

8. Valve Clearance

A: INSPECTION

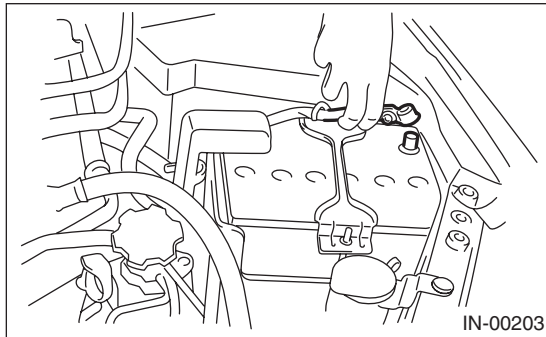
CAUTION:

If engine oil is spilt onto the exhaust pipe, wipe it off with cloth to avoid emission of smoke or causing a fire.

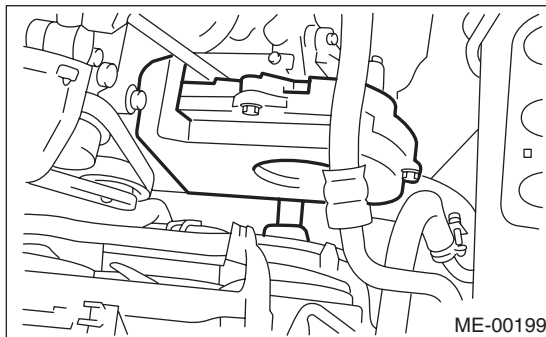
NOTE:

Inspection and adjustment of 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) Remove the fuel injector. <Ref. to FU(H4SO)-36, REMOVAL, Fuel Injector.>

- 8) When inspecting #1 and #3 cylinders

- (1) Disconnect the spark plug cords from spark plugs on RH side. <Ref. to IG(H4SO)-4, RH SIDE, REMOVAL, Spark Plug.>
- (2) Place a suitable container under the vehicle.
- (3) Disconnect the PCV hose from the rocker cover RH.
- (4) Remove the bolts, then remove the rocker cover RH.

- 9) When inspecting #2 and #4 cylinders

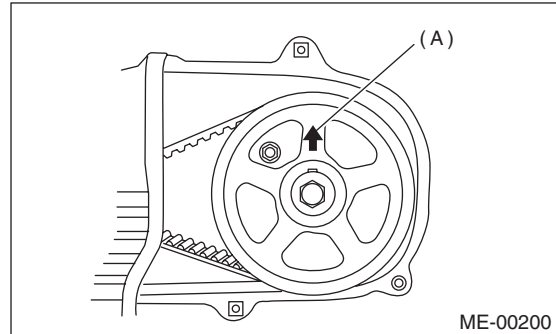
- (1) Disconnect the spark plug cords from spark plugs on LH side. <Ref. to IG(H4SO)-4, LH SIDE, REMOVAL, Spark Plug.>
- (2) Place a suitable container under the vehicle.
- (3) Disconnect the PCV hose from the rocker cover LH.

- (4) Remove the bolts, then remove the rocker cover LH.

- 10) Set #1 cylinder piston to top dead center of compression stroke by rotating the crank pulley clockwise using the socket wrench.

NOTE:

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



- 11) Measure #1 cylinder valve clearance by using thickness gauge (A).

NOTE:

- Insert the thickness gauge (A) in as horizontally as possible with respect to the valve stem end face.
- Lift up the vehicle, and then measure the exhaust valve clearances.

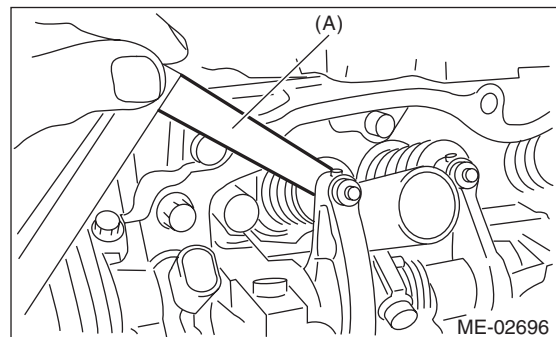
Valve clearance (inspection value):

Intake

0.20 ± 0.04 mm (0.0079 ± 0.0016 in)

Exhaust

0.25 ± 0.04 mm (0.0098 ± 0.0016 in)



- 12) Measure the valve clearance in #3, #2 and #4 cylinder in the same measurement procedure as #1 cylinder in this order.

NOTE:

- Be sure to set the cylinder pistons to their respective top dead centers on compression stroke before measuring valve clearances.
- By rotating the crank pulley clockwise every 180° from the state that #1 cylinder piston is on the top dead center of compression stroke, #3, #2 and #4 cylinder pistons come to the top dead center of compression stroke in this order.

13) If necessary, adjust the valve clearance. <Ref. to ME(H4SO)-29, ADJUSTMENT, Valve Clearance.>

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

NOTE:

Use a new rocker cover gasket.

B: ADJUSTMENT

CAUTION:

If engine oil is spilt onto the exhaust pipe, wipe it off with cloth to avoid emission of smoke or causing a fire.

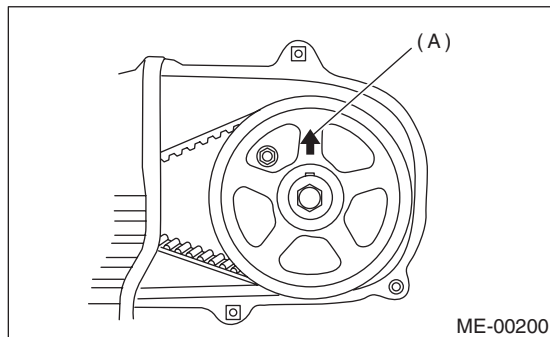
NOTE:

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

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

NOTE:

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



2) Adjust the #1 cylinder valve clearance.

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

NOTE:

- Insert a thickness gauge in a direction as horizontal as possible with respect to the valve stem end face.
- Lift up the vehicle and adjust the exhaust valve clearances.

Valve clearance (adjustment value):

Intake

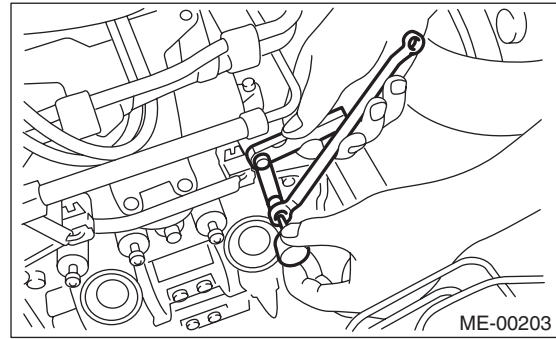
0.20 ± 0.04 mm (0.0079 ± 0.0016 in)

Exhaust

0.25 ± 0.04 mm (0.0098 ± 0.0016 in)

Tightening torque:

9.75 N·m (1.0 kgf·m, 7.2 ft·lb)



3) Adjust the valve clearance in #3, #2 and #4 cylinder in the same adjustment procedure as #1 cylinder in this order.

NOTE:

- Be sure to set the cylinder pistons to their respective top dead centers on compression stroke before adjusting valve clearances.
 - By rotating the crank pulley clockwise every 180° from the state that #1 cylinder piston is on the top dead center of compression stroke, #3, #2 and #4 cylinder pistons come to the top dead center of compression stroke in this order.
- 4) Ensure the valve clearances of each cylinder are within specifications. If necessary, readjust the valve clearances.
- 5) After measuring, install the related parts in the reverse order of removal.

NOTE:

Use a new rocker cover gasket.