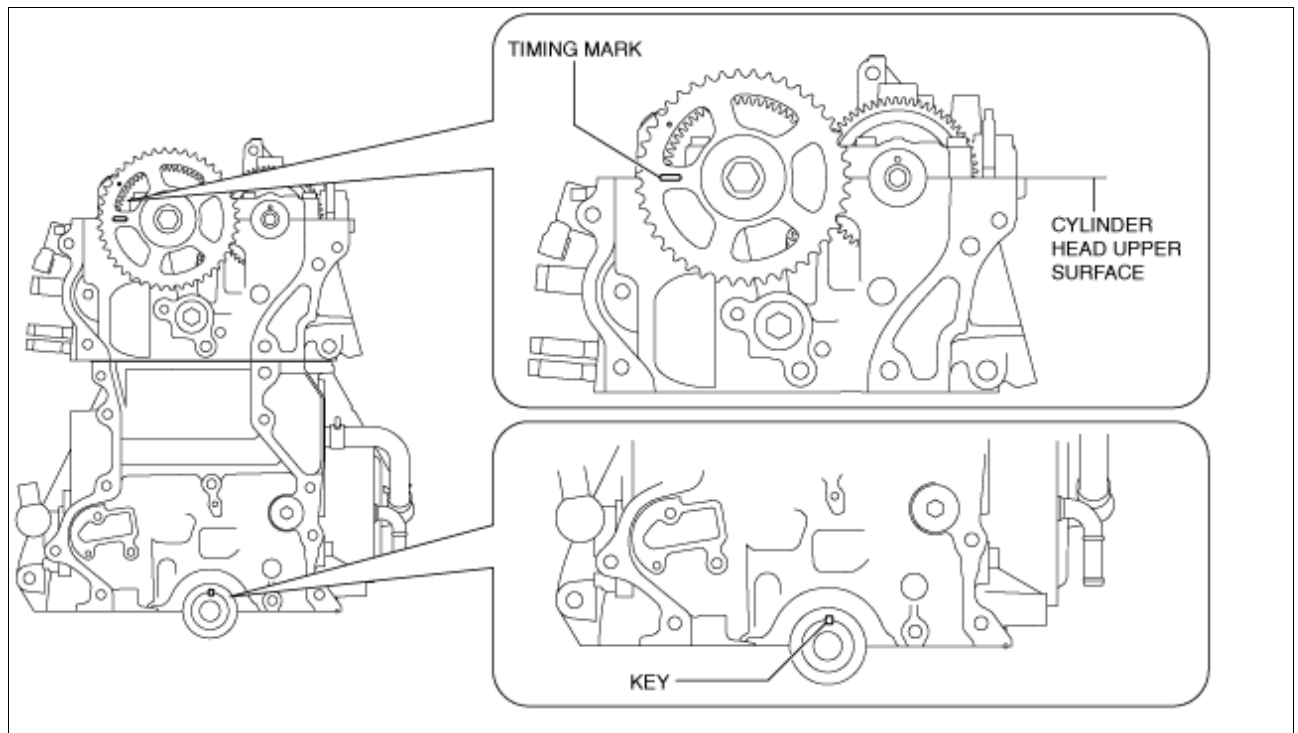


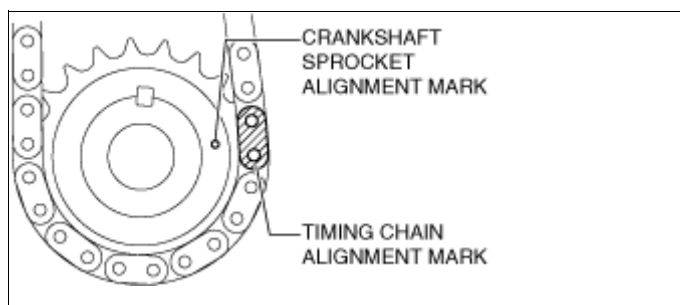
Timing chain installation note

1. Verify that the timing marks and the key are aligned to the position shown in the figure.



ac5wzw00005568

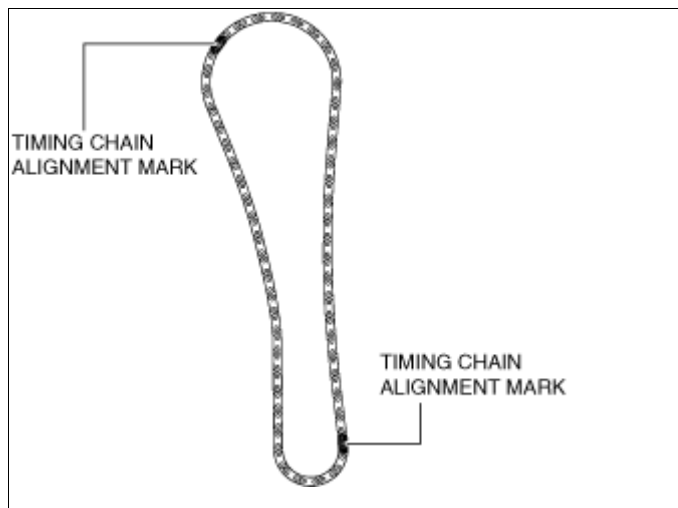
- If they are not in the positions shown in the figure, rotate the camshaft and crankshaft to set the cylinder No.1 top dead center (TDC).
2. Align the timing chain alignment mark with the crankshaft sprocket alignment mark.



am3zzw00019929

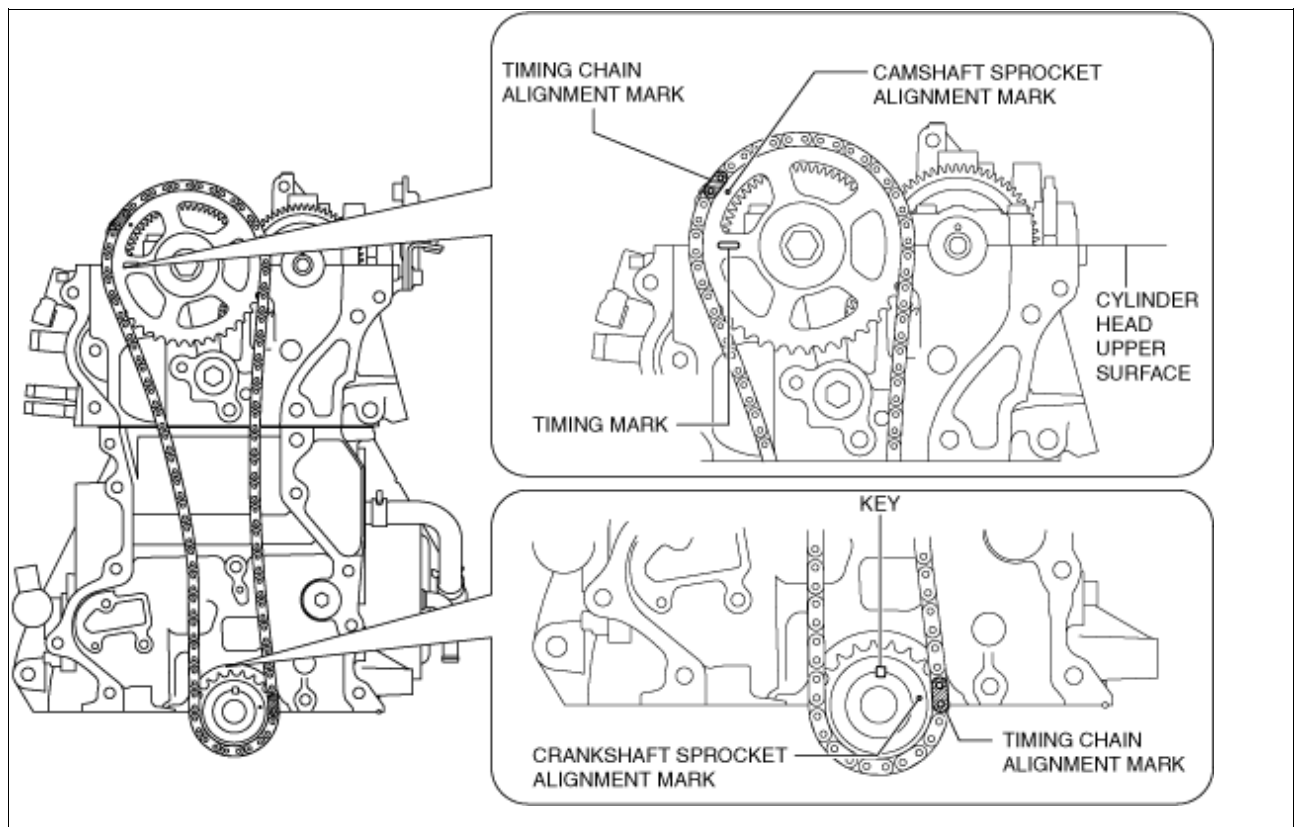
Note

- There are two timing chain alignment marks as shown in the figure. When assembling the timing chain and crankshaft sprocket, either timing chain alignment mark can be used.



am3zzw00019930

3. Install the timing chain and crankshaft sprocket as a single unit while aligning the marks on each sprocket and the timing chain as shown in the figure.



am3zzw00019931

4. Install the timing chain guide.

Tightening torque

20—26 N·m {2.1—2.6 kgf·m, 15—19 ft·lbf}

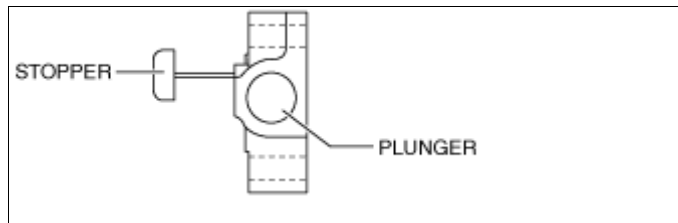
5. Install the timing chain tensioner arm.
6. Install the timing chain tensioner.

Tightening torque

8—11 N·m {82—112 kgf·cm, 71—97 in·lbf}

7. After installing the timing chain tensioner, remove the installed wire or paper clip, and then apply tension to the timing chain.

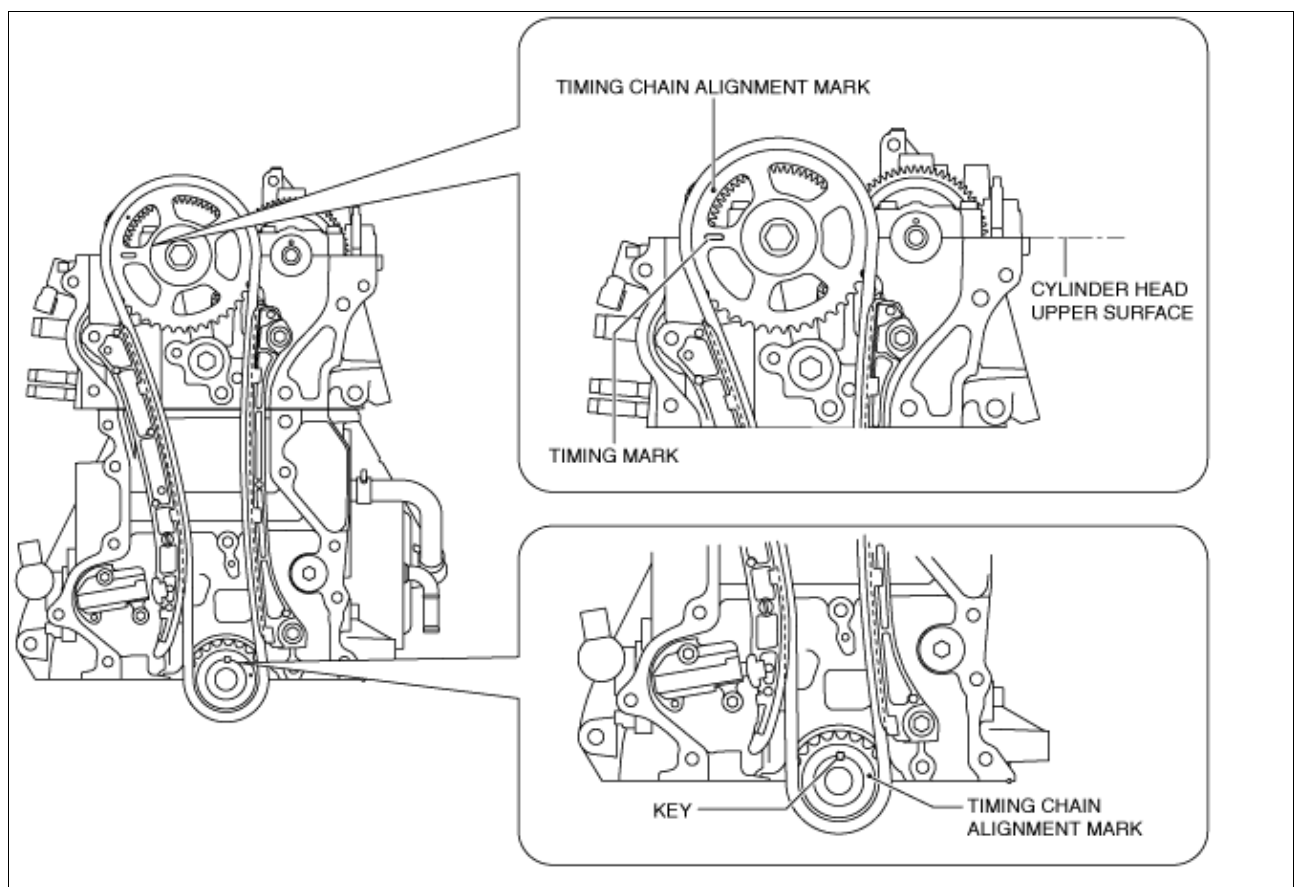
- If a new chain tensioner is used, remove the installed stopper.



ac5wzw00004998

8. Verify that there is no looseness in the timing chain, and re-verify that each sprocket is in the specified location.

9. Rotate the crankshaft clockwise two turns and inspect the valve timing.

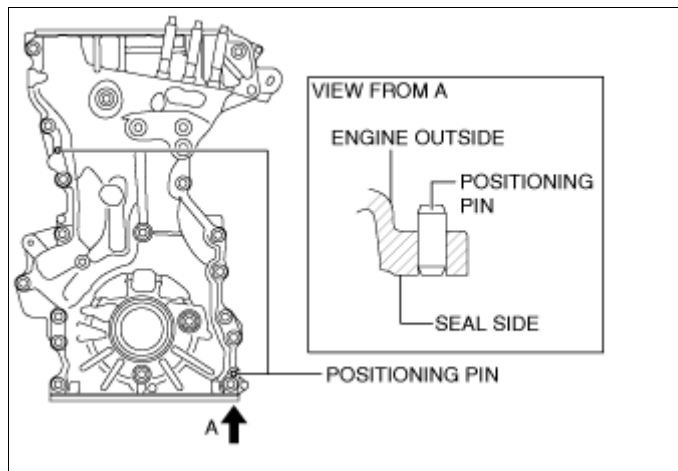


ac5wzw00004986

Engine front cover installation note

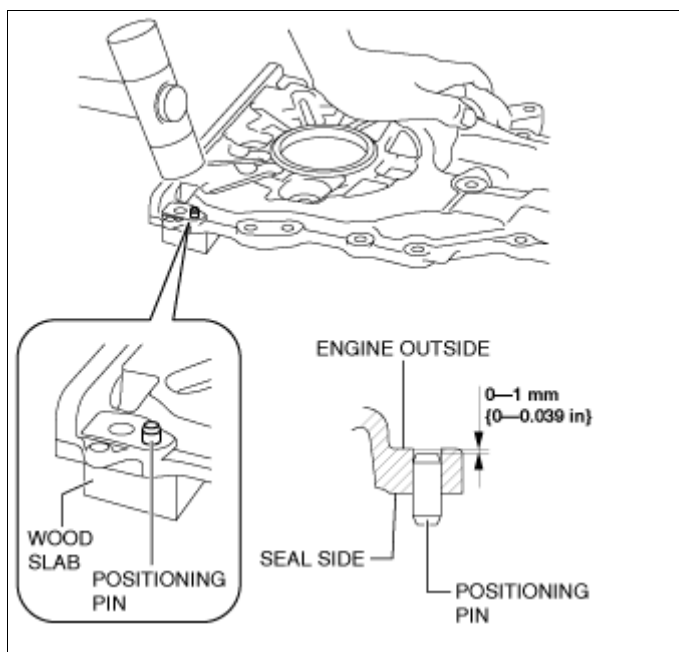
Note

- For a new engine front cover, the positioning pins in the two locations shown in the figure project to the outside of the engine.



ac5wzw00004999

1. If the engine front cover is newly replaced, tap the positioning pins in the two locations to the seal surface side.



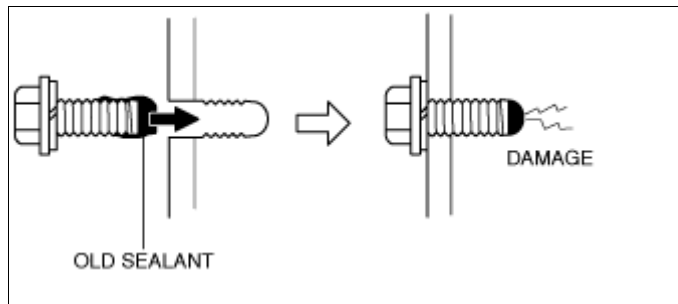
ac5wzw00005000

2. Completely clean and remove any oil, dirt, sealant or other foreign matter that may be adhering to the engine front cover, cylinder head, and cylinder block.
3. When reusing an engine front cover installation bolts, remove sealant adhering to the bolts.

Caution

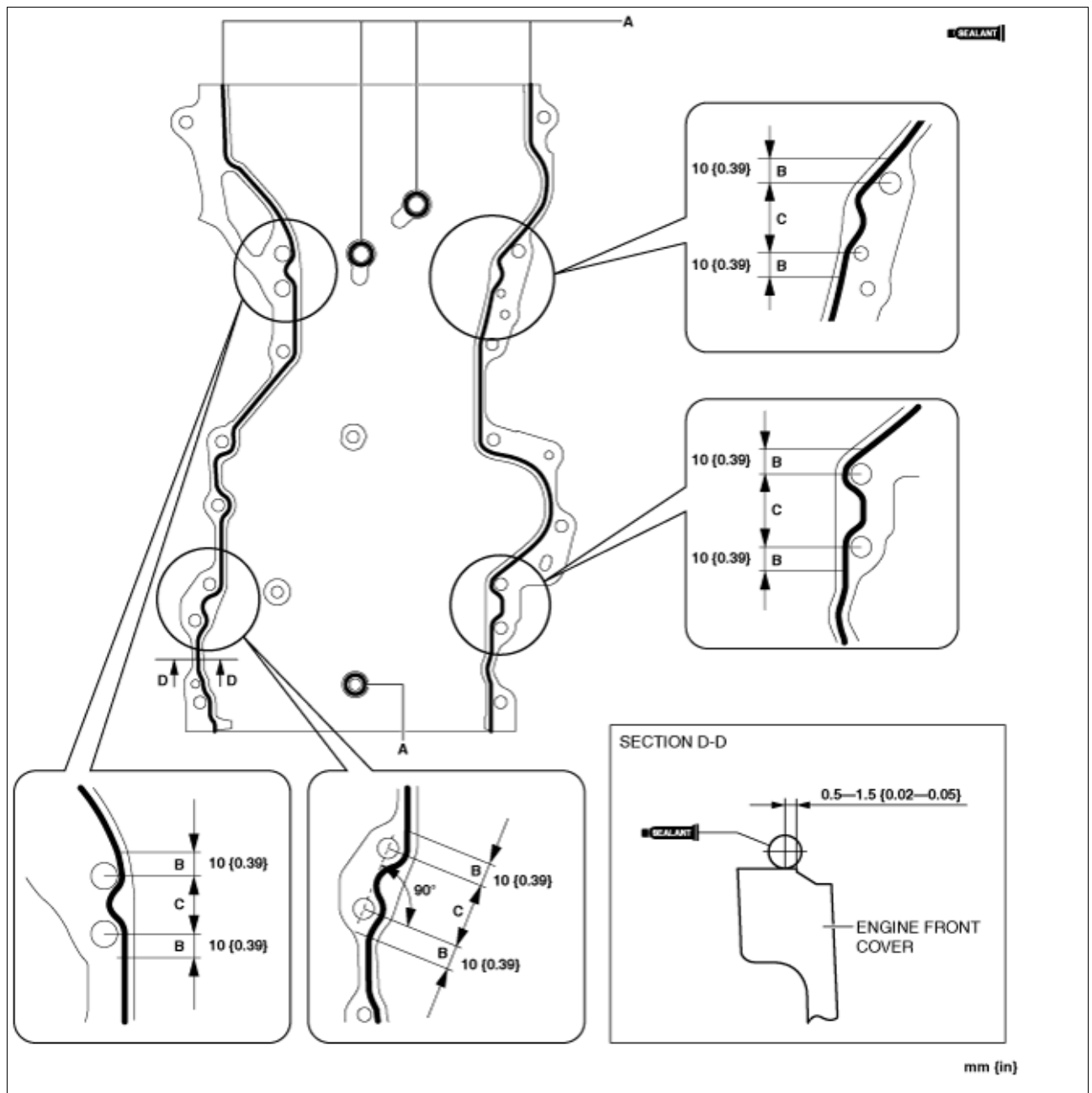
- Apply the silicon sealant in a single, unbroken line.

- To prevent silicone sealant from hardening, adhere the engine front cover and the cylinder block firmly within 10 min. after applying silicone sealant. After adhering them, tighten the installation bolts immediately.
- If a bolt with sealant adhering to it is used, it could result in cracks in the cylinder head and cylinder block.



am3uuw00008864

4. Apply silicone sealant to the engine front cover as shown in the figure.



am6zzw00010107

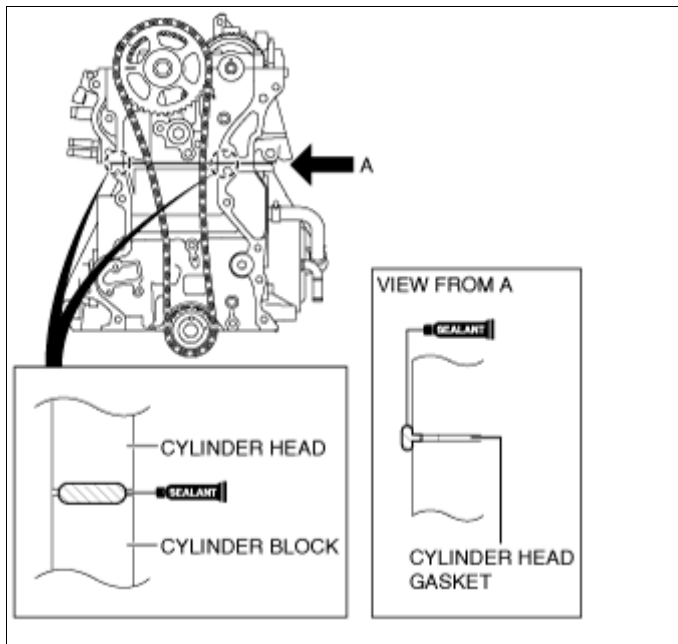
Bead thickness

A: 2—6 mm {0.1—0.2 in}

B: 4—6 mm {0.16—0.23 in}

C: 4—8 mm {0.2—0.3 in}

5. Apply silicone sealant to the areas shown in the figure.



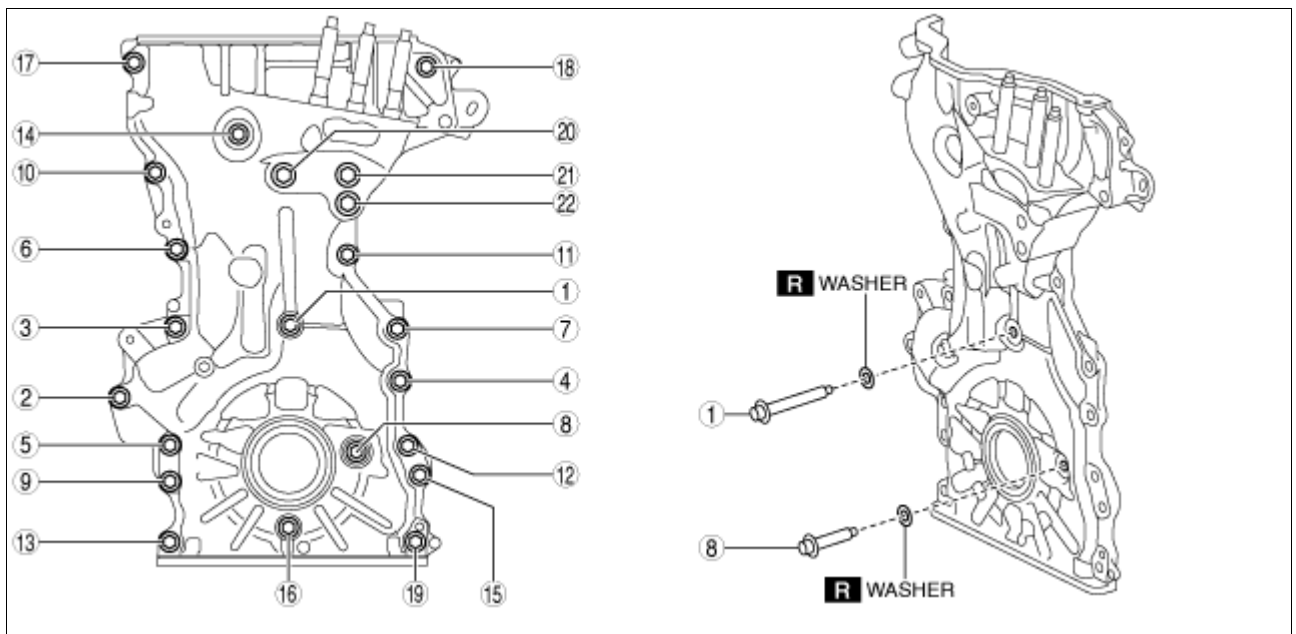
ac5wzw00005002

Caution

- Apply the silicone sealant so that it goes into the cylinder head gasket.
6. Install the engine front cover to the engine.

Caution

- For the number 1 and 8 bolts of the tightening order, install the bolts with new washers.
7. Tighten the engine front cover installation bolts in the order shown in the figure.



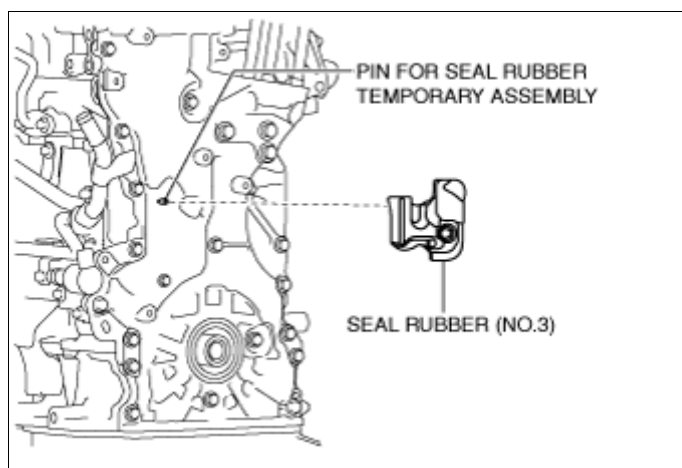
am6zzw00010108

Tightening torque

Installation position	Tightening torque
1—19	20—26 N·m {2.1—2.6 kgf·m, 15—19 ft·lbf}
20—22	40—55 N·m {4.1—5.6 kgf·m, 30—40 ft·lbf}

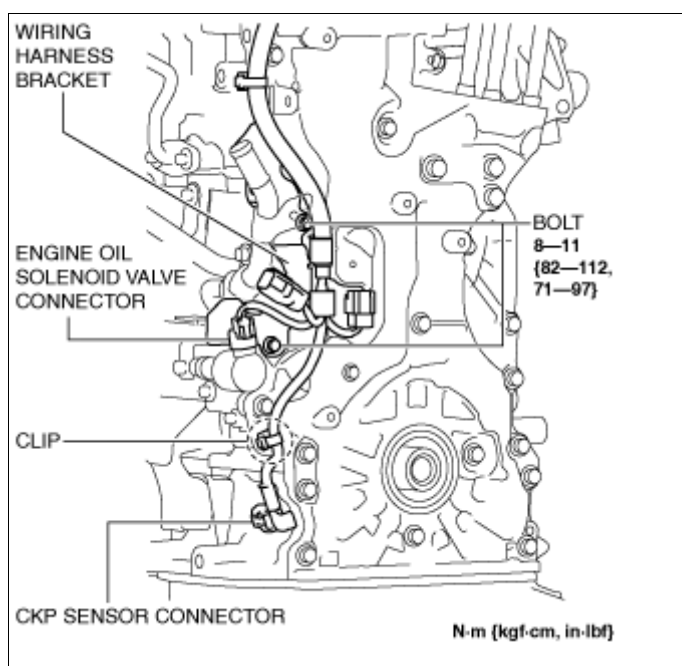
Noise suppression cover (No.1), noise suppression cover (No.2), seal rubber installation note

1. Temporarily put the seal rubber (No.3) on the engine front cover.



ac5wzw00005245

2. Tighten the bolts shown in the figure and install them with the wiring harness bracket and wiring harness as a single unit.

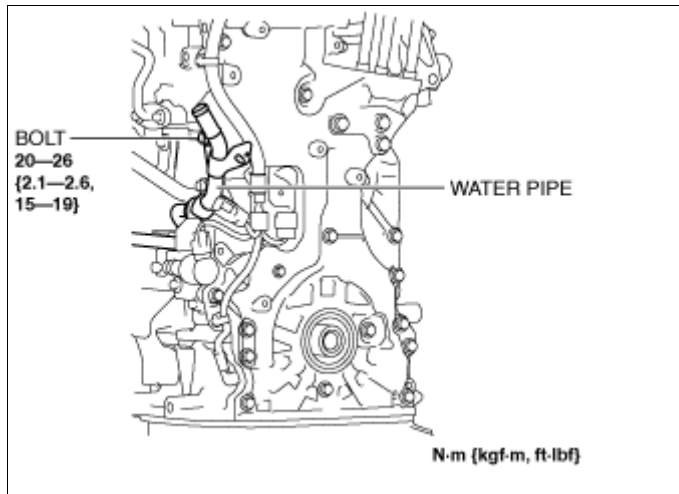


ac5wzw00005244

Note

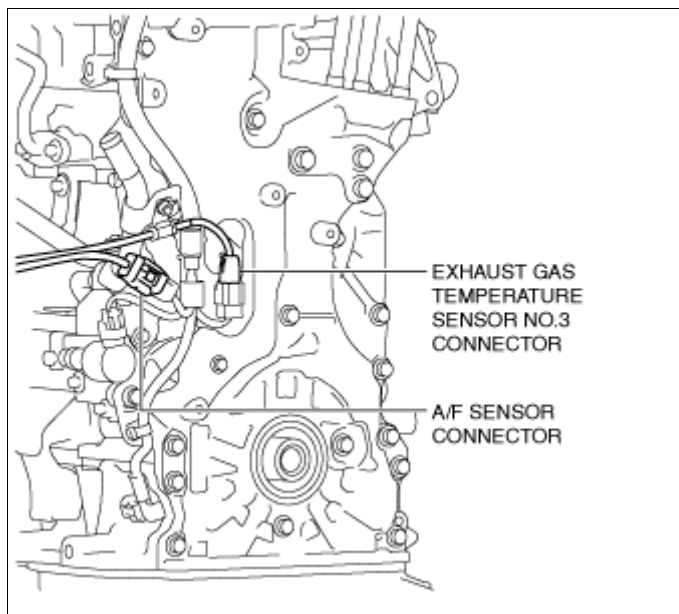
- The seal rubber (No.3) can be fixed by installing the wiring harness bracket.

3. Tighten the water pipe installation bolt.



ac5wzw00005243

4. Connect the exhaust gas temperature sensor No.3 connector and A/F sensor connector.

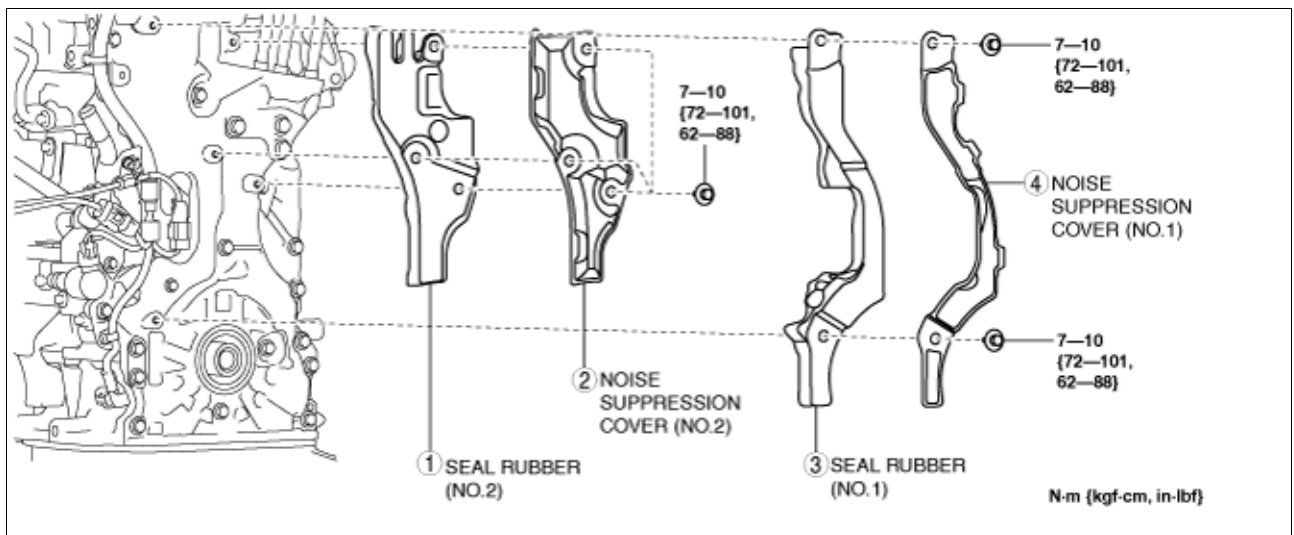


ac5wzw00005242

Caution

- Be careful that the covers and seal rubbers do not get hung up on the noise suppression cover installation bolts.

5. Install the noise suppression covers and seal rubbers in the order shown in the figure.



ac5wzw00005253

Water pipe installation note

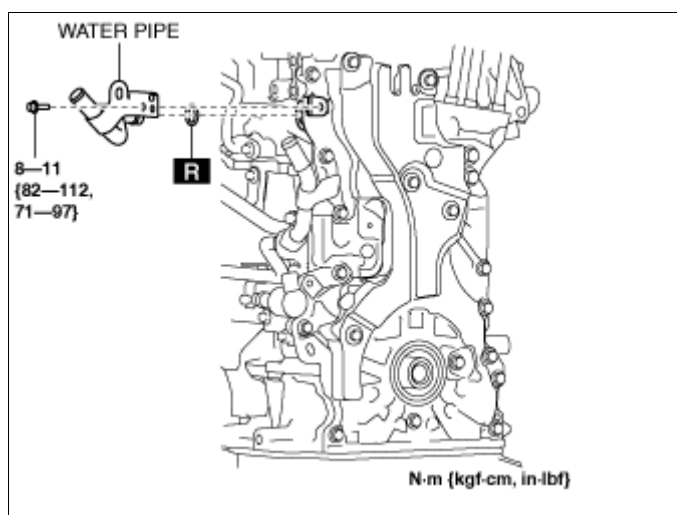
Caution

- Do not apply oil (such as engine oil, ATF) to the O-ring. Otherwise, the O-ring could swell causing a seal malfunction.
- Install the water pipe so as not to damage the O-ring. Otherwise, it could cause a seal malfunction.

1. Install the water pipe following procedure:

(1) Apply engine coolant to the O-ring.

(2) Install the water pipe.



am3zzw00014771

No.3 engine mount installation note

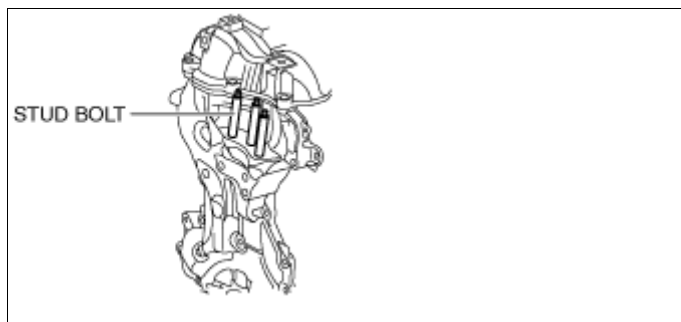
Caution

- If the No.3 engine mount is deviated from the original position when installing the No.3 engine mount, engine noise or vibration could increase. When installing the No.3 engine mount, align the alignment mark placed during removal and install it to the original position.

Note

- When replacing the No.3 engine mount, place a mark at the same position as the one placed before removal.
- If the No.3 engine mount nut is loosened, tighten the engine front cover stud bolts because they may have loosened.

1. Tighten the engine front cover stud bolts.



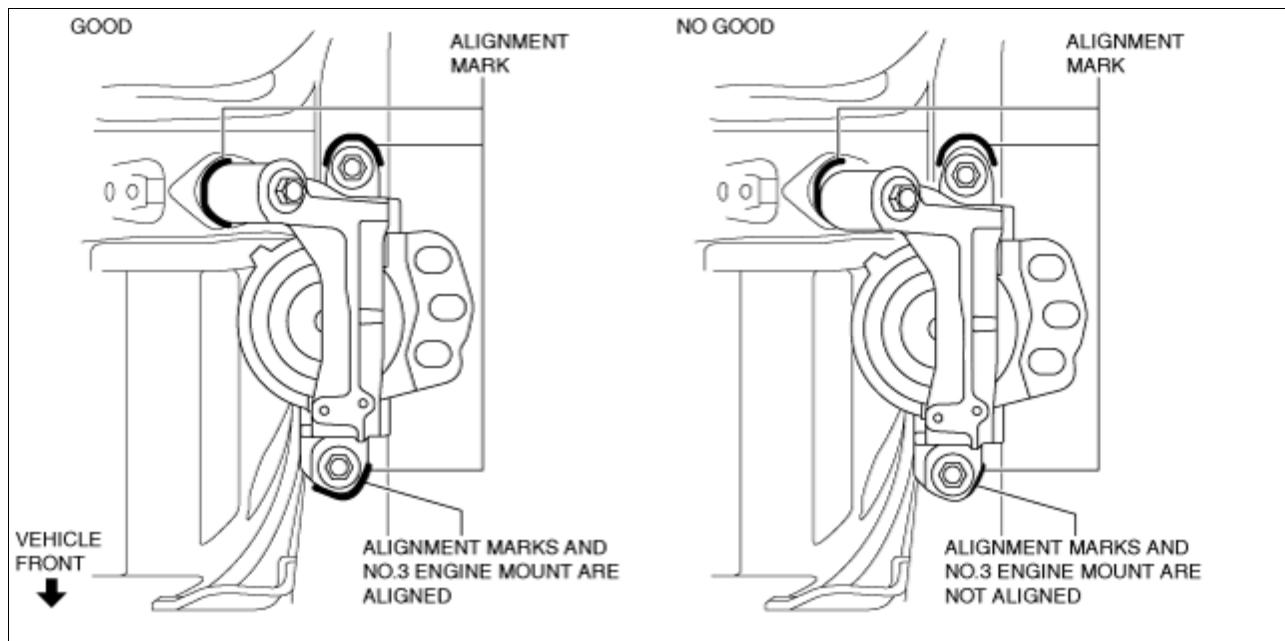
ac5wzw00005006

Tightening torque

40—52 N·m {4.1—5.3 kgf·m, 30—38 ft·lbf}

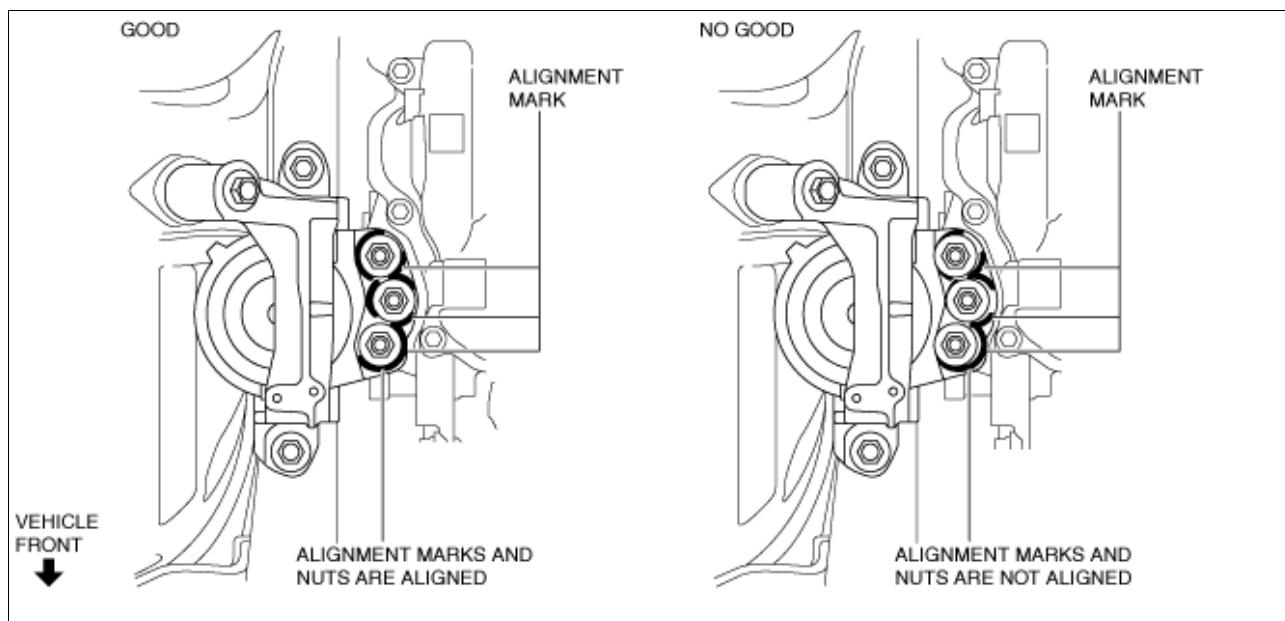
2. Temporarily tighten the No.3 engine mount installation bolts and nuts using the following procedure:

(1) Align the alignment marks on the body side and No.3 engine mount, and temporarily tighten the bolts shown in the figure.



am3zzw00015013

(2) Temporarily tighten the nuts shown in the figure while aligning the alignment marks of the No.3 engine mount and nuts.

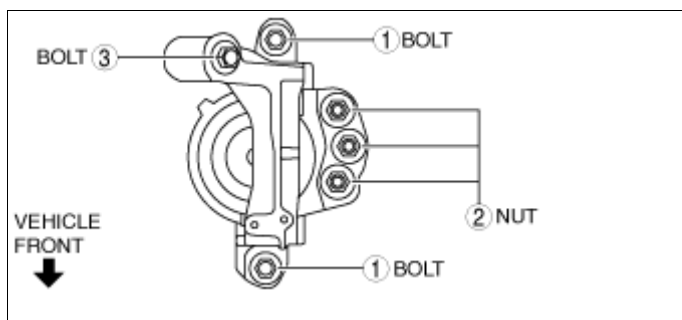


am3zzw00015014

Note

- If the alignment marks are deviated, align the alignment marks while slightly moving the engine and temporarily tighten the nuts.

3. Tighten the No.3 engine mount installation bolts and nuts in the order as shown in the figure.



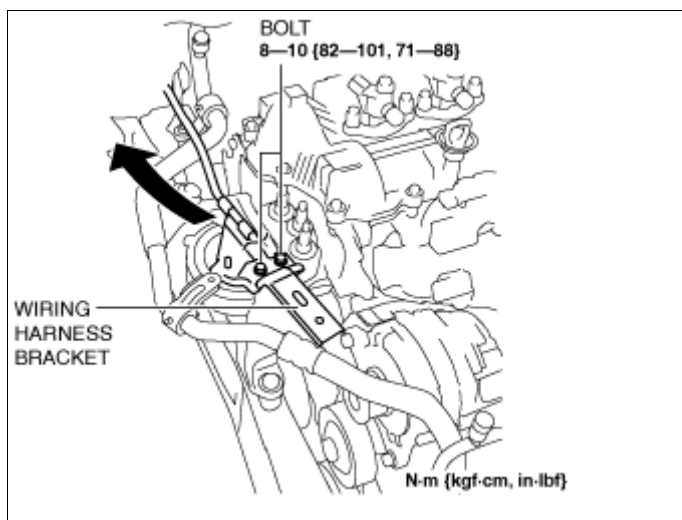
am3zzw00015015

Tightening torque

Installation position	Tightening torque
1	76—95 N·m {7.8—9.6 kgf·m, 57—70 ft·lbf}
2	82—95 N·m {8.4—9.6 kgf·m, 61—70 ft·lbf}
3	49—65 N·m {5.0—6.6 kgf·m, 37—47 ft·lbf}

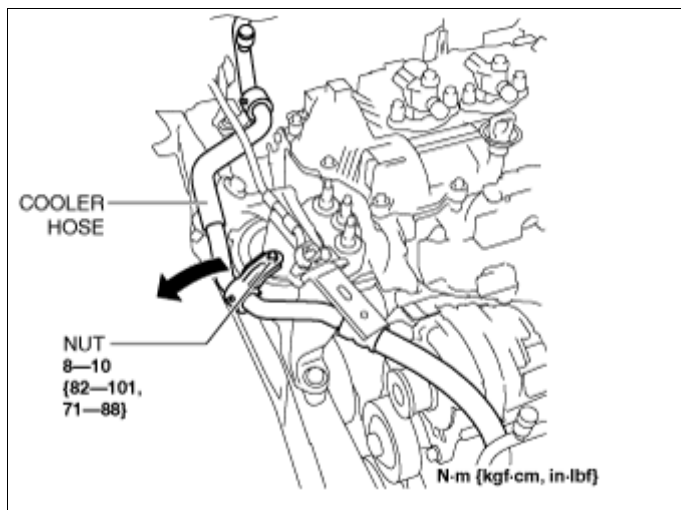
4. Remove the SSTs.

5. Install the wiring harness bracket.



am6zzw00011376

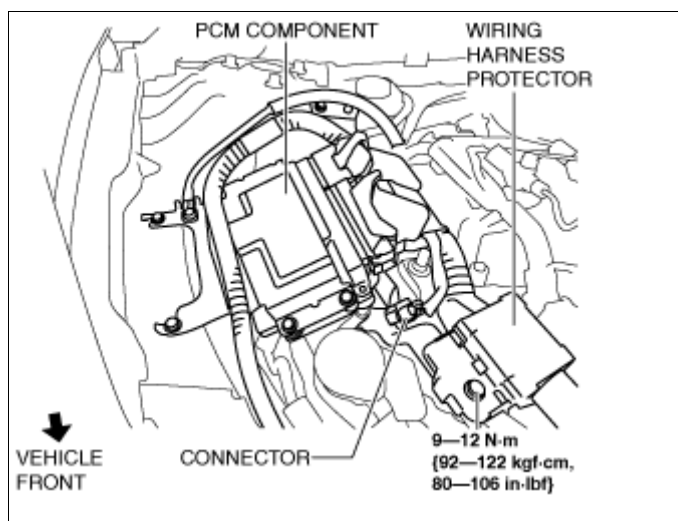
6. Install the cooler hose.



am6zzw00011375

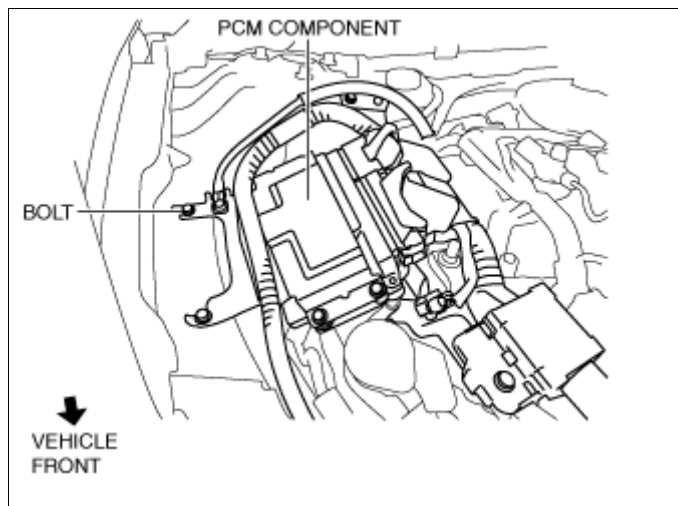
7. Install the PCM component using the following procedure:

(1) Install the wiring harness protector and connector.



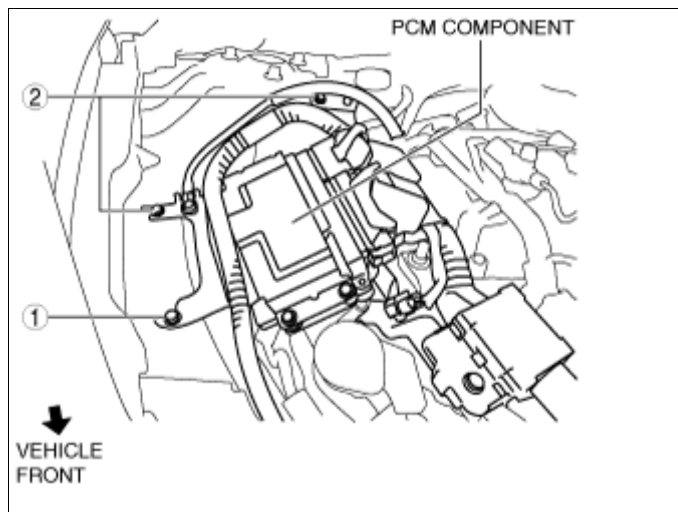
am3zzw00014774

(2) Temporarily tighten the bolt shown in the figure.



am3zzw00014775

(3) Tighten the PCM component installation bolts in the order shown in the figure.

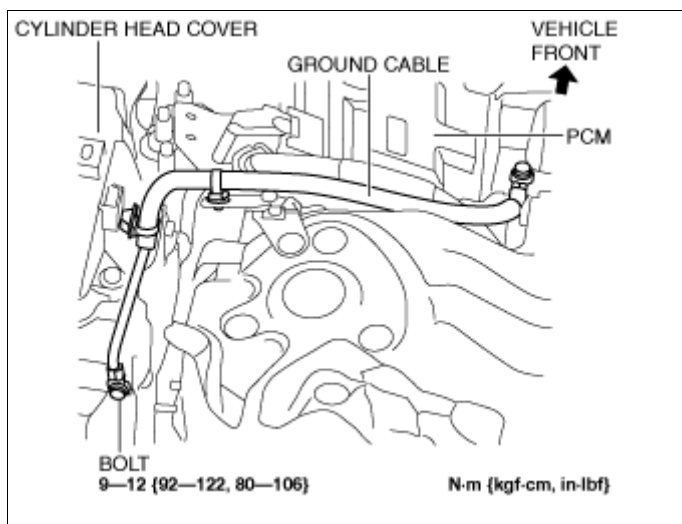


am3zzw00014776

Tightening torque

9—10 N·m {92—101 kgf·cm, 80—88 in·lbf}

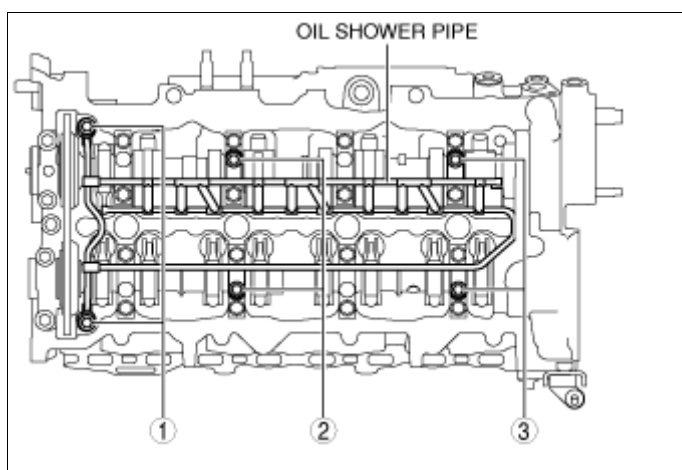
8. Install the ground cable shown in the figure.



am3zzw00015016

Oil shower pipe installation note

1. Install the oil shower pipe in the order shown in the figure.



ac5wzw00005013

Tightening torque

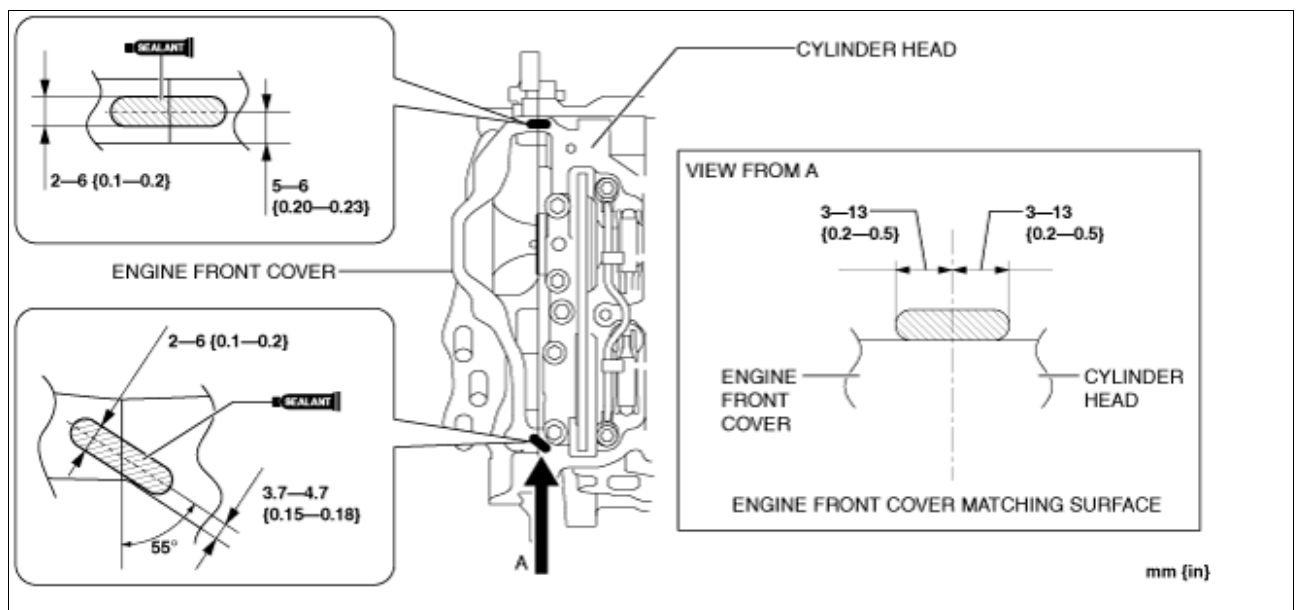
Installation position	Tightening torque
1	9—12 N·m {92—122 kgf·cm, 80—106 in·lbf}
2, 3	8.0—9.0 N·m {82—91 kgf·cm, 71—79 in·lbf}

Cylinder head cover installation note

Caution

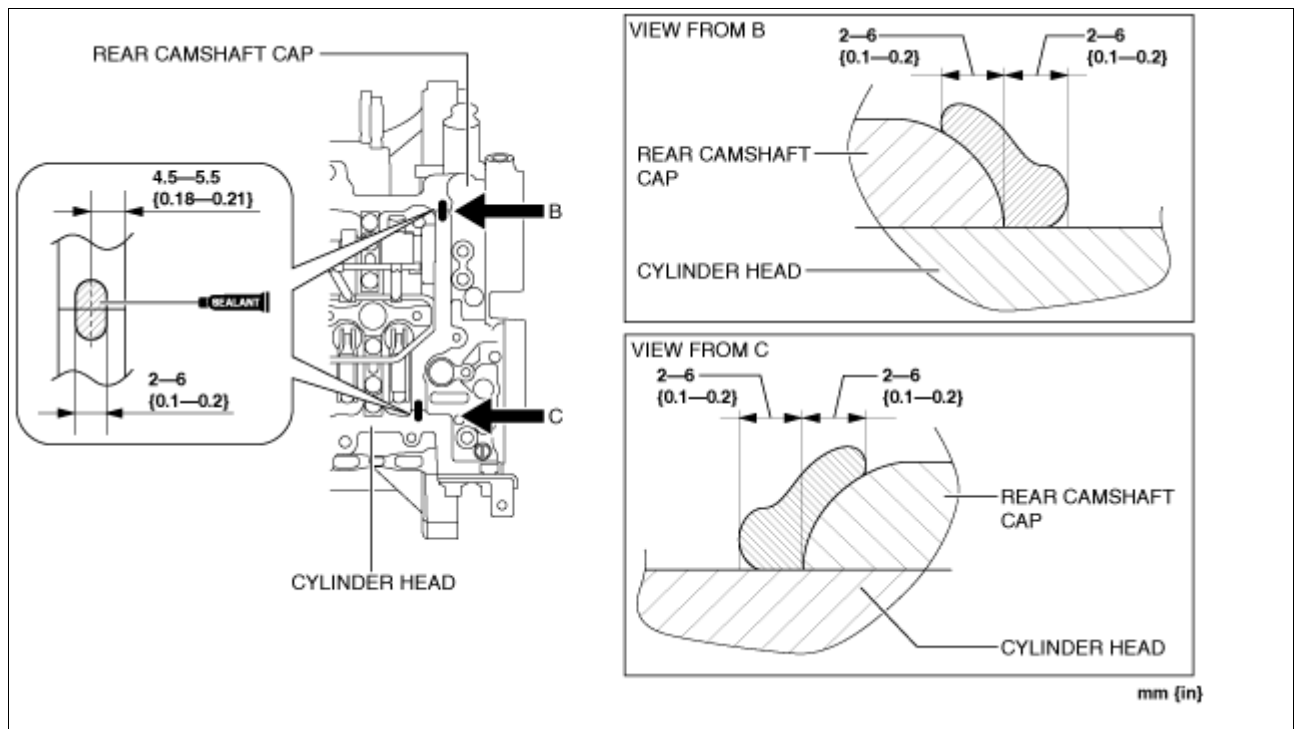
- To assure the sealing performance of the cylinder head cover, be careful of the following:
 - Verify that the cylinder head cover gasket is inserted into the cylinder head cover groove and install the cylinder head cover.
 - Completely clean and remove any oil, dirt, sealant or other foreign matter from the seal surface.
 - To prevent silicone sealant from hardening, adhere the cylinder head cover and the cylinder head firmly within 10 min. after applying silicone sealant. After adhering them, tighten the installation bolts immediately.
1. Insert a new cylinder head cover gasket into the cylinder head cover groove.
 2. Apply silicone sealant to the areas shown in the figure.

Engine front side



am6zzw00010113

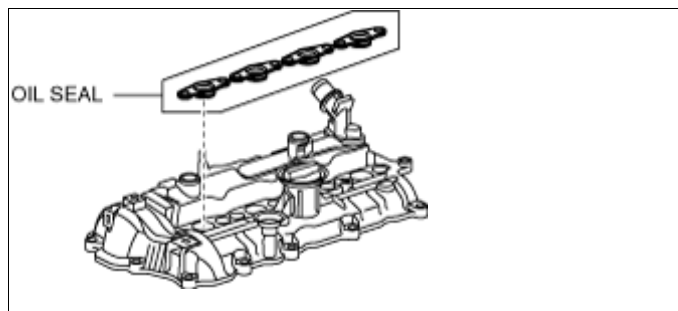
Engine rear side



am6zzw00010114

3. Install the cylinder head cover.

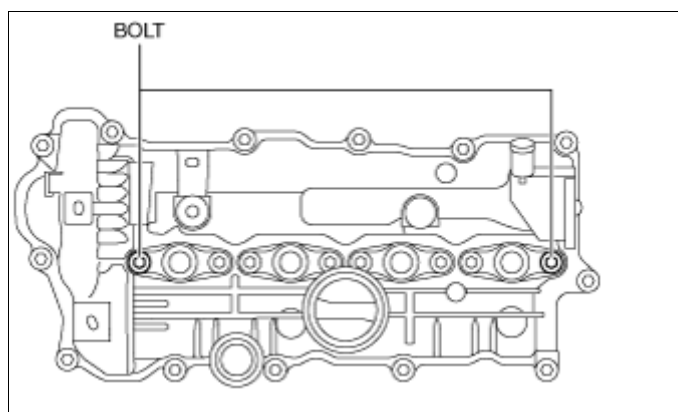
- Verify that the oil seal shown in the figure is not damaged, and replace the oil seal if it is damaged.



am3zzw00019203

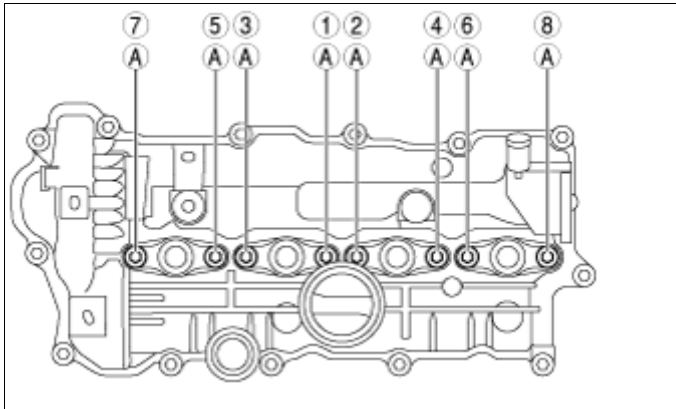
4. Tighten the cylinder head cover installation bolts using the following procedure:

- (1) Temporarily tighten the two bolts shown in the figure.



ac5wzw00005015

(2) Tighten installation bolts A in the order shown in the figure.

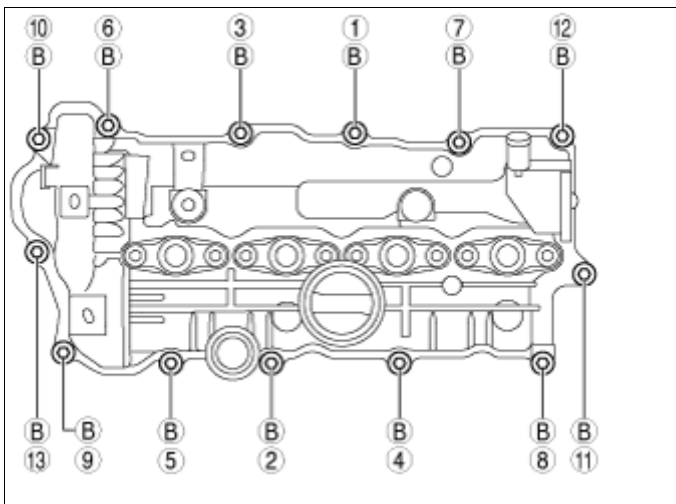


ac5jjw00004581

Tightening torque

6.0—8.0 N·m {62—81 kgf·cm, 54—70 in·lbf}

(3) Tighten installation bolts B in the order shown in the figure.



ac5jjw00004582

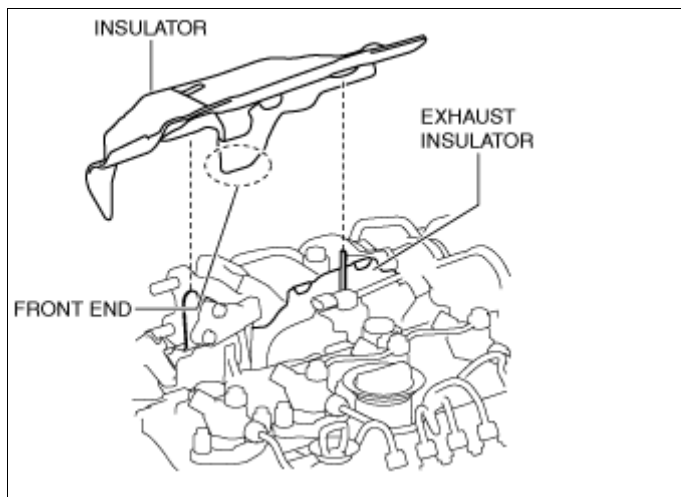
Tightening torque

4.5—7.0 N·m {46—71 kgf·cm, 40—61 in·lbf}

5. Install in the reverse order of removal.

Insulator installation note

1. Install the insulator using the following procedure.



ac5wzw00005016

- (1) Align the position so that the front end of the insulator is positioned at the front side of the vehicle from the exhaust insulator.
- (2) Insert the insulator until it contacts completely.