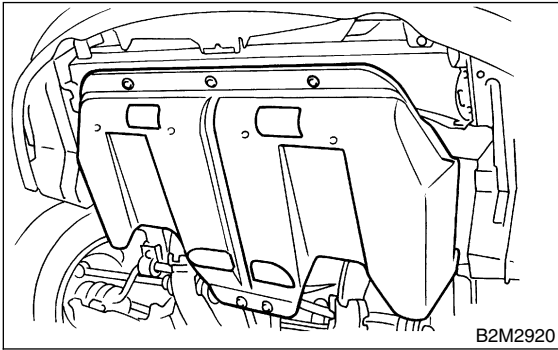


8. Valve Clearance S173083

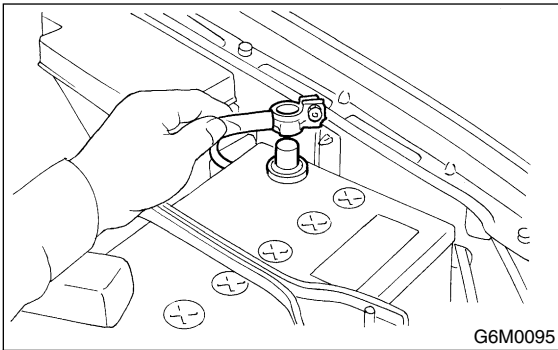
A: INSPECTION S173083A10

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

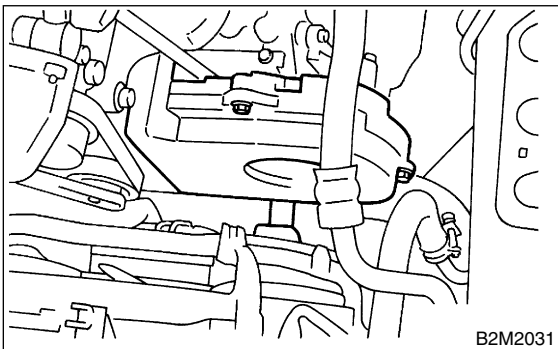
- 1) Set the vehicle onto the lift.
- 2) Lift-up the vehicle.
- 3) Remove under cover.



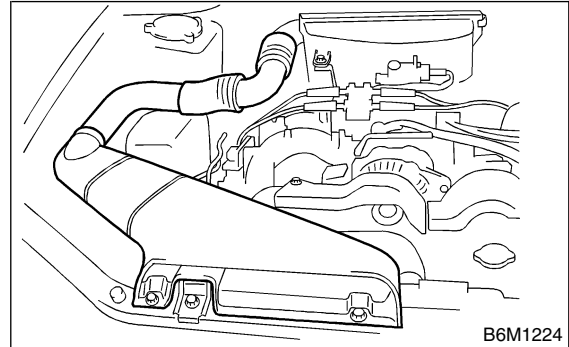
- 4) Disconnect battery ground cable.



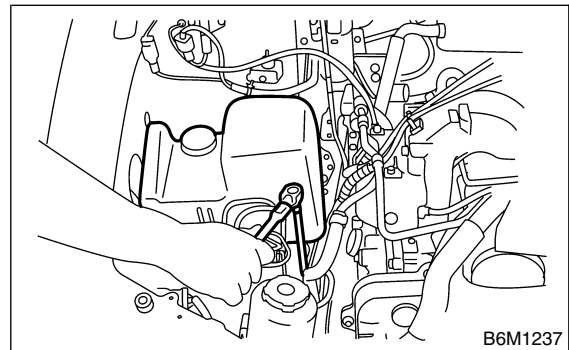
- 5) Lower the vehicle.
- 6) Remove timing belt cover (LH).



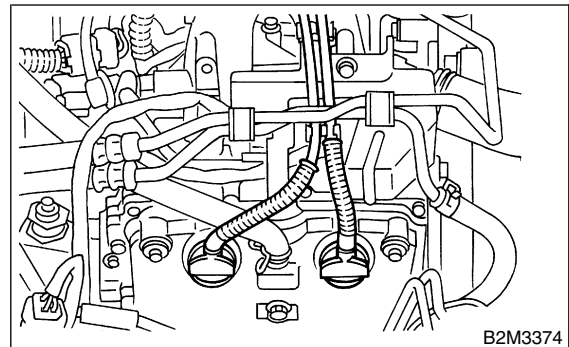
- 7) Remove rocker cover.
- 8) When inspecting #1 and #3 cylinders;
 - (1) Remove bolt which secures air intake duct to radiator panel side.
 - (2) Remove air intake duct as a unit.



- (3) Remove bolt, and then remove resonator chamber.



- (4) Disconnect spark plug cords from spark plugs (#1 and #3 cylinders).

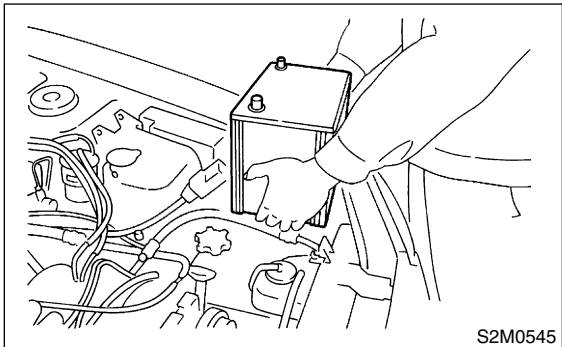


- (5) Disconnect PCV hose from rocker cover (RH).
- (6) Remove bolts, then remove rocker cover (RH).

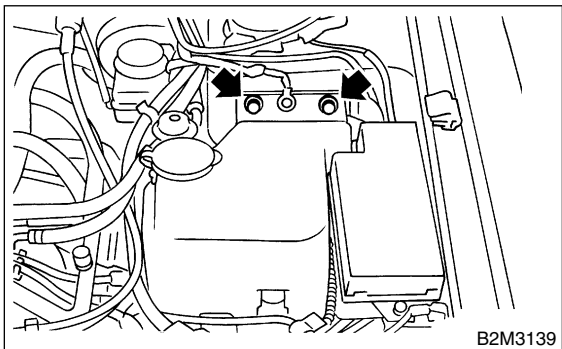
VALVE CLEARANCE

Mechanical

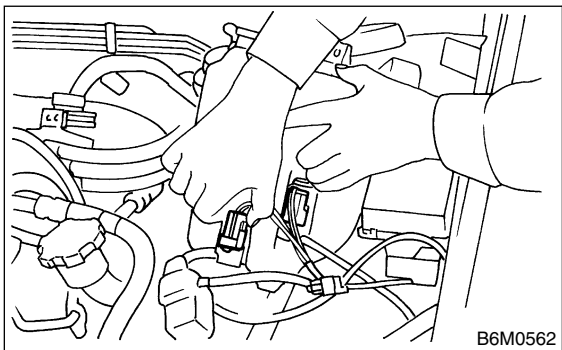
- 9) When inspecting #2 and #4 cylinders;
(1) Disconnect battery cables, and then remove battery and battery carrier.



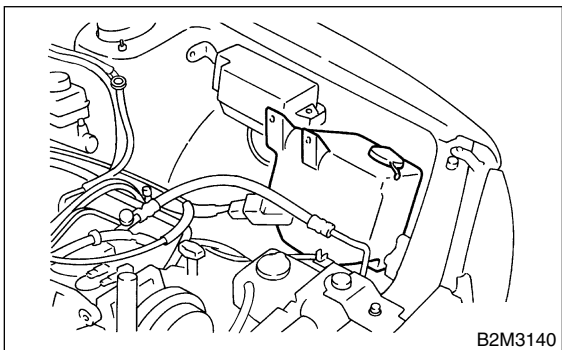
- (2) Remove the two bolts which hold washer tank.



- (3) Disconnect washer motor connectors.



- (4) Move washer tank to forward.



- (5) Disconnect spark plug cords from spark plugs (#2 and #4 cylinders).

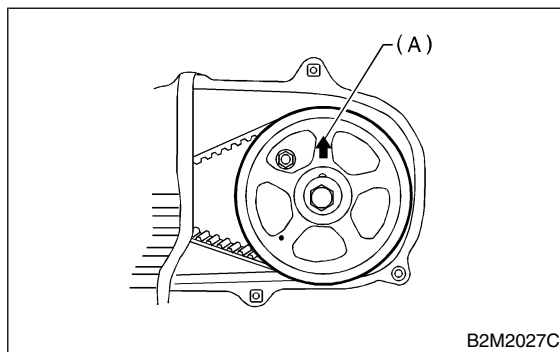
- (6) Disconnect PCV hose from rocker cover (LH).
(7) Remove bolts, then remove rocker cover (LH).

- 10) Set #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 camshaft sprocket (LH) comes exactly to the top, #1 cylinder piston is brought to the top dead center of compression stroke.



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

CAUTION:

- Insert the thickness gauge in as horizontal a direction as possible with respect to the valve stem end face.
- Measure exhaust valve clearances while lifting-up the vehicle.

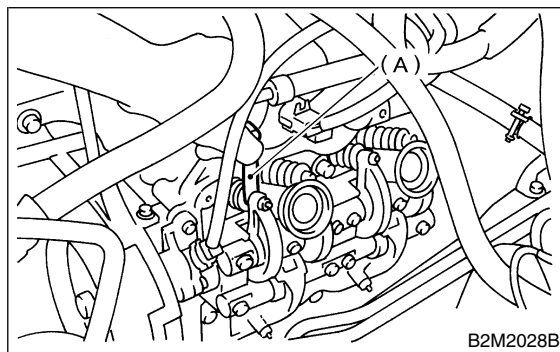
Valve clearance:

Intake;

0.20 ± 0.02 mm (0.0079 ± 0.0008 in)

Exhaust;

0.25 ± 0.02 mm (0.0098 ± 0.0008 in)



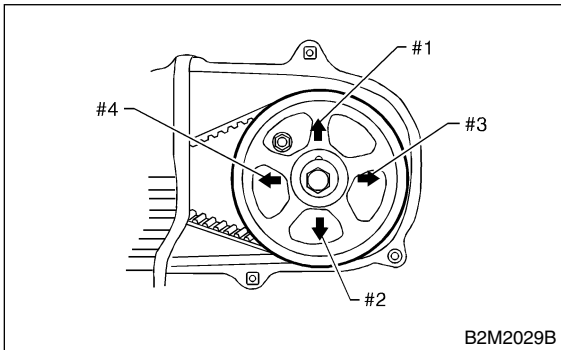
(A) Thickness gauge

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

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

NOTE:

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

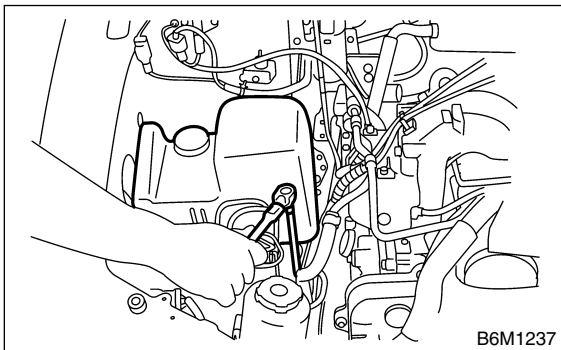


14) After inspection, install the related parts in the reverse order of removal.

Tightening torque:

Resonator chamber;

32 N·m (3.3 kgf·m, 24 ft·lb)



B: ADJUSTMENT

S173083A01

CAUTION:

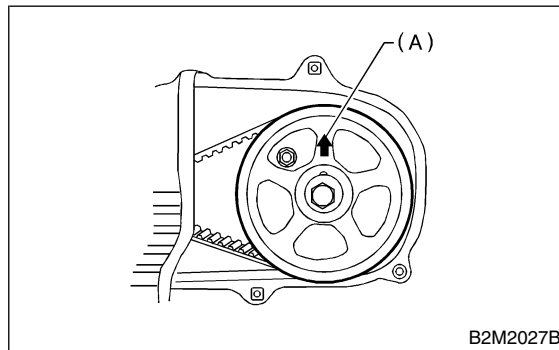
Adjustment of valve clearance should be performed while engine is cold.

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

ST 499977100 CRANKSHAFT PULLEY WRENCH

NOTE:

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



2) Adjust the #1 cylinder valve clearance.

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

Tightening torque:

10 N·m (1.0 kgf·m, 7.2 ft·lb)

CAUTION:

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

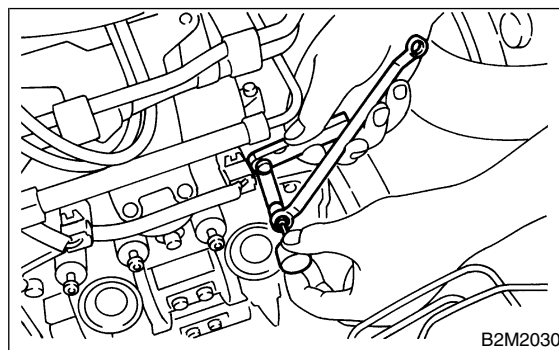
Valve clearance:

Intake;

0.20±0.02 mm (0.0079±0.0008 in)

Exhaust;

0.25±0.02 mm (0.0098±0.0008 in)



3) Ensure that valve clearances are within specifications.

VALVE CLEARANCE

Mechanical

- 4) Turn crankshaft two complete rotations until #1 cylinder piston is again set to top dead center on compression stroke.
- 5) Ensure that valve clearances are within specifications. If necessary, readjust valve clearances.
- 6) Similar to adjustment procedures used for #1 cylinder, adjust #2, #3 and #4 cylinder valve clearances.

NOTE:

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

