

18.Rocker Cover

A: REMOVAL

1. ROCKER COVER RH

NOTE:

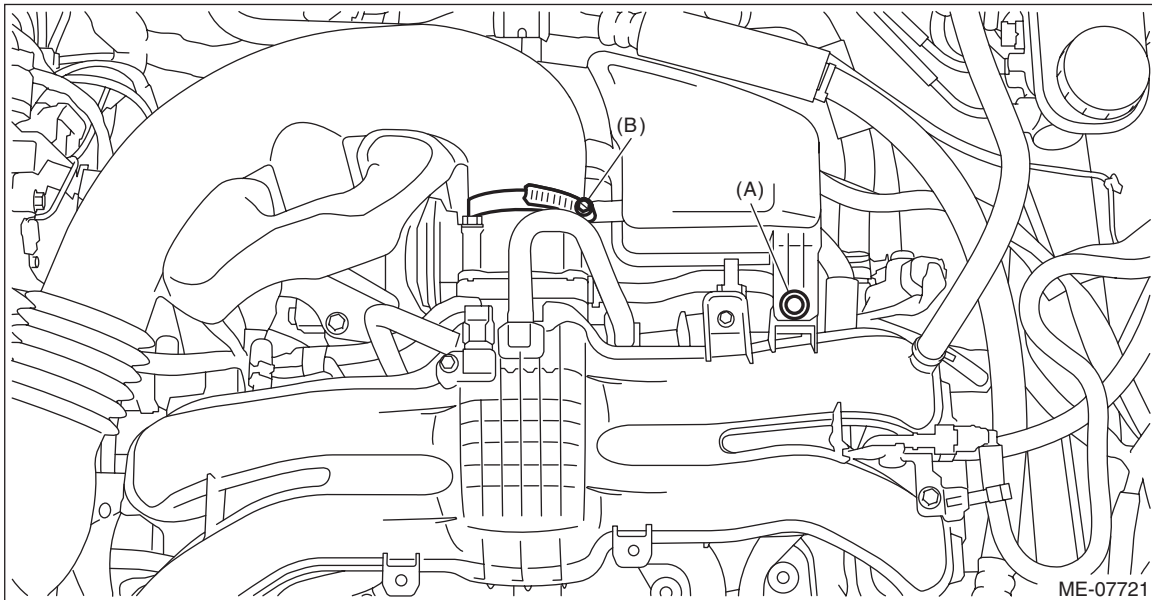
When replacing a single part, perform the work with the engine assembly installed to body.

1) When working on the vehicle

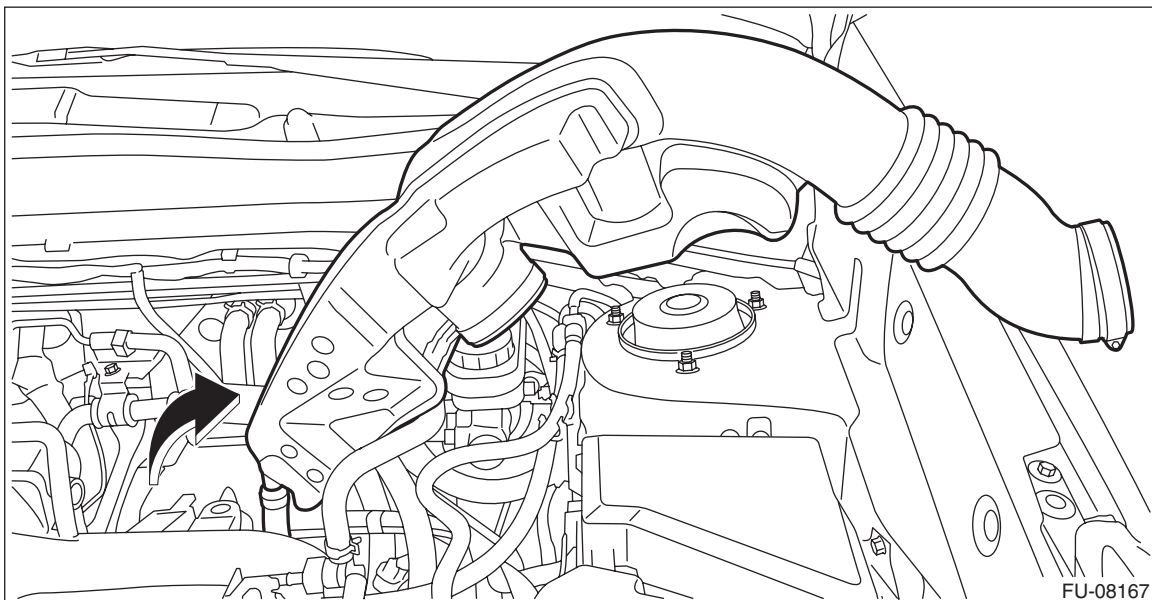
NOTE:

When working on the vehicle, perform the following steps also.

- (1) Remove the air cleaner case. (Gasoline engine model) <Ref. to IN(H4DO(w/o HEV))-7, REMOVAL, Air Cleaner Case.>
- (2) Remove the clip (A) from the air intake boot, and loosen the clamp (B) securing the air intake boot to the throttle body. (Gasoline engine model)



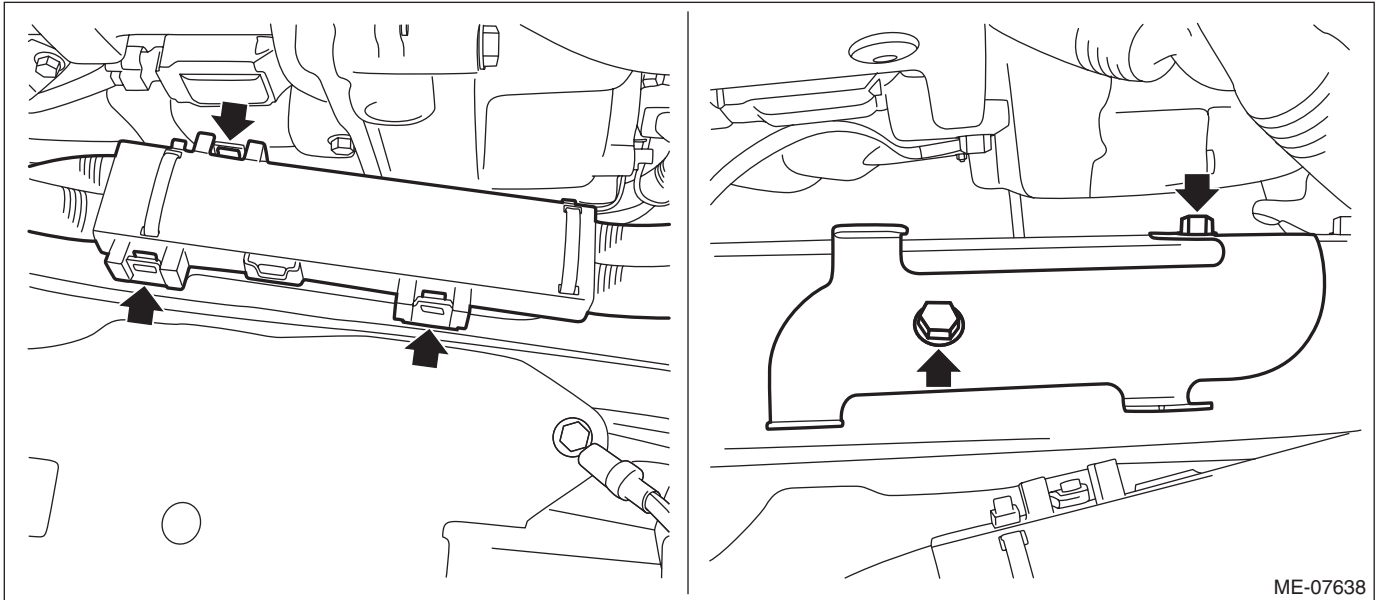
- (3) Remove the air intake boot from the throttle body, and move it to the left side wheel apron. (Gasoline engine model)



- (4) Remove the intake duct. (HEV model) <Ref. to IN(H4DO(HEV))-16, REMOVAL, Intake Duct.>

(5) Remove the 12 volt engine restart battery. (HEV model) <Ref. to SC(H4DO(HEV))-40, 12 VOLT ENGINE RESTART BATTERY, REMOVAL, Battery.>

(6) Remove the battery cable assembly from the battery cable bracket No. 2, and remove the battery cable bracket No. 2 from the vehicle. (HEV model)

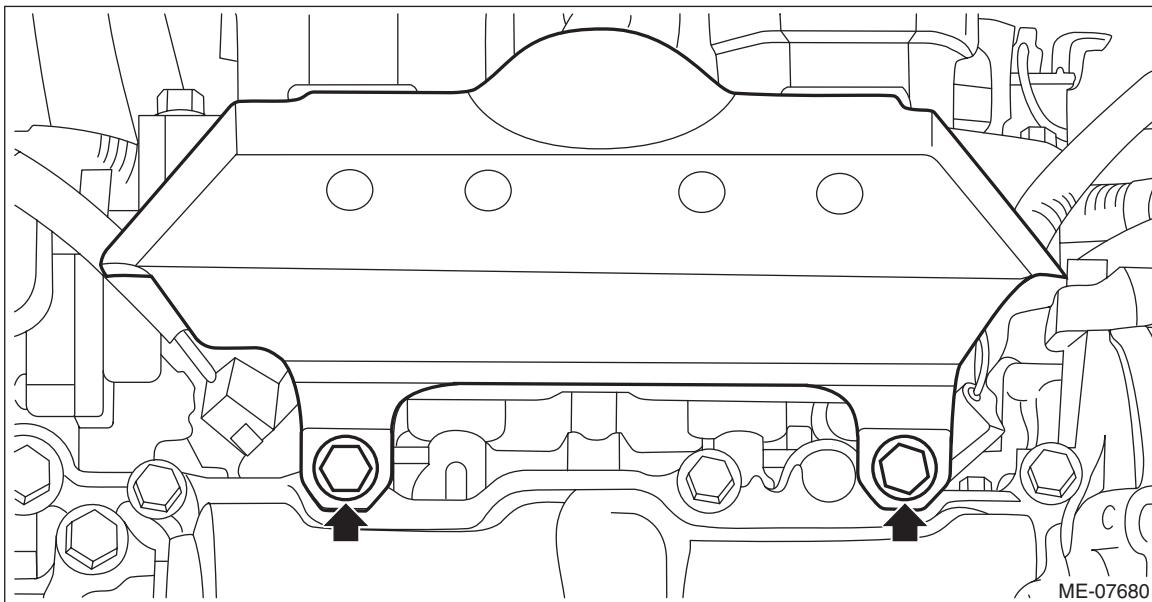


(7) Remove the front exhaust pipe. <Ref. to EX(H4DO(w/o HEV))-6, REMOVAL, Front Exhaust Pipe.>

2) Remove the #1 ignition coil and the #3 ignition coil. <Ref. to IG(H4DO(w/o HEV))-12, REMOVAL, Ignition Coil.>

3) Remove the intake manifold protector RH.

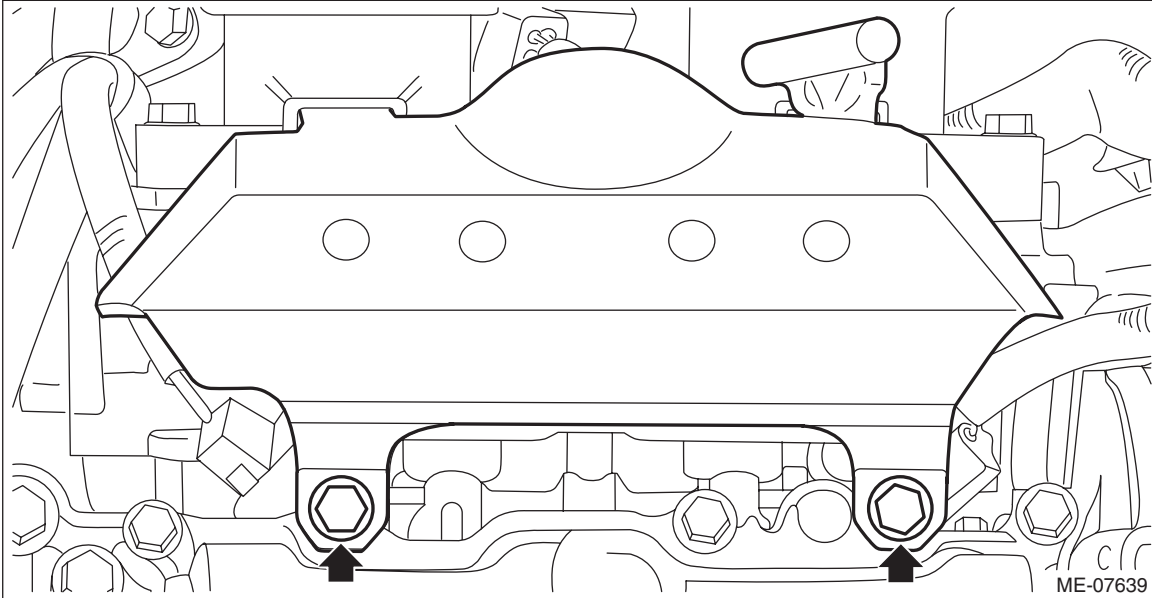
- Gasoline engine model



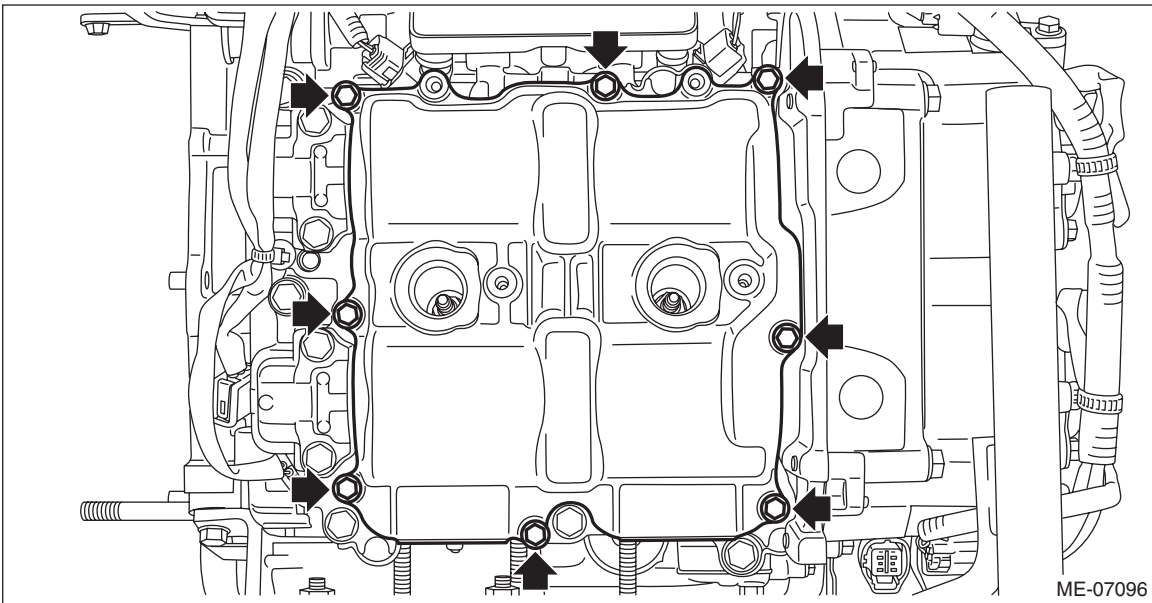
Rocker Cover

MECHANICAL

- HEV model



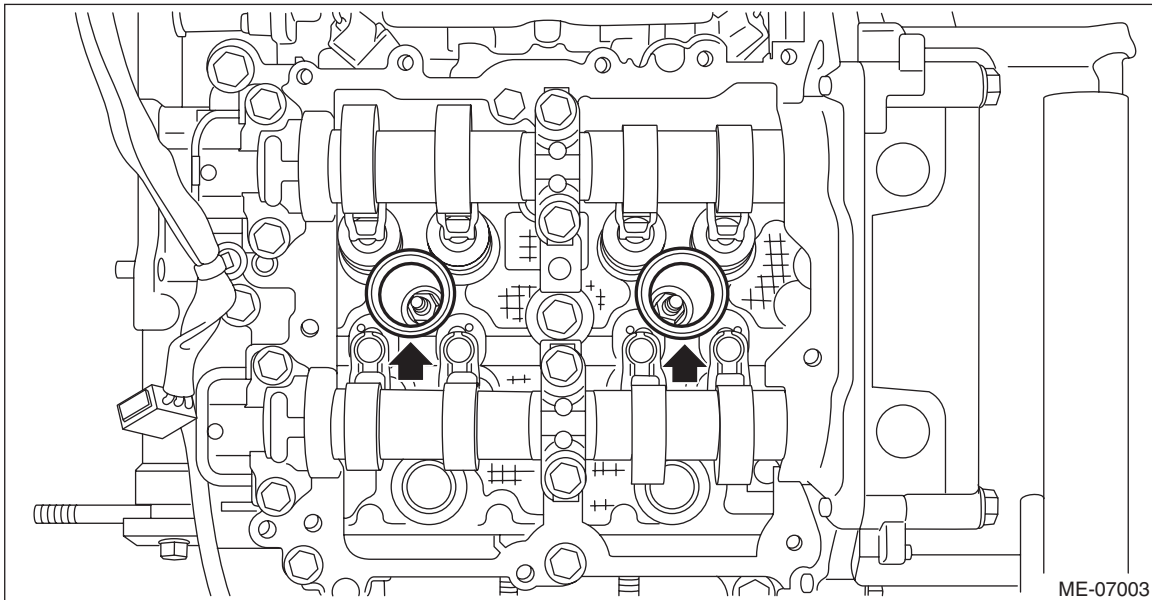
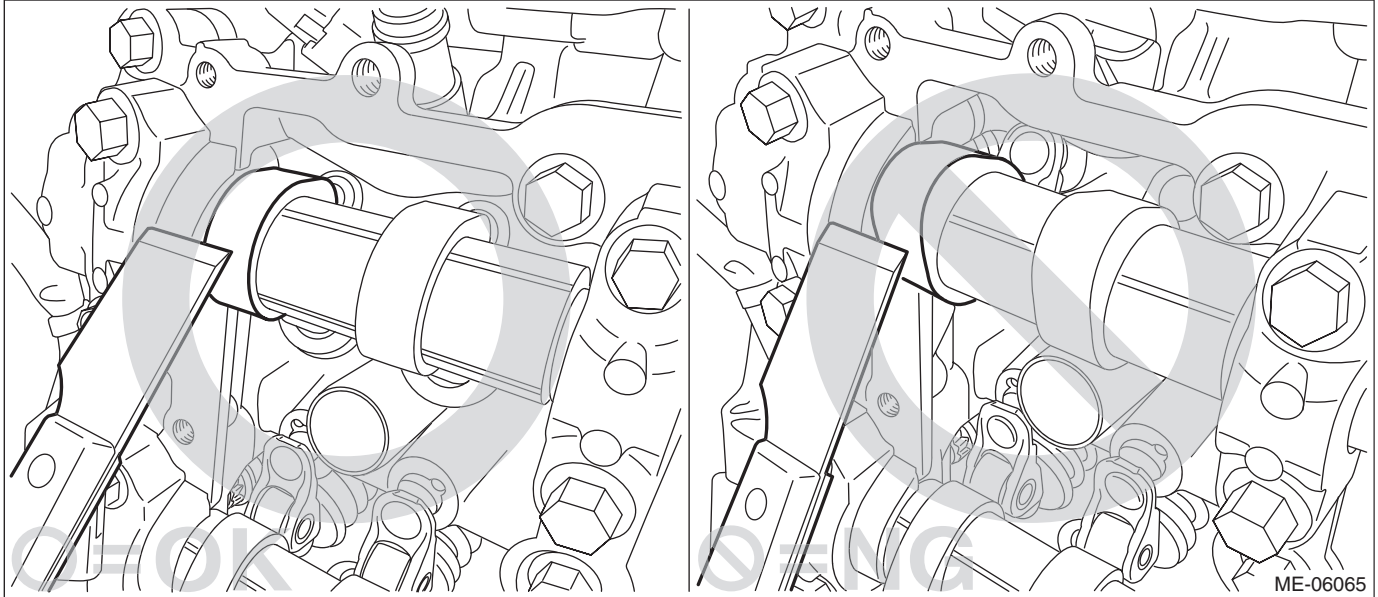
- 4) Remove the rocker cover RH.



5) Remove the rocker cover gasket RH, #1 spark plug pipe gasket and #3 spark plug pipe gasket, and remove the liquid gasket.

CAUTION:

- When removing the liquid gasket from engine unit using scraper, use special care not to damage the cam lobe of camshaft RH.
- If the cam lobe of camshaft RH interferes, turn the crankshaft to the position where the scraper does not touch.



Rocker Cover

MECHANICAL

2. ROCKER COVER LH

NOTE:

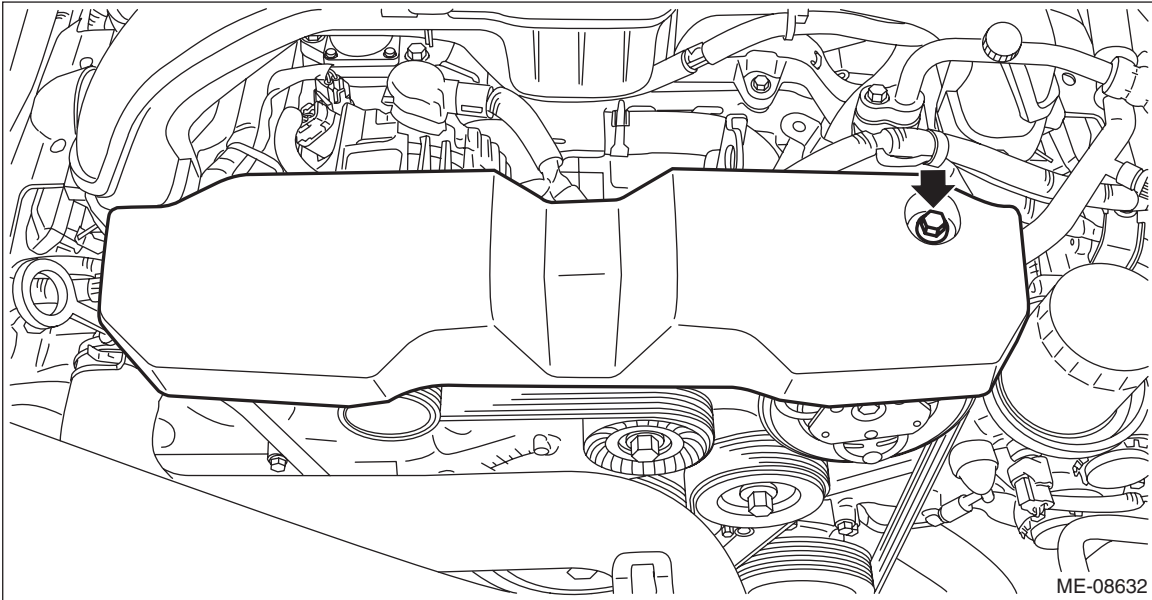
When replacing a single part, perform the work with the engine assembly installed to body.

1) When working on the vehicle

NOTE:

When working on the vehicle, perform the following steps also.

(1) Remove the V-belt covers. (Gasoline engine model)



(2) Remove the V-belts. (Gasoline engine model) <Ref. to ME(H4DO(w/o HEV))-122, GASOLINE ENGINE MODEL, REMOVAL, V-belt.>

(3) Remove the battery. (Gasoline engine model) <Ref. to SC(H4DO(w/o HEV))-52, REMOVAL, Battery.>

(4) Turn the ignition switch to OFF. (HEV model)

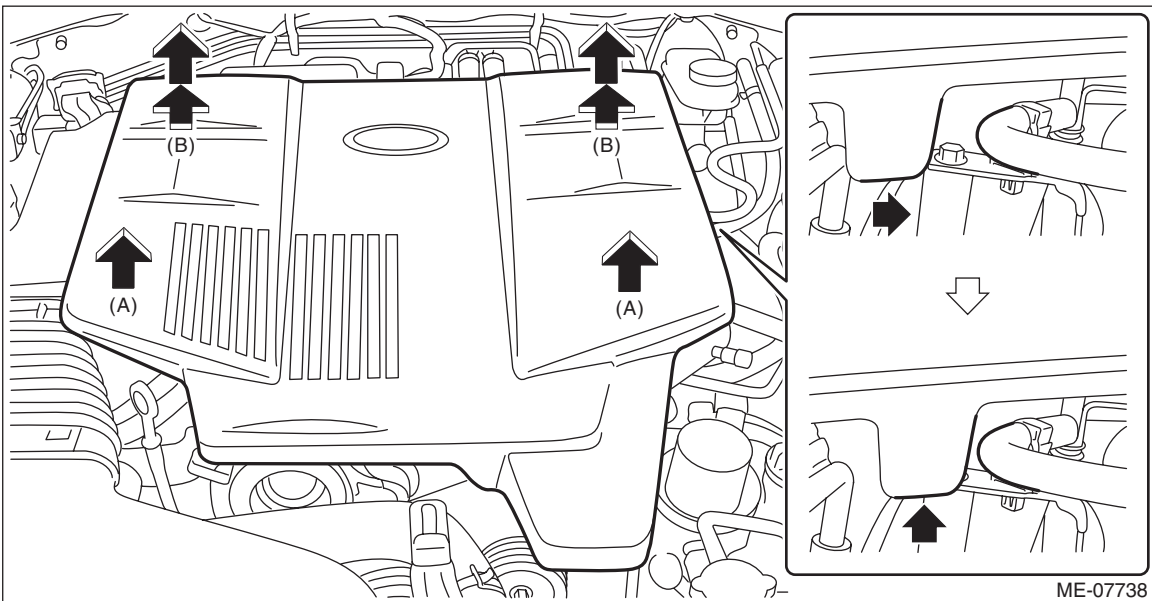
(5) Remove the collector cover. (HEV model)

1. Carefully pull up the front of collector cover at two positions (A).

2. Carefully pull up the rear of collector cover at two positions (B) while moving it backward.

NOTE:

Be careful not to contact the fuel delivery tube when moving the collector cover rearward.

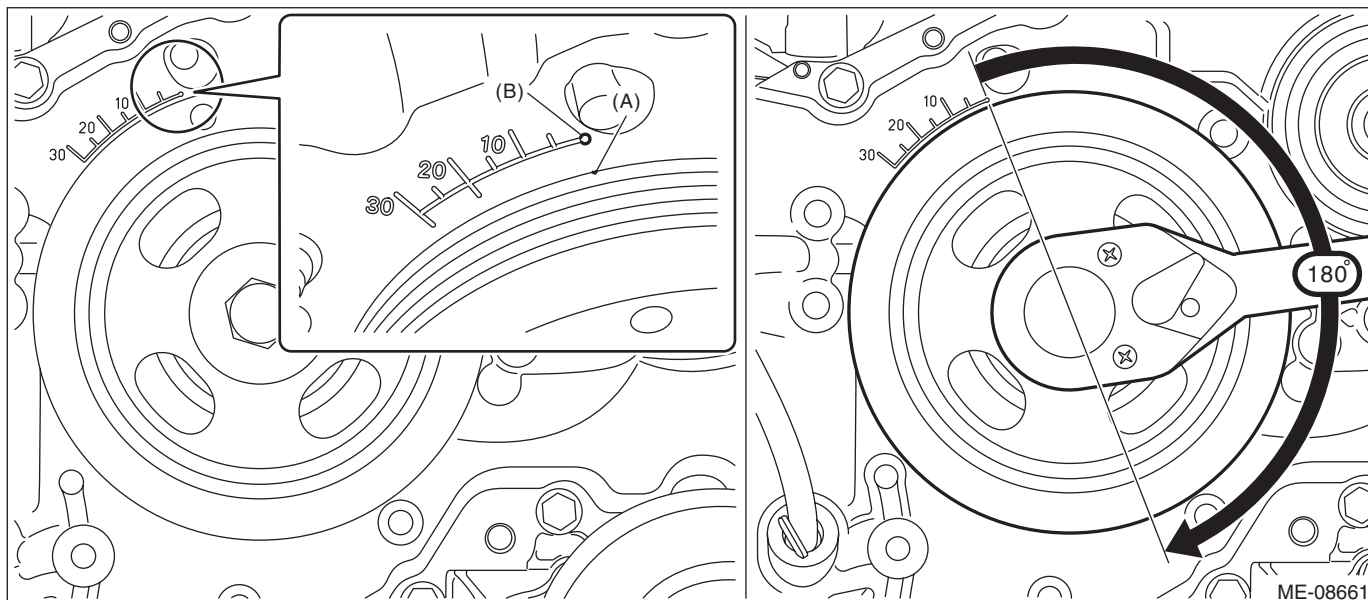


- (6) Remove the 12 volt auxiliary battery. (HEV model) <Ref. to SC(H4DO(HEV))-39, 12 VOLT AUXILIARY BATTERY, REMOVAL, Battery.>
- (7) Remove the air intake duct. <Ref. to IN(H4DO(w/o HEV))-13, REMOVAL, Air Intake Duct.> <Ref. to IN(H4DO(HEV))-15, REMOVAL, Air Intake Duct.>
- (8) Align the timing mark (A) of crank pulley to the timing gauge (B) 0° of chain cover as shown in the figure, and turn the crankshaft by 180° clockwise from that position.

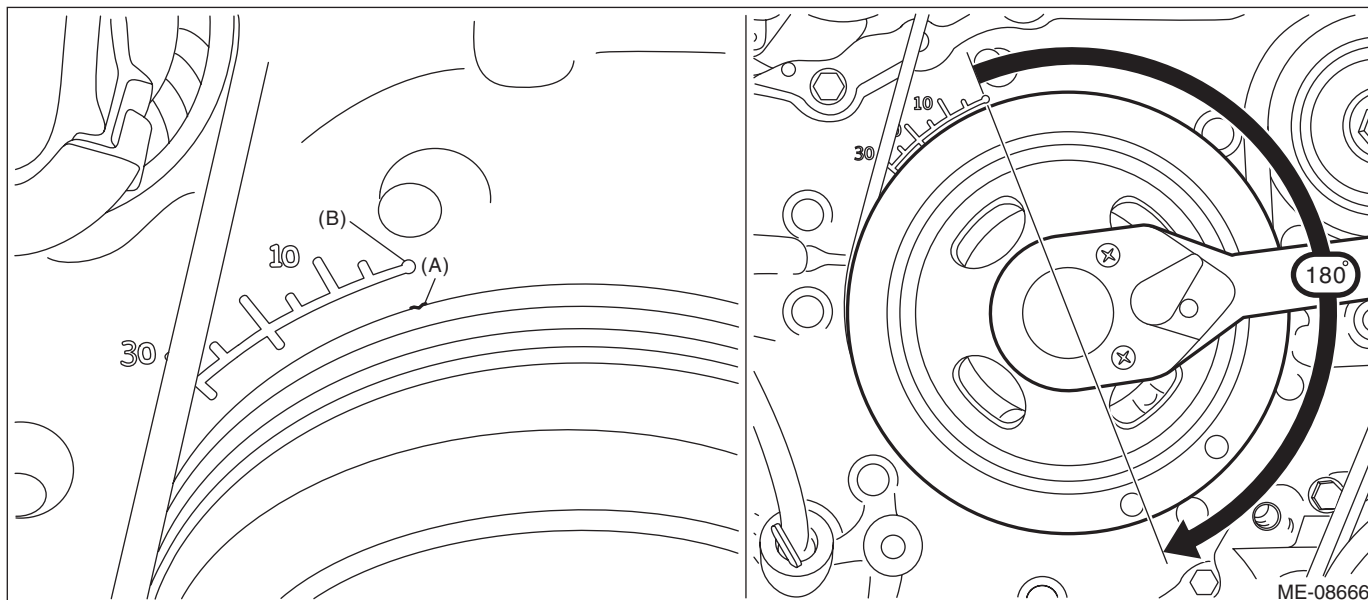
NOTE:

This procedure is required to prevent the rocker cover LH and the cam lobe of camshaft LH contacting with each other when removing the rocker cover LH.

- Gasoline engine model



- HEV model

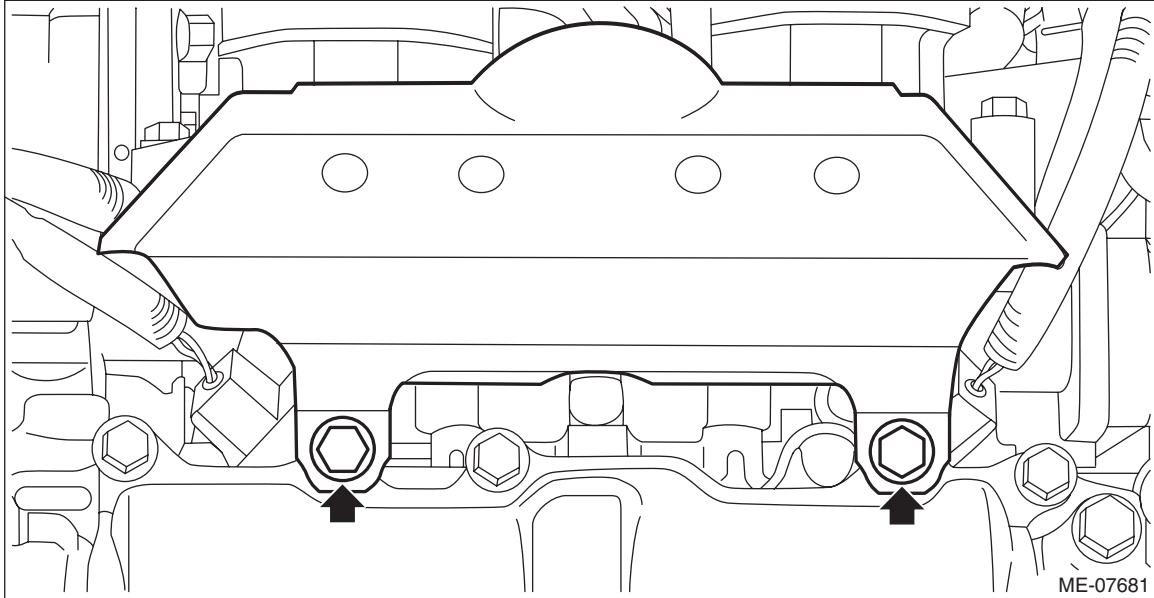


- 2) Remove the #2 ignition coil and the #4 ignition coil. <Ref. to IG(H4DO(w/o HEV))-12, REMOVAL, Ignition Coil.>

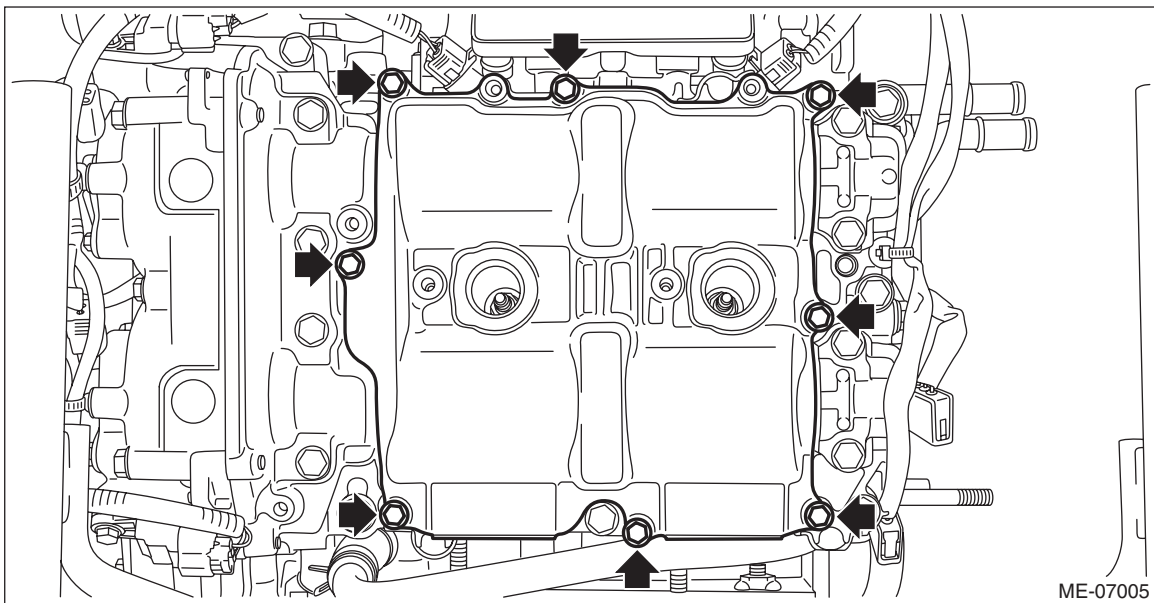
Rocker Cover

MECHANICAL

3) Remove the intake manifold protector LH.



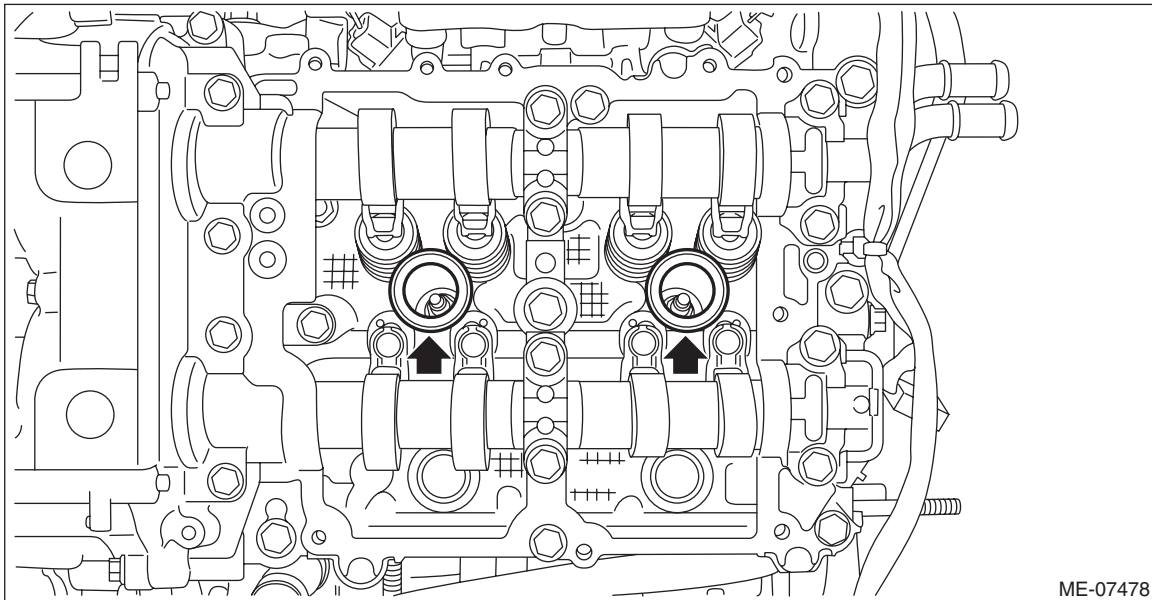
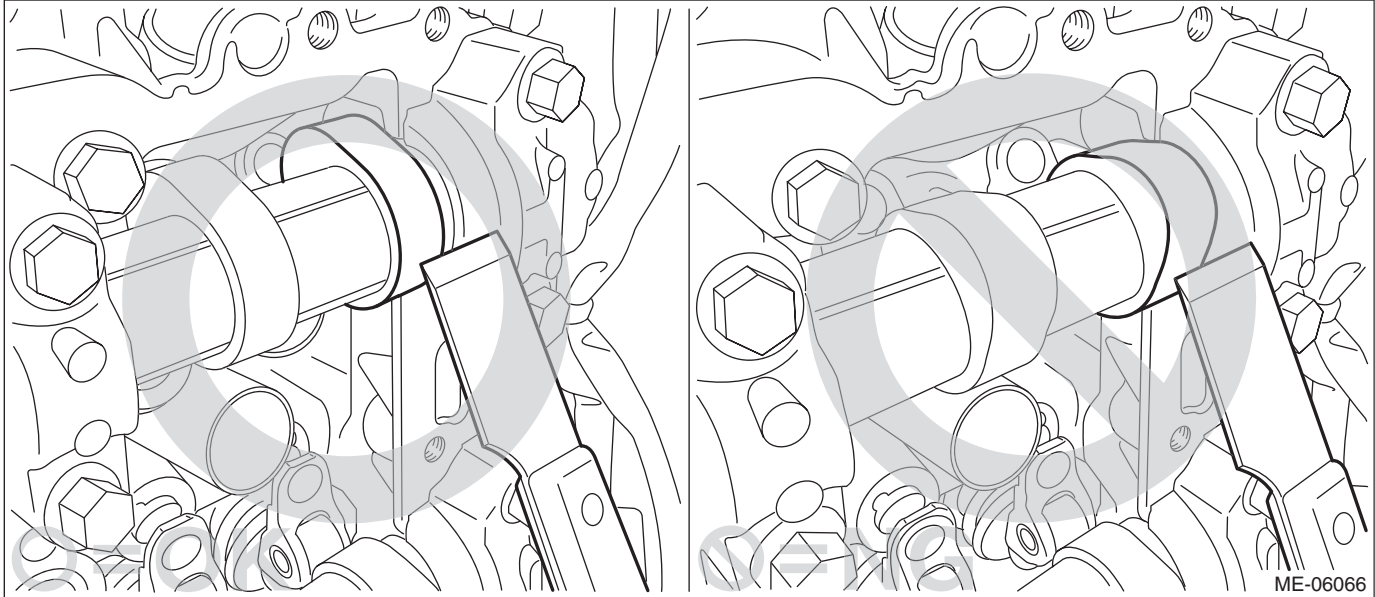
4) Remove the rocker cover LH.



5) Remove the rocker cover gasket LH, #2 spark plug pipe gasket and #4 spark plug pipe gasket, and remove the liquid gasket.

CAUTION:

- When removing the liquid gasket from engine unit using scraper, use special care not to damage the cam lobe of camshaft LH.
- If the cam lobe of camshaft LH interferes, turn the crankshaft to the position where the scraper does not touch.



Rocker Cover

MECHANICAL

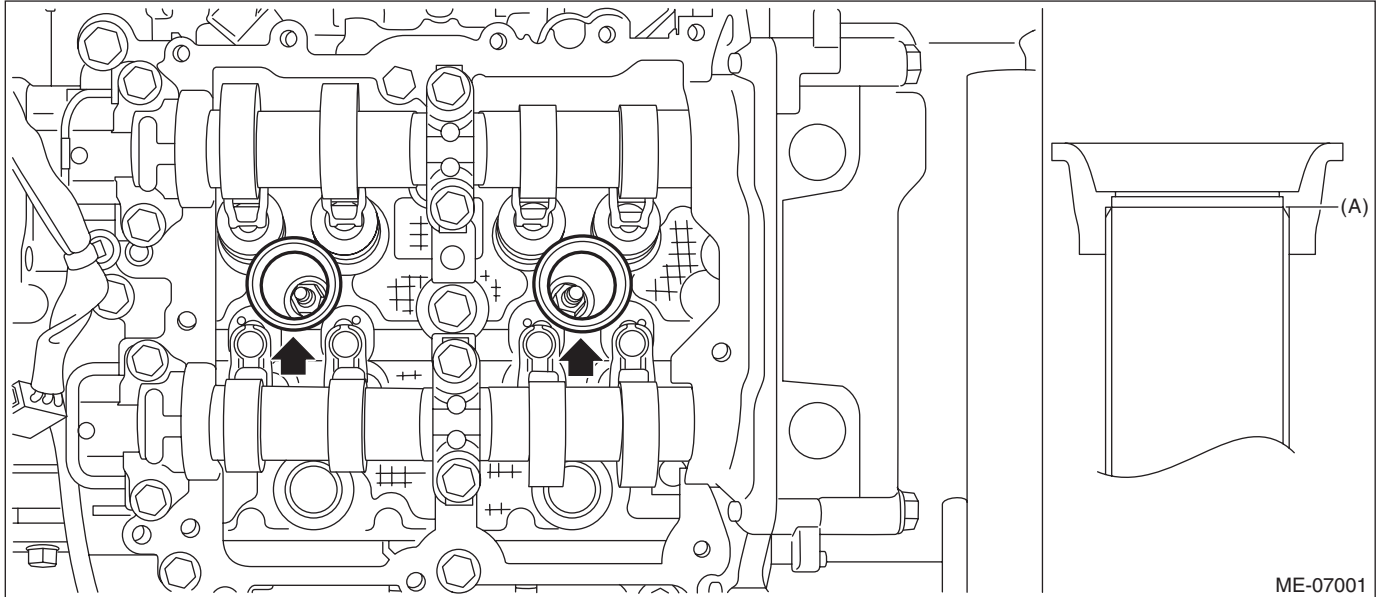
B: INSTALLATION

1. ROCKER COVER RH

1) Install the #1 spark plug pipe gasket and #3 spark plug pipe gasket to the #1 spark plug pipe and #3 spark plug pipe.

NOTE:

- Use a new #1 spark plug pipe gasket and #3 spark plug pipe gasket.
- Apply a light coat of engine oil to the #1 spark plug pipe gasket and #3 spark plug pipe gasket, and insert them onto the spark plug pipe edge (A).



2) Install the rocker cover gasket RH to the rocker cover RH.

NOTE:

Use a new rocker cover gasket RH.

3) Apply liquid gasket to the mating surface of rocker cover RH as shown in the figure.

NOTE:

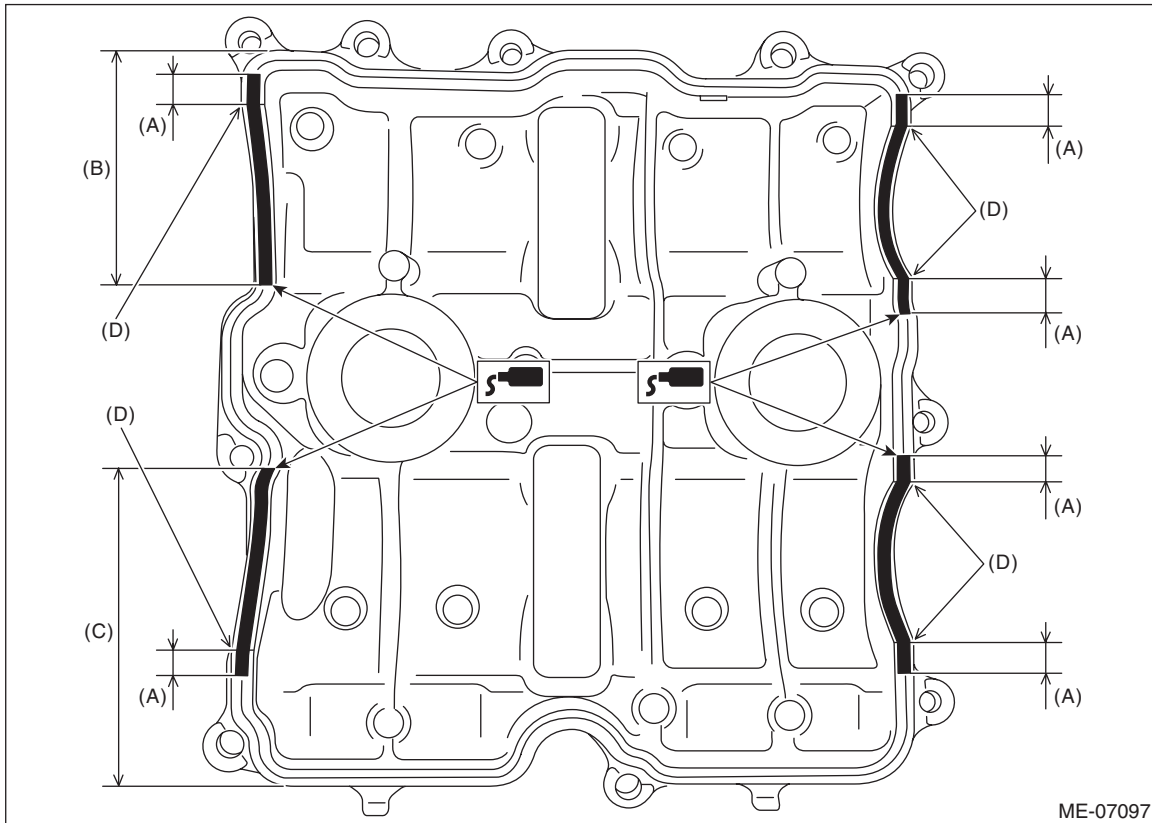
- Before applying liquid gasket, degrease the old liquid gasket seal surface of the engine.
- Be careful not to allow liquid gasket to be squeezed out from rocker cover RH.
- Install within 5 min. after applying liquid gasket.

Liquid gasket:

THREE BOND 1217G (Part No. K0877Y0100), THREE BOND 1217H or equivalent

Liquid gasket applying diameter:

3.5 ± 0.5 mm (0.1378 ± 0.0197 in)



(A) 10 mm (0.394 in) or more

(B) 68 mm (2.677 in) or more

(C) 89 mm (3.504 in) or more

(D) Arch starting point

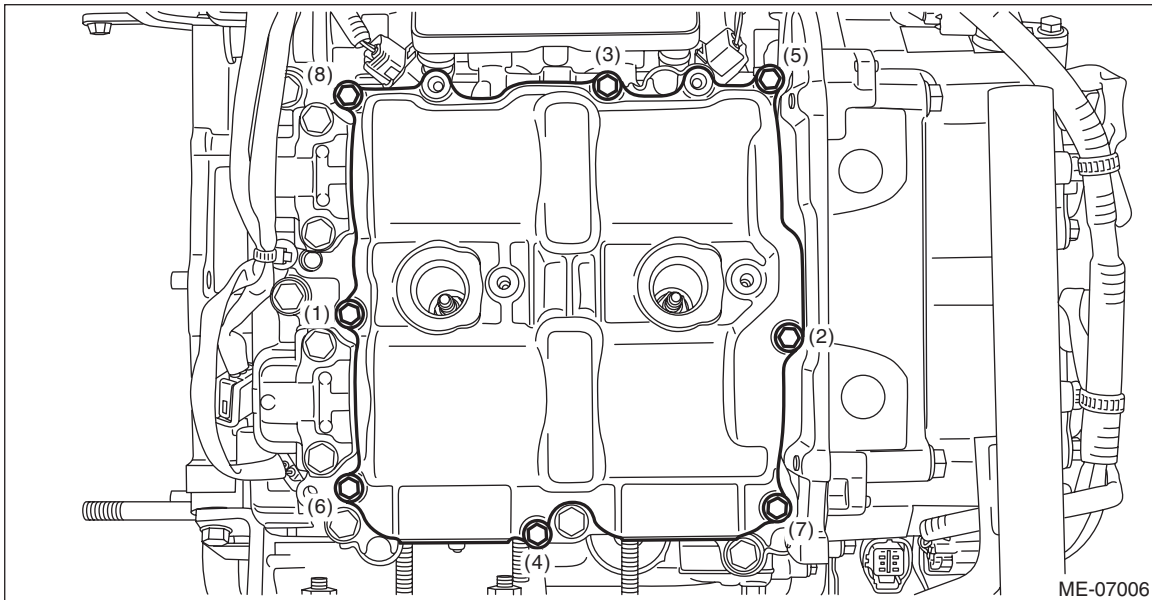
Rocker Cover

MECHANICAL

4) Set the rocker cover RH, and tighten the bolts in numerical order as shown in the figure.

Tightening torque:

6.4 N·m (0.7 kgf-m, 4.7 ft-lb)

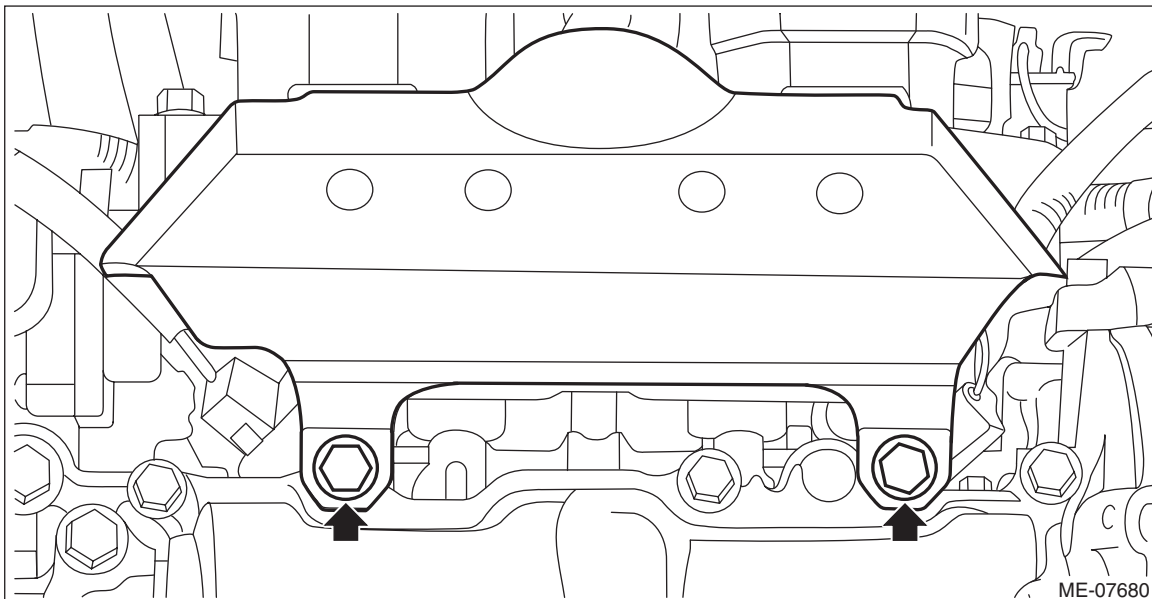


5) Install the intake manifold protector RH.

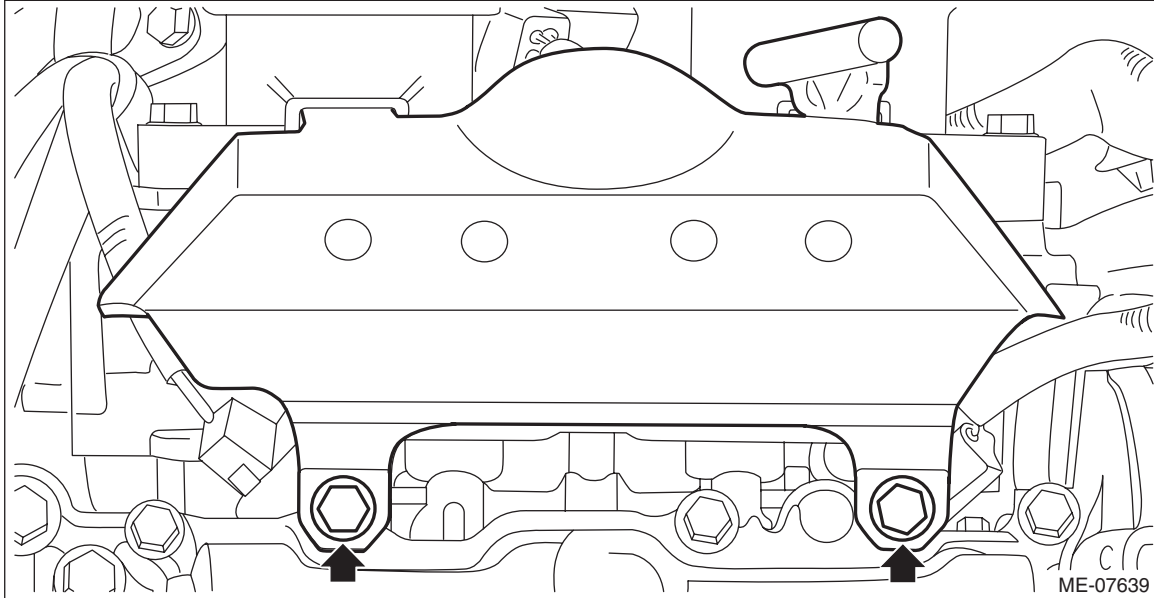
Tightening torque:

6.4 N·m (0.7 kgf-m, 4.7 ft-lb)

- Gasoline engine model



- HEV model



6) Install the #1 ignition coil and the #3 ignition coil. <Ref. to IG(H4DO(w/o HEV))-12, INSTALLATION, Ignition Coil.>

7) When working on the vehicle

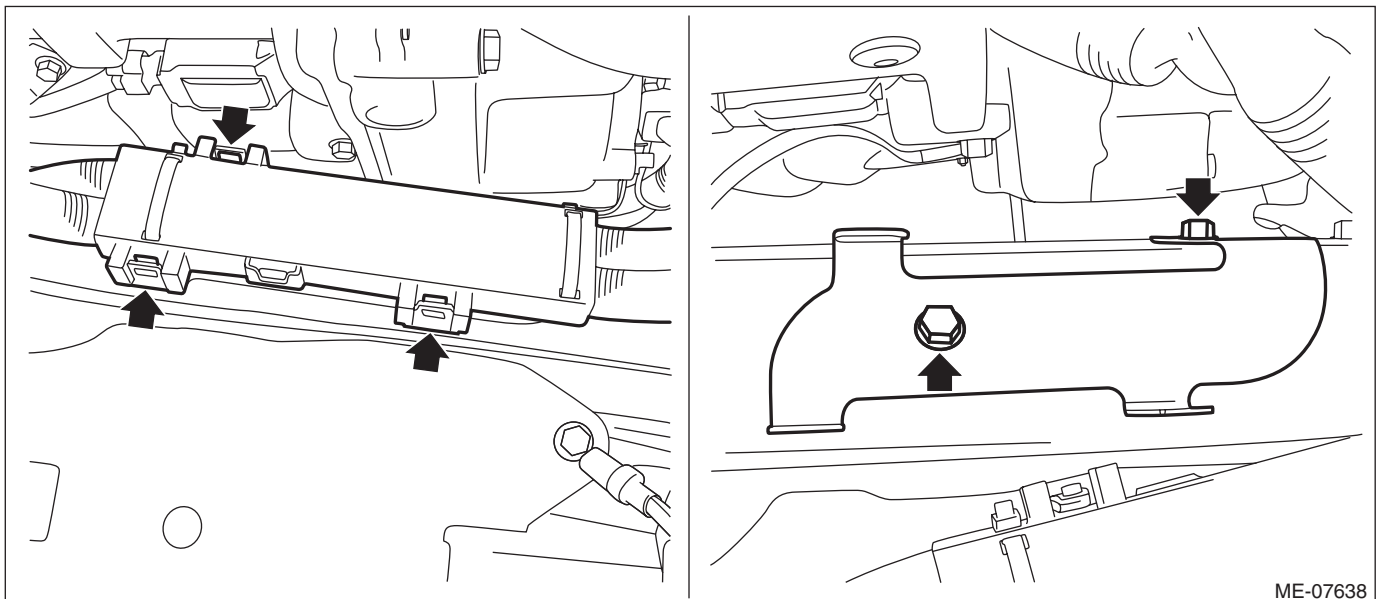
NOTE:

When working on the vehicle, perform the following steps also.

- (1) Install the front exhaust pipe. <Ref. to EX(H4DO(w/o HEV))-8, INSTALLATION, Front Exhaust Pipe.>
- (2) Install the air intake boot. (Gasoline engine model) <Ref. to IN(H4DO(w/o HEV))-12, INSTALLATION, Air Intake Boot.>
- (3) Install the air cleaner case. (Gasoline engine model) <Ref. to IN(H4DO(w/o HEV))-9, INSTALLATION, Air Cleaner Case.>
- (4) Install the battery cable bracket No. 2 to the vehicle, and install the battery cable assembly to battery cable bracket No. 2. (HEV model)

Tightening torque:

7.5 N·m (0.8 kgf-m, 5.5 ft-lb)



(5) Install the 12 volt engine restart battery. (HEV model) <Ref. to SC(H4DO(HEV))-42, 12 VOLT ENGINE RESTART BATTERY, INSTALLATION, Battery.>

Rocker Cover

MECHANICAL

(6) Install the intake duct. (HEV model) <Ref. to IN(H4DO(HEV))-17, INSTALLATION, Intake Duct.>

2. ROCKER COVER LH

1) When working on the vehicle

NOTE:

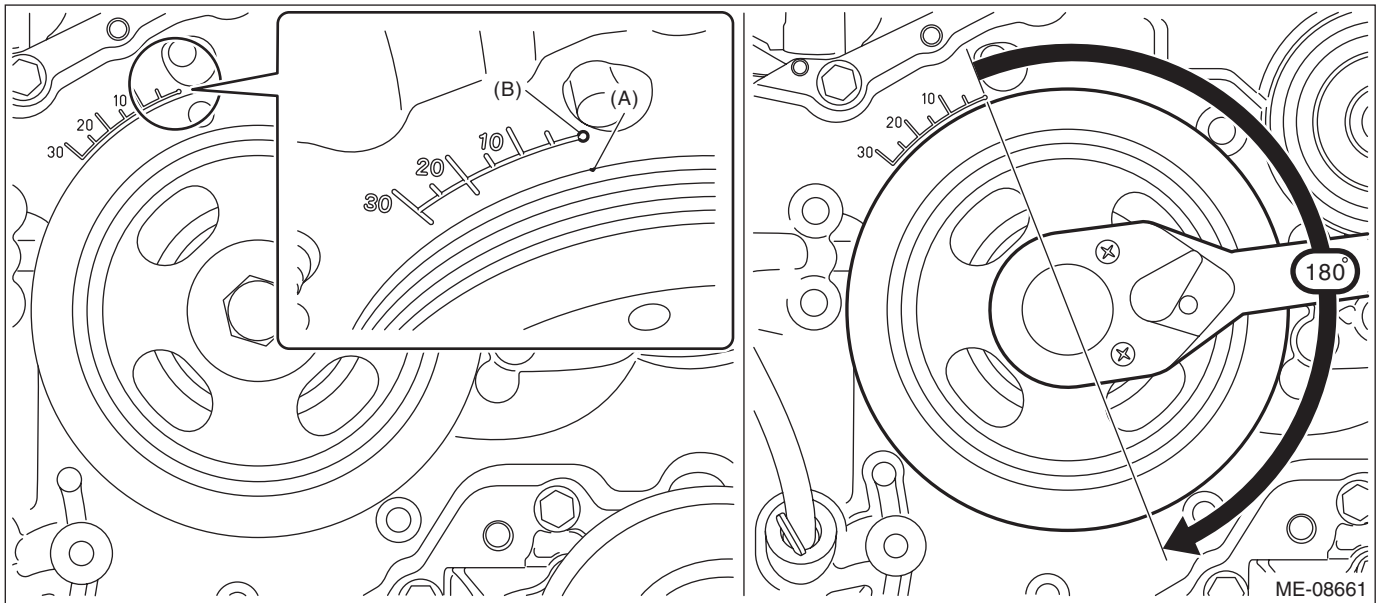
When working on the vehicle, perform the following steps also.

(1) Align the timing mark (A) of crank pulley to the timing gauge (B) of chain cover as shown in the figure, and turn the crankshaft by 180° clockwise from that position.

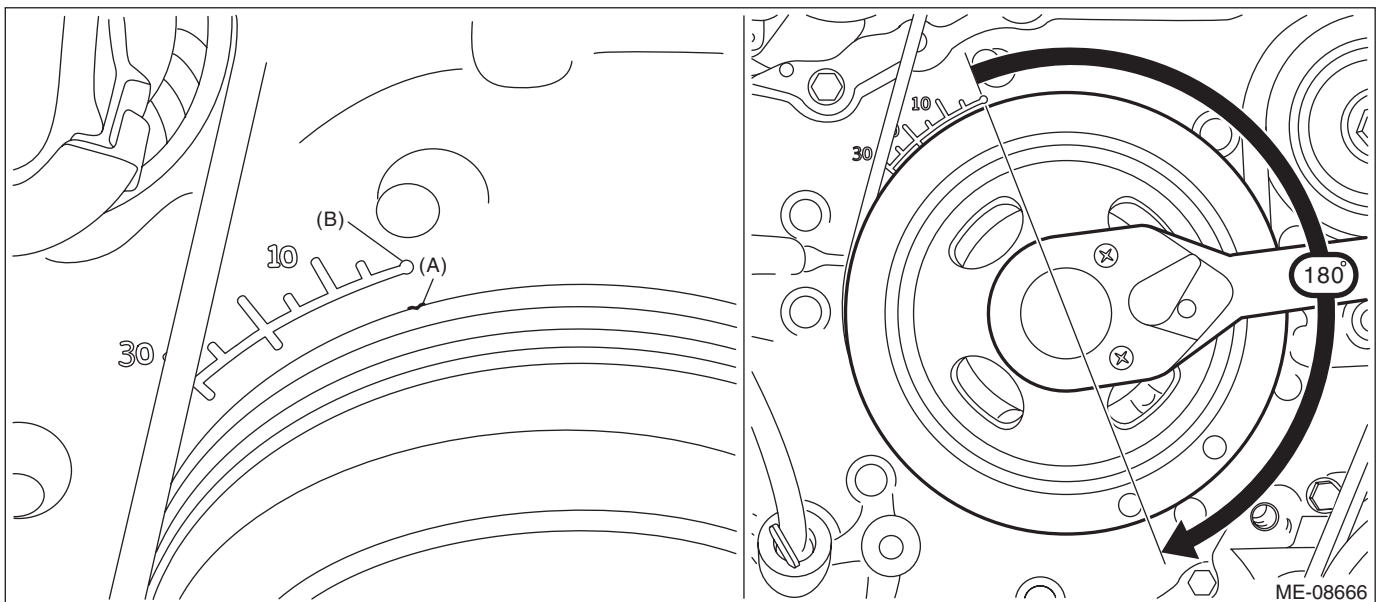
NOTE:

This procedure is required to prevent the rocker cover LH and the cam lobe of camshaft LH contacting with each other when installing the rocker cover LH.

- Gasoline engine model



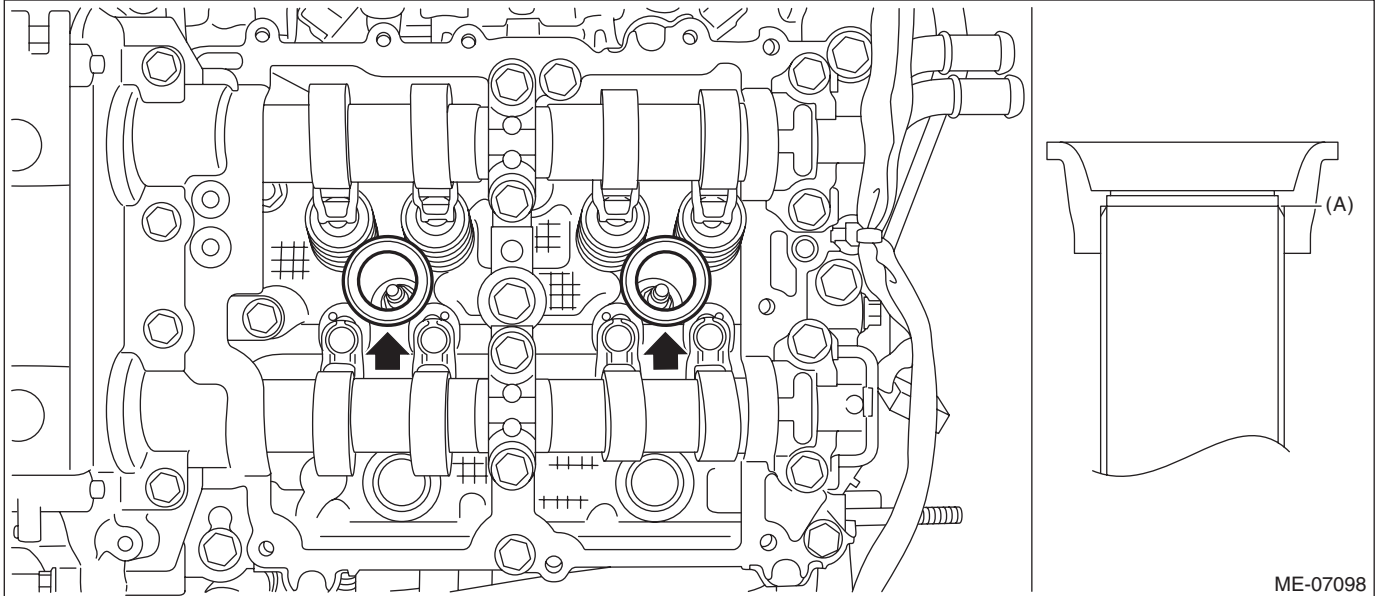
- HEV model



2) Install the #2 spark plug pipe gasket and #4 spark plug pipe gasket to the #2 spark plug pipe and #4 spark plug pipe.

NOTE:

- Use a new #2 spark plug pipe gasket and #4 spark plug pipe gasket.
- Apply a light coat of engine oil to the #2 spark plug pipe gasket and #4 spark plug pipe gasket, and insert them onto the spark plug pipe edge (A).



ME-07098

3) Install the rocker cover gasket LH to the rocker cover LH.

NOTE:

Use a new rocker cover gasket LH.

Rocker Cover

MECHANICAL

4) Apply liquid gasket to the mating surface of rocker cover LH as shown in the figure.

NOTE:

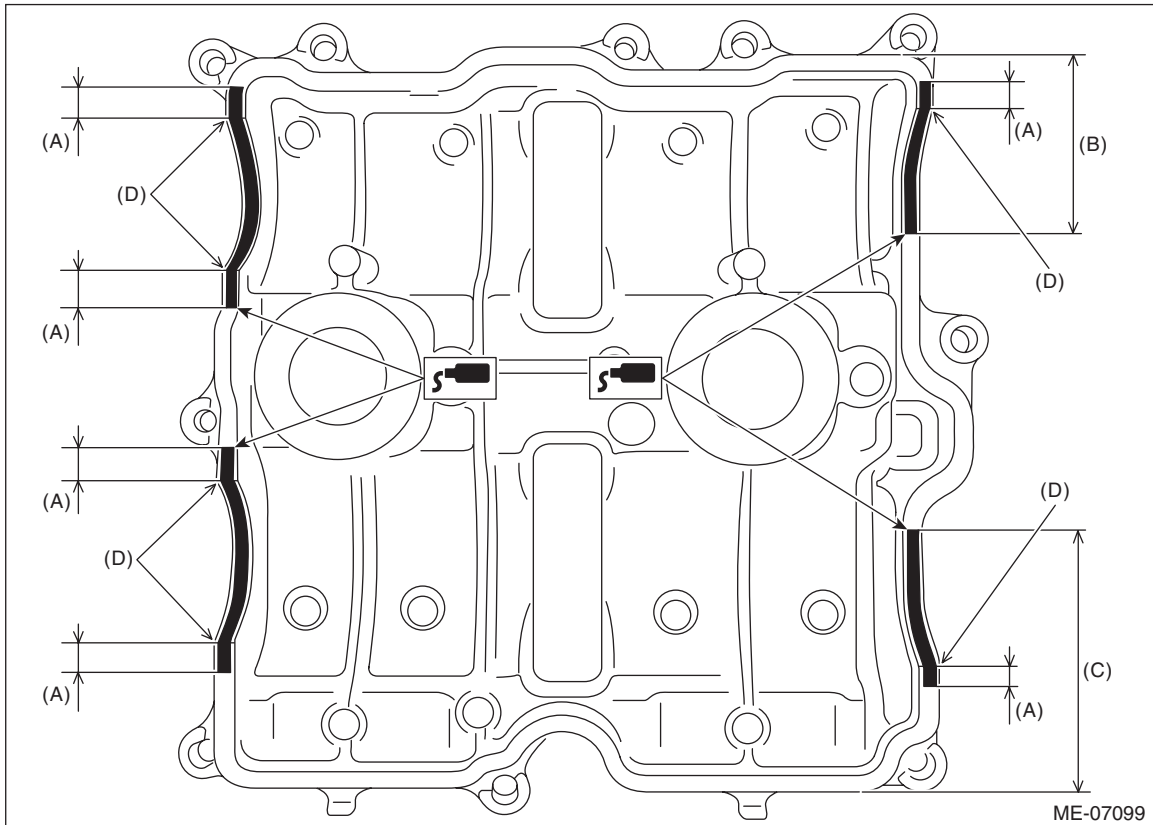
- Before applying liquid gasket, degrease the old liquid gasket seal surface of the engine.
- Be careful not to allow liquid gasket to be squeezed out from rocker cover LH.
- Install within 5 min. after applying liquid gasket.

Liquid gasket:

THREE BOND 1217G (Part No. K0877Y0100), THREE BOND 1217H or equivalent

Liquid gasket applying diameter:

3.5 ± 0.5 mm (0.1378 ± 0.0197 in)



(A) 10 mm (0.394 in) or more

(C) 73 mm (2.874 in) or more

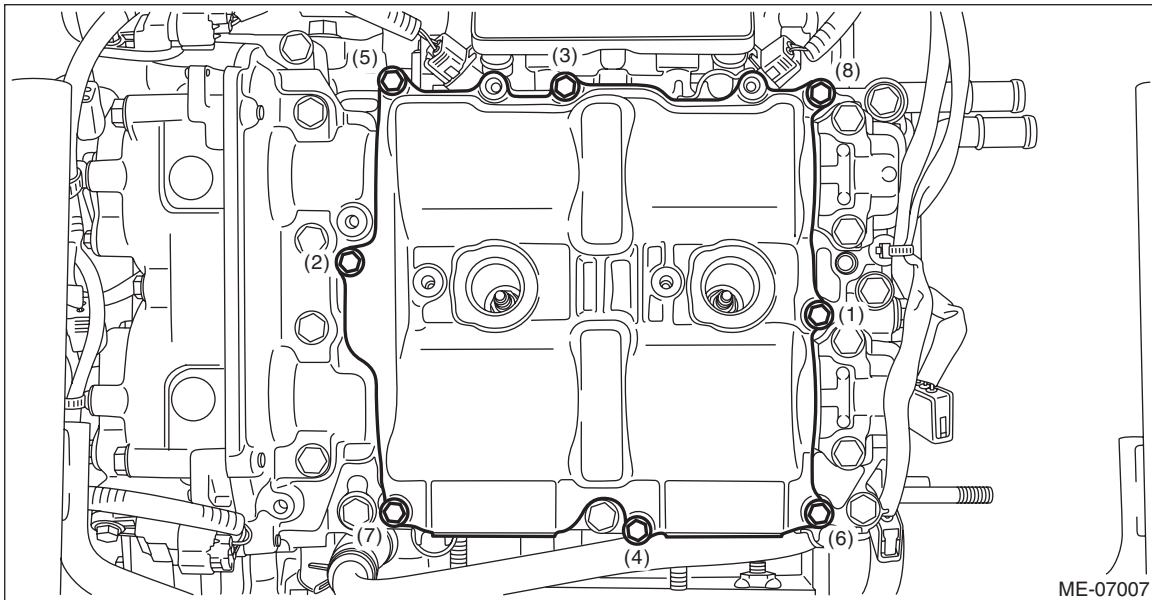
(D) Arch starting point

(B) 51 mm (2.008 in) or more

5) Set the rocker cover LH, and tighten the bolts in numerical order as shown in the figure.

Tightening torque:

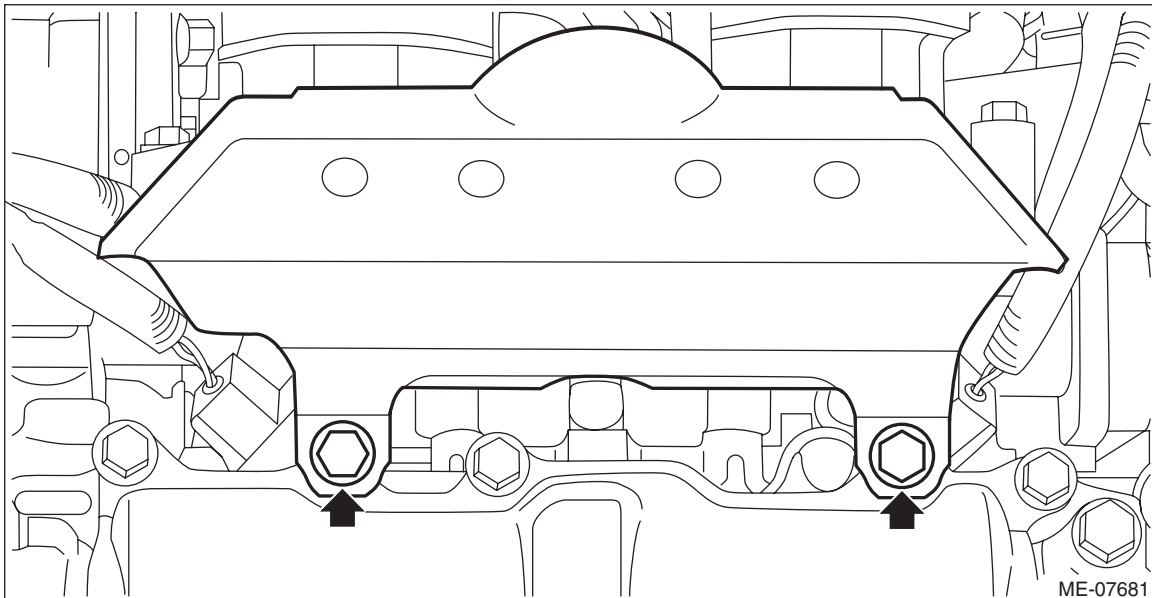
6.4 N·m (0.7 kgf-m, 4.7 ft-lb)



6) Install the intake manifold protector LH.

Tightening torque:

6.4 N·m (0.7 kgf-m, 4.7 ft-lb)



7) Install the #2 ignition coil and the #4 ignition coil. <Ref. to IG(H4DO(w/o HEV))-12, INSTALLATION, Ignition Coil.>

Rocker Cover

MECHANICAL

8) When working on the vehicle

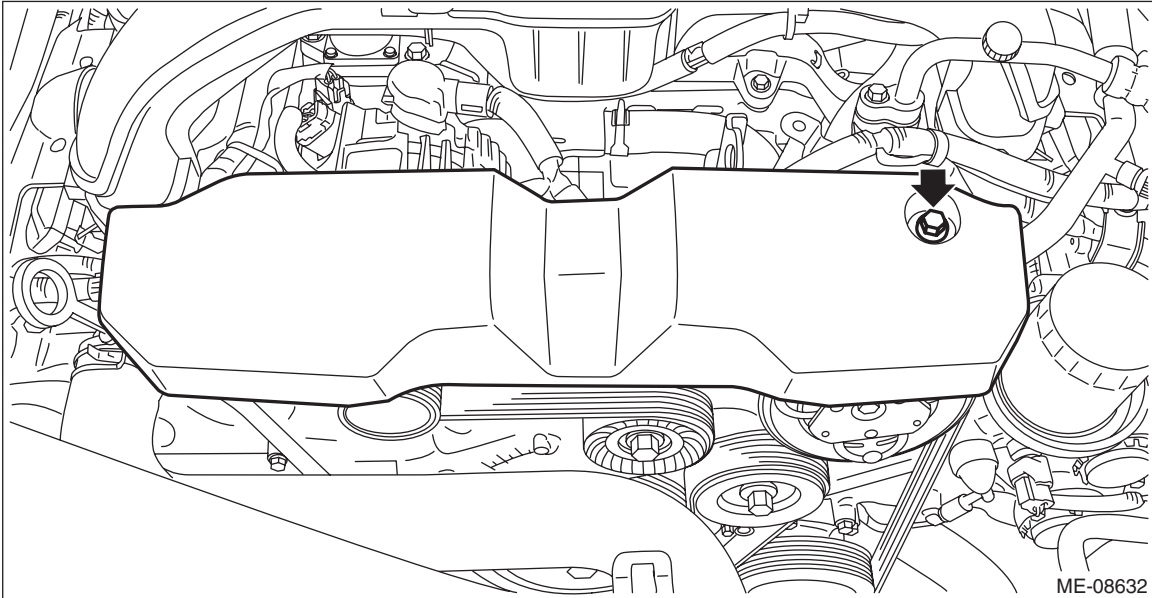
NOTE:

When working on the vehicle, perform the following steps also.

- (1) Install the air intake duct. <Ref. to IN(H4DO(w/o HEV))-13, INSTALLATION, Air Intake Duct.> <Ref. to IN(H4DO(HEV))-15, INSTALLATION, Air Intake Duct.>
- (2) Install the battery. (Gasoline engine model) <Ref. to SC(H4DO(w/o HEV))-52, INSTALLATION, Battery.>
- (3) Install the V-belt cover. (Gasoline engine model)

Tightening torque:

6.4 N·m (0.7 kgf-m, 4.7 ft-lb)



- (4) Install the 12 volt auxiliary battery. (HEV model) <Ref. to SC(H4DO(HEV))-41, 12 VOLT AUXILIARY BATTERY, INSTALLATION, Battery.>
- (5) Install the collector cover. (HEV model)

C: INSPECTION

Check that the rocker cover does not have deformation, cracks and any other damage.