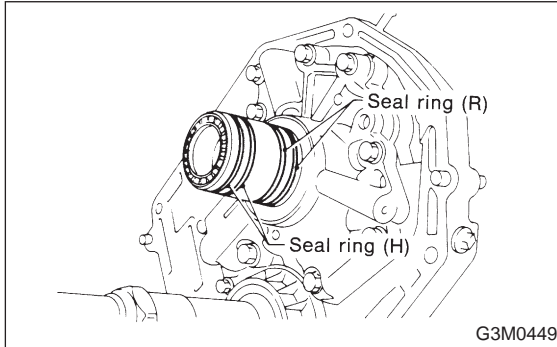


## 3-2 [W16A0]

### 16. Drive Pinion Shaft

## SERVICE PROCEDURE

- Install the oil seal retainer and seal rings (R: Reverse clutch side) and (H: High clutch side) after adjusting the drive pinion backlash and tooth contact.

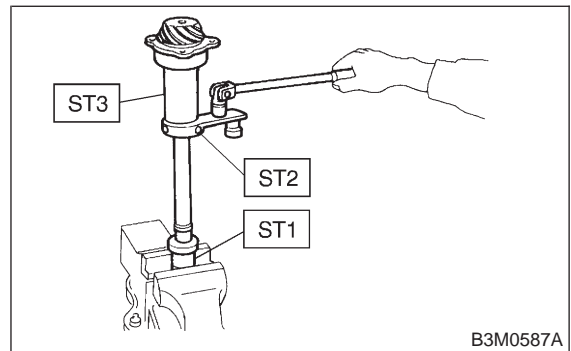


## 16. Drive Pinion Shaft

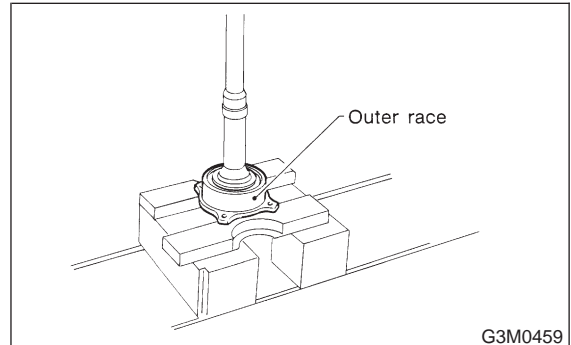
### A: DISASSEMBLY

- 1) Straighten the staked portion of the lock nut, and remove the lock nut while locking the rear spline portion of the shaft with ST1 and ST2. Then pull off the drive pinion collar.

ST1 498937100 HOLDER  
ST2 499787100 WRENCH  
ST3 499757800 ADAPTER

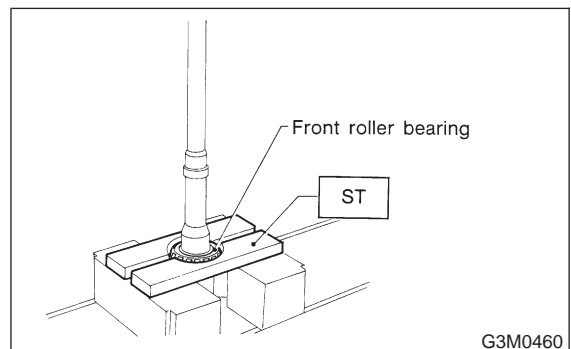


- 2) Remove the O-ring
- 3) Using a press, separate the rear roller bearing and outer race from the shaft.



- 4) Using a press and ST, separate the front roller bearing from the shaft.

ST 498517000 REPLACER

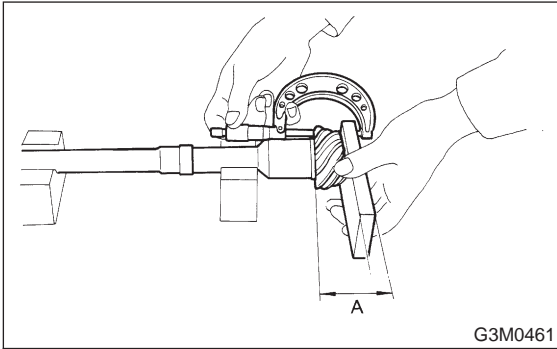


### B: INSPECTION

Make sure that all component parts are free of harmful cuts, gouges, and other faults.

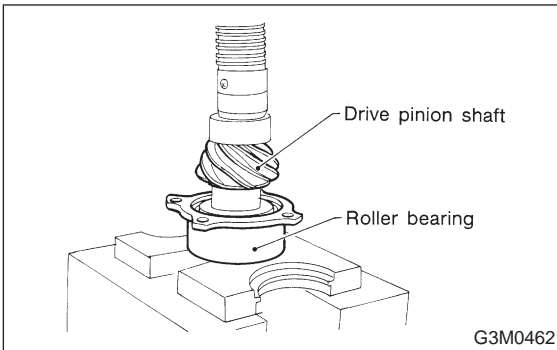
**C: ASSEMBLY**

1) Measure dimension "A" of the drive pinion shaft.



2) Using a press, force-fit the roller bearing in position.

**CAUTION:**  
Do not change the relative positions of the outer race and bearing cone.



3) After fitting the O-ring to the shaft, attach the drive pinion collar to the shaft.

**CAUTION:**  
Be careful not to damage the O-ring.

4) Tighten the lock washer and lock nut with ST1, ST2 and ST3.

- ST1 498937100 HOLDER
- ST2 499787100 WRENCH
- ST3 499787500 ADAPTER

**Actual tightening torque:**  
 $113 \pm 5 \text{ N}\cdot\text{m}$  ( $11.5 \pm 0.5 \text{ kg}\cdot\text{m}$ ,  $83.2 \pm 3.6 \text{ ft}\cdot\text{lb}$ )

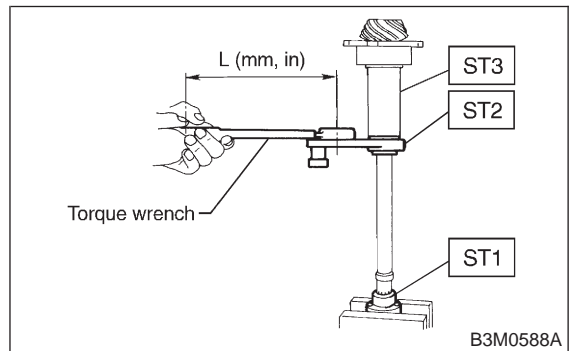
NOTE:

- Pay attention to the orientation of lock washer.
- Tightening torque using torque wrench is determined by the following equation.

$$T_1 = \frac{72.2}{L + 72.2} \times T$$

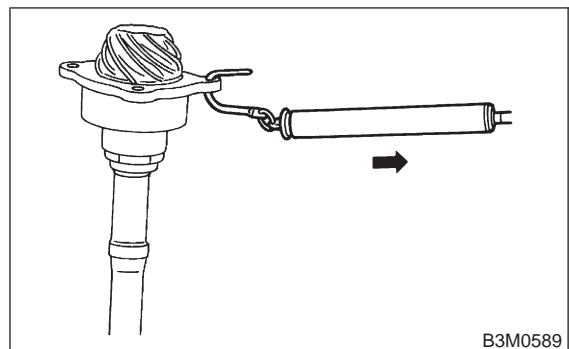
**T: Actual tightening torque**

- Install ST2 to torque wrench as straight as possible.



5) Measure the starting torque of the bearing. Make sure the starting torque is within the specified range. If out of the allowable range, replace the roller bearing.

**Starting torque:**  
 $0.3 - 2.0 \text{ N}\cdot\text{m}$  ( $0.03 - 0.2 \text{ kg}\cdot\text{cm}$ ,  $0.2 - 1.4 \text{ ft}\cdot\text{lb}$ )



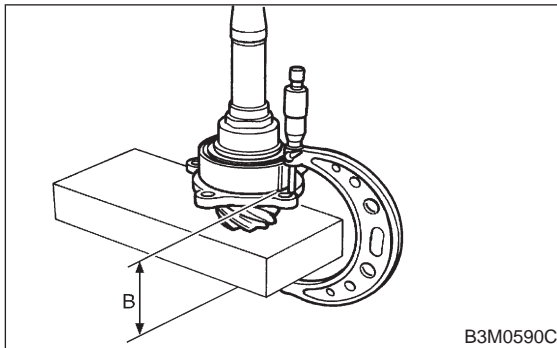
6) Stake the lock nut securely at two places.

### 3-2 [W16C0]

#### 16. Drive Pinion Shaft

## SERVICE PROCEDURE

7) Measure dimension "B" of the drive pinion shaft.



$$t = 6.5 \pm 0.0625 - (B - A)$$

Available drive pinion shims	
Part No.	Thickness mm (in)
31451AA050	0.150 (0.0059)
31451AA060	0.175 (0.0069)
31451AA070	0.200 (0.0079)
31451AA080	0.225 (0.0089)
31451AA090	0.250 (0.0098)
31451AA100	0.275 (0.0108)

8) Determine the thickness "t" (mm) of the drive pinion shim.

**NOTE:**

The number of shims must be three or less.