

## 18. Valve Rocker Assembly

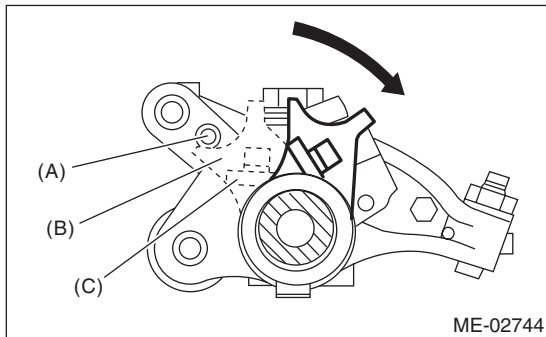
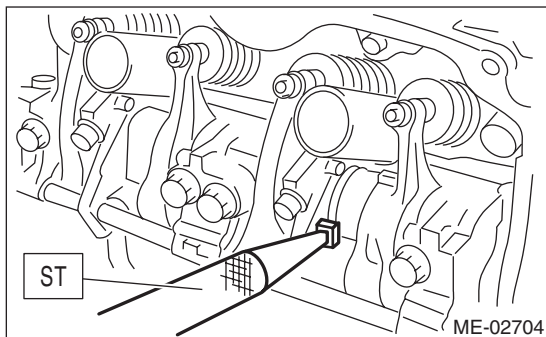
### A: REMOVAL

**NOTE:**

Perform the work with the engine installed to body when replacing a single part. Refer to "Valve Clearance" for preparation procedures. <Ref. to ME(H4SO)-28, Valve Clearance.>

- 1) Remove the high tension cord.
- 2) Disconnect the PCV hose and remove the rocker cover.
- 3) Remove the valve rocker assembly.
  - (1) Use the ST to rotate the spring stopper in the direction of the arrow to remove it from adjuster pin.

ST 18258AA000 SPRING INSTALLER

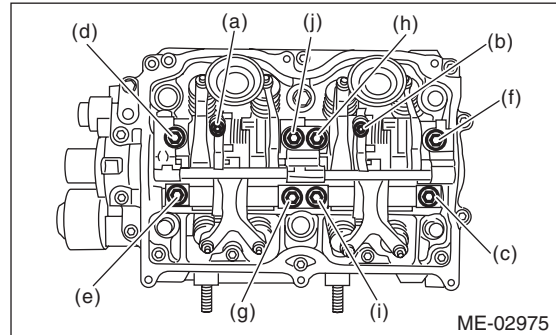


- (A) Adjuster pin
- (B) Spring stopper
- (C) Spring

- (2) Remove the bolts (a) through (j) in alphabetical sequence.

**NOTE:**

Leave two or three threads of bolts (i) and (j) engaged in order to retain the valve rocker assembly.

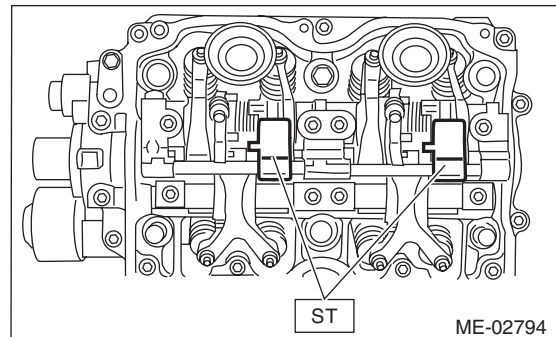


- (3) Remove the valve rocker assembly.

**NOTE:**

Set the ST in the position shown in the drawing to remove the intake valve rocker assembly.

ST 18354AA000 VALVE ROCKER HOLDER



### B: INSTALLATION

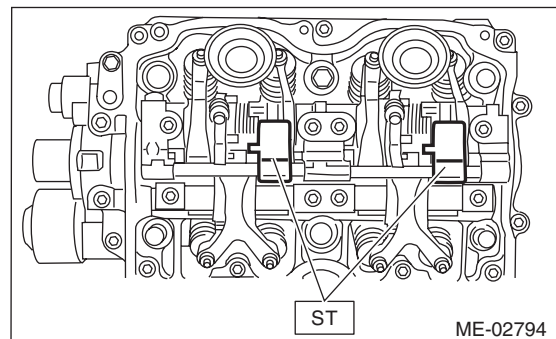
- 1) Install the valve rocker assembly.

- (1) Temporarily tighten the bolts equally in alphabetical order as shown in the figure.

**NOTE:**

- Do not temporarily tighten the bolts (i) and (j).
- Set the ST in the position shown in the drawing to mount the intake valve rocker assembly.

ST 18354AA000 VALVE ROCKER HOLDER



- (2) Tighten the bolts (a) through (h) to specified torque.

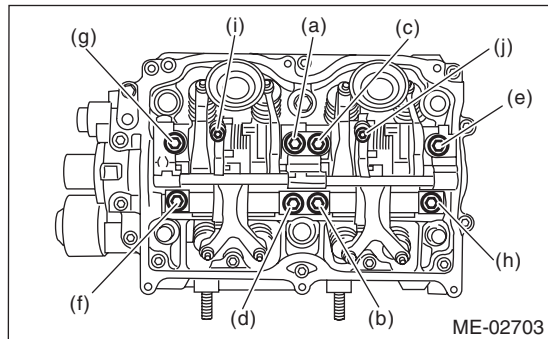
**Tightening torque:**

25 N·m (2.5 kgf-m, 18.4 ft-lb)

(3) Tighten the bolts (i) through (j) to specified torque.

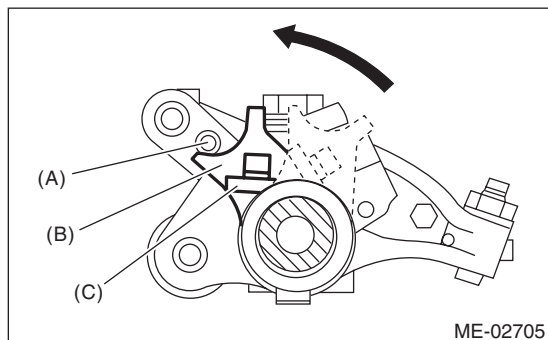
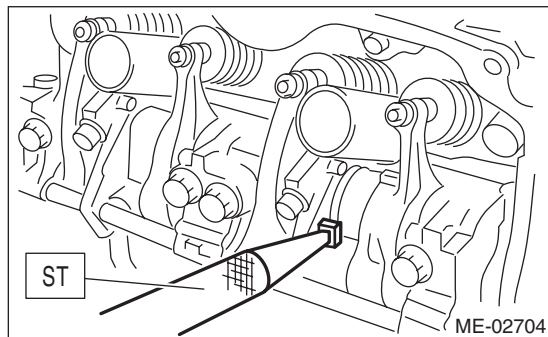
## Tightening torque:

**6 N·m (0.6 kgf-m, 4.4 ft-lb)**



(4) Use the ST to rotate the spring stopper in the direction of the arrow to fasten the adjuster pin.

ST 18258AA000 SPRING INSTALLER



- (A) Adjuster pin
- (B) Spring stopper
- (C) Spring

- 2) Remove the timing belt cover LH.
- 3) Adjust the valve clearance. <Ref. to ME(H4SO)-29, ADJUSTMENT, Valve Clearance.>
- 4) Install the timing belt cover LH.
- 5) Install the rocker cover.

(1) Install the rocker cover gasket to the rocker cover.

## NOTE:

Use a new rocker cover gasket.

(2) Temporarily tighten the bolts in alphabetical order shown in the figure, tighten them in two stages.

## Tightening torque:

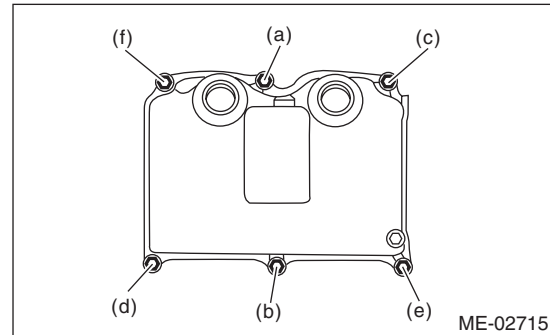
**1st**

**6.4 N·m (0.7 kgf-m, 4.7 ft-lb)**

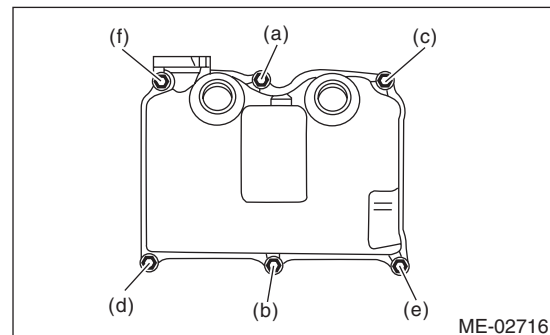
**Second (only (a) and (b) are tightened)**

**6.4 N·m (0.7 kgf-m, 4.7 ft-lb)**

RH side



LH side



(3) Connect the PCV hose.

6) Install the high tension cord.

## C: DISASSEMBLY

### NOTE:

Intake valve rocker assembly cannot be disassembled.

1) Remove the exhaust valve rocker arm from the rocker shaft.

### NOTE:

Keep all the removed parts in order for re-installing in their original positions.

2) Remove the nut and adjusting screw from exhaust valve rocker.

# Valve Rocker Assembly

## MECHANICAL

### D: ASSEMBLY

#### NOTE:

Intake valve rocker assembly cannot be disassembled.

- 1) Install the adjusting screw and nut to the exhaust valve rocker.
- 2) Insert the exhaust valve rocker arm to rocker shaft.

#### NOTE:

Valve rocker arms, and rocker shaft have identification marks. Make sure the parts with same markings are properly assembled.

### E: INSPECTION

#### 1. INTAKE VALVE ROCKER ASSY

- 1) If the roller or valve contact surface of valve rocker arm is worn or dented excessively, replace the valve rocker assembly.
- 2) Check that the valve rocker arm roller rotates smoothly. If not, replace the valve rocker assembly.

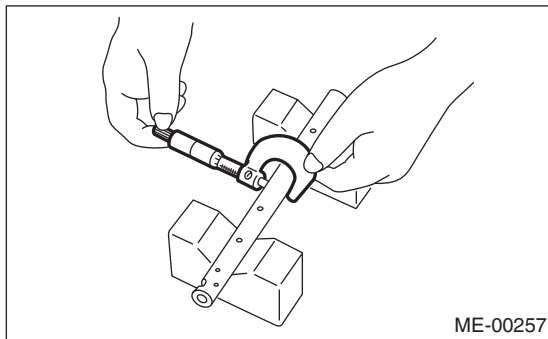
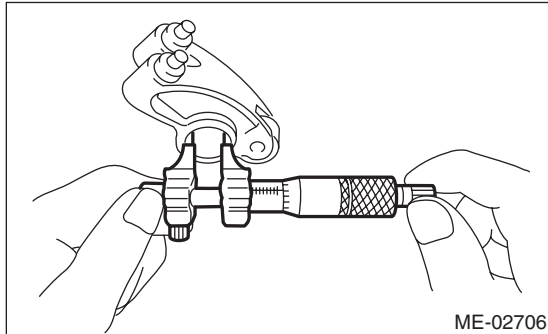
#### 2. EXHAUST VALVE ROCKER ASSY

- 1) Measure the inner diameter of valve rocker arm and outer diameter of valve rocker shaft, and confirm the difference (oil clearance) between the two values.

#### *Clearance between arm and shaft:*

##### *Standard*

***0.020 — 0.054 mm (0.0008 — 0.0021 in)***



- 2) If the oil clearance exceeds the limit, replace the valve rocker arm or shaft, whichever shows the greater amount of wear.

#### *Rocker arm inside diameter:*

***22.020 — 22.041 mm (0.8669 — 0.8678 in)***

#### *Rocker shaft diameter:*

***21.987 — 22.000 mm (0.8656 — 0.8661 in)***

- 3) If the roller or valve contact surface of valve rocker arm is worn or dented excessively, replace the valve rocker arm.
- 4) Check that the valve rocker arm roller rotates smoothly. If not, replace the valve rocker arm.