

# VALVE CLEARANCE

## MECHANICAL

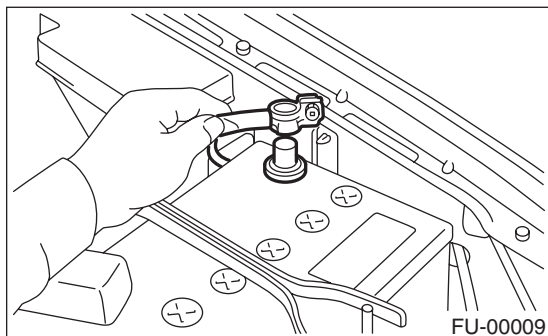
### 8. Valve Clearance

#### A: INSPECTION

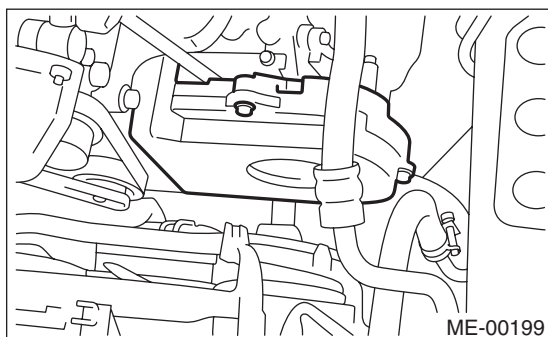
##### NOTE:

Inspection and adjustment of the valve clearance should be performed while engine is cold.

- 1) Set the vehicle on a lift.
- 2) Lift up the vehicle.
- 3) Remove the under cover.
- 4) Lower the vehicle.
- 5) Disconnect the ground cable from battery.



- 6) Remove the timing belt cover (LH).



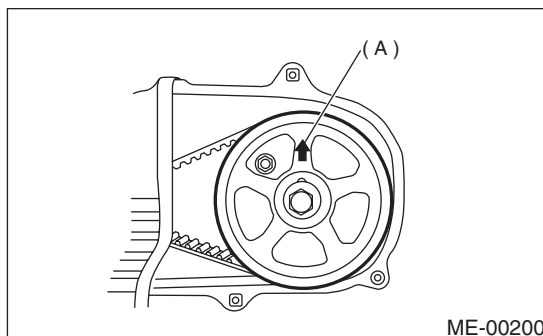
- 7) When inspecting #1 and #3 cylinders;
  - (1) Disconnect the spark plug cords from spark plugs on RH side. <Ref. to IG(H4SO)-5, RH SIDE, REMOVAL, Spark Plug.>
  - (2) Disconnect the PCV hose from rocker cover (RH).
  - (3) Remove the bolts, and then remove the rocker cover (RH).
- 8) When inspecting #2 and #4 cylinders;
  - (1) Disconnect the spark plug cords from spark plugs on LH Side. <Ref. to IG(H4SO)-5, LH SIDE, REMOVAL, Spark Plug.>
  - (2) Disconnect the PCV hose from rocker cover (LH).
  - (3) Remove the bolts, and then remove the rocker cover (LH).

- 9) Set the #1 cylinder piston to top dead center of compression stroke by rotating crankshaft pulley clockwise using ST.

ST 499977100 CRANKSHAFT PULLEY WRENCH

##### NOTE:

When arrow mark (A) on the camshaft sprocket (LH) comes exactly to the top, #1 cylinder piston is at the top dead center of compression stroke.



- 10) Measure the #1 cylinder valve clearance by using a thickness gauge.

##### CAUTION:

- Insert the thickness gauge (A) as parallel as possible with respect to the valve stem end face.
- Measure the exhaust valve clearances while lifting-up the vehicle.

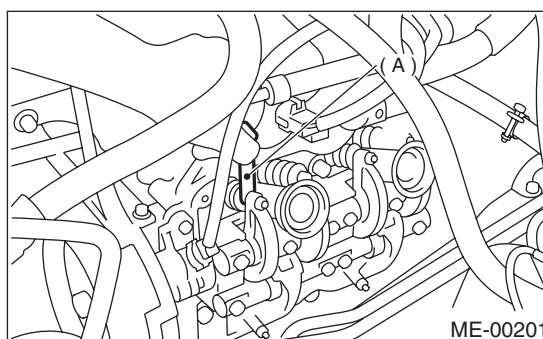
##### Valve clearance

###### Intake;

$0.20 \pm 0.02 \text{ mm } (0.0079 \pm 0.0008 \text{ in})$

###### Exhaust;

$0.25 \pm 0.02 \text{ mm } (0.0098 \pm 0.0008 \text{ in})$

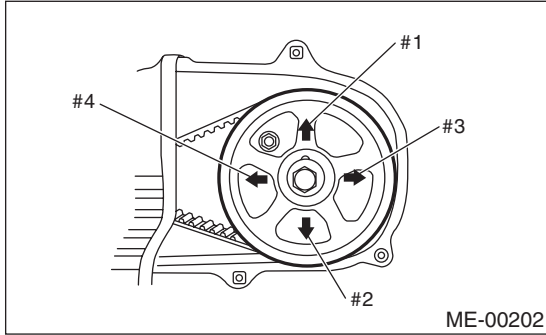


- 11) If necessary, adjust the valve clearance. <Ref. to ME(H4SO)-31, ADJUSTMENT, Valve Clearance.>

- 12) Similar to measurement procedures used for the #1 cylinder, measure the #2, #3 and #4 cylinder valve clearances.

**NOTE:**

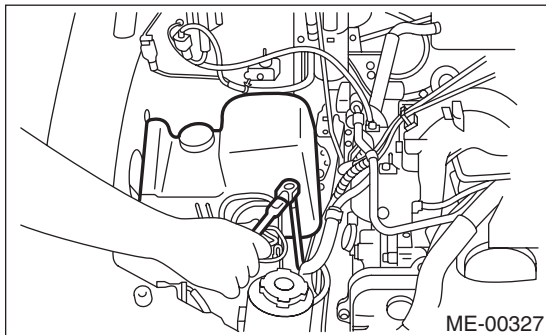
- Be sure to set the cylinder pistons to their respective top dead centers on compression stroke before measuring valve clearances.
- To set the #3, #2 and #4 cylinder pistons to their top dead centers on compression stroke, turn the crankshaft pulley clockwise 90° at a time starting with arrow mark on camshaft sprocket (LH) facing up.



13) After inspection, install the related parts in the reverse order of removal.

**Tightening torque:**

**Resonator chamber;  
33 N·m (3.4 kgf-m, 25 ft-lb)**



## B: ADJUSTMENT

**NOTE:**

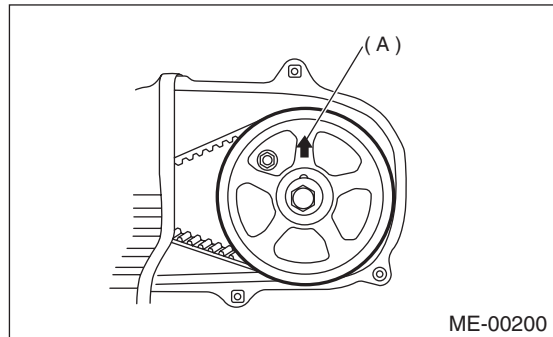
Adjustment of the valve clearance should be performed while engine is cold.

1) Set the #1 cylinder piston to top dead center of compression stroke by rotating crankshaft pulley clockwise using ST.

ST 499977100 CRANKSHAFT PULLEY  
WRENCH

**NOTE:**

When arrow mark (A) on the camshaft sprocket (LH) comes exactly to the top, #1 cylinder piston is at the top dead center of compression stroke.



2) Adjust the #1 cylinder valve clearance.

- (1) Loosen the valve rocker nut and screw.
- (2) Place a suitable thickness gauge.
- (3) While noting the valve clearance, tighten the valve rocker adjust screw.
- (4) When specified valve clearance is obtained, tighten the valve rocker nut.

**Tightening torque:**

**10 N·m (1.0 kgf-m, 7.2 ft-lb)**

**CAUTION:**

- Insert the thickness gauge as parallel as possible with respect to the valve stem end face.
- Adjust the exhaust valve clearances while lifting up the vehicle.

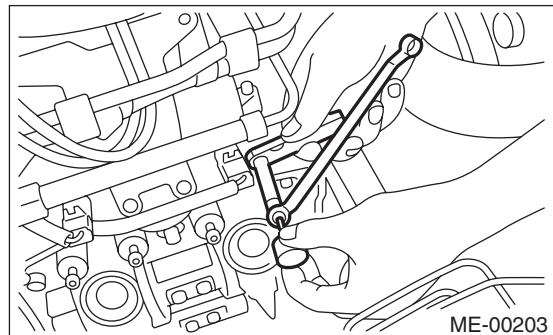
**Valve clearance**

**Intake;**

**0.20±0.02 mm (0.0079±0.0008 in)**

**Exhaust;**

**0.25±0.02 mm (0.0098±0.0008 in)**



3) Ensure the valve clearances are within specifications.

4) Turn the crankshaft two complete rotations until #1 cylinder piston is set again to the top dead center on compression stroke.

5) Ensure the valve clearances are within specifications. If necessary, readjust the valve clearances.

# VALVE CLEARANCE

## MECHANICAL

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6) Similar to adjustment procedures used for the #1 cylinder, adjust the #2, #3 and #4 cylinder valve clearances.

### NOTE:

- Be sure to set the cylinder pistons to their respective top dead centers on compression stroke before adjusting valve clearances.
- To set the #3, #2 and #4 cylinder pistons to their top dead centers on compression stroke, turn the crankshaft pulley clockwise 90° at a time starting with arrow mark on camshaft sprocket (LH) facing up.

