

## 4. Main Shaft Assembly

### A: DISASSEMBLY

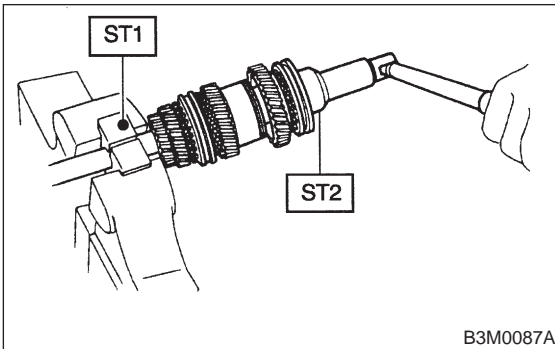
#### 1. 2200 cc MODEL

- 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.

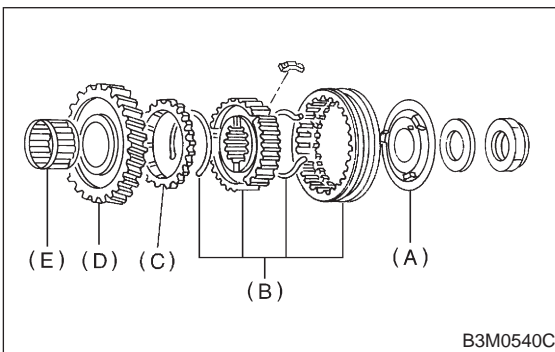
**NOTE:**

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.



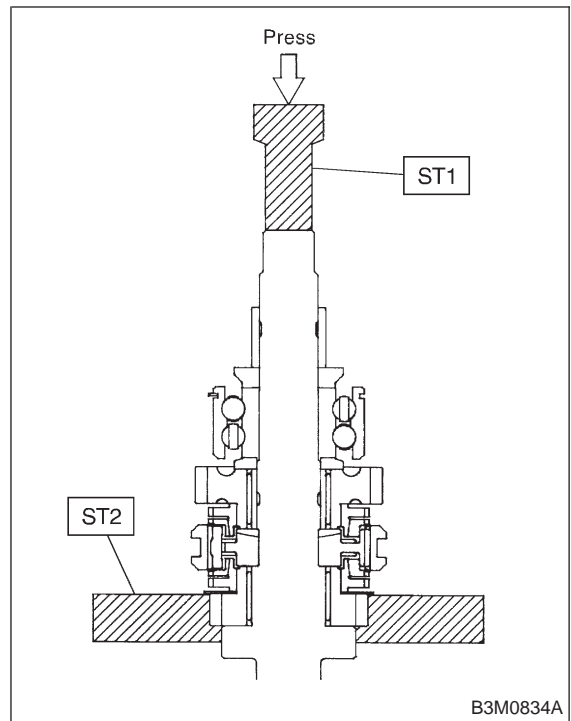
- (A) Insert stopper plate
- (B) Sleeve and hub assembly No. 2
- (C) Baulk ring
- (D) 5th drive gear
- (E) Needle bearing (32 × 36 × 25.7)

- 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



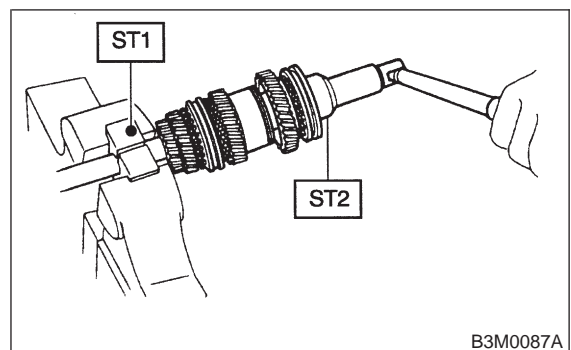
#### 2. 2500 cc MODEL

- 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.

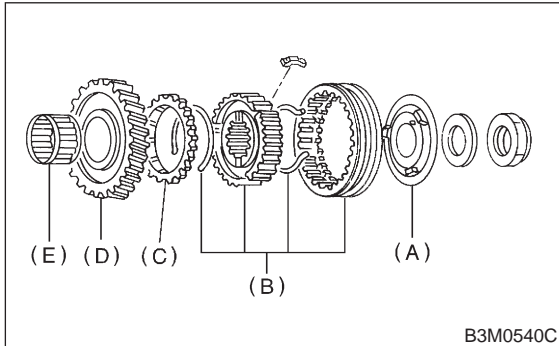
**NOTE:**

Remove caulking before taking off lock nut.

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



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



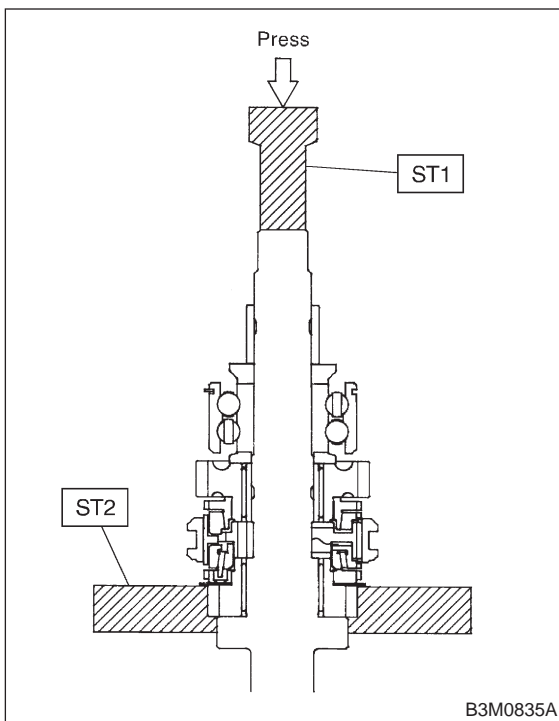
- (A) Insert stopper plate
- (B) Sleeve and hub assembly No. 2
- (C) Baulk ring
- (D) 5th drive gear
- (E) Needle bearing (32 × 36 × 25.7)

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



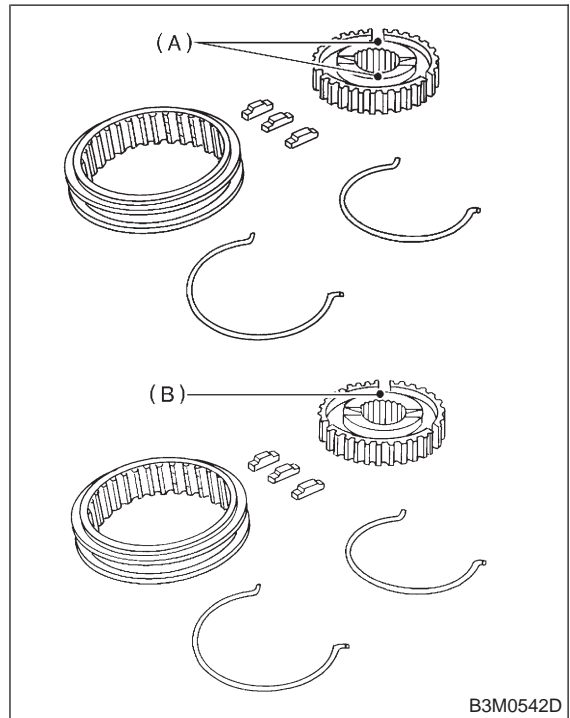
**B: ASSEMBLY**

**1. 2200 cc MODEL**

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

**NOTE:**

Position open ends of spring 120° apart.



- (A) Two holes for discrimination (3rd-4th hub)
- (B) One hole for discrimination (5th hub)

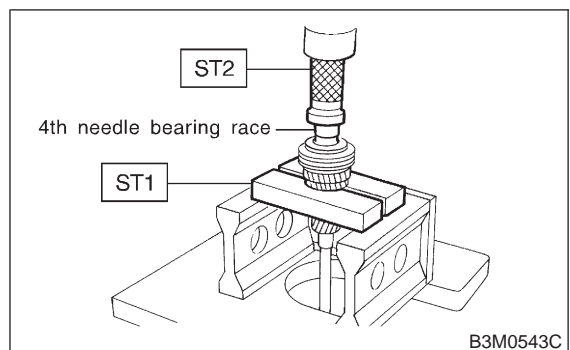
2) Install 3rd drive gear, baulk ring, and sleeve and hub assembly for 3rd-4th needle bearing (32 × 36 × 25.7) on transmission main shaft.

**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

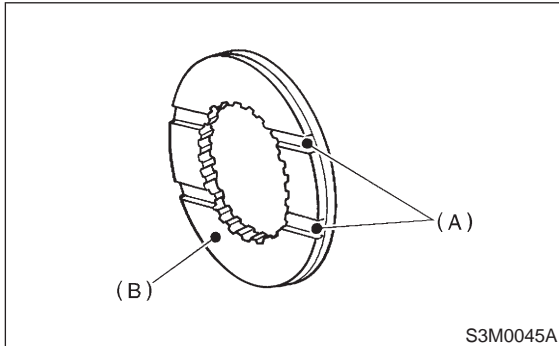


### 3-1 [W4B1]

#### 4. Main Shaft Assembly

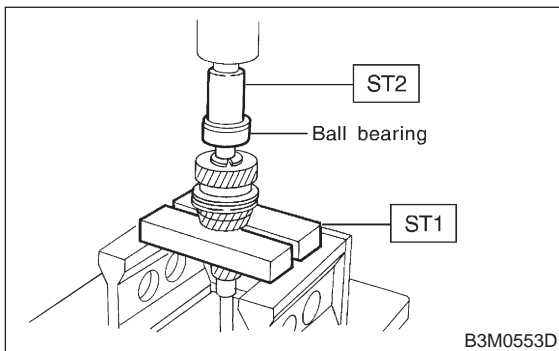
## SERVICE PROCEDURE

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

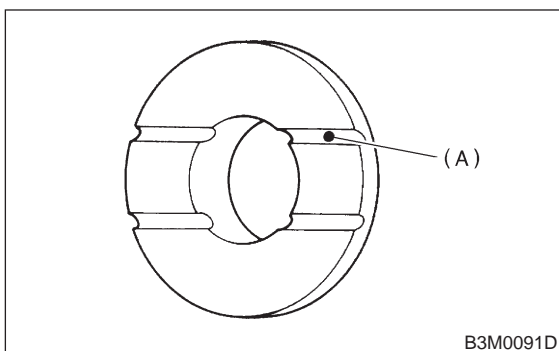


6) Using ST1 and ST2, install the 5th gear thrust washer and 5th needle bearing race onto the rear section of transmission main shaft.

#### NOTE:

Face thrust washer in the correct direction.

ST1 899714110 REMOVER  
ST2 499877000 RACE 4-5 INSTALLER

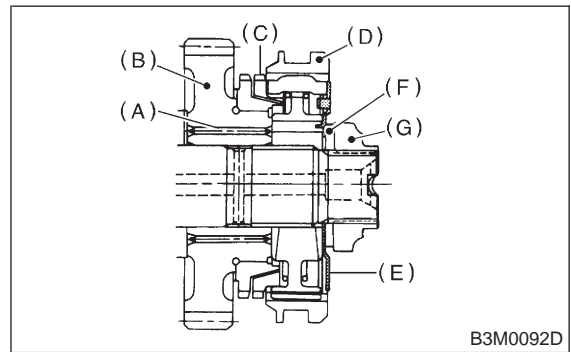


- (A) Face this surface to 5th gear side.

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:**

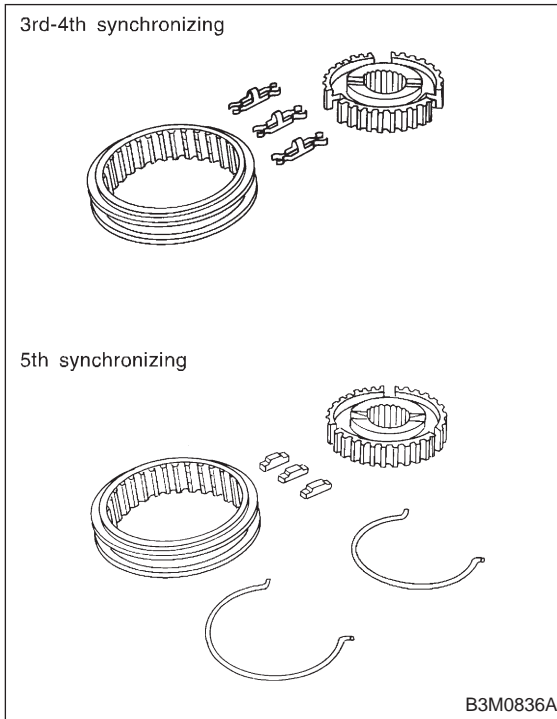
**118±6 N·m (12.0±0.6 kg·m, 86.8±4.3 ft·lb)**

## 2. 2500 cc MODEL

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

**NOTE:**

Position open ends of spring 120° apart.

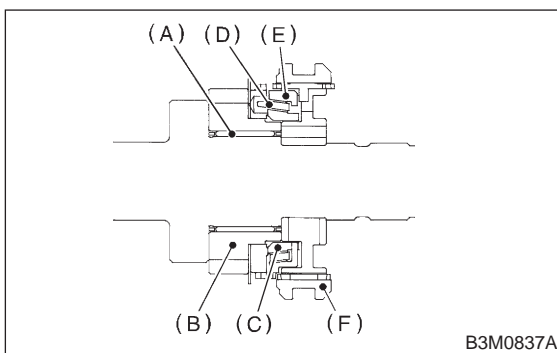


- (A) Two holes for discrimination (3rd-4th hub)
- (B) One hole for discrimination (5th hub)

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:**

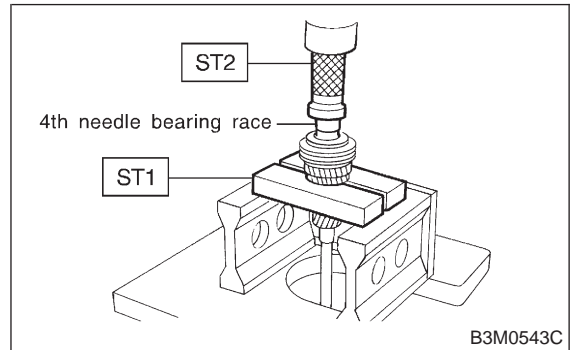
Align groove in baulk ring with insert key.



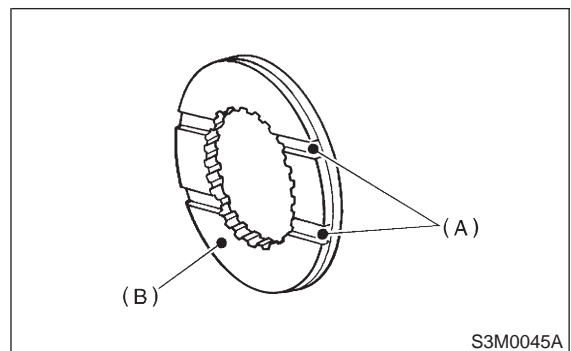
- (A) 3rd needle bearing (32 × 36 × 25.7)
- (B) 3rd drive gear
- (C) Inner baulk ring
- (D) Synchro cone
- (E) Outer baulk ring
- (F) Sleeve and hub ASSY

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



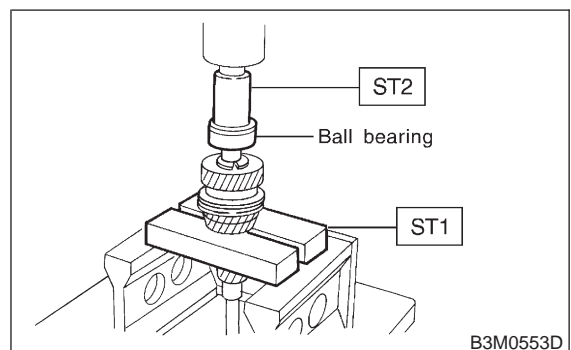
4) Install baulk ring, needle bearing (32 × 30 × 25.7), 4th drive gear and 4th gear thrust washer to transmission main shaft.



- (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



### 3-1 [W4B2]

#### 4. Main Shaft Assembly

## SERVICE PROCEDURE

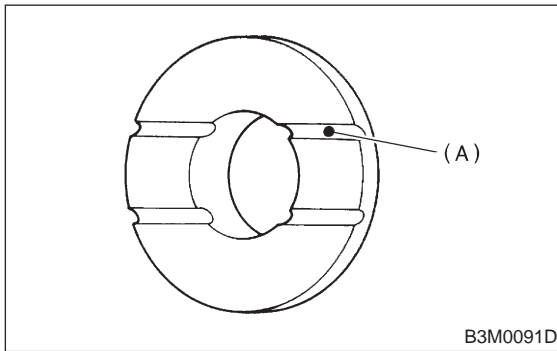
6) Using ST1 and ST2, install the 5th gear thrust washer and 5th needle bearing race onto the rear section of transmission main shaft.

**NOTE:**

Face thrust washer in the correct direction.

ST1 899714110 REMOVER

ST2 499877000 RACE 4-5 INSTALLER

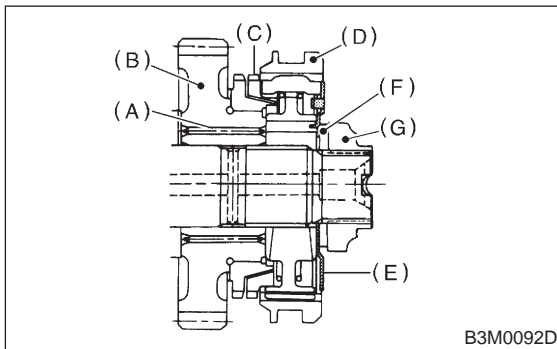


(A) Face this surface to 5th gear side.

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)**