

18. Valve Rocker Assembly

A: REMOVAL

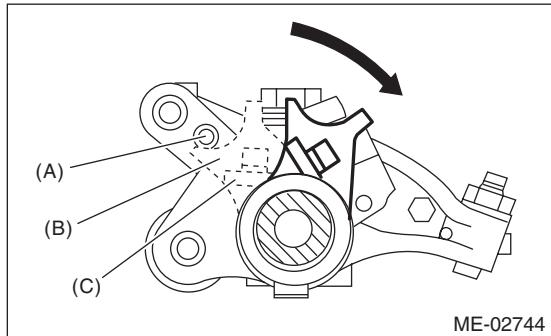
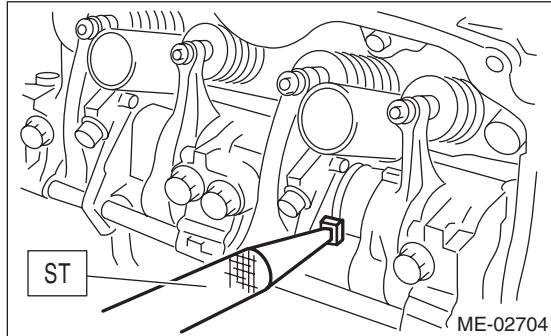
NOTE:

Perform the work with the engine installed to body when replacing a single part. Refer to "Valve Clearance" for preparation. <Ref. to ME(H4SO)-30, Valve Clearance.>

- 1) Remove the V-belts. <Ref. to ME(H4SO)-41, REMOVAL, V-belt.>
- 2) Remove the crank pulley. <Ref. to ME(H4SO)-43, REMOVAL, Crank Pulley.>
- 3) Remove the timing belt cover. <Ref. to ME(H4SO)-44, REMOVAL, Timing Belt Cover.>
- 4) Remove the timing belt. <Ref. to ME(H4SO)-45, REMOVAL, Timing Belt.>
- 5) Remove the cam sprocket. <Ref. to ME(H4SO)-50, REMOVAL, Cam Sprocket.>
- 6) Remove the high tension cord.
- 7) Disconnect the PCV hose and remove the rocker cover.
- 8) 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

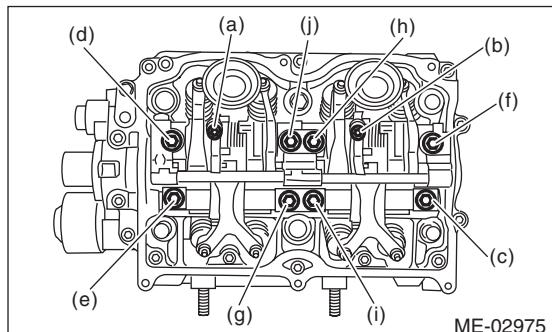


- (A) Adjuster pin
- (B) Spring stopper
- (C) Spring

- (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.

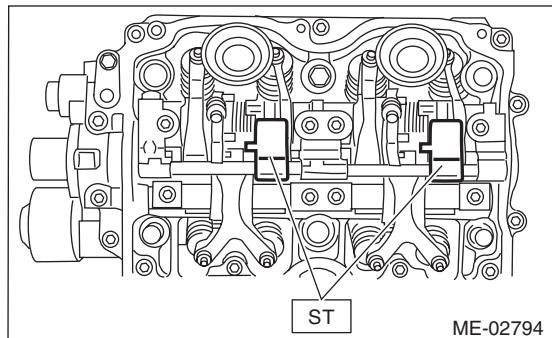


- (3) Remove the valve rocker assembly.

NOTE:

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

ST 18354AA000 VALVE ROCKER HOLDER



Valve Rocker Assembly

MECHANICAL

B: INSTALLATION

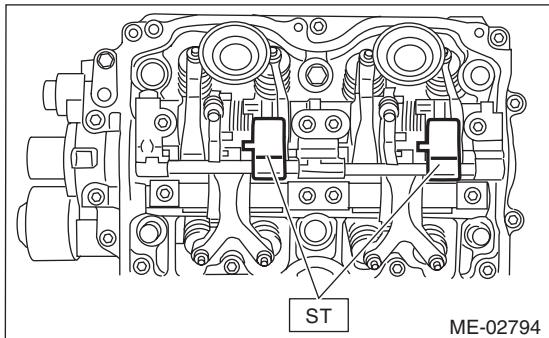
1) Install the valve rocker assembly.

(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



ME-02794

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

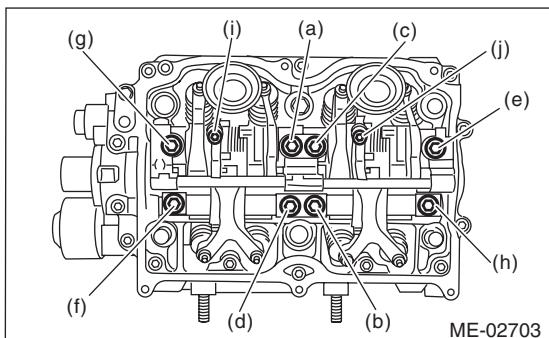
Tightening torque:

25 N·m (2.5 kgf·m, 18.4 ft-lb)

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

Tightening torque:

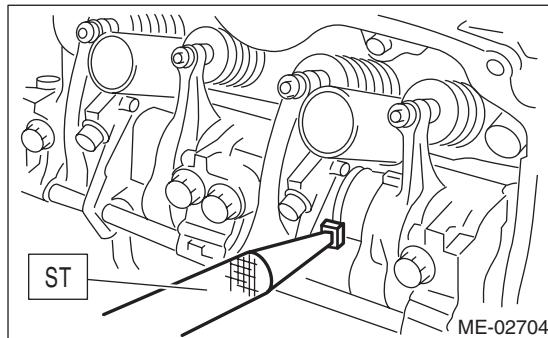
6 N·m (0.6 kgf·m, 4.3 ft-lb)



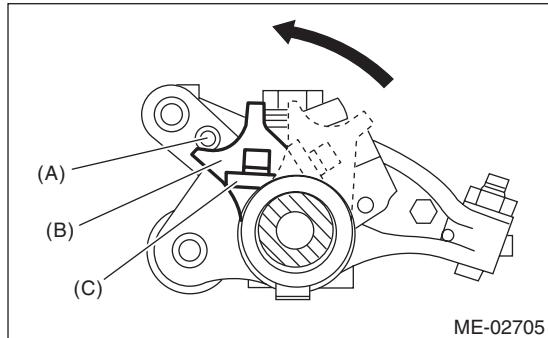
ME-02703

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

ST 18258AA000 SPRING INSTALLER



ME-02704



ME-02705

(A) Adjuster pin

(B) Spring stopper

(C) Spring

2) Install the cam sprocket. <Ref. to ME(H4SO)-50, INSTALLATION, Cam Sprocket.>

3) Install the timing belt. <Ref. to ME(H4SO)-46, INSTALLATION, Timing Belt.>

4) Adjust the valve clearance. <Ref. to ME(H4SO)-31, ADJUSTMENT, Valve Clearance.>

5) Install the rocker cover.

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

NOTE:

Use a new rocker cover gasket.

- (2) Tighten the bolts in two stages in alphabetical sequence as shown in figure.

Tightening torque:

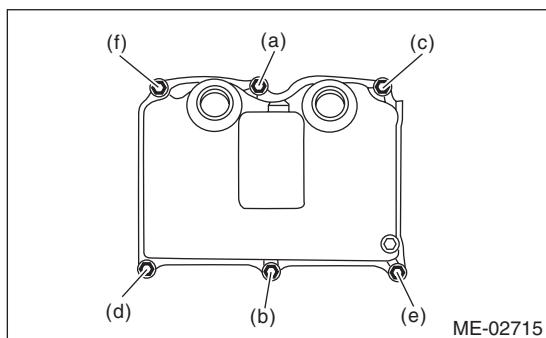
First time

6.4 N·m (0.65 kgf-m, 4.7 ft-lb)

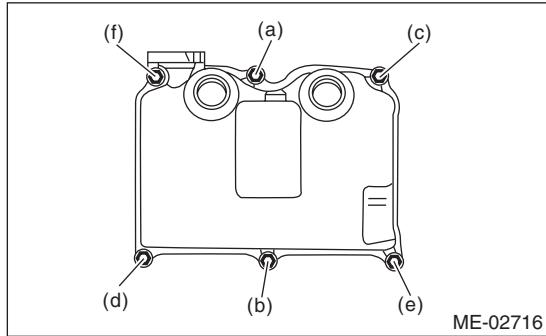
Second time (tighten only (a) and (b))

6.4 N·m (0.65 kgf-m, 4.7 ft-lb)

RH side



LH side



- (3) Connect the PCV valve.
- 6) Connect the high tension cord.
- 7) Install the timing belt cover. <Ref. to ME(H4SO)-44, INSTALLATION, Timing Belt Cover.>
- 8) Install the crank pulley. <Ref. to ME(H4SO)-43, INSTALLATION, Crank Pulley.>
- 9) Install the V-belts. <Ref. to ME(H4SO)-41, INSTALLATION, V-belt.>

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.

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 that the parts with same markings are properly assembled.

E: INSPECTION

1. INTAKE VALVE ROCKER ASSEMBLY

- 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 ASSEMBLY

- 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.

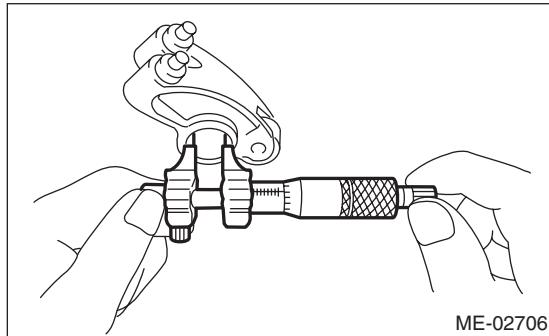
Clearance between arm and shaft:

Standard:

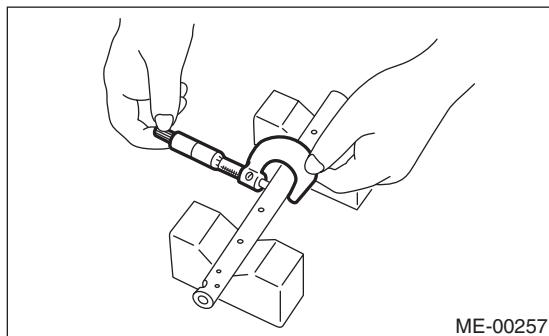
0.020 — 0.054 mm (0.0008 — 0.0021 in)

Service limit:

0.10 mm (0.0039 in)



ME-02706



ME-00257

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