

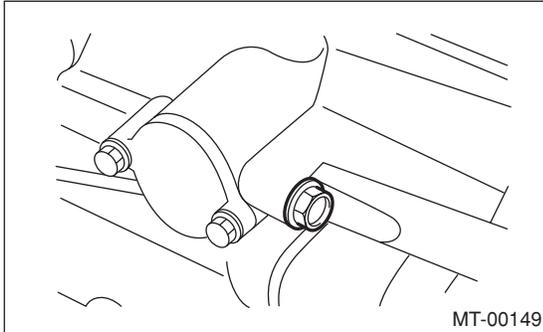
# Reverse Check Sleeve

MANUAL TRANSMISSION AND DIFFERENTIAL

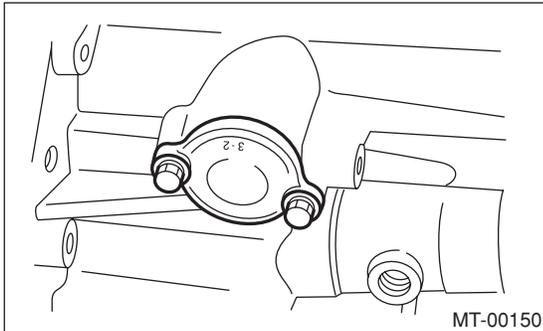
## 13.Reverse Check Sleeve

### A: REMOVAL

- 1) Remove the manual transmission assembly from vehicle. <Ref. to 5MT-25, REMOVAL, Manual Transmission Assembly.>
- 2) Remove the transfer case with extension case assembly. <Ref. to 5MT-37, REMOVAL, Transfer Case and Extension Case Assembly.>
- 3) Remove the shifter arm.
- 4) Remove the plug, spring, washer and reverse check ball.



- 5) Remove the reverse check sleeve.

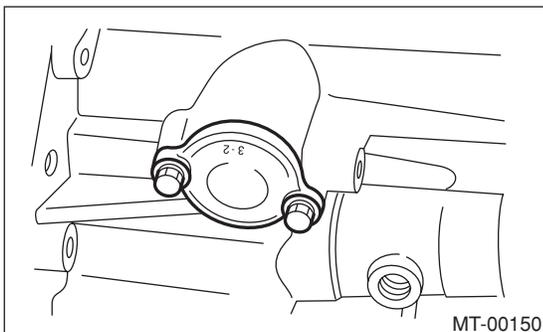


### B: INSTALLATION

- 1) Install the reverse check sleeve.

**Tightening torque:**

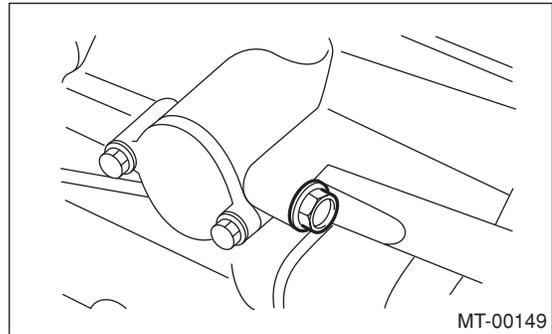
**6.4 N·m (0.65 kgf-m, 4.7 ft-lb)**



- 2) Install the ball, spring, washer and plug to transfer case.

**Tightening torque:**

**9.75 N·m (1.0 kgf-m, 7.2 ft-lb)**



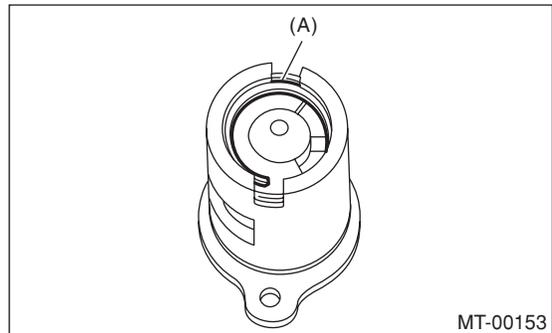
- 3) Install the shifter arm to transfer case assembly.
- 4) Install the transfer case with extension case assembly. <Ref. to 5MT-37, INSTALLATION, Transfer Case and Extension Case Assembly.>
- 5) Install the manual transmission assembly into vehicle. <Ref. to 5MT-27, INSTALLATION, Manual Transmission Assembly.>

### C: DISASSEMBLY

- 1) Cover the reverse check sleeve with a rag, and remove the snap ring using a screwdriver.

**NOTE:**

Replace the snap ring with a new one if it is deformed or reactive force is weakened.



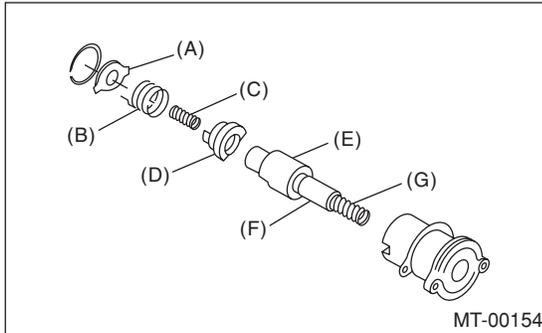
(A) Snap ring

- 2) Remove the reverse check plate, reverse check spring, reverse check cam, return spring (5th-Rev),

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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 the O-ring.

### NOTE:

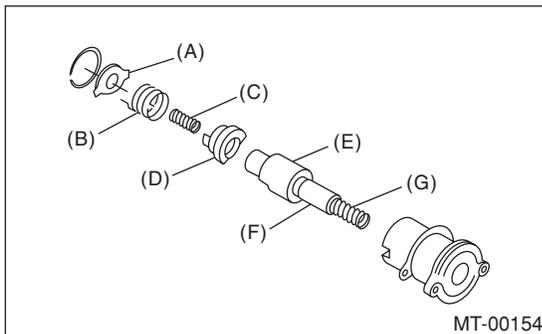
- Be sure to use a new O-ring.
- Be careful not to break adjusting shim placed between reverse check sleeve assembly and case.

## D: ASSEMBLY

1) Install the return spring (1st-2nd), return spring cap, reverse accent shaft, check cam, return spring (5th-Rev.) and reverse check spring onto reverse check sleeve.

### NOTE:

Be sure to position the bent section of reverse check spring in the groove in check cam.



- (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)

2) Hook the bent section of reverse check spring over reverse check plate.

3) Rotate the cam so that the protrusion of reverse check cam is at the opening in plate.

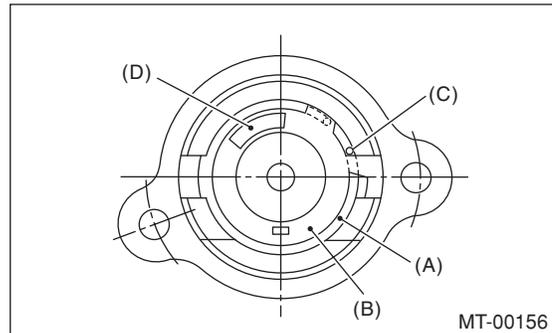
4) With cam held in that position, install the reverse check plate onto reverse check sleeve and hold with snap ring.

5) Position the O-ring in the groove in sleeve.

## E: INSPECTION

- Make sure the cutout of reverse accent shaft is aligned with the opening in reverse check sleeve.
- Check the cam for smooth rotation by turning with hand.
- Make sure the cam and shaft move all the way toward plate and release.

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



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

- Select a suitable reverse accent shaft and reverse check plate. <Ref. to 5MT-47, ADJUSTMENT, Reverse Check Sleeve.>

## F: ADJUSTMENT

### 1. NEUTRAL POSITION ADJUSTMENT

- 1) Shift the gear into 3rd gear position.
- 2) Shifter arm turns lightly toward the 1st/2nd gear side but heavily toward the reverse gear side because of the function of 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 the bolts holding reverse check sleeve assembly to the case, move the sleeve assembly outward, and place the adjustment shim between sleeve assembly and case to adjust the clearance.

# Reverse Check Sleeve

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## CAUTION:

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

## NOTE:

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

Adjusting shim	
Part Number	Thickness mm (in)
32190AA000	0.15 (0.0059)
32190AA010	0.30 (0.0118)

Reverse accent shaft		
Part No.	Mark	Remarks
32188AA130	S	Neutral position is closer to 1st.
32188AA140	T	Standard
32188AA150	U	Neutral position is closer to reverse gear.

## 2. REVERSE CHECK PLATE ADJUSTMENT

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

Reverse check plate			
Part Number	(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.

