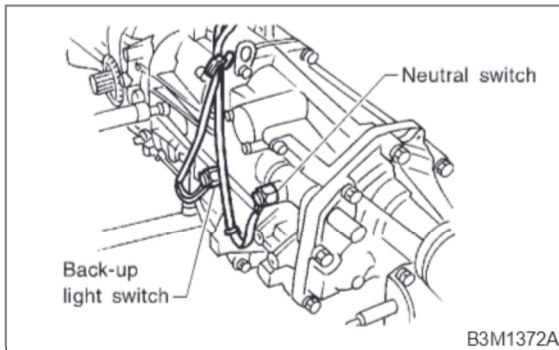


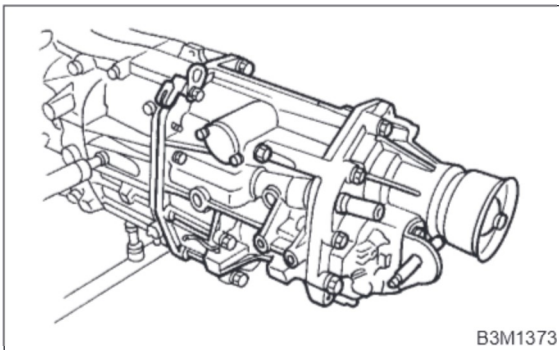
## 5. Transfer Case and Extension

### A: REMOVAL

- 1) Remove back-up light switch and neutral switch.



- 2) Remove transfer case with extension assembly.

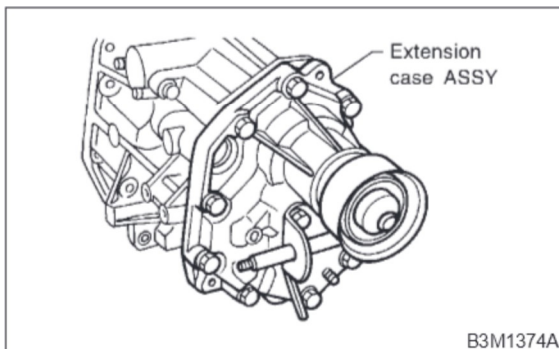


- 3) Remove shifter arm.

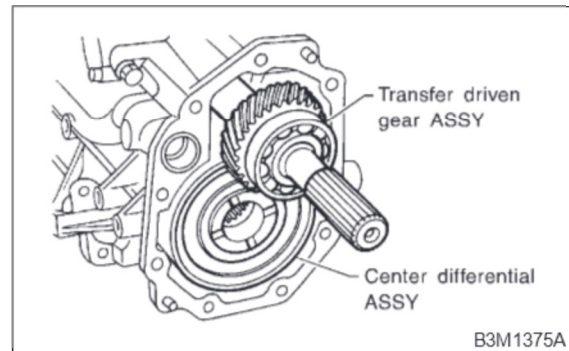
### B: DISASSEMBLY

#### 1. SEPARATION OF TRANSFER CASE AND EXTENSION ASSEMBLY

- 1) Separate transfer case and extension assembly.



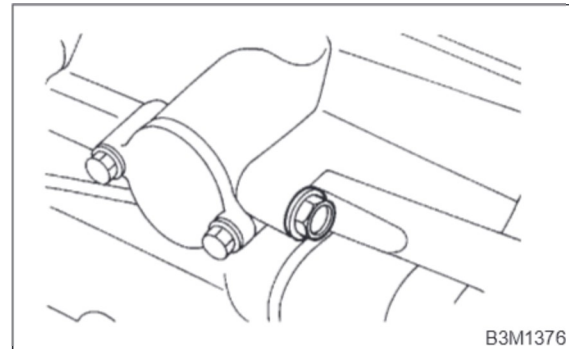
- 2) Remove transfer driven gear and center differential as a set.



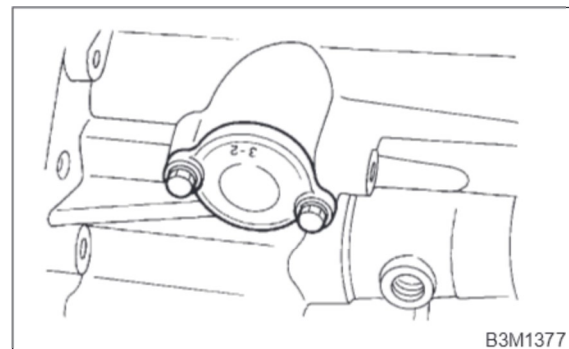
- 3) Remove thrust washer.

#### 2. TRANSFER CASE

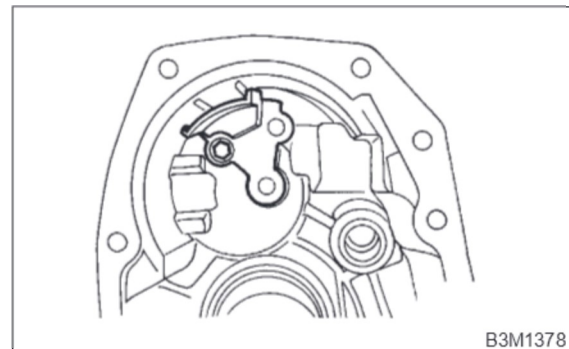
- 1) Remove plug, spring and reverse check ball.



- 2) Remove reverse check assembly.

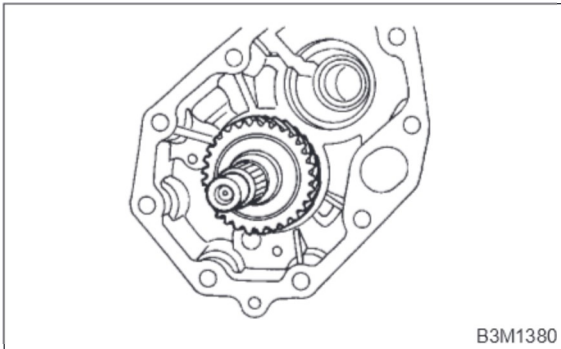


- 3) Remove oil guide.

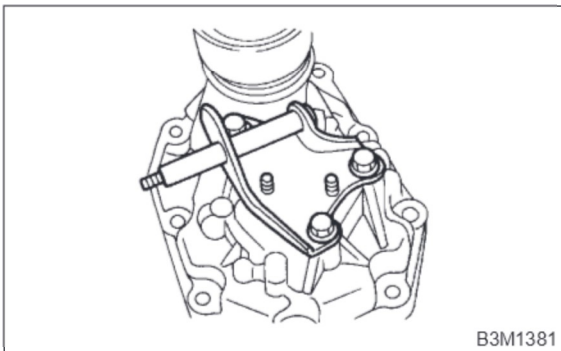


## 3. EXTENSION

- 1) Remove transfer drive gear assembly.

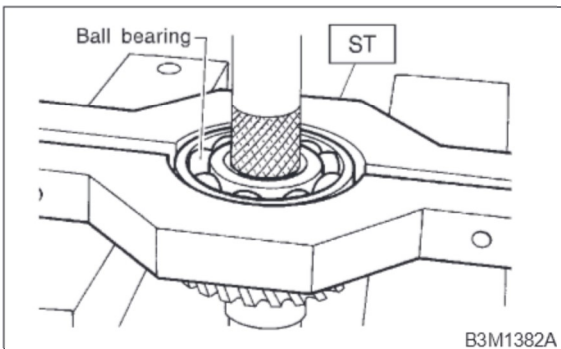


- 2) Remove shift bracket.



- 3) Using ST, remove ball bearing from transfer drive gear.

ST 498077100 REMOVER



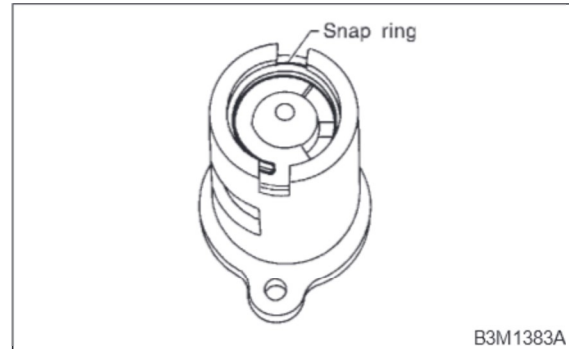
- 4) Remove oil seal from extension case.

## 4. REVERSE CHECK SLEEVE

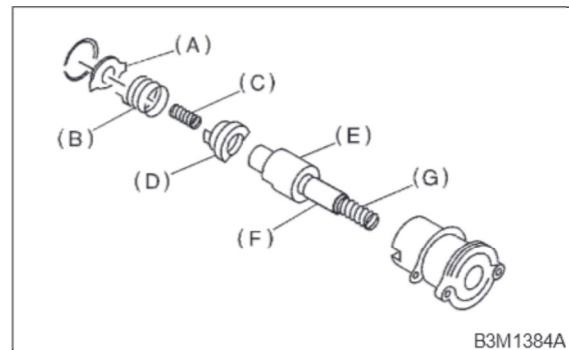
- 1) Using a standard screwdriver, remove snap ring.

NOTE:

Replace snap ring with a new one if deformed or weakened.



- 2) Remove reverse check plate, reverse check spring, reverse check cam, return spring (5th-Rev), reverse accent shaft, return spring cap and return spring (1st-2nd).



- (A) Reverse check plate
- (B) Reverse check spring
- (C) Return spring (5th-Rev)
- (D) Reverse check cam
- (E) Reverse accent shaft
- (F) Return spring cap
- (G) Return spring (1st-2nd)

- 3) Remove O-ring.

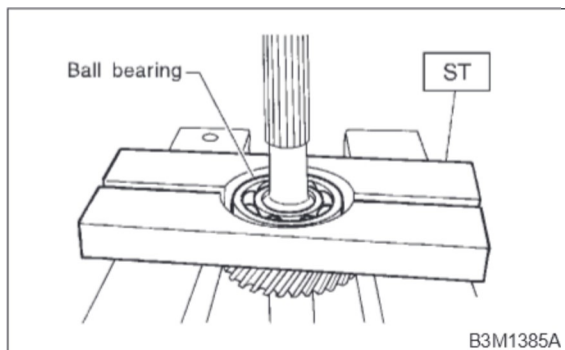
NOTE:

- Reverse check sleeve assembly uses an O-ring which should not be scratched.
- Be careful not to break adjustment shim placed between reverse check sleeve assembly and case.

**5. TRANSFER DRIVEN GEAR**

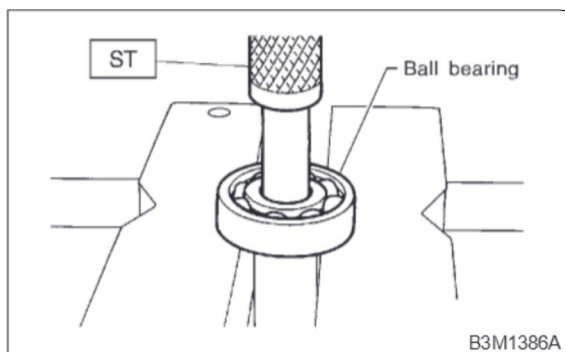
1) Using ST, remove ball bearing from transfer driven gear.

ST 498077000 REMOVER



2) Using ST, remove ball bearing from transfer driven gear.

ST 899864100 REMOVER



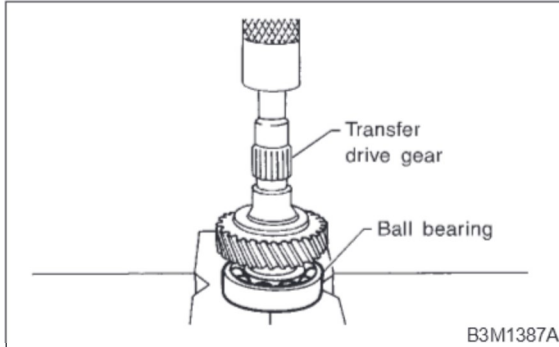
## C: ASSEMBLY

### CAUTION:

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

### 1. EXTENSION

- 1) Install ball bearing to transfer drive gear.



- 2) Using ST, install oil seal to extension case.

### CAUTION:

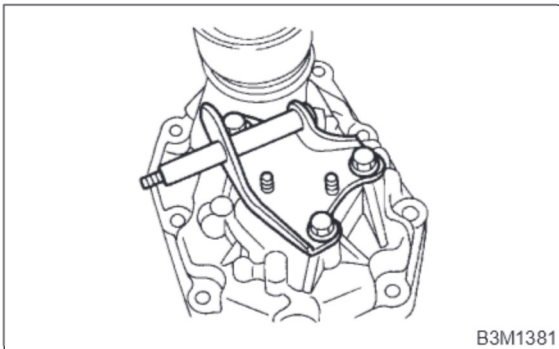
Use new oil seal.

ST 498057300 INSTALLER

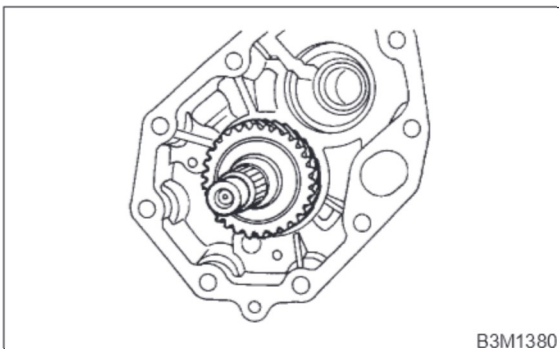
- 3) Install shift bracket to extension case.

### Tightening torque:

$25 \pm 2 \text{ N}\cdot\text{m}$  ( $2.5 \pm 0.2 \text{ kg}\cdot\text{m}$ ,  $18.1 \pm 1.4 \text{ ft}\cdot\text{lb}$ )



- 4) Install transfer drive gear to extension case.

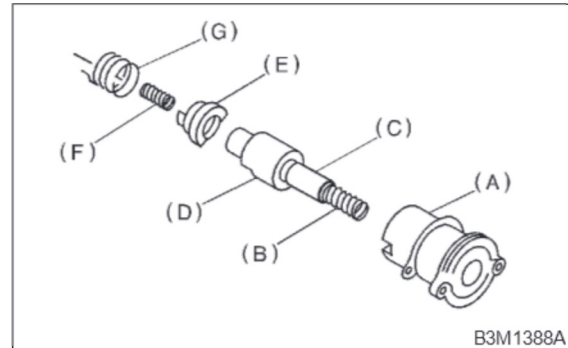


## 2. REVERSE CHECK SLEEVE

- 1) Install return spring (1st-2nd), return spring cap, reverse accent shaft, check cam, return spring and check spring onto reverse check sleeve.

### NOTE:

Be sure the bent section of reverse check spring is positioned in the groove in check cam.



- (A) Reverse check sleeve
- (B) Return spring (1st-2nd)
- (C) Return spring cap
- (D) Reverse accent shaft
- (E) Reverse check cam
- (F) Return spring (5th-Rev)
- (G) Reverse check spring

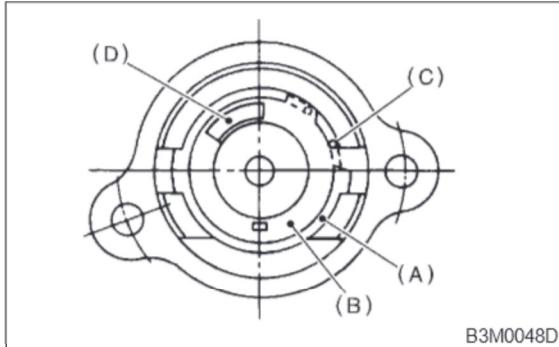
- 2) Hook the bent section of reverse check spring over reverse check plate.
- 3) Rotate cam so that the protrusion of reverse check cam is at the opening in plate.
- 4) With cam held in that position, install plate onto reverse check sleeve and hold with snap ring.
- 5) Position O-ring in groove in sleeve.

### CAUTION:

- Make sure the cutout section of reverse accent shaft is aligned with the opening in reverse check sleeve.
- Spin cam by hand for smooth rotation.

- Move cam and shaft all the way toward plate and release.

If cam does not return properly, replace reverse check spring; if shaft does not, check for scratches on the inner surface of sleeve. If sleeve is in good order, replace spring.



- (A) Snap ring
- (B) Reverse check plate
- (C) Check spring
- (D) Check cam

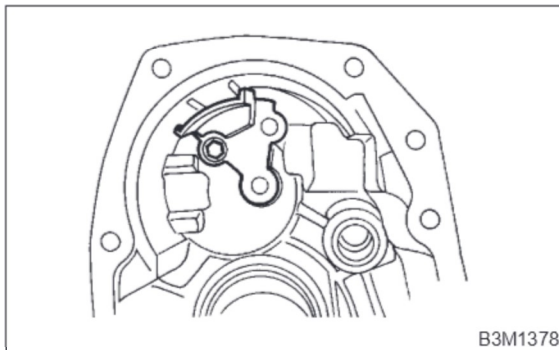
- Select a suitable reverse accent shaft and reverse check plate. <Ref. to 3-1 [W5E0].>

### 3. TRANSFER CASE

- 1) Install oil guide to transfer case.

**Tightening torque:**

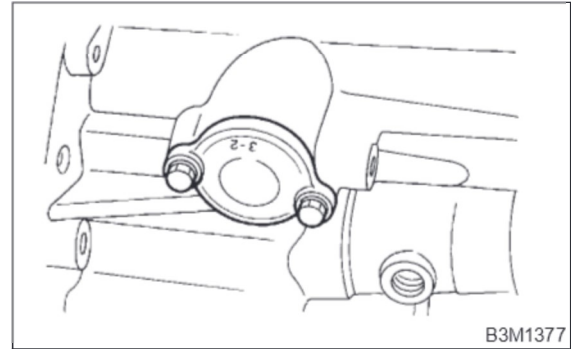
**$6.4 \pm 0.5 \text{ N}\cdot\text{m}$  ( $0.65 \pm 0.05 \text{ kg}\cdot\text{m}$ ,  $4.7 \pm 0.4 \text{ ft}\cdot\text{lb}$ )**



- 2) Install reverse check sleeve assembly to transfer case.

**Tightening torque:**

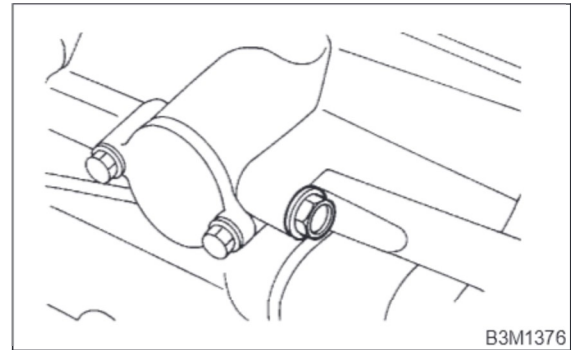
**$6.4 \pm 0.5 \text{ N}\cdot\text{m}$  ( $0.65 \pm 0.05 \text{ kg}\cdot\text{m}$ ,  $4.7 \pm 0.4 \text{ ft}\cdot\text{lb}$ )**



- 3) Install ball, reverse accent spring, washer and plug to transfer case.

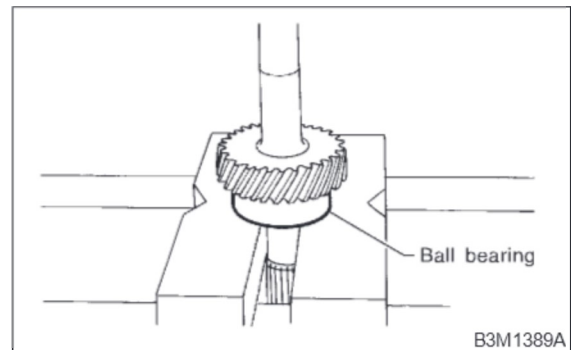
**Tightening torque:**

**$10 \pm 1 \text{ N}\cdot\text{m}$  ( $1.0 \pm 0.1 \text{ kg}\cdot\text{m}$ ,  $7.2 \pm 0.7 \text{ ft}\cdot\text{lb}$ )**



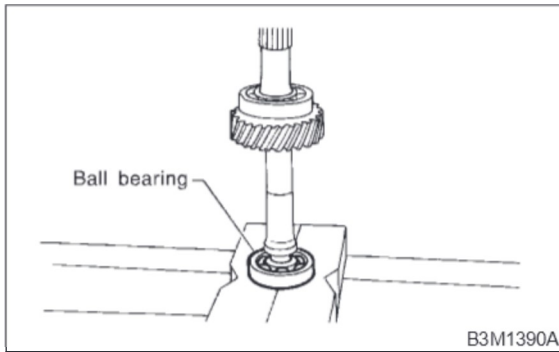
### 4. TRANSFER DRIVEN GEAR

- 1) Install ball bearing to transfer driven gear.



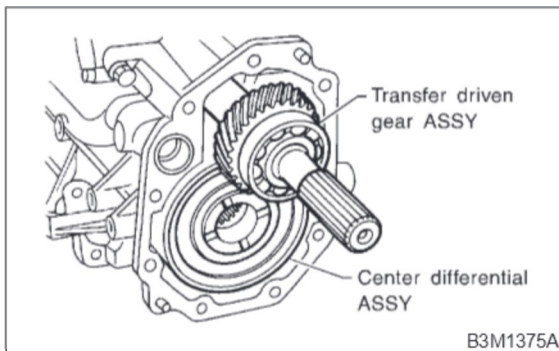


- 2) Install ball bearing to transfer driven gear.

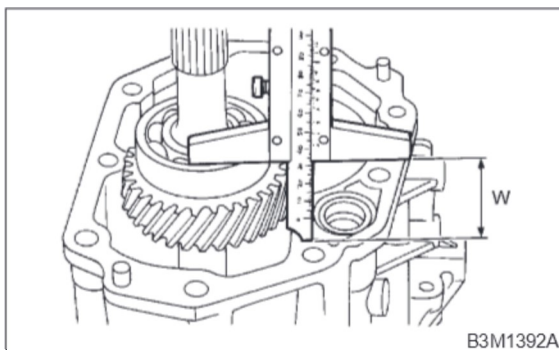


## 5. COMBINATION OF TRANSFER CASE AND EXTENSION ASSEMBLY

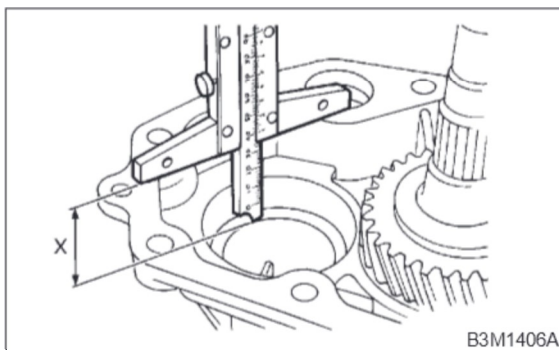
- 1) Install center differential and transfer driven gear into transfer case.



- 2) Measure height "W" between transfer case and ball bearing on the transfer driven gear.



- 3) Measure depth "X".



- 4) Calculate space "Y" using the following equation:  $Y = X - W + 0.24 \text{ mm (0.0094 in)}$  [Thickness of gasket]

- 5) Select suitable washer in the following table:

**Standard clearance between thrust washer and ball bearing:**

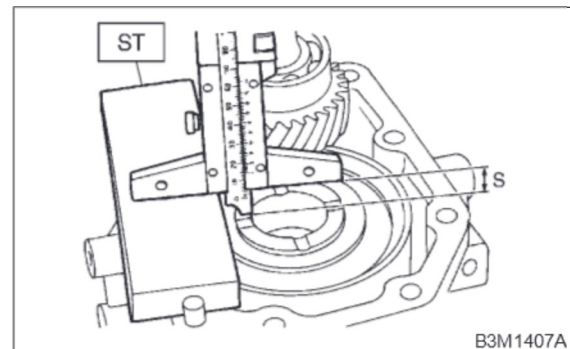
**0.05 — 0.30 mm (0.0020 — 0.0118 in)**

Space "Y" mm (in)	Thrust washer	
	Part No.	Thickness mm (in)
0.55 — 0.79 (0.0217 — 0.0311)	803052021	0.50 (0.0197)
0.80 — 1.04 (0.0315 — 0.0409)	803052022	0.75 (0.0295)
1.05 — 1.30 (0.0413 — 0.0512)	803052023	1.00 (0.0394)

- 6) Fit thrust washers on transfer drive shaft.

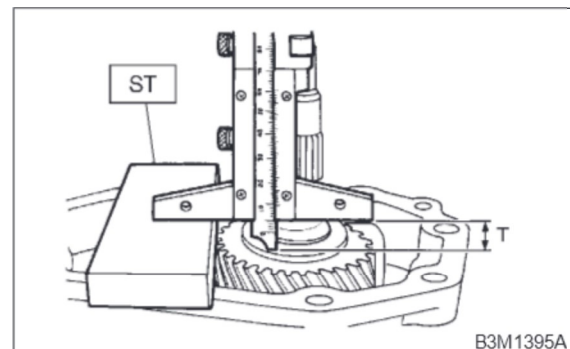
- 7) Measure depth "S" between extension case and transfer drive gear.

ST 398643600 GAUGE



- 8) Measure depth "T" between extension case and transfer drive gear.

ST 398643600 GAUGE



- 9) Calculate space "U" using the following equation:  $U = S + T - 0.24 \text{ mm (0.0094 in)}$  [Thickness of gasket]

- 10) Select suitable washer in the following table:

**Standard clearance:**

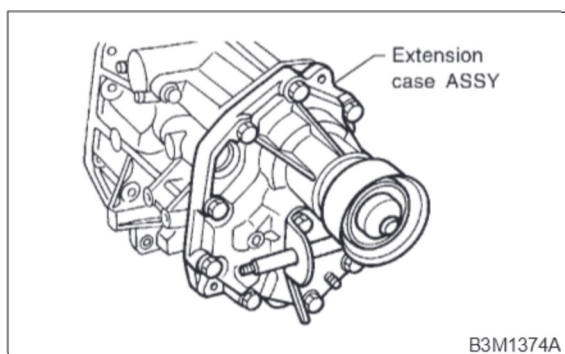
**0.15 — 0.35 mm (0.0059 — 0.0138 in)**

Thrust washer	
Part No.	Thickness mm (in)
803036050	0.9 (0.035)
803036054	1.0 (0.039)
803036051	1.1 (0.043)
803036055	1.2 (0.047)
803036052	1.3 (0.051)
803036056	1.4 (0.055)
803036053	1.5 (0.059)
803036057	1.6 (0.063)
803036058	1.7 (0.067)

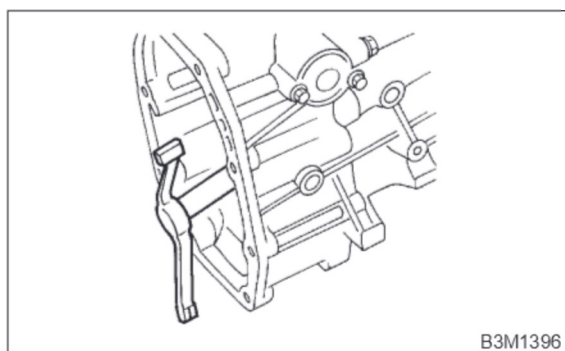
- 11) Fit thrust washer on center differential.
- 12) Install extension assembly into transfer case.

**Tightening torque:**

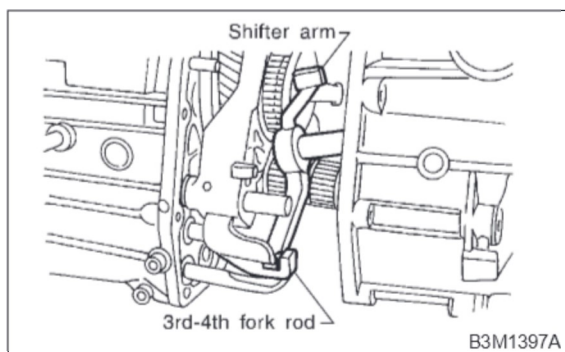
**$37\pm 3 \text{ N}\cdot\text{m}$  ( $3.8\pm 0.3 \text{ kg}\cdot\text{m}$ ,  $27.5\pm 2.2 \text{ ft}\cdot\text{lb}$ )**

**D: INSTALLATION**

- 1) Install shifter arm to transfer case.



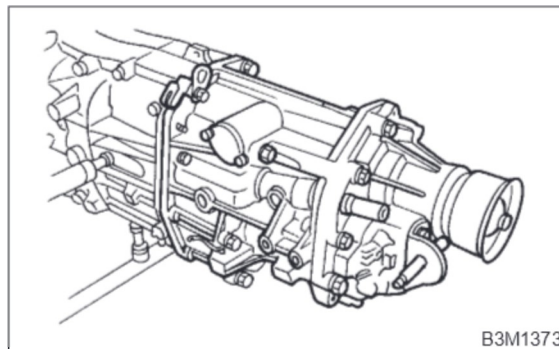
- 2) Hang the shifter arm on the 3rd-4th fork rod.



- 3) Install transfer case with extension assembly to transmission case.

**Tightening torque:**

**$25\pm 2 \text{ N}\cdot\text{m}$  ( $2.5\pm 0.2 \text{ kg}\cdot\text{m}$ ,  $18.1\pm 1.4 \text{ ft}\cdot\text{lb}$ )**

**E: ADJUSTMENT****1. NEUTRAL POSITION ADJUSTMENT**

- 1) Shift gear into 3rd gear position.
- 2) Shifter arm turns lightly toward the 1st and 2nd gear side but heavily toward the reverse gear side because of the function of the return spring, until arm contacts the stopper.
- 3) Make adjustment so that the heavy stroke (reverse side) is a little more than the light stroke (1st/2nd side).
- 4) To adjust, remove bolts holding reverse check sleeve assembly to the case, move sleeve assembly outward, and place adjustment shim (0 to 1 ea.) between sleeve assembly and case to adjust the clearance.

**CAUTION:**

**Be careful not to break O-ring when placing shim(s).**

**NOTE:**

- When shim is removed, the neutral position will move closer to reverse; when shim is added, the neutral position will move closer to 1st gear.
- If shims alone cannot adjust the clearance, replace reverse accent shaft and re-adjust.

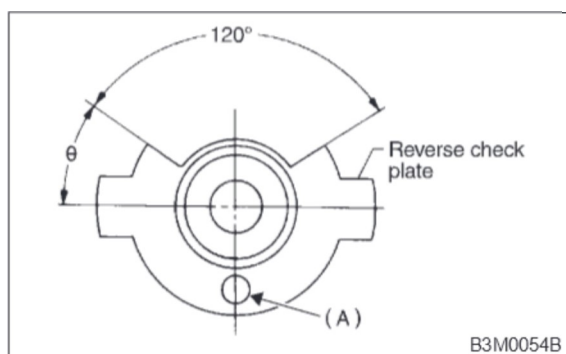
Adjustment shim	
Part No.	Thickness mm (in)
32190AA000	0.15 (0.0059)
32190AA010	0.30 (0.0118)

Reverse accent shaft		
Part No.	Mark	Remarks
32188AA090	X	Neutral position is closer to 1st gear.
32188AA100	Y	Standard
32188AA110	Z	Neutral position is closer to reverse gear.

## 2. REVERSE CHECK PLATE ADJUSTMENT

- 1) Shift shifter arm to "5th" and then to reverse to see if reverse check mechanism operates properly.
- 2) Also check to see if arm returns to neutral when released from the reverse position. If arm does not return properly, replace reverse check plate.

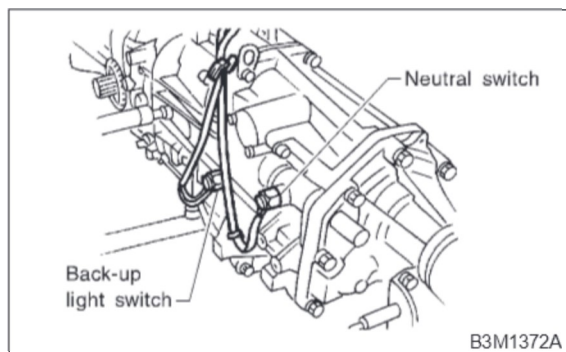
Reverse check plate			
Part No.	(A): No.	Angle $\theta$	Remarks
32189AA000	0	28°	Arm stops closer to 5th gear.
32189AA010	1	31°	Arm stops closer to 5th gear.
32189AA020	2	34°	Arm stops in the center.
32189AA030	3	37°	Arm stops closer to reverse gear.
32189AA040	4	40°	Arm stops closer to reverse gear.



- 3) Install neutral position switch and back-up light switch to transfer case.

### Tightening torque:

**$25 \pm 2 \text{ N}\cdot\text{m}$  ( $2.5 \pm 0.2 \text{ kg}\cdot\text{m}$ ,  $18.1 \pm 1.4 \text{ ft}\cdot\text{lb}$ )**



## 6. Front Differential

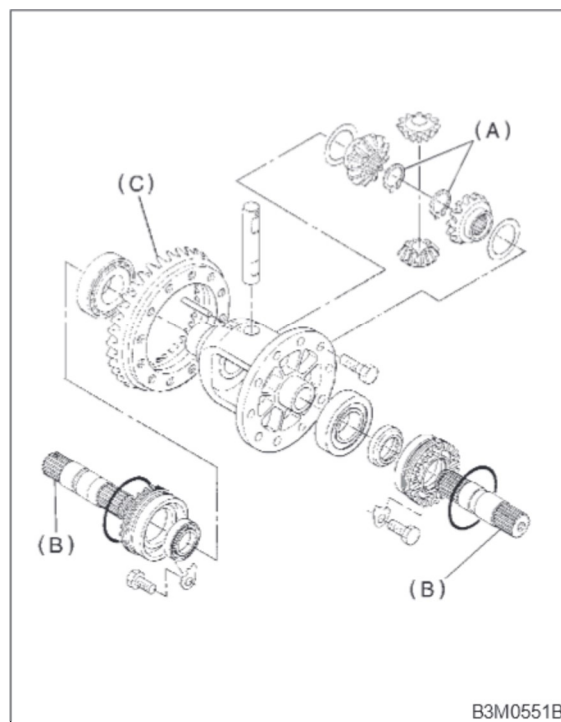
### A: DISASSEMBLY

- 1) Remove right and left snap rings from differential, and then remove two axle drive shafts.

#### NOTE:

During reassembly, reinstall each axle drive shaft in the same place from which it was removed.

- 2) Loosen twelve bolts and remove hypoid drive gear.



- (A) Snap ring
- (B) Axle drive shaft
- (C) Hypoid drive gear

- 3) Drive out straight pin from differential assembly toward hypoid driven gear.

ST 899904100 REMOVER

