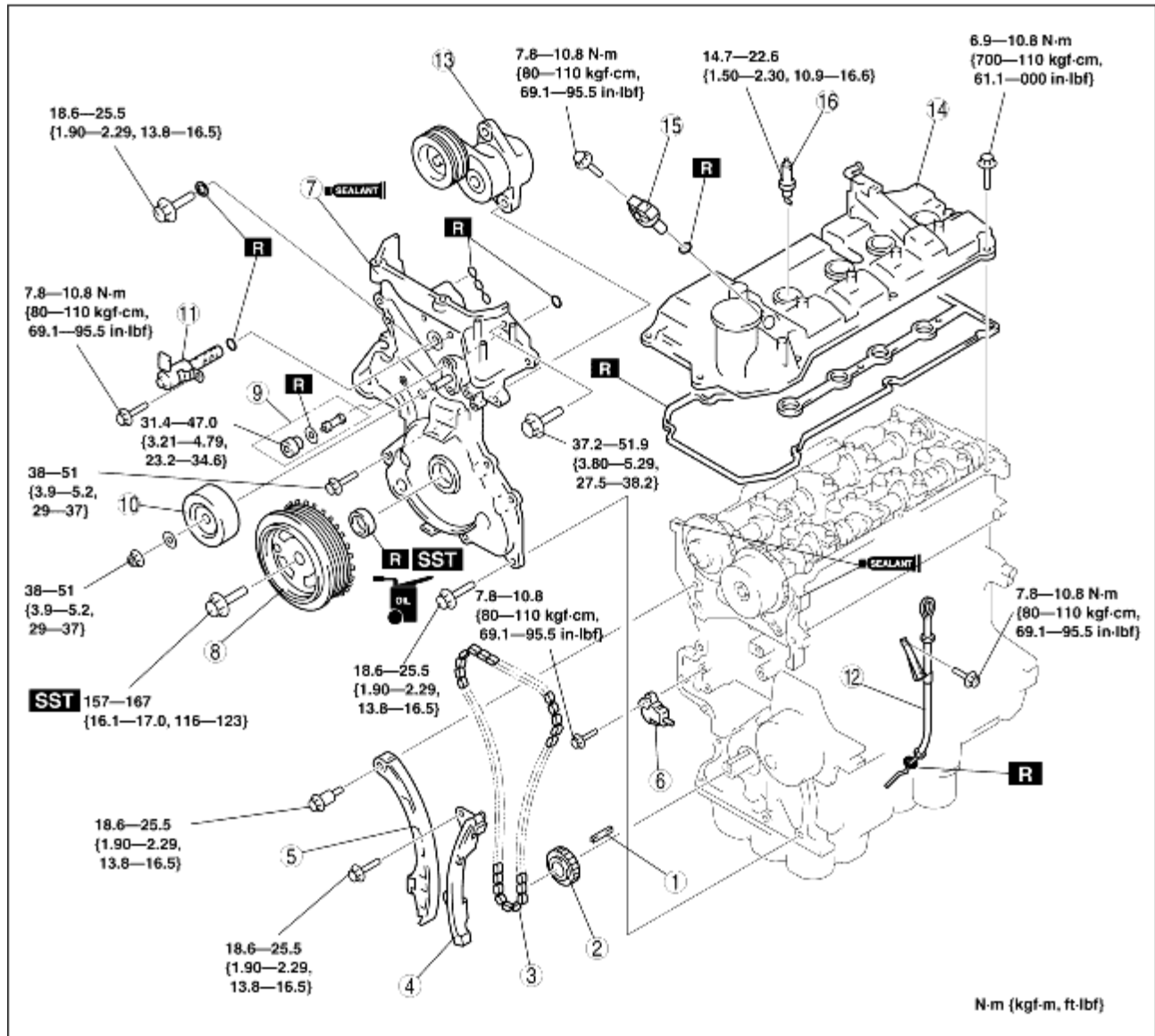


# TIMING CHAIN ASSEMBLY

B3E011012201E02

1. Assemble in the order indicated in the table.



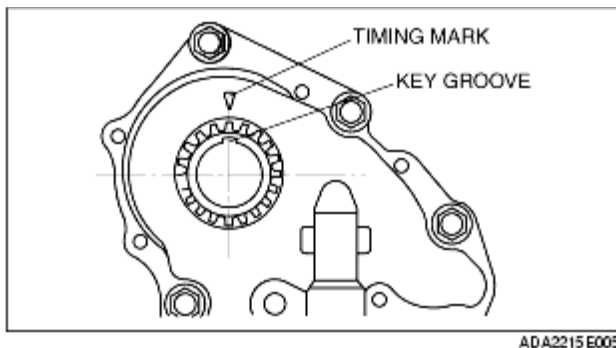
B3E0110E015

1	Key
2	Crankshaft sprocket
3	Timing chain (See <a href="#">Timing Chain Assembly Note</a> )
4	Timing chain guide
5	Timing chain tensioner arm
6	Timing chain tensioner
7	Engine front cover (See <a href="#">Engine Front Cover Assembly Note</a> )
8	Crankshaft pulley

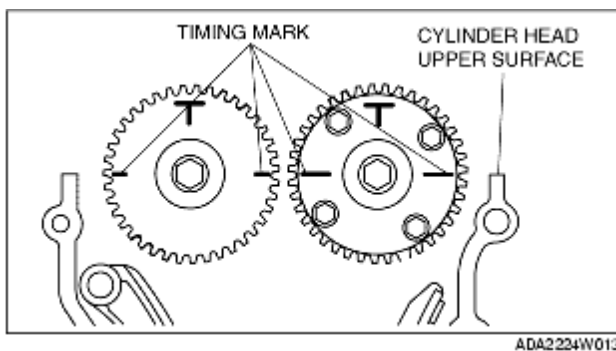
	(See <a href="#">Crankshaft Pulley Installation Bolt Assembly Note</a> )
9	OCV oil filter, plug
10	Idler pulley
11	OCV
12	Oil level gauge pipe
13	Drive belt auto tensioner
14	Cylinder head cover (See <a href="#">Cylinder Head Cover Assembly Note</a> )
15	CMP sensor
16	Spark plug

## Timing Chain Assembly Note

1. Align the key groove of the crankshaft sprocket to the timing mark, and then position the No.1 cylinder to TDC.



2. Align the timing marks on the camshaft sprockets so that they form a straight line in alignment with the upper horizontal surface of the cylinder head.



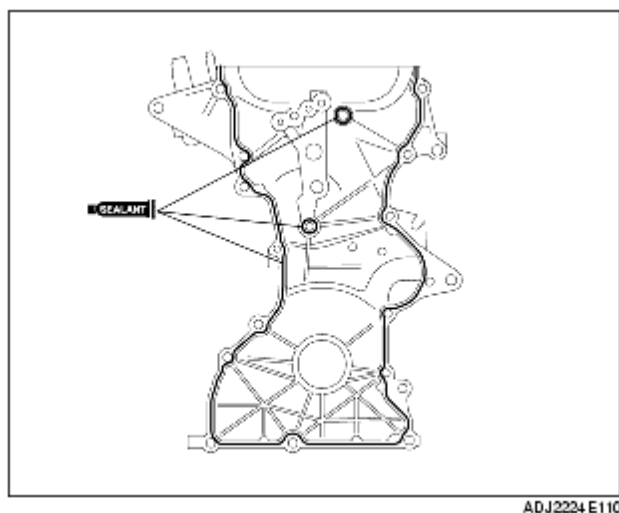
3. Install the timing chain.
4. Install the timing chain guide and timing chain tensioner arm.
5. Install the chain adjuster and then remove the wire or paper clip used for fixing. (Remove the installed stopper when installing the new chain tensioner.)

6. Verify that there is no slack on the timing chain and then verify that each sprocket is positioned in the proper place again.

7. Inspect the valve timing by rotating the crankshaft clockwise twice.

## Engine Front Cover Assembly Note

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

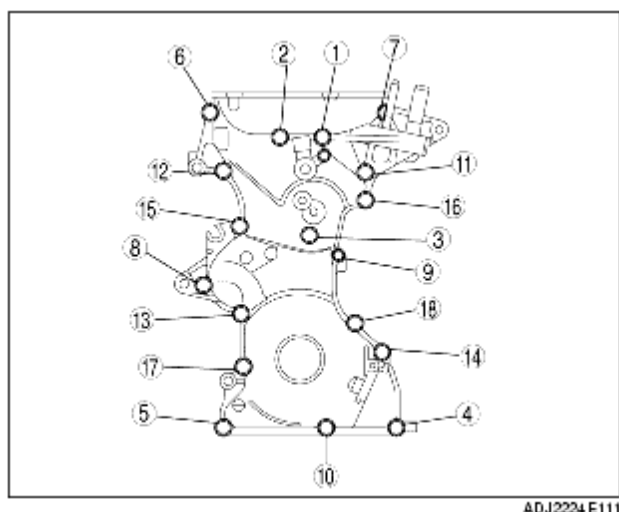


**Diameter**  
**2-4 mm {0.08-0.15 in}**

### Caution

- Install the engine front cover within 10 min after applying the silicon sealant.

2. Tighten the engine front cover installation bolts in the order shown in the figure.

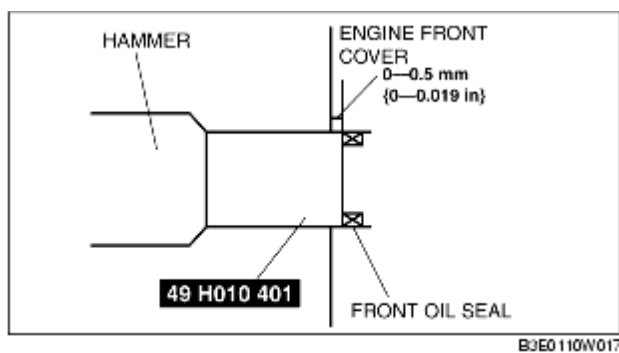
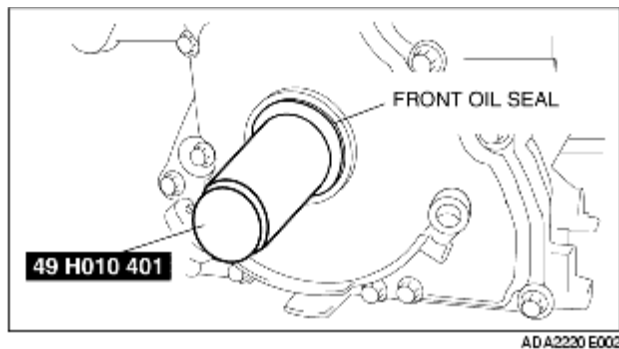


- Install bolt (1) using a new seal washer.

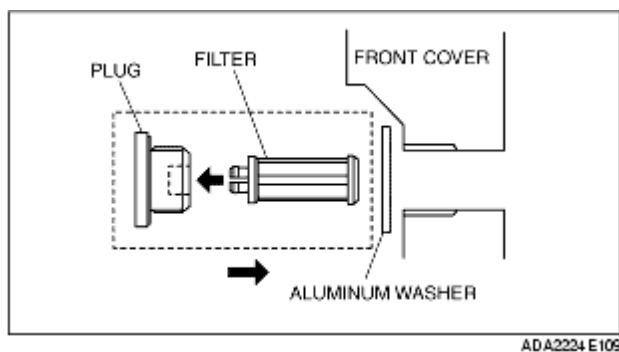
Position	Tightening torque
9	7.8-10.8 N·m {80-110 kgf·cm, 69.1-95.5 in·lbf}

1-6, 8, 10, 12-15, 17, 18	18.6-25.5 N·m {1.90-2.29 kgf·m, 13.8-16.5 ft·lbf}
7, 11, 16	37.2-51.9 N·m {3.80-5.29 kgf·m, 27.5-38.2 ft·lbf}

3. Install the oil seal using the **SST**.



4. Install the oil filter to the plug and insert it in the front cover as shown in the figure.



#### Tightening torque

31.4-47.0 N·m {3.21-4.79 kgf·m, 23.2-34.6 ft·lbf}

### Crankshaft Pulley Installation Bolt Assembly Note

1. Lock the drive plate (ATX) or flywheel (MTX) against rotation using the **SST**.

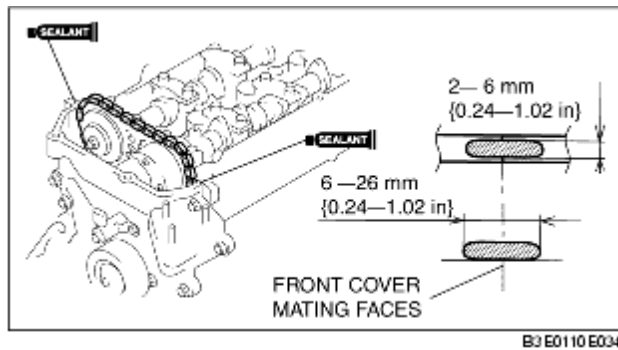
2. Tighten the crankshaft pulley installation bolt.

**Tightening torque**

**157-167 N·m {16.1-17.0 kgf·m, 116-123 ft·lbf}**

## Cylinder Head Cover Assembly Note

1. Apply silicone sealant as shown in the figure.



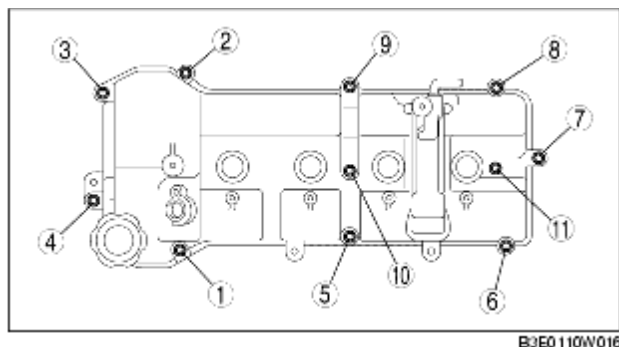
**Diameter**

**2-6 mm {0.08-0.23 in}**

**Length**

**6-26 mm {0.24-1.02 in}**

2. Tighten the cylinder head cover installation bolts in the order shown in the figure.



**Tightening torque**

**6.9-10.8 N·m {70-110 kgf·m, 61.1-95.5 ft·lbf}**