

2-3a [W3A0]

3. Valve Rocker Assembly

SERVICE PROCEDURE

(1) Replace the crankshaft pulley bolts and clean them.

Crankshaft pulley bolt:
12369AA011

(2) Clean the crankshaft thread using an air gun.

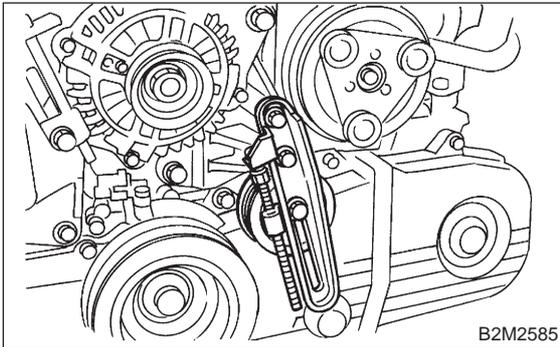
(3) Tighten the bolts temporarily with tightening torque of 44 N·m (4.5 kg-m, 33 ft-lb).

(4) Tighten the crankshaft pulley bolts keeping them in an angle between 45 degrees and 60 degrees.

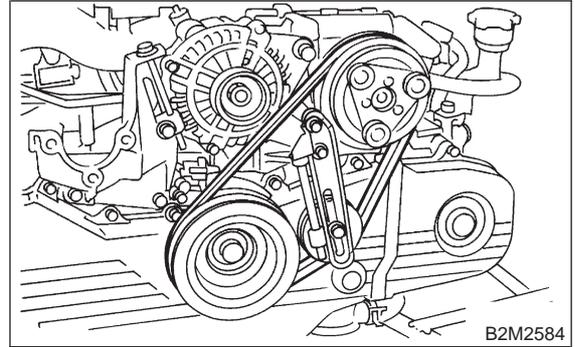
CAUTION:

Conduct the tightening procedures by confirming the turning angle of the crankshaft pulley bolt referring to the gauge indicated on the belt cover.

6) Install A/C belt tensioner. (With A/C model)

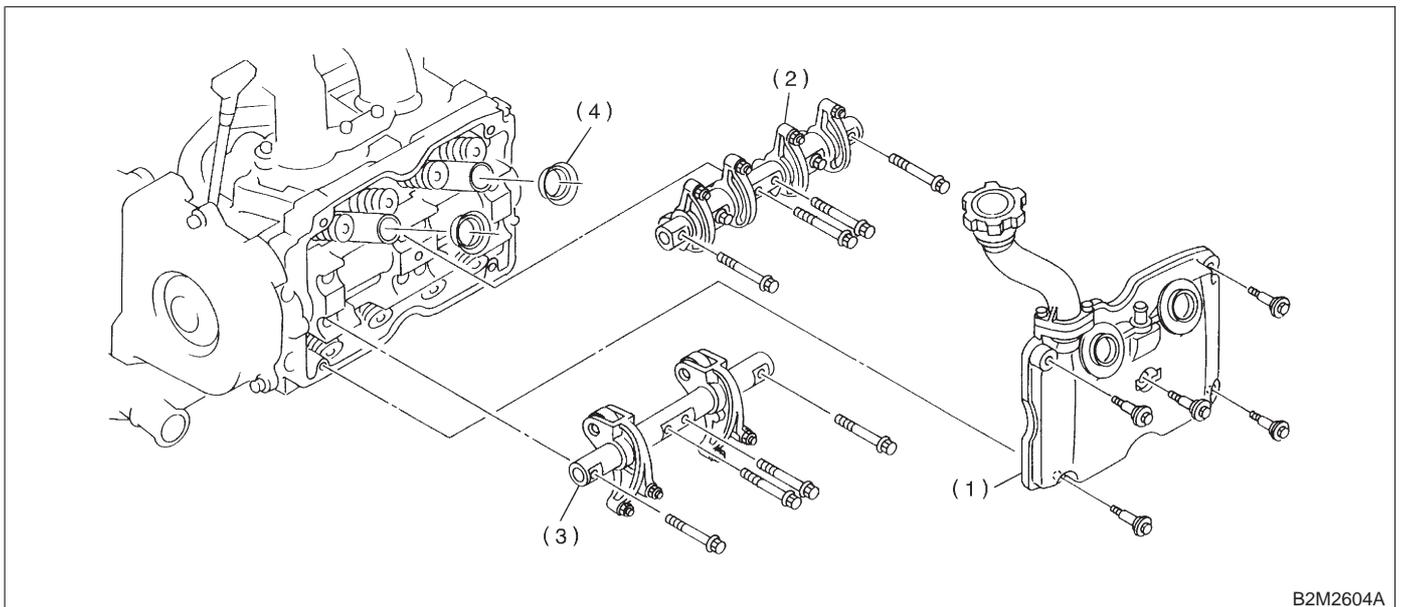


7) Install A/C belt. (With A/C model)



3. Valve Rocker Assembly

A: REMOVAL



(1) Rocker cover

(2) Intake valve rocker ASSY

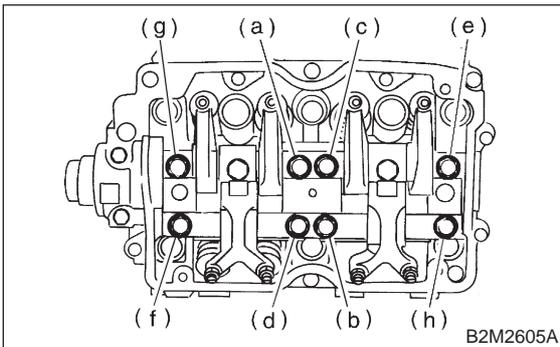
(3) Exhaust valve rocker ASSY

(4) Spark plug pipe gasket

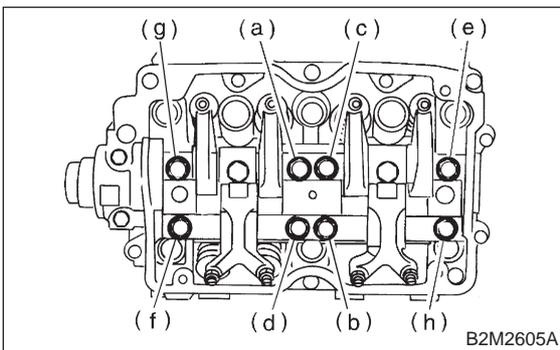
- 1) Disconnect PCV hose and remove rocker cover.
- 2) Removal of valve rocker assembly
 - (1) Remove bolts (a) through (b) in alphabetical sequence.

CAUTION:

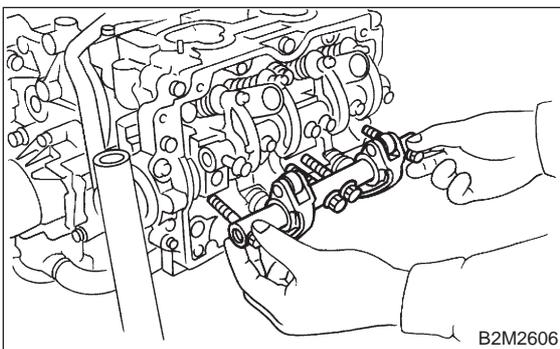
Leave two or three threads of bolt (a) engaged to retain valve rocker assembly.

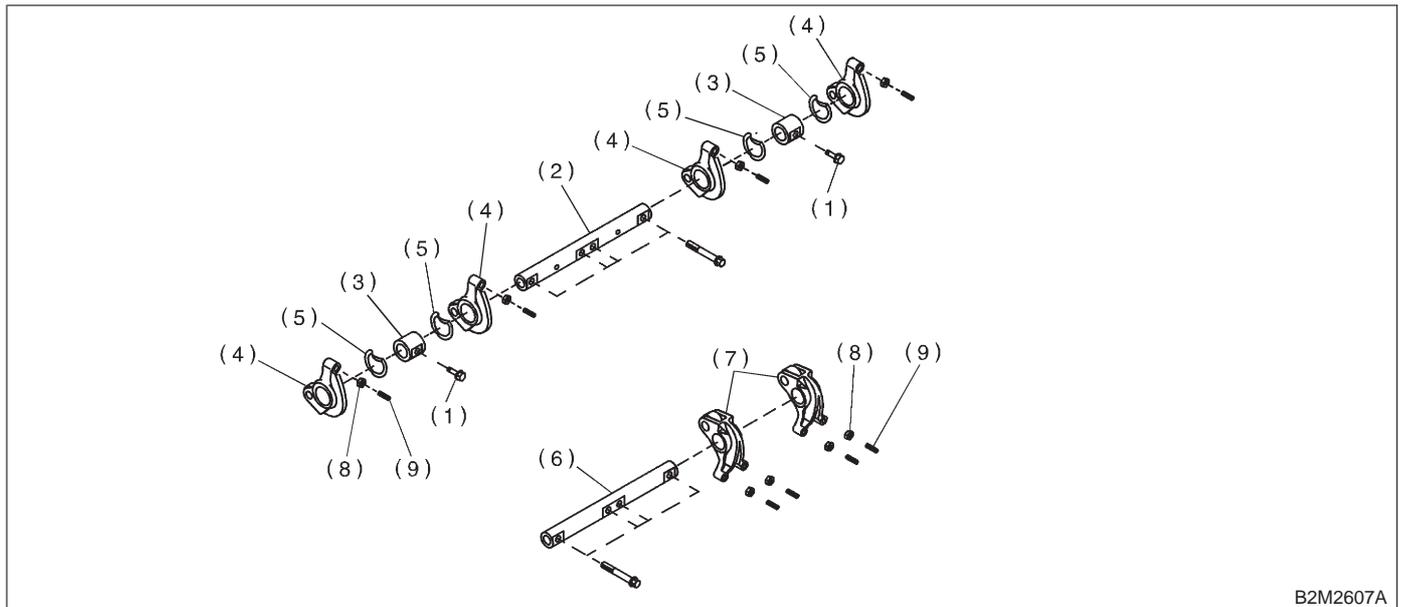


- (2) Equally loosen bolts (e) through (h) all the way, being careful that knock pin is not gouged.



- (3) Remove valve rocker assembly.



B: DISASSEMBLY

B2M2607A

- | | | |
|-------------------------------|--------------------------------|-------------------------------|
| (1) Bolt | (4) Intake valve rocker arm | (7) Exhaust valve rocker arm |
| (2) Intake valve rocker shaft | (5) Spring | (8) Valve rocker nut |
| (3) Rocker shaft support | (6) Exhaust valve rocker shaft | (9) Valve rocker adjust screw |

- 1) Remove bolts which secure rocker shaft.
- 2) Extract rocker shaft. Remove valve rocker arms, springs, plates and shaft supports from rocker shaft.

CAUTION:

Arrange all removed parts in order so that they can be installed in their original positions.

- 3) Remove nut and adjuster screw from valve rocker.

C: INSPECTION

1. VALVE ROCKER ARM

1) Measure inside diameter of valve rocker arm and outside diameter of valve rocker shaft, and determine the difference between the two (= oil clearance).

Clearance between arm and shaft:

Standard

0.020 — 0.054 mm (0.0008 — 0.0021 in)

Limit

0.10 mm (0.0039 in)

- If oil clearance exceeds specifications, replace valve rocker arm or shaft.

NOTE:

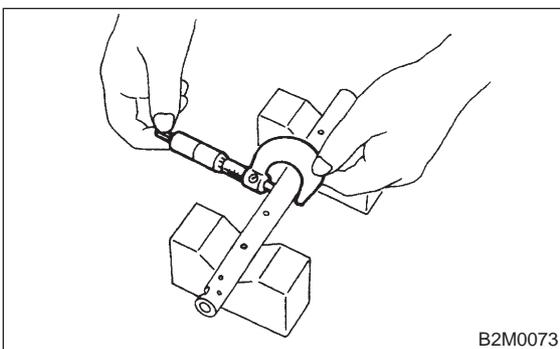
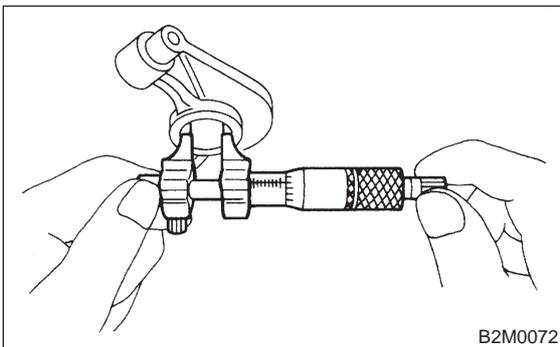
Replace valve rocker arm or shaft, whichever shows greater amount of wear.

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)



2) Measure inside diameter of rocker shaft support and outside diameter of valve rocker shaft, and determine the difference between the two (= oil clearance).

Clearance between support and shaft:

Standard

0.005 — 0.039 mm (0.0002 — 0.0015 in)

Limit

0.05 mm (0.0020 in)

- If oil clearance exceeds specifications, replace rocker shaft support or shaft.

NOTE:

Replace rocker shaft support or shaft, whichever shows greater amount of wear.

Rocker shaft support inside diameter:

22.005 — 22.026 mm (0.8663 — 0.8672 in)

Rocker shaft diameter:

21.987 — 22.000 mm (0.8656 — 0.8661 in)

3) If cam or valve contact surface of valve rocker arm is worn or dented excessively, replace valve rocker arm.

4) Check that valve rocker arm roller rotates smoothly. If not, replace valve rocker arm.

2. INTAKE AND EXHAUST VALVE ROCKER SHAFT

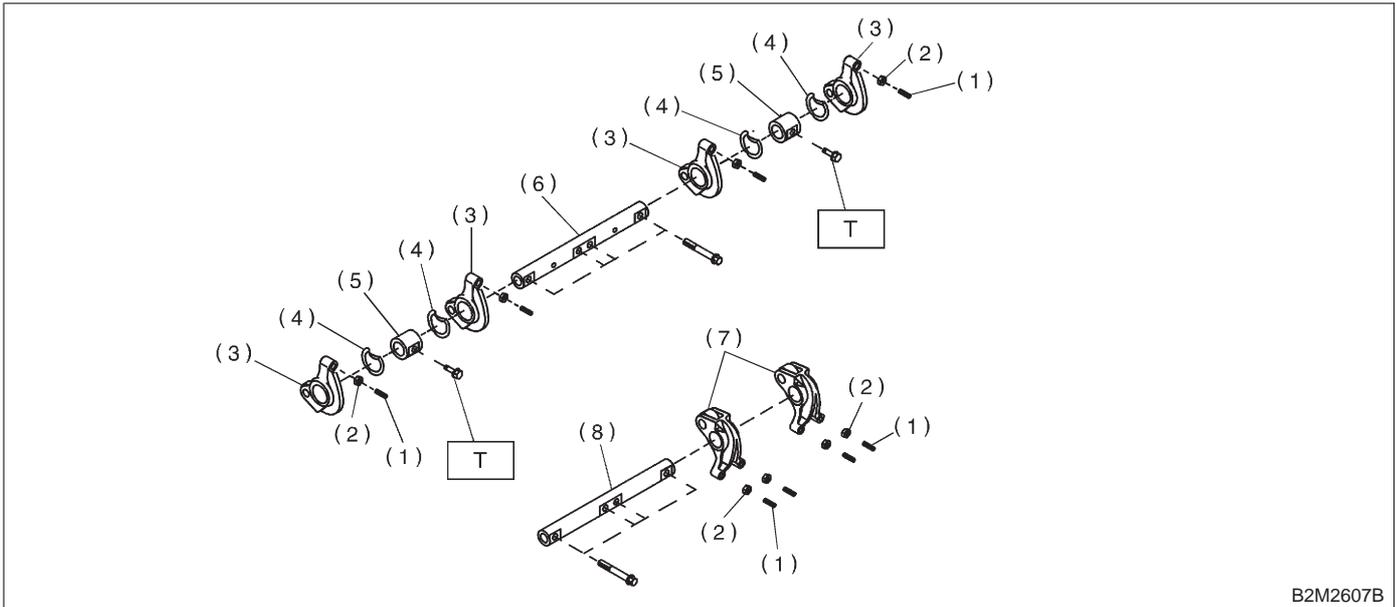
Visually check oil relief valve of shaft end for any of the following abnormalities.

- Breaks in check ball body
- Foreign particles caught in valve spring
- Oil leakage at check ball

CAUTION:

Repair or replace valve rocker shaft as necessary.

D: ASSEMBLY



- | | |
|-------------------------------|--------------------------------|
| (1) Valve rocker adjust screw | (5) Rocker shaft support |
| (2) Valve rocker nut | (6) Intake valve rocker shaft |
| (3) Intake valve rocker arm | (7) Exhaust valve rocker arm |
| (4) Spring | (8) Exhaust valve rocker shaft |

Tightening torque: N·m (kg·m, ft·lb)
T: 5±1 (0.5±0.1, 3.6±0.7)

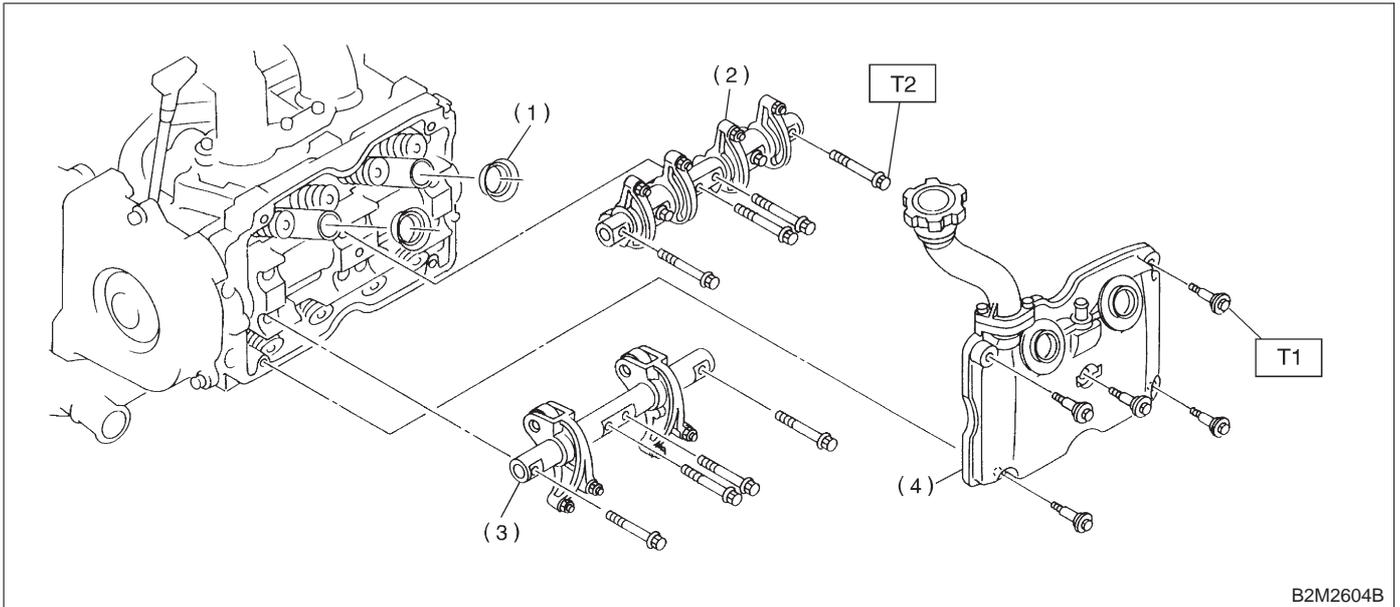
- 1) Install adjuster screw and nut to valve rocker.
- 2) Arrange valve rocker arms, springs and shaft supports in assembly order and insert valve rocker shaft.

CAUTION:

Valve rocker arms, rocker shaft and shaft supports have identification marks. Ensure parts with same markings are properly assembled.

- 3) Install valve rocker shaft securing bolts.

E: INSTALLATION



- (1) Spark plug pipe gasket
- (2) Intake valve rocker ASSY
- (3) Exhaust valve rocker ASSY
- (4) Rocker cover

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

T1: 5±1 (0.5±0.1, 3.6±0.7)

T2: 25±2 (2.5±0.2, 18.1±1.4)

- 1) Installation of valve rocker assembly
 - (1) Temporarily tighten bolts (a) through (d) equally as shown in figure.

- 2) Adjust the valve clearances. <Ref. to 2-2 [W7B1].>
- 3) Install rocker cover and connect PCV hose.

CAUTION:

Do not allow valve rocker assembly to gouge knock pins.

- (2) Tighten bolts (e) through (h) to specified torque.
- (3) Tighten bolts (a) through (d) to specified torque.

Tightening torque:

25±2 N-m (2.5±0.2 kg-m, 18.1±1.4 ft-lb)

