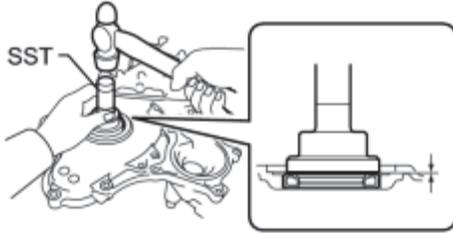


13. INSTALL NO. 2 CHAIN VIBRATION DAMPER_ INFO

14. INSTALL TIMING CHAIN COVER OIL SEAL

(a) Using SST, tap in a new oil seal until its surface is flush with the timing chain cover edge.

SST: 09223-22010



- Keep the lip free from foreign matter.
- Do not tap on the oil seal at an angle.
- Make sure that the oil seal edge does not stick out of the timing chain case.

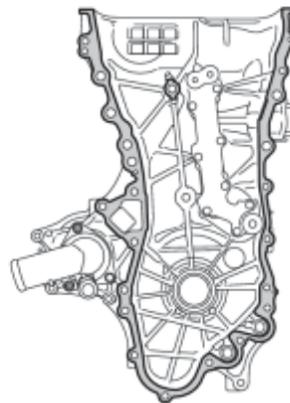
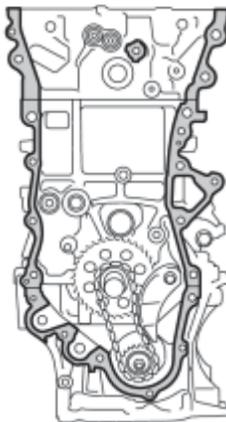
HINT:

Tap in the oil seal so that it is positioned within 1.0 mm from the edge of the timing chain case.

(b) Apply MP grease to the lip of the oil seal.

15. INSTALL TIMING CHAIN COVER SUB-ASSEMBLY

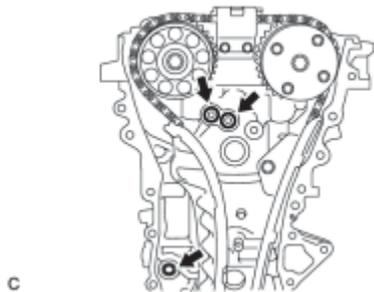
(a) Remove any old packing (FIPG) material and be careful not to drop any oil on the contact surfaces of the timing chain cover, cylinder head, and cylinder block.



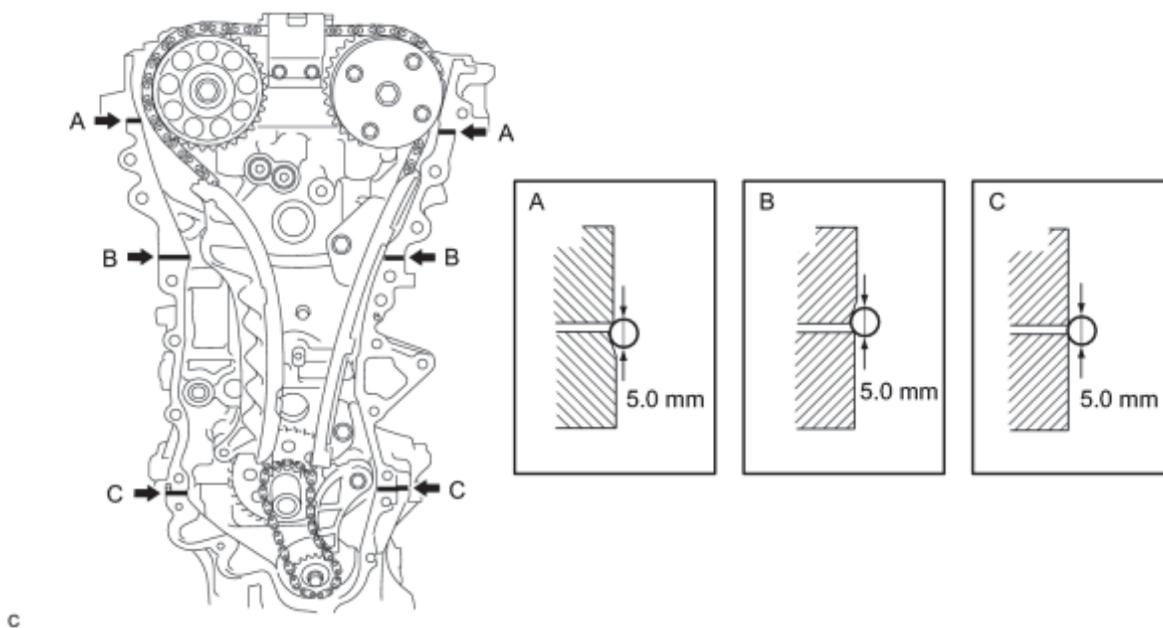
: Clean and degrease

c

(b) Install 3 new O-rings.



(c) Apply seal packing as shown in the illustration.



Seal packing:

Toyota Genuine Seal Packing Black, Three Bond 1207B or equivalent

Seal diameter:

5.0 mm (0.197 in.)

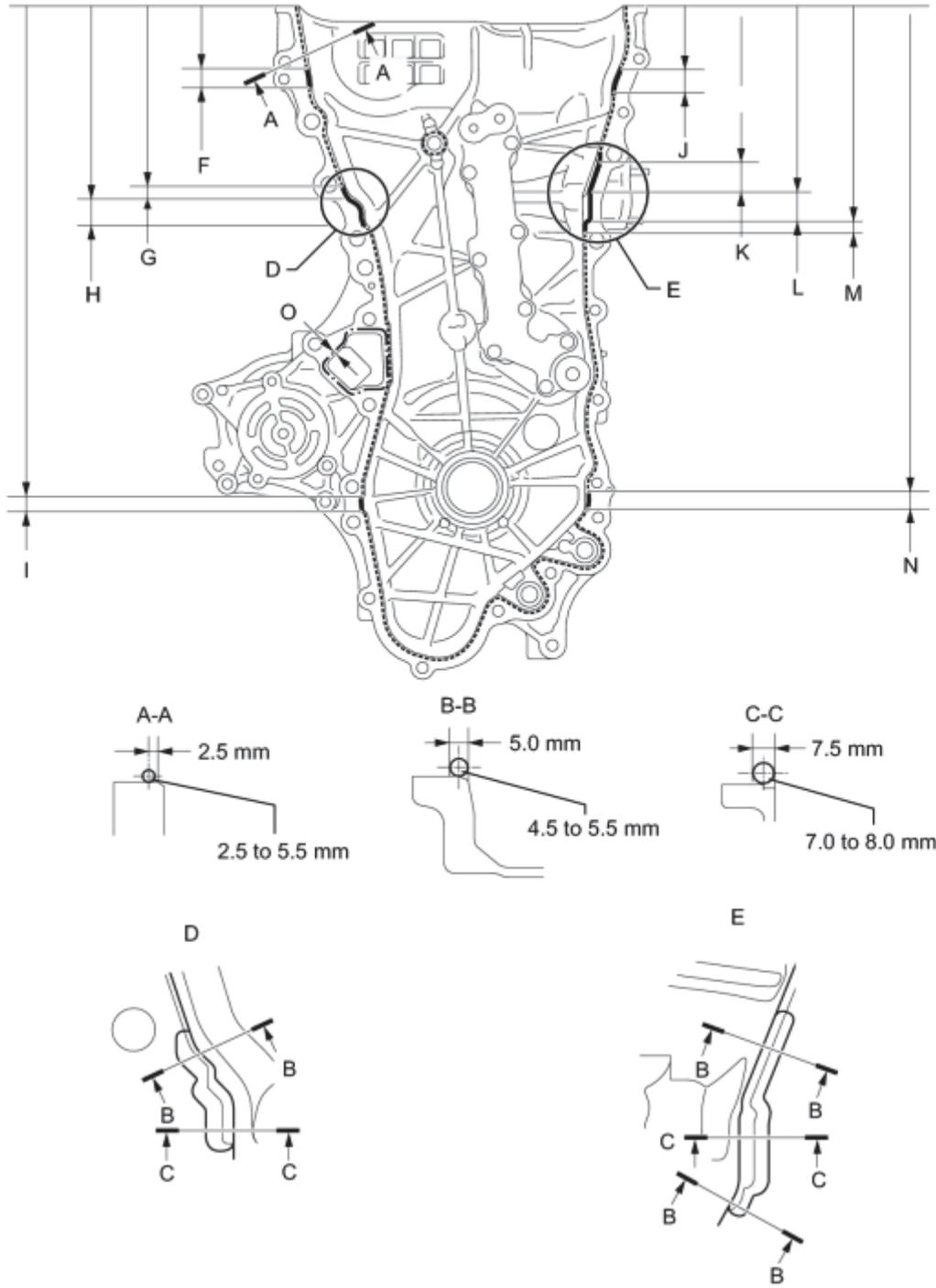
NOTICE:

- Remove any oil from the contact surfaces.
- Install the chain cover within 3 minutes after applying seal packing.
- Do not start the engine for at least 2 hours after installing the timing chain cover sub-assembly.

(d) Apply seal packing to the timing chain cover in a line as shown in the following illustration.

NOTICE:

- When the contact surfaces are wet, wipe them with oil-free cloth before applying seal packing.
- Install the chain cover within 3 minutes and tighten the bolts within 15 minutes after applying seal packing.
- Do not start the engine for at least 2 hours after installation.



c

Seal Packing:

Item	Seal Packing
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Item	Seal Packing
Dashed line	Toyota Genuine Seal Packing Black, Three Bond 1207B or equivalent
Continuous line	
Alternate long and short dashed line	Toyota Genuine Seal Packing 1282B, Three Bond 1282B or equivalent

Application Specification:

Area	Seal Packing Diameter	Distance from Edge of Cover to:	Seal Packing Application Length	Distance from Top of Cover to Top of Seal Packing
Dashed line	2.5 to 3.0 mm (0.0984 to 0.118 in.)	Center of seal packing 2.5 mm (0.0984 in.)	-	-
Continuous line	4.5 to 5.5 mm (0.177 to 0.217 in.) or 7.0 to 8.0 mm (0.276 to 0.315 in.)	-	-	-
Alternate long and short dashed line	4.0 mm (0.157 in.)	Center of seal packing 3.0 mm (0.118 in.)	-	-
A - A	2.5 to 3.0 mm (0.0984 to 0.118 in.)	Center of seal packing 2.5 mm (0.0984 in.)	-	-
B - B	4.5 to 5.5 mm (0.177 to 0.217 in.)	Opposite edge of seal packing 5.0 mm (0.197 in.)	-	-
C - C	7.0 to 8.0 mm (0.276 to 0.315 in.)	Opposite edge of seal packing 7.5 mm (0.295 in.)	-	-
F	4.5 to 5.5 mm (0.177 to 0.217 in.)	-	15.5 mm (0.610 in.)	50.4 mm (1.98 in.)
G	4.5 to 5.5 mm (0.177 to 0.217 in.)	-	10.3 mm (0.406 in.)	143.1 mm (5.63 in.)
H	7.0 to 8.0 mm (0.276 to 0.315 in.)	-	19.5 mm (0.768 in.)	153.4 mm (6.04 in.)
I	4.5 to 5.5 mm (0.177 to 0.217 in.)	-	16.0 mm (0.630 in.)	385.8 mm (1.27 ft.)

Area	Seal Packing Diameter	Distance from Edge of Cover to:	Seal Packing Application Length	Distance from Top of Cover to Top of Seal Packing
J	4.5 to 5.5 mm (0.177 to 0.217 in.)	-	18.6 mm (0.732 in.)	51.4 mm (2.02 in.)
K	4.5 to 5.5 mm (0.177 to 0.217 in.)	-	25.3 mm (0.996 in.)	121.9 mm (4.80 in.)
L	7.0 to 8.0 mm (0.276 to 0.315 in.)	-	25.8 mm (1.02 in.)	147.2 mm (5.80 in.)
M	4.5 to 5.5 mm (0.177 to 0.217 in.)	-	5.1 mm (0.201 in.)	173.0 mm (6.81 in.)
N	4.5 to 5.5 mm (0.177 to 0.217 in.)	-	14.6 mm (0.575 in.)	385.8 mm (1.27 ft.)
O	4.0 mm (0.157 in.)	Center of seal packing 3.0 mm (0.118 in.)	-	-

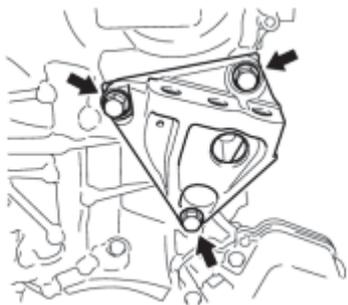
NOTICE:

- When the contact surfaces are wet, wipe them with oil-free cloth before applying seal packing.
- Install the timing chain cover within 3 minutes and tighten the bolts within 10 minutes after applying seal packing.
- After applying seal packing to the timing chain cover, install the engine mounting bracket and oil filter bracket within 10 minutes.
- Do not add engine oil for at least 2 hours after installation.

(e) Clean the bolt and fitting hole.

(f) Install the timing chain cover.

(g) Temporarily tighten the engine mounting bracket RH with the 3 bolts.

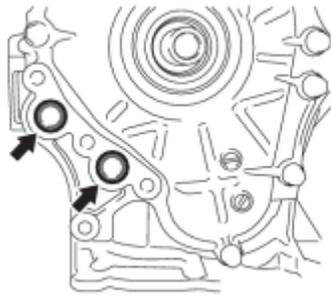


- Install the mounting bracket within 10 minutes after installing the chain cover.
- Do not start the engine for at least 2 hours after installation.

Bolt Length:

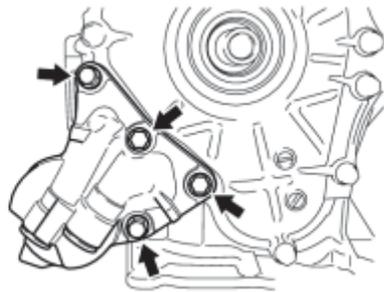
Item	Length
Bolt	80 mm (3.15 in.)

(h) Install 2 new O-rings.



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(i) Temporarily tighten the oil filter bracket with the 4 bolts.



c

- Install the oil filter bracket within 10 minutes after installing the chain cover.
- Do not start the engine for at least 2 hours after installation.

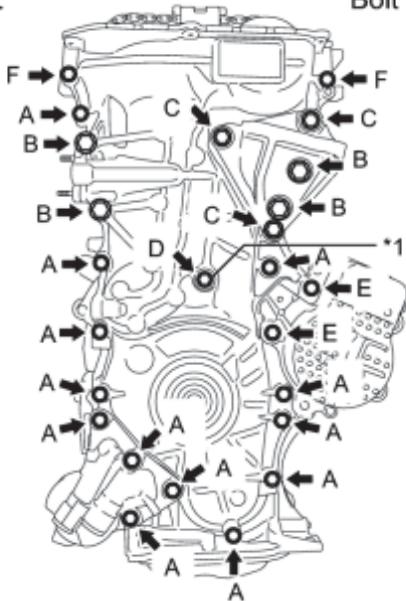
Bolt Length:

Item	Length
Bolt	35 mm (1.38 in.)

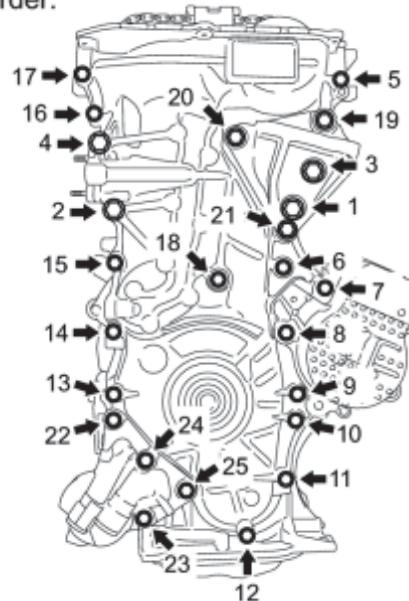
(j) Install the timing chain cover with the 25 bolts and seal washer as shown in the illustration.

Torque:

Bolt Torque Order:



c



Text in Illustration

*1	Seal Washer	-	-
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Bolt A, E, F - Torque: **26 N·m (260 kgf·cm, 19ft·lbf)**

Bolt B, C - Torque: **51 N·m (520 kgf·cm, 38ft·lbf)**

Bolt D - Torque: **10 N·m (102 kgf·cm, 7ft·lbf)**

NOTICE:

- Apply adhesive 1324 to screw part of the bolt F.
- When the contact surfaces are wet, wipe them with oil-free cloth before applying seal packing.
- Install the chain cover within 3 minutes and tighten the bolts within 15 minutes after applying the seal packing.
- Do not add engine oil for at least 2 hours after installing the chain cover.
- Do not start the engine for at least 2 hours after installing the chain cover.

Bolt Length:

Item	Length
Bolt A, F	35 mm (1.38 in.)
Bolt B	55 mm (2.16 in.)
Bolt C	80 mm (3.15 in.)
Bolt D	40 mm (1.57 in.)
Bolt E	55 mm (2.16 in.)

16. INSTALL CRANKSHAFT PULLEY_ [INFO](#)

17. INSTALL NO. 1 CHAIN TENSIONER ASSEMBLY_ [INFO](#)

18. INSTALL SPARK PLUG TUBE GASKET_ [INFO](#)

19. INSTALL CYLINDER HEAD COVER GASKET_ [INFO](#)

20. INSTALL CYLINDER HEAD COVER SUB-ASSEMBLY_ [INFO](#)

21. INSTALL WATER INLET WITH THERMOSTAT SUB-ASSEMBLY_ [INFO](#)

22. INSTALL FUEL INJECTOR ASSEMBLY_ [INFO](#)

23. INSTALL NO. 1 DELIVERY PIPE SPACER_ [INFO](#)

24. INSTALL FUEL DELIVERY PIPE SUB-ASSEMBLY_ [INFO](#)

25. INSTALL FUEL VAPOR FEED PIPE_ [INFO](#)

26. INSTALL INTAKE MANIFOLD_ [INFO](#)

27. INSTALL EGR COOLER SUB-ASSEMBLY_ [INFO](#)

28. INSTALL EGR VALVE ASSEMBLY_ [INFO](#)