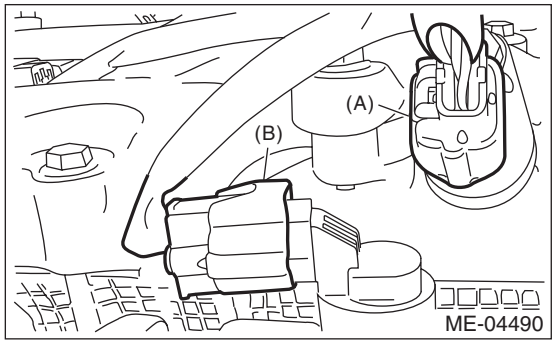
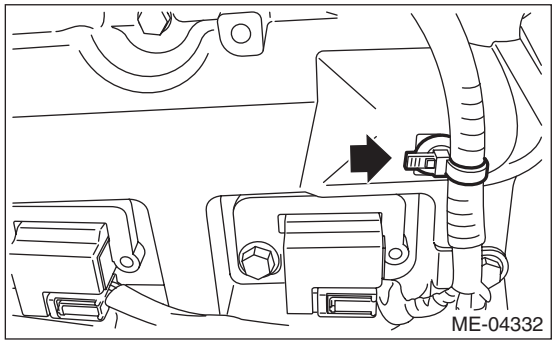
8. Valve Clearance

A: INSPECTION

1) Remove the engine from the vehicle. <Ref. to ME(H4DOTC)-30, REMOVAL, Engine Assembly.>
2) When inspecting #1 and #3 cylinders
(1) Remove the timing belt cover RH. <Ref. to ME(H4DOTC)-50, TIMING BELT, REMOVAL, Timing Belt.>
(2) Disconnect the connectors from exhaust oil flow control solenoid valve RH (A) and exhaust camshaft position sensor RH (B).

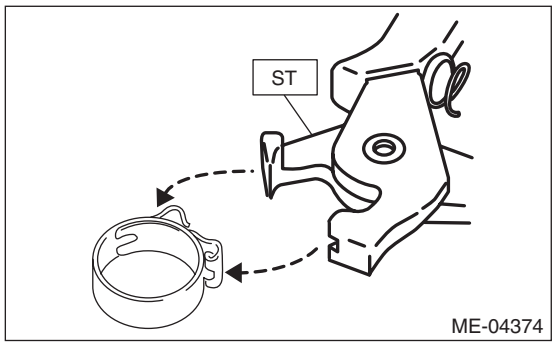


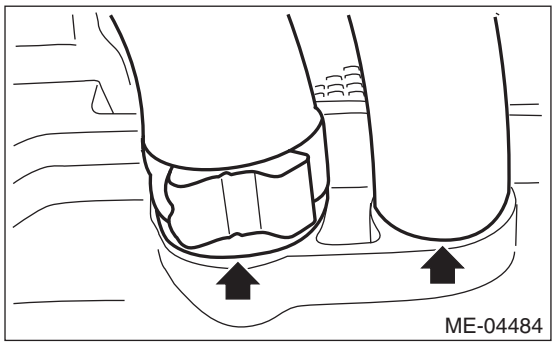
(3) Remove the clip which holds the engine harness to the rocker cover.



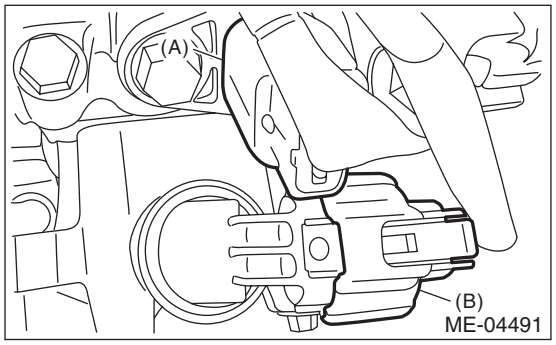
(4) Remove the ignition coil. <Ref. to IG(H4DOTC)-6, REMOVAL, Ignition Coil.>
(5) Disconnect PCV hose and vacuum hose from the rocker cover RH.

NOTE:
Pinch the clamp of the PCV hose by fitting the cut out in the ST with the protrusion on the clamp as shown in the figure, and unlock the clamp.
ST 18353AA000 CLAMP PLIERS

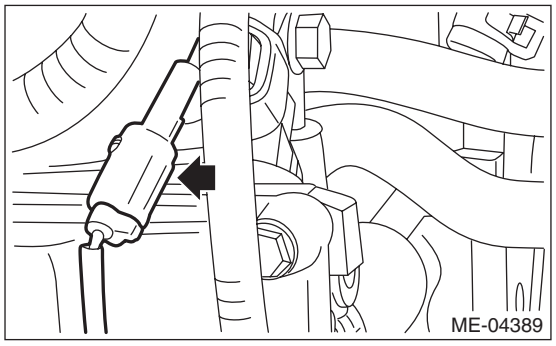




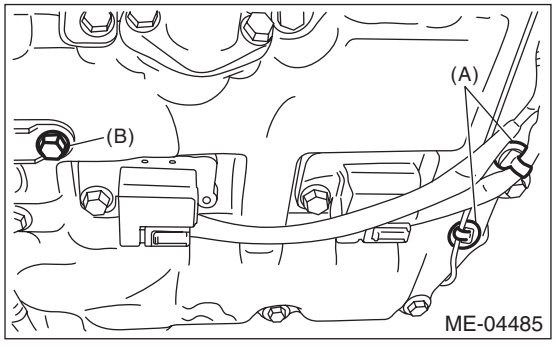
(6) Remove the rocker cover RH.
3) When inspecting #2 and #4 cylinders
(1) Remove the timing belt cover RH. <Ref. to ME(H4DOTC)-50, REMOVAL, Timing Belt.>
(2) Disconnect the connectors from exhaust oil flow control solenoid valve LH (A) and exhaust camshaft position sensor LH (B).



(3) Disconnect the oil level switch connector.



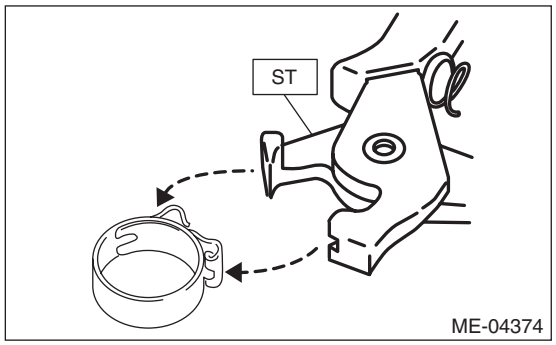
(4) Remove the clip (A) and bolt (B) securing the engine harness or oil level switch harness to the rocker cover LH.

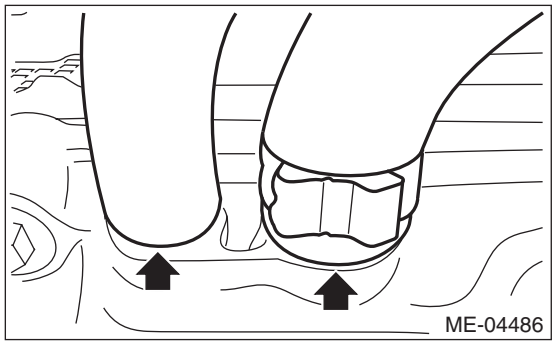


(5) Remove the ignition coil. <Ref. to IG(H4DOTC)-6, REMOVAL, Ignition Coil.>

(6) Disconnect PCV hose and vacuum hose from the rocker cover LH.

NOTE:
Pinch the clamp of the PCV hose by fitting the cut out in the ST with the protrusion on the clamp as shown in the figure, and unlock the clamp.
ST 18353AA000 CLAMP PLIERS



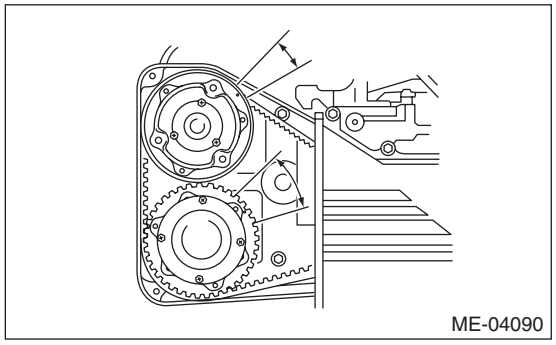


(7) Remove the rocker cover LH.

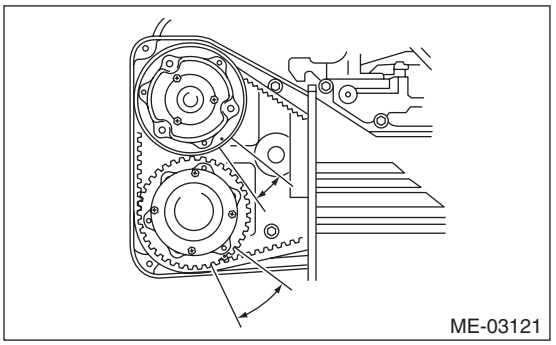
4) Turn the crank pulley clockwise until the round mark on the camshaft sprocket is set to position shown in the figure.

NOTE:
Turn the crank pulley using a socket wrench.

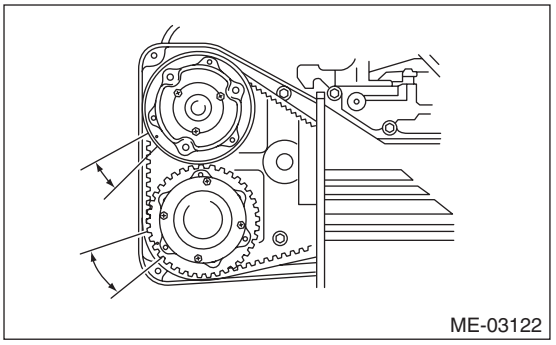
• Measurement of clearance of #1 cylinder intake valve and #3 cylinder exhaust valve



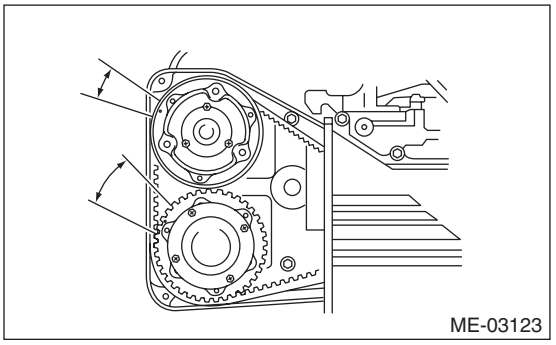
• Measurement of clearance of #2 cylinder exhaust valve and #3 cylinder intake valve



• Measurement of clearance of #2 cylinder intake valve and #4 cylinder exhaust valve



• Measurement of clearance of #1 cylinder exhaust valve and #4 cylinder intake valve



5) Measure the clearance of intake valve and exhaust valve using thickness gauge (A).

NOTE:
• Insert a thickness gauge in a direction as horizontal as possible with respect to the valve lifter.
• Lift up the vehicle, and then measure the exhaust valve clearances.
• If the measured value is not within the inspection value, take notes of the value in order to adjust the valve clearance later on.

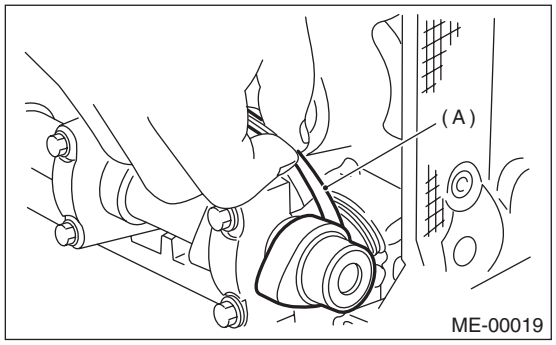
Valve clearance (inspection value):

Intake

$0.20^{+0.04}_{-0.06}$ mm ($0.0079^{+0.0016}_{-0.0024}$ in)

Exhaust

0.35±0.05 mm (0.0138±0.0020 in)



6) If necessary, adjust the valve clearance. <Ref. to ME(H4DOTC)-28, ADJUSTMENT, Valve Clearance.>

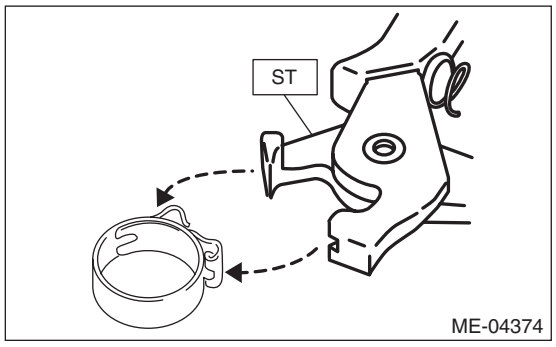
7) After inspection, install the related parts in the reverse order of removal.

NOTE:

• Refer to “Camshaft” when installing the rocker cover. <Ref. to ME(H4DOTC)-64, INSTALLATION, Camshaft.>

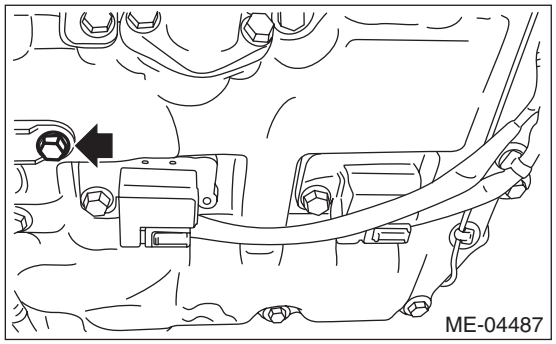
• Use a new clamp for the PCV hose clamp, fit the cut out in the ST with the protrusion on the clamp as shown in the figure, and lock the clamp.

ST 18353AA000 CLAMP PLIERS



Tightening torque:

6.4 N·m (0.7 kgf-m, 4.7 ft-lb)

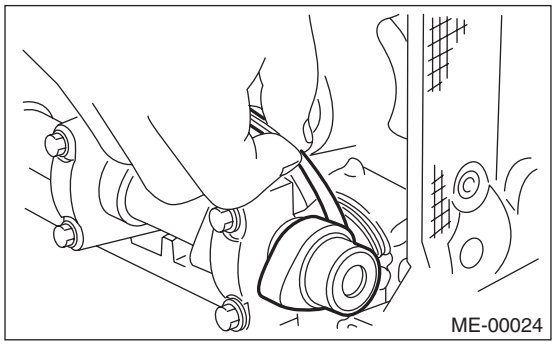


B: ADJUSTMENT

1) Measure all the valve clearances. <Ref. to ME(H4DOTC)-26, INSPECTION, Valve Clearance.>

NOTE:

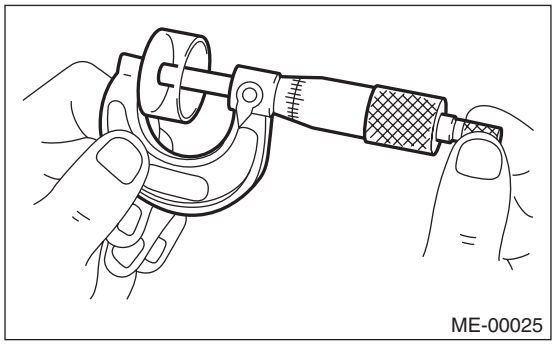
Record the measured value of each valve clearance.



2) Remove the camshaft. <Ref. to ME(H4DOTC)-61, REMOVAL, Camshaft.>

3) Remove the valve lifter.

4) Measure the thickness of valve lifter using micrometer.



5) Select a valve lifter of suitable thickness using the measured valve clearance and valve lifter thickness, and install it.

NOTE:

Use a new valve lifter.

Unit: mm (in)
Intake valve: S = (V + T) – 0.19 (0.0075) Exhaust valve: S = (V + T) – 0.35 (0.0138)
S: Valve lifter thickness required V: Measured valve clearance T: Valve lifter thickness to be used

6) Install the camshaft. <Ref. to ME(H4DOTC)-64, INSTALLATION, Camshaft.>

7) Install the cam sprocket. <Ref. to ME(H4DOTC)-59, INSTALLATION, Cam Sprocket.>

8) Install the timing belt. <Ref. to ME(H4DOTC)-53, TIMING BELT, INSTALLATION, Timing Belt.>

9) Measure all valves for valve clearance again at this time. If the valve clearance is not within the adjustment value, repeat the procedure over again from the first step.

Valve clearance (adjustment value):

Intake

$0.20^{+0.01}_{-0.03}$ mm ($0.0079^{+0.0004}_{-0.0012}$ in)

Exhaust

0.35±0.02 mm (0.0138±0.0008 in)

10) After adjustment, install the related parts in the reverse order of removal.