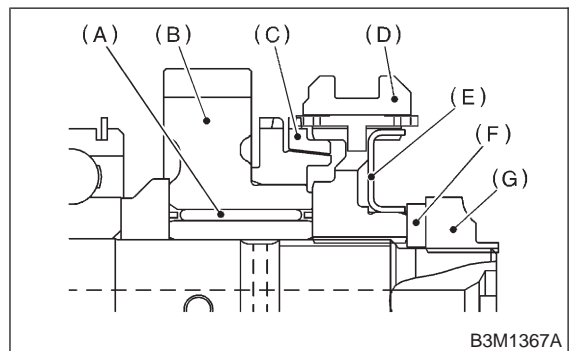


- (A) Face this surface to 5th gear side.

7) Install the following parts to the rear section of transmission main shaft.

NOTE:

- Align groove in baulk ring with shifting insert.
- Be sure to fit pawl of insert stopper plate into 4 mm (0.16 in) dia. hole in the boss section of synchronizer hub.



- (A) Needle bearing (32 × 36 × 25.7)
- (B) 5th drive gear
- (C) Baulk ring
- (D) Sleeve and hub assembly
- (E) Insert stopper plate
- (F) Lock washer (22 × 38 × 2)
- (G) Lock nut

8) Tighten lock nuts (22 × 13) to the specified torque using ST1 and ST2.

NOTE:

Secure lock nuts in two places after tightening.

ST1 499987003 SOCKET WRENCH (35)
ST2 498937000 TRANSMISSION HOLDER

Tightening torque:

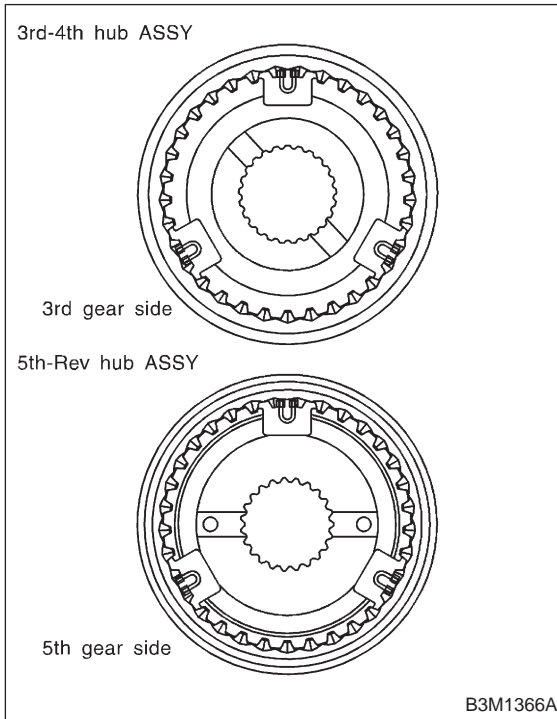
118±6 N·m (12.0±0.6 kg·m, 86.8±4.3 ft·lb)

2. 2500 cc MODEL

1) Assemble sleeve and hub assembly for 3rd-4th and, 5th synchronizing.

NOTE:

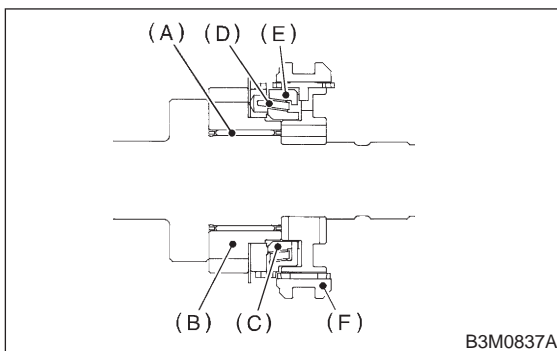
Position open ends of spring 120° apart.



2) Install 3rd drive gear, outer baulk ring, synchro cone, inner baulk ring, sleeve and hub assembly for 3rd needle bearing on transmission main shaft.

NOTE:

Align groove in baulk ring with insert key.

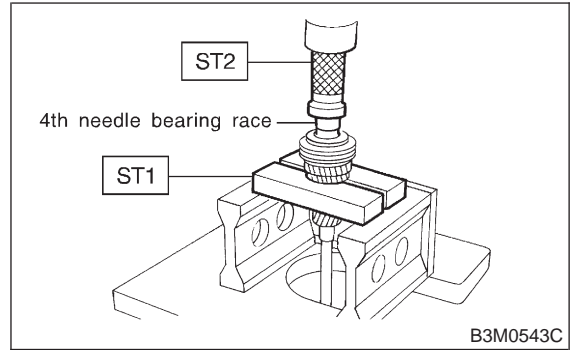


- (A) 3rd needle bearing (32 × 36 × 25.7)
- (B) 3rd drive gear
- (C) Inner baulk ring
- (D) Synchro cone
- (E) Outer baulk ring
- (F) Sleeve and hub ASSY

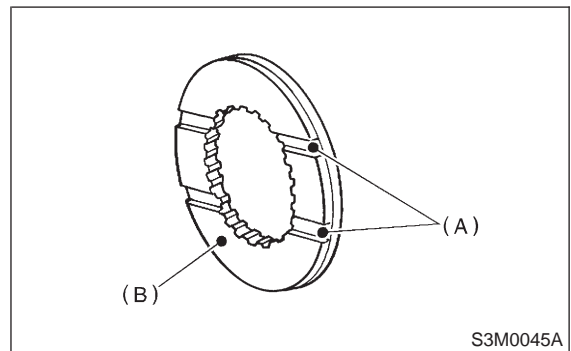
3) Install 4th needle bearing race onto transmission main shaft using ST1, ST2 and a press.

ST1 899714110 REMOVER

ST2 499877000 RACE 4-5 INSTALLER



4) Install baulk ring, needle bearing (32 × 30 × 25.7), 4th drive gear and 4th gear thrust washer to transmission main shaft.

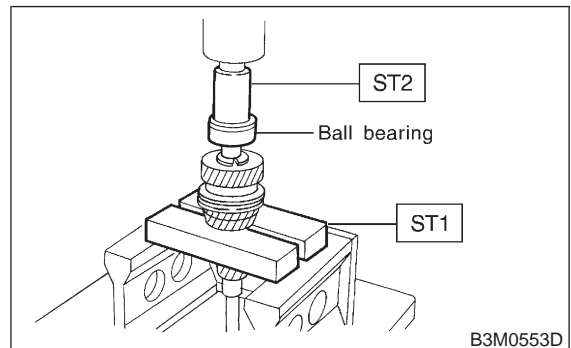


- (A) Groove
- (B) 4th gear side

5) Drive ball bearing onto the rear section of transmission main shaft using ST1, ST2 and a press.

ST1 899714110 REMOVER

ST2 499877000 RACE 4-5 INSTALLER



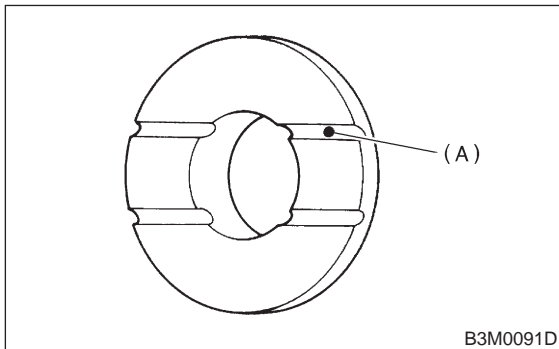
6) Using ST1 and ST2, install the 5th gear thrust washer and 5th needle bearing race onto the rear section of transmission main shaft.

NOTE:

Face thrust washer in the correct direction.

ST1 899714110 REMOVER

ST2 499877000 RACE 4-5 INSTALLER



(A) Face this surface to 5th gear side.

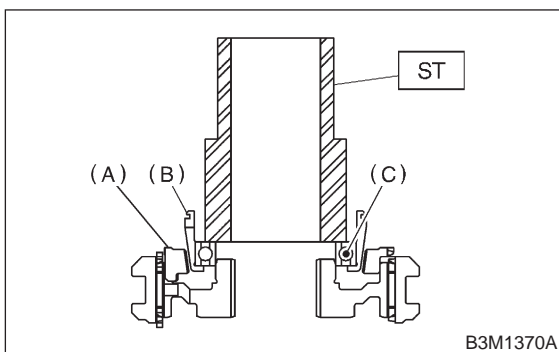
7) Install bearing onto synchro cone.

8) Install baulk ring and synchro cone onto 5th-Rev sleeve and hub assembly using ST and a press.

NOTE:

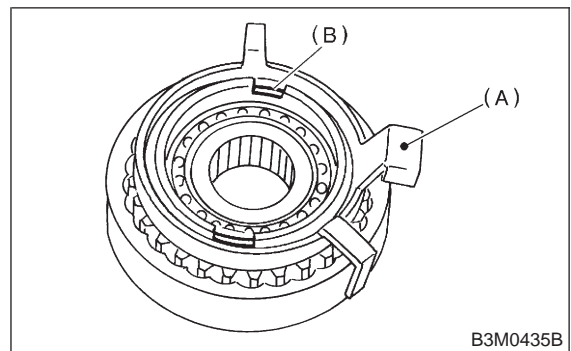
- Use new ball bearing.
- After press fitting, make sure synchro cone rotates freely.

ST 499757002 SNAP RING PRESS



- (A) Baulk ring
(B) Synchro cone
(C) Ball bearing

9) Install synchro cone stopper and snap ring to 5th-Rev sleeve and hub assembly.



- (A) Synchro cone stopper
(B) Snap ring

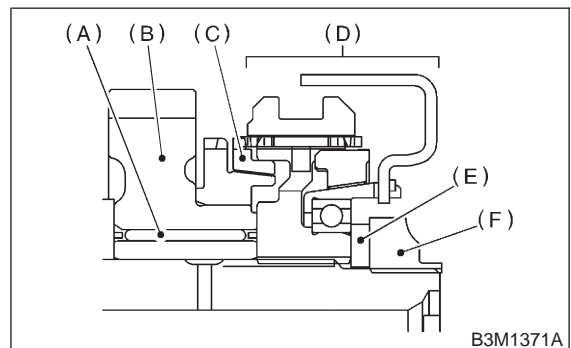
10) Install the rest parts to the rear section of transmission main shaft.

NOTE:

Align groove in baulk ring with shifting insert.

ST1 499987003 SOCKET WRENCH

ST2 498937000 TRANSMISSION HOLDER



- (A) Needle bearing (32 × 36 × 25.7)
(B) 5th drive gear
(C) Baulk ring
(D) 5th-Rev sleeve and hub ASSY
(E) Lock washer (22 × 38 × 2)
(F) Lock nuts (22 × 13)

11) Tighten lock nuts to the specified torque using ST1 and ST2.

NOTE:

Secure lock nuts in two places after tightening.

ST1 499987000 SOCKET WRENCH

ST2 498937000 TRANSMISSION HOLDER

Tightening torque:

18±6 N·m (12.0±0.6 kg·m, 86.8±4.3 ft·lb)