

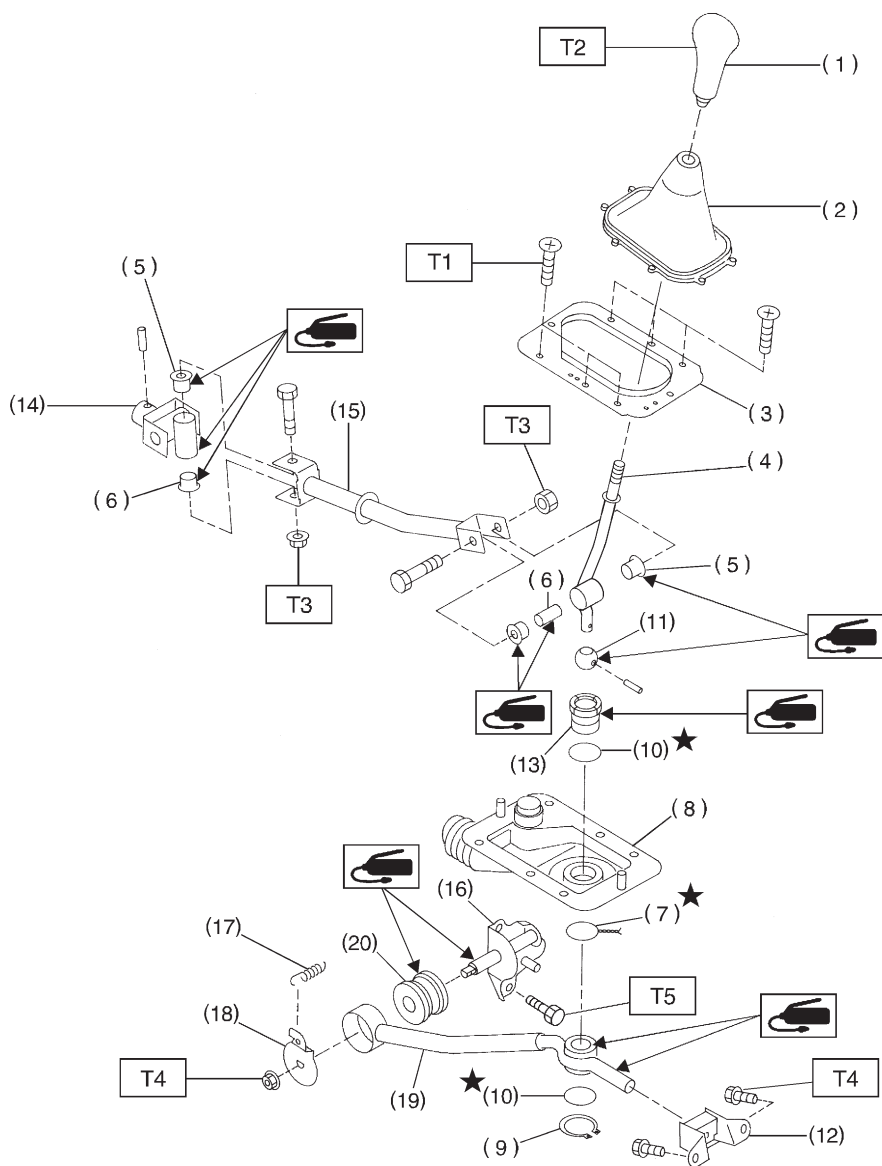
# TRANSMISSION CONTROL SYSTEM

# 3-3

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## 1. Manual Transmission



H3M1189B

- |                      |                         |
|----------------------|-------------------------|
| (1) Gear shift knob  | (11) Bush (Shift lever) |
| (2) Console boot     | (12) Cushion rubber     |
| (3) Boot plate       | (13) Bush (Stay rear)   |
| (4) Gear shift lever | (14) Joint              |
| (5) Bush             | (15) Rod                |
| (6) Spacer           | (16) Bracket            |
| (7) Locking wire     | (17) Spring             |
| (8) Boot             | (18) Washer             |
| (9) Snap ring        | (19) Stay               |
| (10) O-ring          | (20) Bush (Stay front)  |

**Tightening torque: N-m (kg-m, ft-lb)**

**T1: 4.4±1.5 (0.45±0.15, 3.3±1.1)**

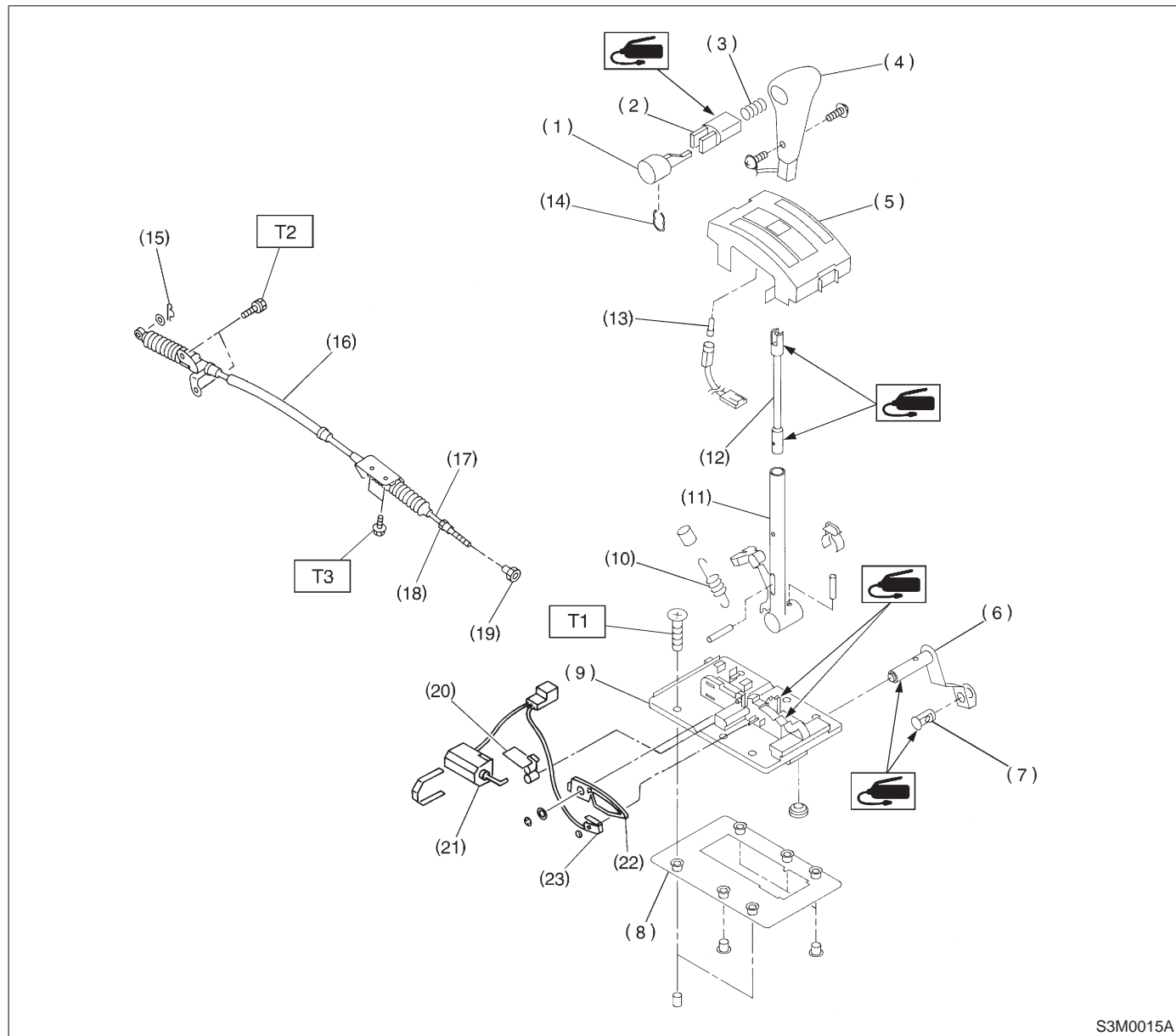
**T2: 5 (0.51, 3.7)**

**T3: 12±3 (1.2±0.3, 8.7±2.2)**

**T4: 18±5 (1.8±0.5, 13.0±3.6)**

**T5: 24.5±2 (2.50±0.20, 18.07±1.48)**

## 2. Automatic Transmission



S3M0015A

- |                          |                           |                          |
|--------------------------|---------------------------|--------------------------|
| (1) Button A             | (11) Selector lever upper | (21) Shift-lock solenoid |
| (2) Button B             | (12) Rod                  | (22) Lock arm            |
| (3) Spring (button)      | (13) Indicator light bulb | (23) "P" position switch |
| (4) Grip                 | (14) Retainer spring      |                          |
| (5) Indicator cover      | (15) Snap pin             |                          |
| (6) Selector lever lower | (16) Outer cable          |                          |
| (7) Pin                  | (17) Inner cable          |                          |
| (8) Packing              | (18) Nut (front)          |                          |
| (9) Plate                | (19) Nut (rear)           |                          |
| (10) Detent spring       | (20) Lock plate           |                          |

**Tightening torque: N·m (kg·m, ft·lb)**

**T1: 5.9±1.5 (0.6±0.15, 4.3±1.1)**

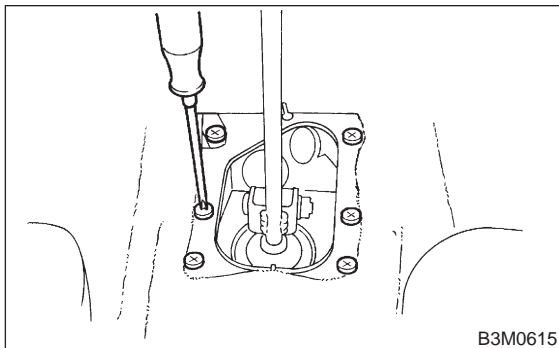
**T2: 12±3 (1.2±0.3, 8.7±2.2)**

**T3: 25±7 (2.5±0.7, 18.1±5.1)**

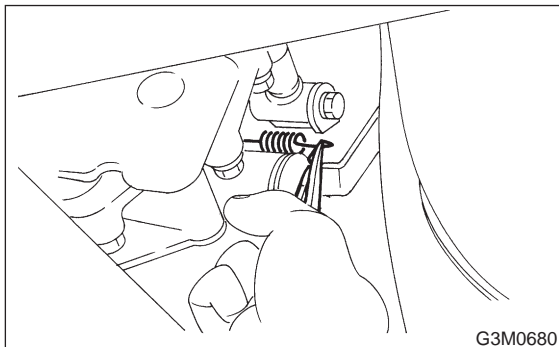
## 1. Manual Transmission

### A: REMOVAL

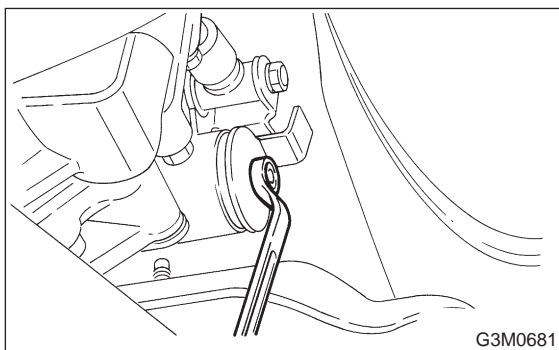
- 1) Remove console box. <Ref. to 5-4 [W1A0].>
- 2) Remove boot plate from the body.



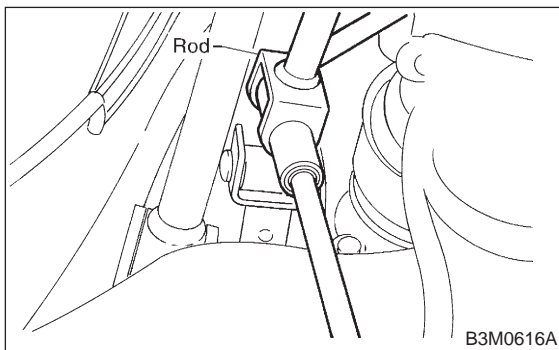
- 3) Remove the spring between the joint and bracket.



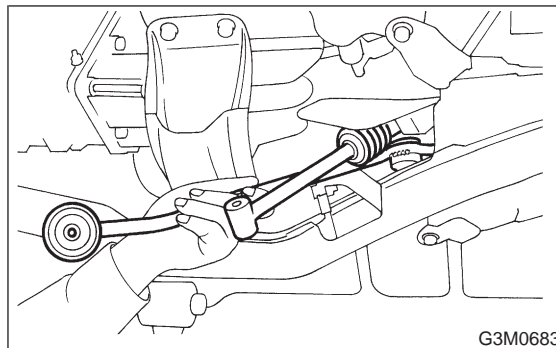
- 4) Remove stay from bracket.



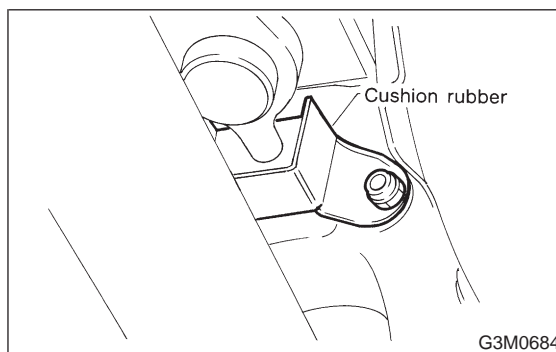
- 5) Remove rod from joint.



- 6) Remove gearshift lever.

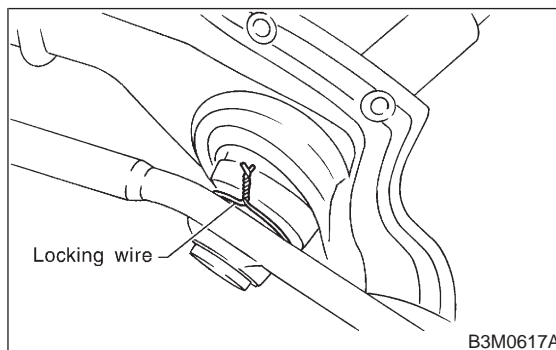


- 7) Remove the exhaust cover and remove cushion rubber from the body.

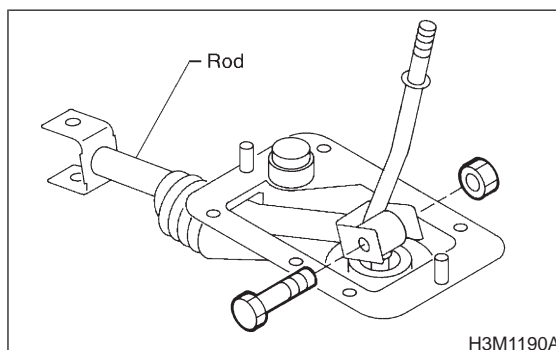


### B: DISASSEMBLY

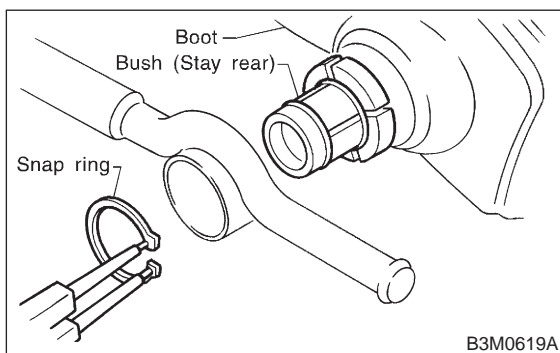
- 1) Disconnect locking wire.



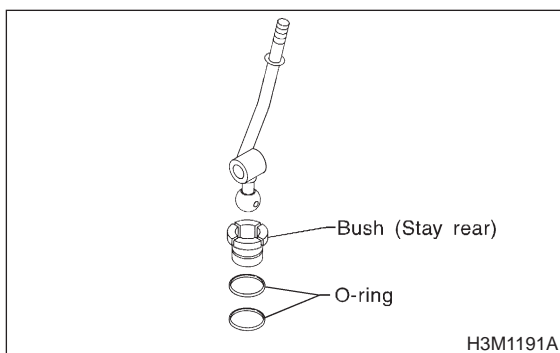
- 2) Remove rod from gearshift lever.



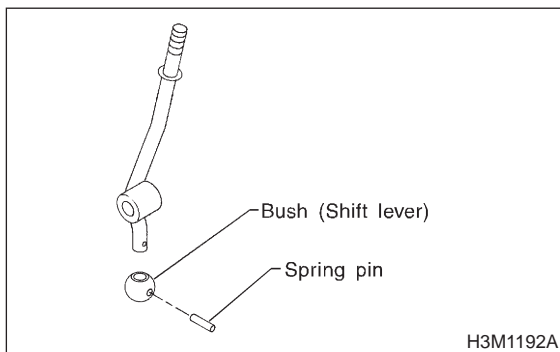
- 3) Remove snap ring, then disconnect gearshift lever from stay.



- 4) Remove boot from gearshift lever.
- 5) Remove O-ring, then disconnect bush (Stay rear).

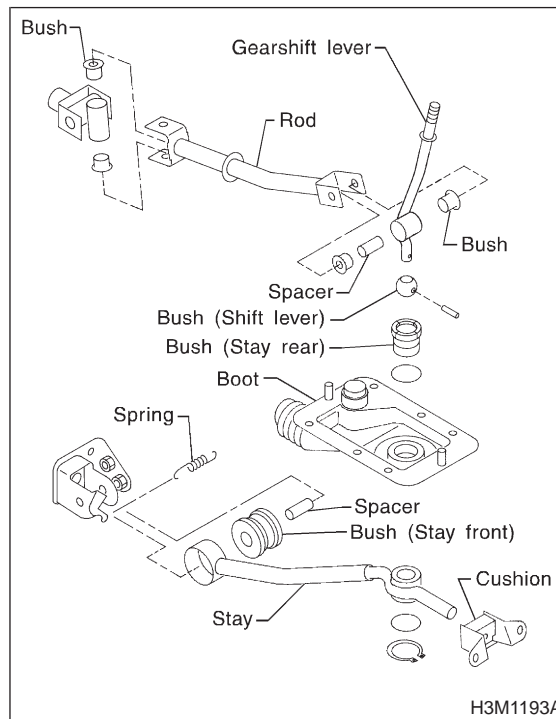


- 6) Draw out spring pin, then remove bush (Shift lever) from gearshift lever.



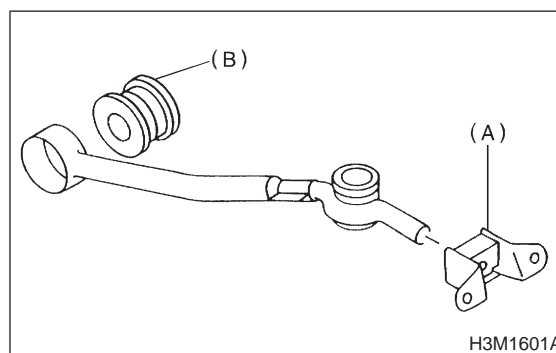
## C: INSPECTION

Check each parts (Bush, cushion, spacer, boot, spring, stay and rod etc.) for deformation, damage and wear. Repair or replace any defective parts. Determine defective parts by comparing with new parts.



## D: ASSEMBLY

- 1) Clean all parts before assembly.
- 2) Mount the following parts on the stay.

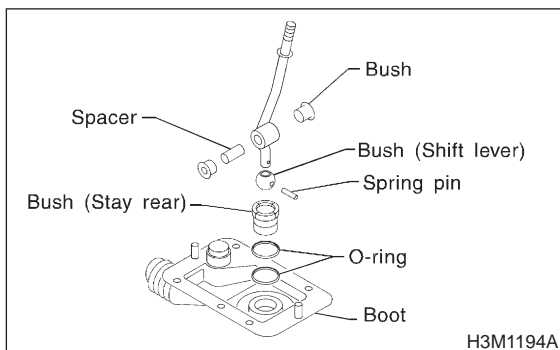


- (A) Cushion rubber
- (B) Bush (Stay front)

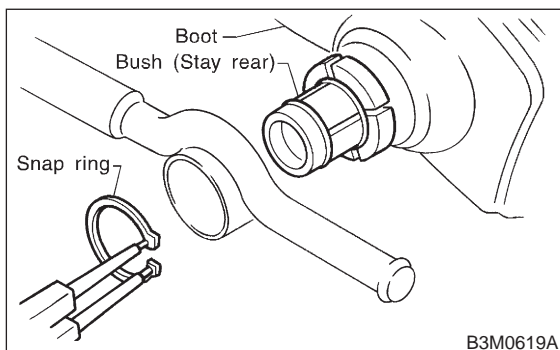
3) Mount each parts (Boot, O-ring, bush and spacer) on the gearshift lever.

### CAUTION:

- Always use new O-rings.
- Apply grease [NIGTIGHT LYW No.2 or equivalent] to the inner and side surfaces of the bush when installing spacer.



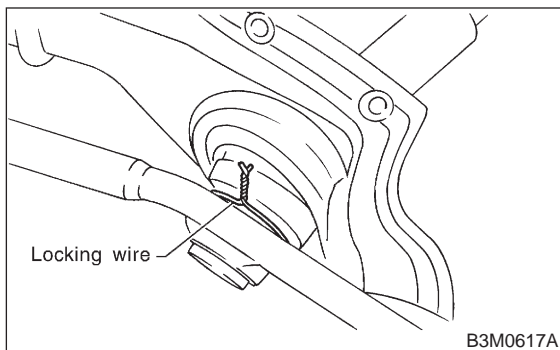
- 4) Insert the gearshift lever into the boot hole.  
 5) Mount gearshift lever on the stay.  
 6) Install snap ring to the bottom of the bush (Stay rear).



7) Tighten with locking wire to the extent that the boot will not come off.

### CAUTION:

Always use new locking wire.



8) Insert the rod into the boot hole.

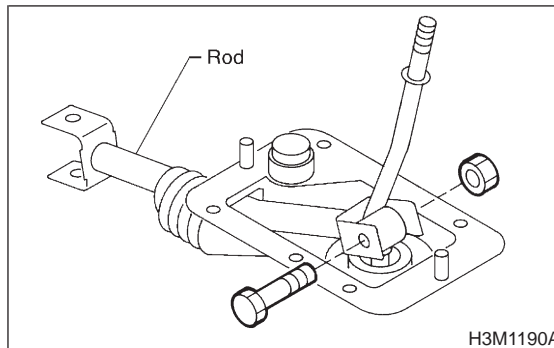
9) Connect rod to gearshift lever.

### Tightening torque:

$12 \pm 3 \text{ N-m}$  ( $1.2 \pm 0.3 \text{ kg-m}$ ,  $8.7 \pm 2.2 \text{ ft-lb}$ )

### Rocking torque:

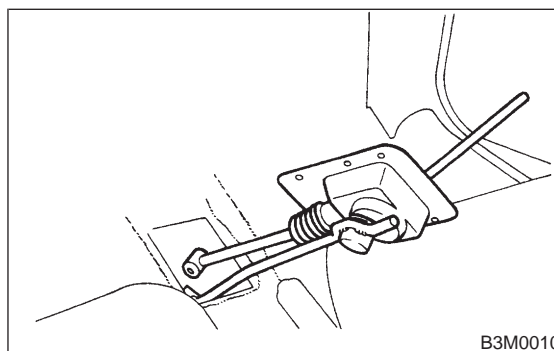
$0.74 \pm 0.25 \text{ N-m}$  ( $0.075 \pm 0.025 \text{ kg-m}$ ,  $0.54 \pm 0.18 \text{ ft-lb}$ ) or less



10) Check that there is no excessive play and that parts move smoothly.

## E: INSTALLATION

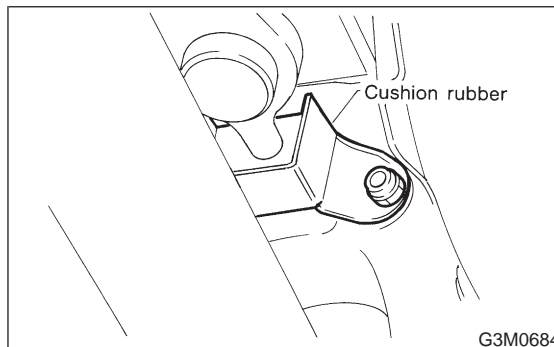
- 1) Put into gearshift lever to passenger compartment.  
 2) Mount boot plate on the body.  
 3) Install console box and gearshift knob. <Ref. to 5-4 [W1B0].>



4) Mount cushion rubber on the body.

### Tightening torque:

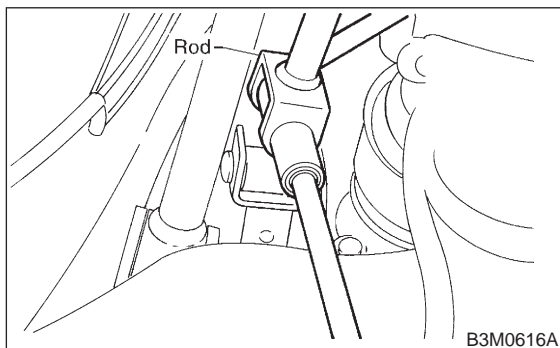
$18 \pm 5 \text{ N-m}$  ( $1.84 \pm 0.51 \text{ kg-m}$ ,  $13.3 \pm 3.7 \text{ ft-lb}$ )



- 5) Connect rod to the joint.

**Tightening torque:**

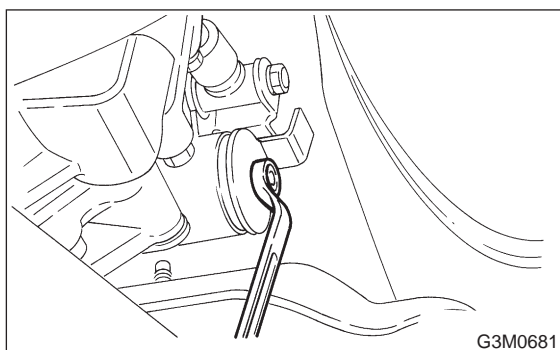
**$12 \pm 3 \text{ N}\cdot\text{m}$  ( $1.2 \pm 0.3 \text{ kg}\cdot\text{m}$ ,  $8.7 \pm 2.2 \text{ ft}\cdot\text{lb}$ )**



- 6) Connect stay to the bracket.

**Tightening torque:**

**$18 \pm 5 \text{ N}\cdot\text{m}$  ( $1.84 \pm 0.51 \text{ kg}\cdot\text{m}$ ,  $13.3 \pm 3.7 \text{ ft}\cdot\text{lb}$ )**

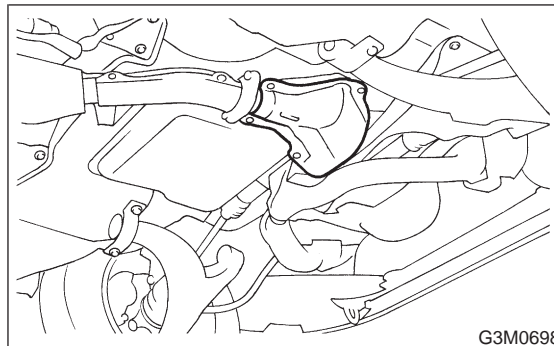


- 7) Install the exhaust cover.

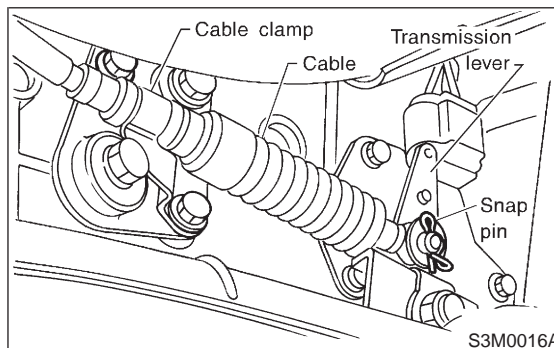
## 2. Automatic Transmission

### A: REMOVAL

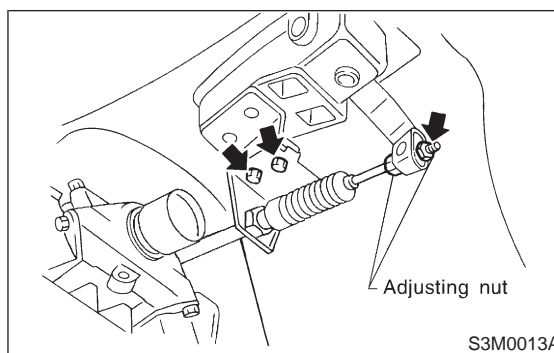
- 1) Remove the cable.
  - (1) Prior to removal, set lever to "N" position.
  - (2) Remove front exhaust pipe.



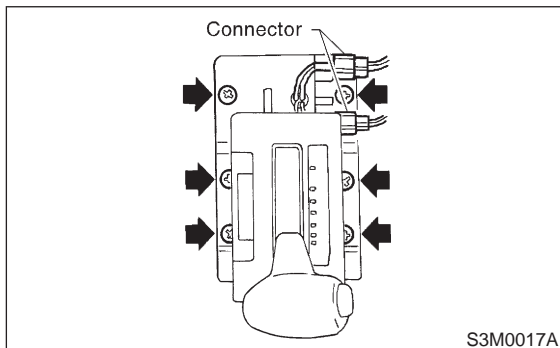
- (3) Separate cable from transmission lever.
- (4) Remove clamp from transmission case.



- (5) Disconnect cable from selector lever and then remove cable bracket.

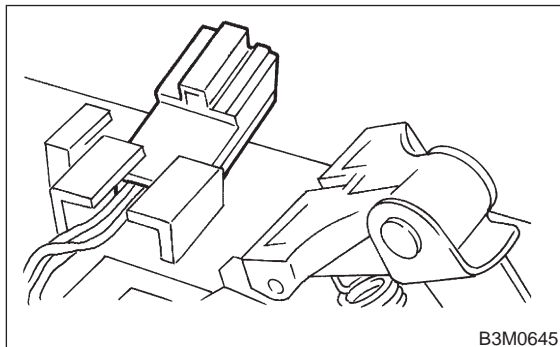


- 2) Remove console box. <Ref. to 5-4 [W1A0].>
- 3) Disconnect the connectors, then remove the six screws to take out the selector lever assembly from the body.



## B: DISASSEMBLY

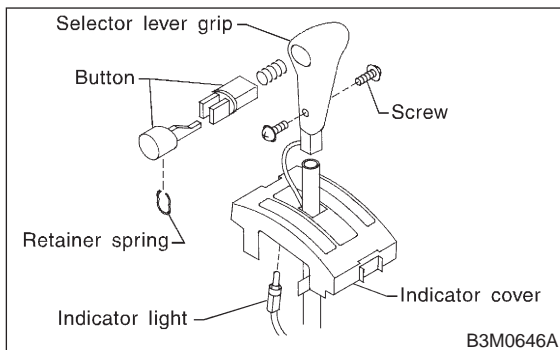
- 1) Remove connector from plate.



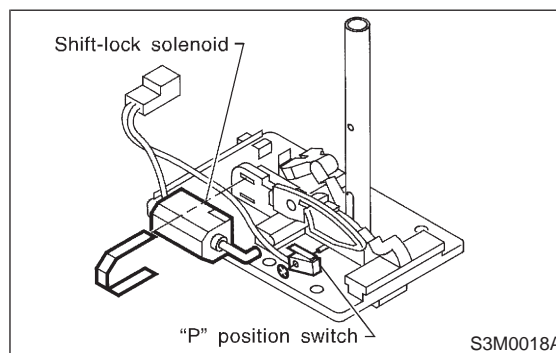
- 2) Remove indicator light and two screws.
- 3) Remove retainer spring, then pull up selector lever grip with indicator cover for holding selector lever button.

### CAUTION:

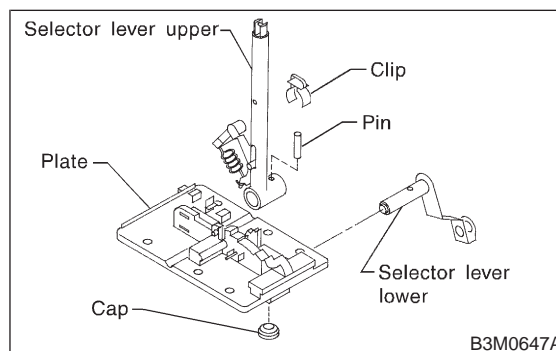
**Pull the selector lever grip carefully so that the selector lever button may not jump out.**



- 4) Remove shift-lock solenoid and "P" position switch.



- 5) Remove cap and clip, then extract pin.
- 6) Remove selector lever lower then take away selector lever upper from plate.



## C: INSPECTION

- 1) Inspect removed parts by comparing with new ones for deformation, damage and wear. Correct or replace if defective.
- 2) Confirm the following parts for operating condition before assembly.
  - (1) Sliding condition of the button in the grip ... it should move smoothly.
  - (2) Insertion of the grip on the selector lever ... when pushing the grip on the selector lever by hand, screw holes should be aligned.
  - (3) Operation of selector lever and rod ... they should move smoothly.

## D: ASSEMBLY

- 1) Clean all parts before assembly.
- 2) Apply grease [NIGHTIGHT LYW No. 2 or equivalent] to each parts. <Ref. to 3-3 [C200].>
- 3) Assembly is in the reverse order of disassembly.
- 4) After completion of fitting, transfer selector lever to range "P" — "1", pressing the button of the grip; then check whether the indicator and selector lever agree, whether the pointer and position mark agree and what the operating force is.

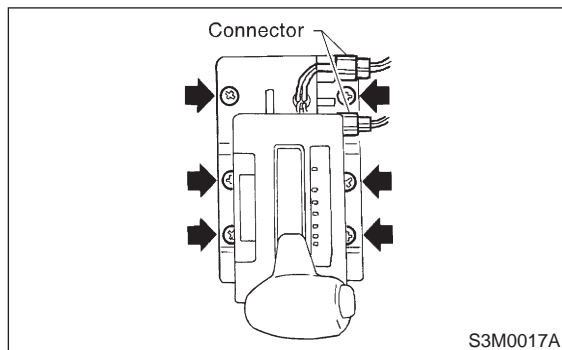


## E: INSTALLATION

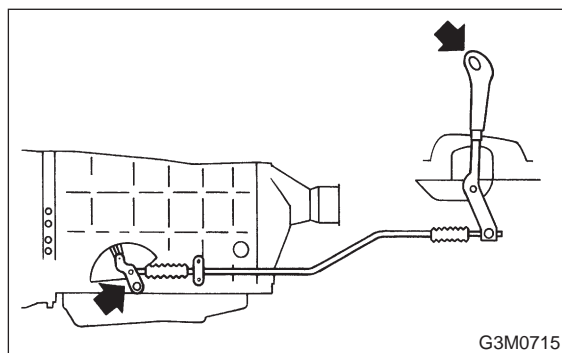
- 1) Mount the selector lever onto the vehicle body.
- 2) Tighten the six bolts to install the selector lever to the vehicle body, then connect connectors.

### Tightening torque:

**$5.9 \pm 1.5 \text{ N-m}$  ( $0.6 \pm 0.15 \text{ kg-m}$ ,  $4.3 \pm 1.1 \text{ ft-lb}$ )**



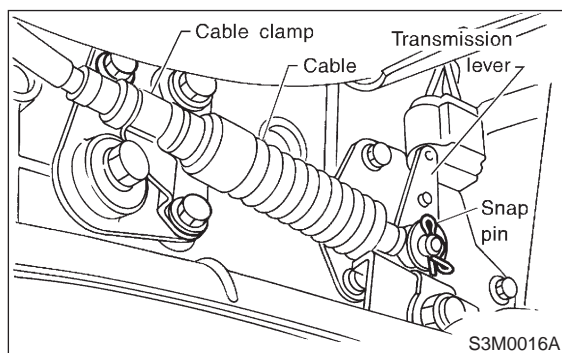
- 3) Install console box.
- 4) Set location of selector lever at "N" position.
- 5) Set location of selector arm installed on the transmission body at "N" position.



- 6) Pass inner cable through selector arm pin and then connect it using a washer and snap pin.
- 7) Attach outer cable to plate on transmission case with the bolts.

### Tightening torque:

**$14 \pm 4 \text{ N-m}$  ( $1.4 \pm 0.4 \text{ kg-m}$ ,  $10.1 \pm 2.9 \text{ ft-lb}$ )**

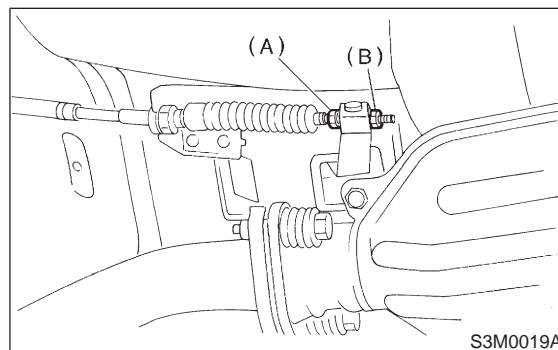


- 8) Insert the thread portion of the other inner cable and into the connector hole of the selector lever, and fix the other outer cable end to the bracket.

- 9) Adjust the inner cable length.
  - (1) Put connector into contact with nut (A).
  - (2) Tighten nut (B).

### Tightening torque:

**$7.4 \pm 2.0 \text{ N-m}$  ( $0.75 \pm 0.2 \text{ kg-m}$ ,  $5.4 \pm 1.4 \text{ ft-lb}$ )**

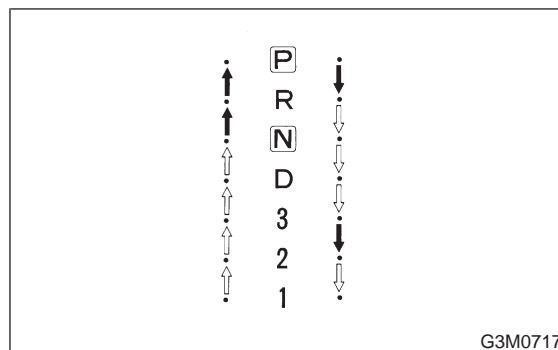


- 10) After completion of fitting, make sure that the selector lever operates smoothly all across the operating range.
- 11) Connect the harnesses and check the following items.
  - (1) The engine starts operating when selector lever is in position "P", but not in other positions.
  - (2) The back-up light is lit when the selector lever is in position "R", but not in other positions.
- 12) Check selector lever operation.

### WARNING:

**Stop the engine while checking operation of selector lever.**

- (1) Check that selector lever does not move from "N" to "R" without pushing the button.
- (2) Check that selector lever does not move from "R" to "P" without pushing the button.
- (3) Check that selector lever does not move from "P" to "R" without pushing the button.
- (4) Check that selector lever does not move from "3" to "2" without pushing the button.



- 13) Check shift-lock system.
  - (1) Ensure ignition switch rotates from "ACC" to "LOCK" when the selector lever is set at "P". Also check that ignition key can be removed only from the "LOCK" position.

(2) Ensure selector lever moves from “P” to any other position when the brake pedal is

depressed with ignition key set at “ON” or “START”.