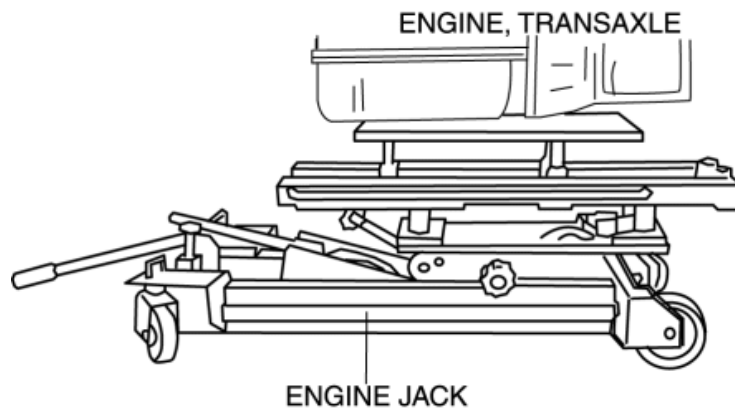


2012 - Mazda6 - Engine

CYLINDER HEAD GASKET REPLACEMENT [MZR 2.5]

WARNING:

- Fuel vapor is hazardous. It can very easily ignite, causing serious injury and damage. Always keep sparks and flames away from fuel.
 - Fuel line spills and leakage are dangerous. Fuel can ignite and cause serious injuries or death and damage. Fuel can also irritate skin and eyes. To prevent this, always complete the "Fuel Line Safety Procedure". (See **BEFORE SERVICE PRECAUTION [MZR 2.5]**.)
1. Remove the timing chain. (See **TIMING CHAIN REMOVAL/ INSTALLATION [MZR 2.5]**.)
 2. Remove the generator, but do not remove it from the vehicle. Fix the generator using a rope to prevent it from falling. (See **GENERATOR REMOVAL/ INSTALLATION [MZR 2.5]**.)
 3. Remove the exhaust manifold. (See **EXHAUST SYSTEM REMOVAL/ INSTALLATION [MZR 2.5]**.)
 4. Drain the engine coolant. (See **ENGINE COOLANT REPLACEMENT [MZR 2.5]**.)
 5. Remove the intake manifold. (See **INTAKE-AIR SYSTEM REMOVAL/ INSTALLATION [MZR 2.5]**.)
 6. Disconnect the following parts.
 - a. Radiator upper hose
 - b. Water hose
 - c. Heater hose
 - d. Wiring harness
 7. To firmly support the engine, first set the engine jack to the oil pan.



8. Remove in the order indicated in the table.
9. Install in the reverse order of removal.
10. Inspect the compression. (See **COMPRESSION INSPECTION [MZR 2.5]**.)

8.0—11.5 N·m
{82—117 kgf·cm,
71—101 in·lbf}

5.0—9.0 N·m {51—91 kgf·cm, 45—79 in·lbf}
+14—17 {1.5—1.7, 11—12}

3—11 N·m {31—112 kgf·cm, 27—97 in·lbf}
+13—17 N·m {133—173 kgf·cm, 116—150 in·lbf}
+43—47 {4.4—4.7, 32—34}
+88—92°
+88—92°

SST

③

④

SEALANT R

N·m {kgf·m, ft·lbf}

1 OCV

2 Camshaft

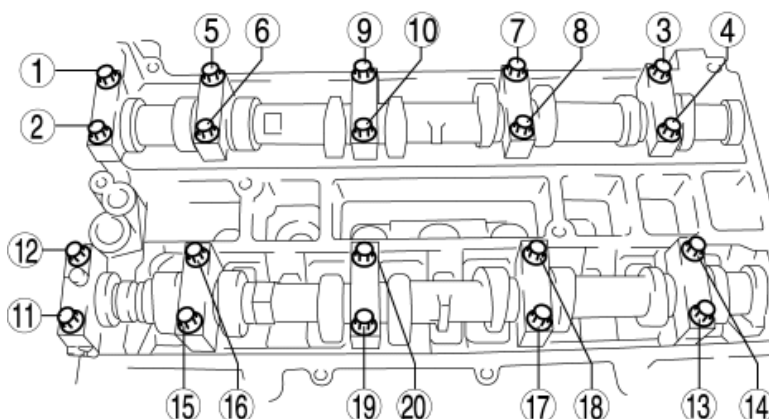
	(See Camshaft Removal Note.)
	(See Camshaft Installation Note.)
3	Cylinder head (See Cylinder Head Removal Note.) (See Cylinder Head Installation Note.)
4	Cylinder head gasket (See Cylinder Head Gasket Installation Note.)

Camshaft Removal Note

NOTE:

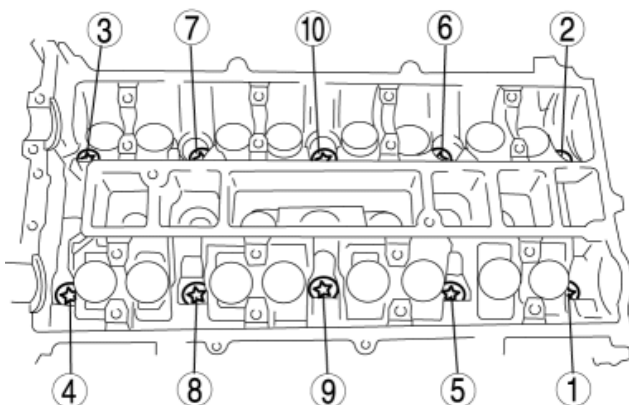
- The cylinder head and the camshaft caps are numbered to be reassembled in their original position correctly. When removed, keep the caps with the cylinder head they were removed from. Do not mix the caps.

- Loosen the camshaft cap bolts in 2—3 steps in the order shown in the figure.



Cylinder Head Removal Note

- Loosen the cylinder head bolts in 2—3 steps in the order shown in the figure.

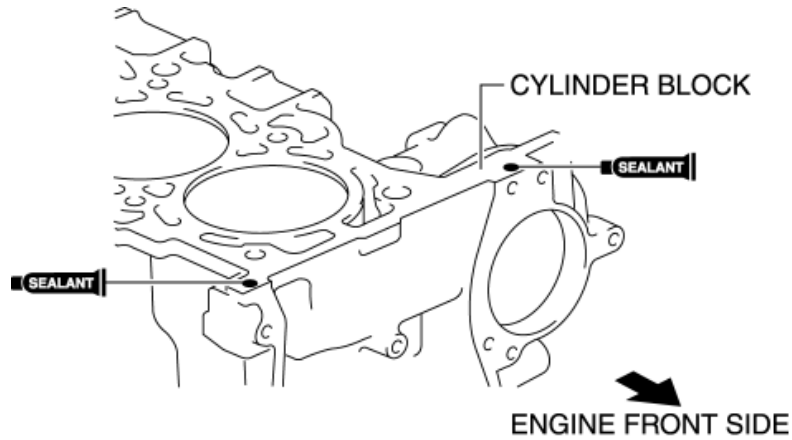


Cylinder Head Gasket Installation Note

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

CAUTION:

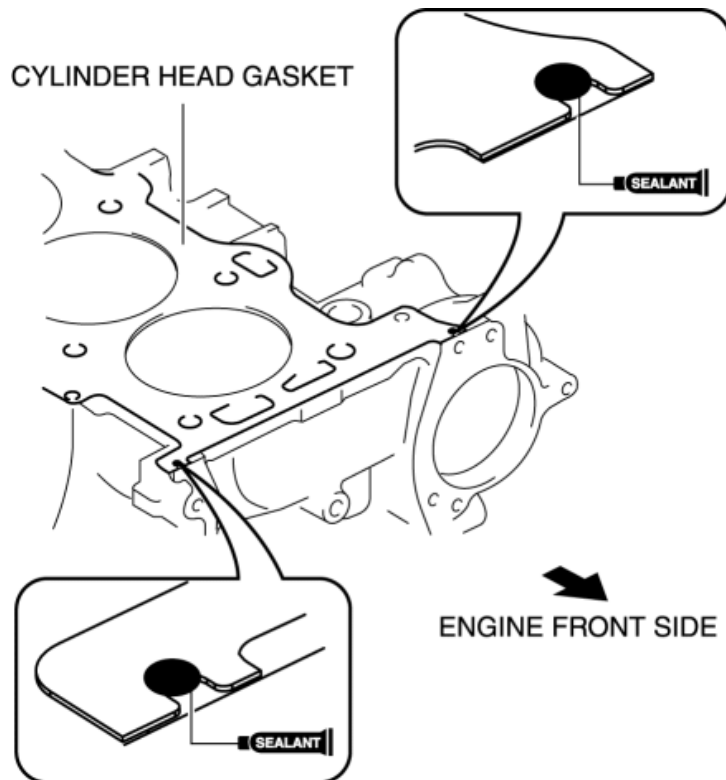
- Install the cylinder head gasket and cylinder head before the applied silicone sealant starts to harden.



Thickness

- 4—7 mm {0.16—0.27 in}

2. Install the cylinder block with a new cylinder head gasket.
3. Apply silicone sealant to the areas shown in the figure.



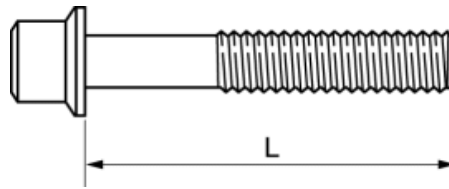
Thickness

- 4—7 mm {0.16—0.27 in}

4. Install the cylinder head referring to the Cylinder Head Installation Note.

Cylinder Head Installation Note

1. Measure the length of each cylinder head bolt.
 - Replace any that exceeds maximum length.



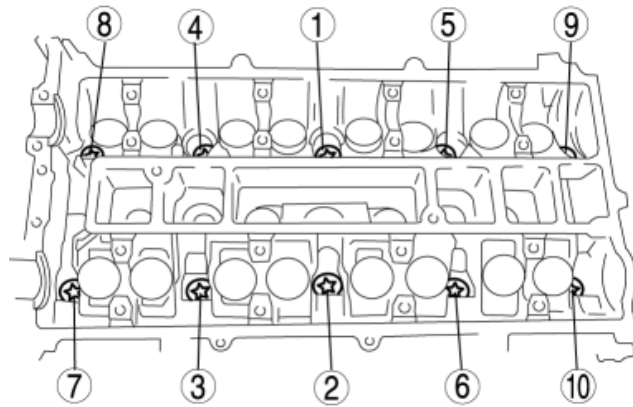
Cylinder Head Bolt Length L

- 145.2—145.8 mm {5.717—5.740 in}

Cylinder Head Bolt Maximum

- 146.5 mm {5.767 in}

2. Tighten the cylinder head bolts in the order shown in the following 5 steps using the **SST (49 D032 316)**.

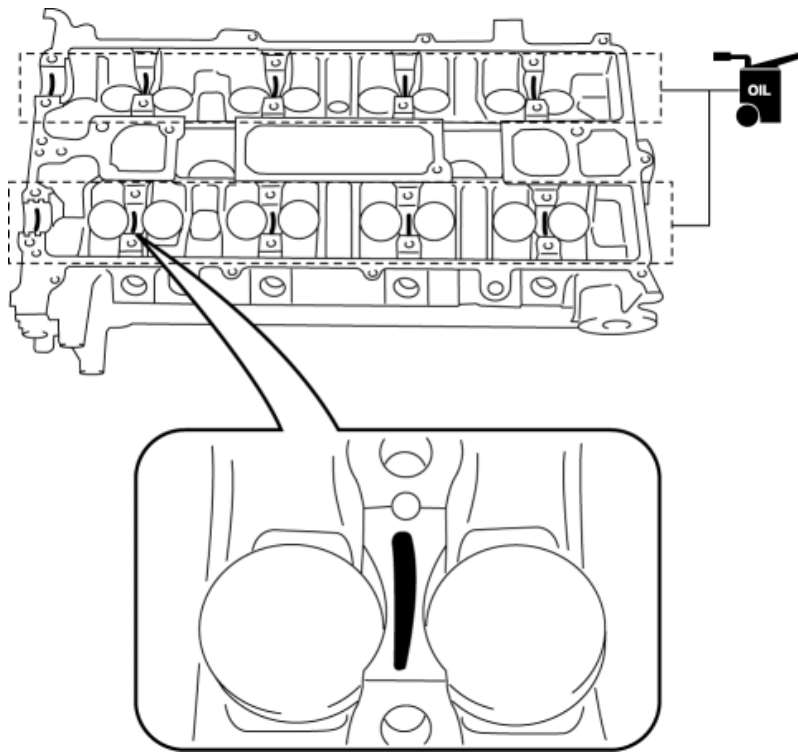


Tightening torque

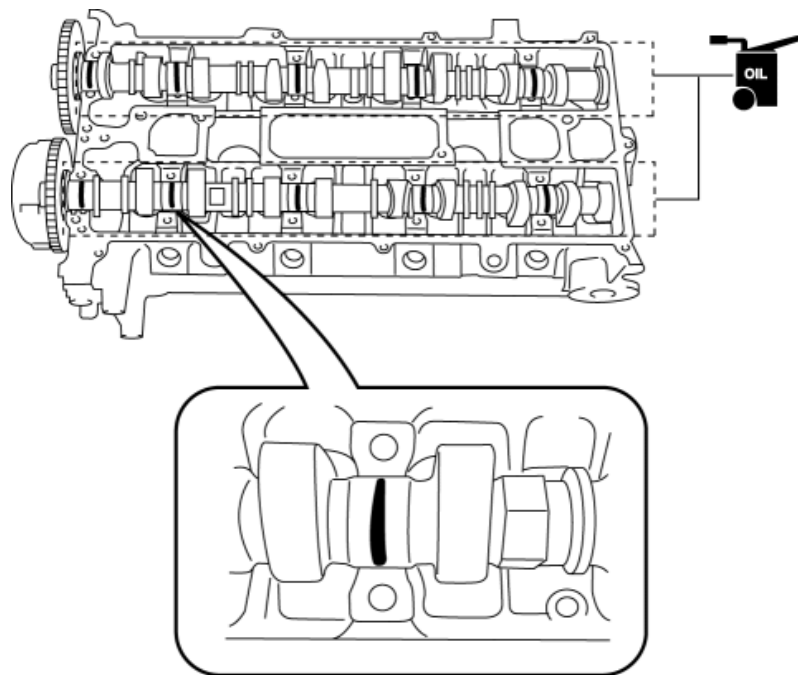
- 3—11 N·m {31—112 kgf·cm, 27—97 in·lbf}
- 13—17 N·m {133—173 kgf·cm, 116—150 in·lbf}
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- 88—92°
- 88—92°

Camshaft Installation Note

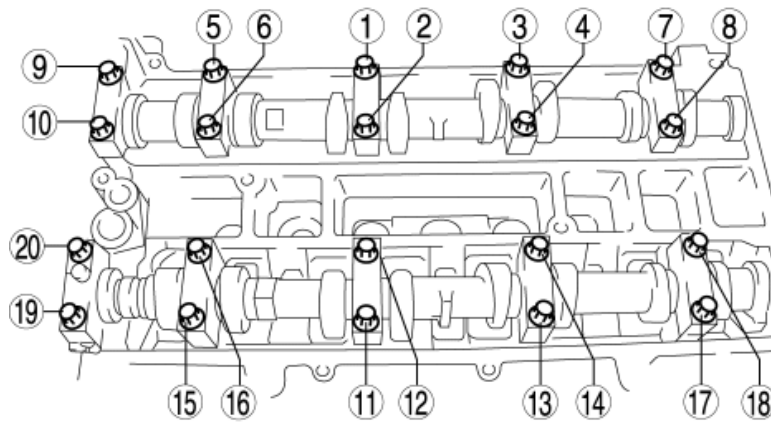
1. Apply the gear oil (SAE No.90 or equivalent) to each journal of the cylinder head as shown in the figure.



2. Set the cam position of No.1 cylinder at the top dead center (TDC) and install the camshaft.
3. Apply the gear oil (SAE No.90 or equivalent) to each journal of the camshaft as shown in the figure.



4. Temporarily tighten the camshaft cap bolts evenly in 2—3 steps.
5. Tighten the camshaft cap bolts in the order shown in the following two steps.



Tightening torque

- 5.0—9.0 N·m {51—91 kgf·cm, 45—79 in·lbf}
- 14—17 N·m {1.5—1.7 kgf·m, 11—12 ft·lbf}

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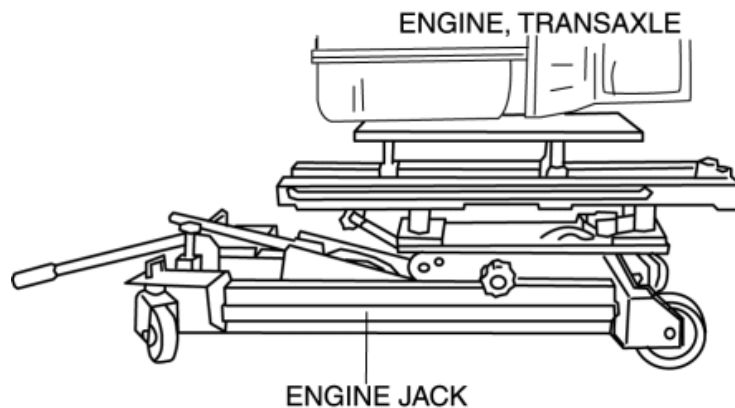
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2012 - Mazda6 - Engine

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 4. Drain the engine coolant. (See **ENGINE COOLANT REPLACEMENT [MZR 2.5]**.)
 5. Remove the intake manifold. (See **INTAKE-AIR SYSTEM REMOVAL/ INSTALLATION [MZR 2.5]**.)
 6. Disconnect the following parts.
 - a. Radiator upper hose
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 7. To firmly support the engine, first set the engine jack to the oil pan.



8. Remove in the order indicated in the table.
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SST

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SEALANT R

N·m {kgf·m, ft·lbf}

1 OCV

2 Camshaft

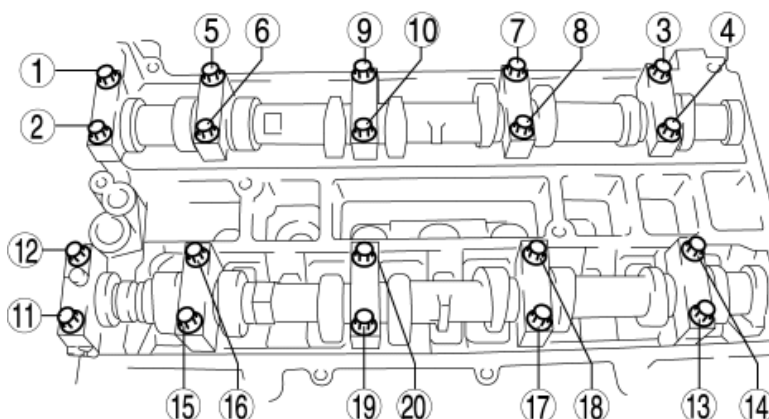
	(See Camshaft Removal Note.)
	(See Camshaft Installation Note.)
3	Cylinder head (See Cylinder Head Removal Note.) (See Cylinder Head Installation Note.)
4	Cylinder head gasket (See Cylinder Head Gasket Installation Note.)

Camshaft Removal Note

NOTE:

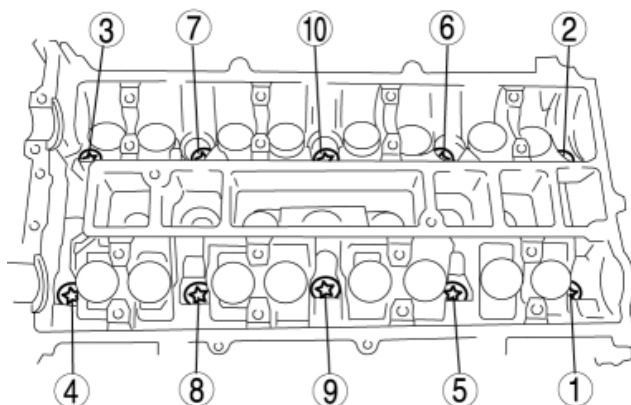
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Cylinder Head Removal Note

- Loosen the cylinder head bolts in 2—3 steps in the order shown in the figure.

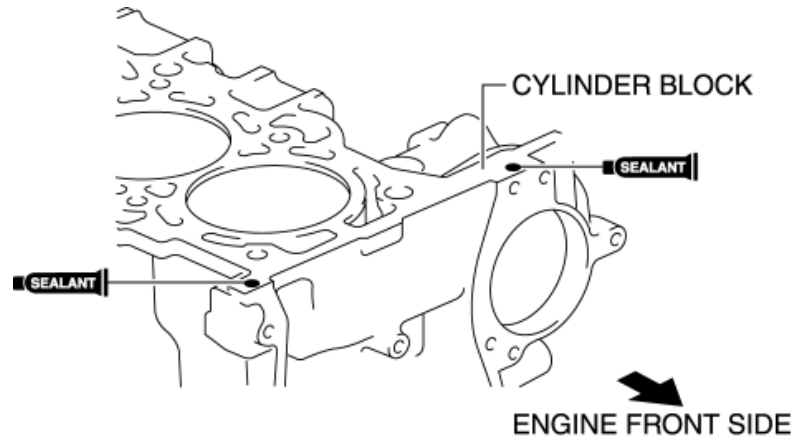


Cylinder Head Gasket Installation Note

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

CAUTION:

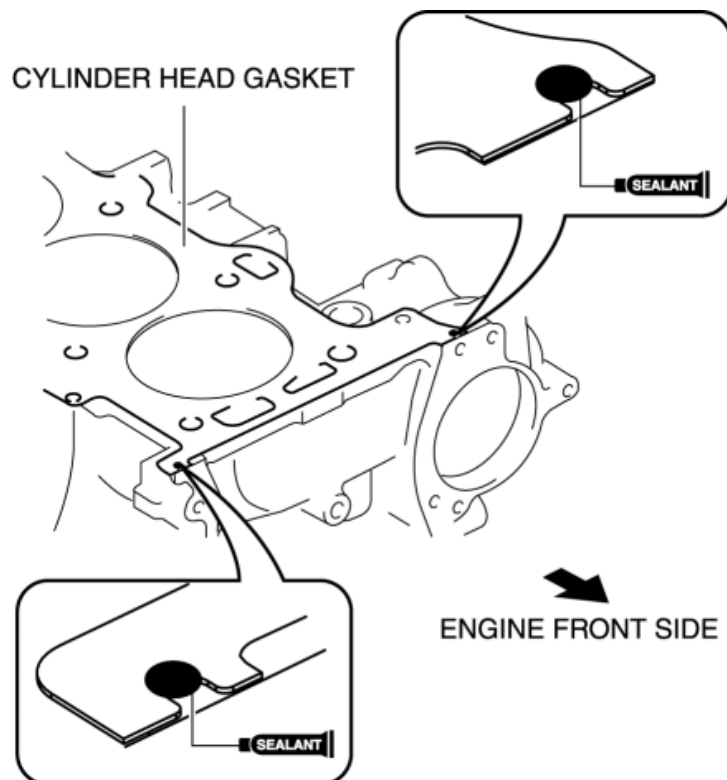
- Install the cylinder head gasket and cylinder head before the applied silicone sealant starts to harden.



Thickness

- 4—7 mm {0.16—0.27 in}

2. Install the cylinder block with a new cylinder head gasket.
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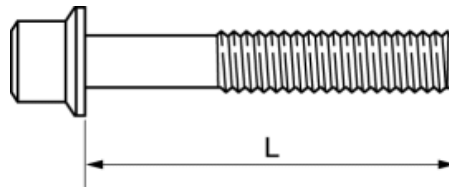
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Cylinder Head Installation Note

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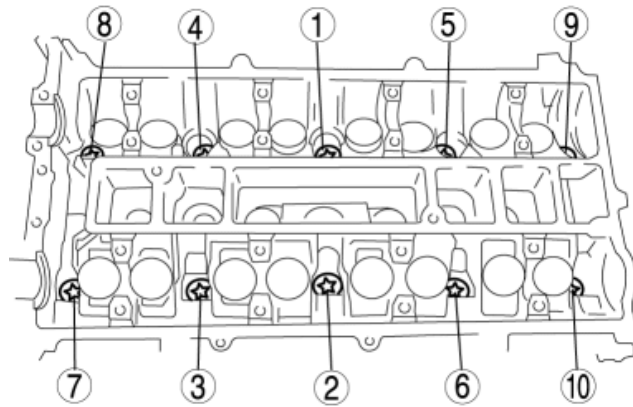
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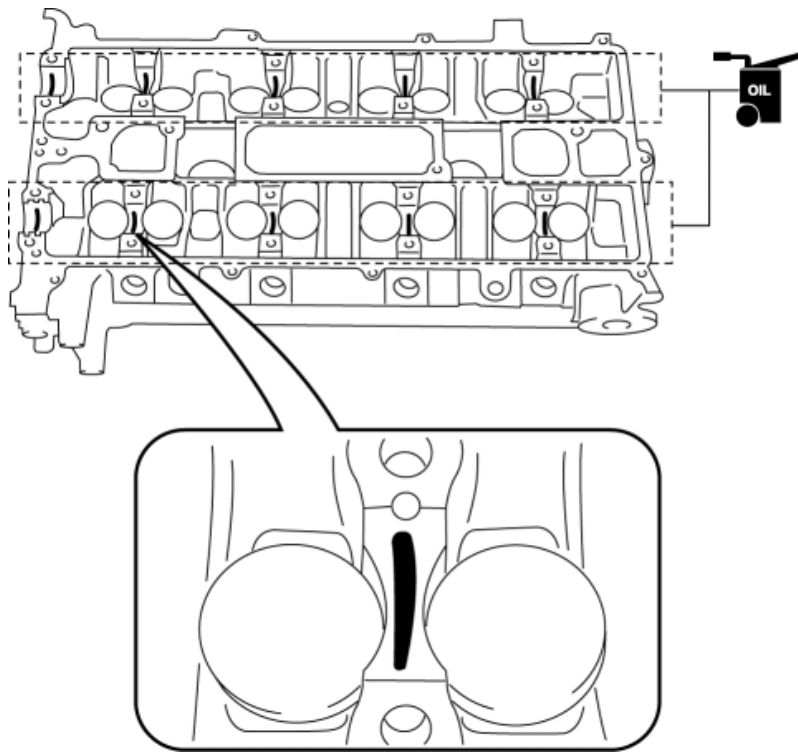


Tightening torque

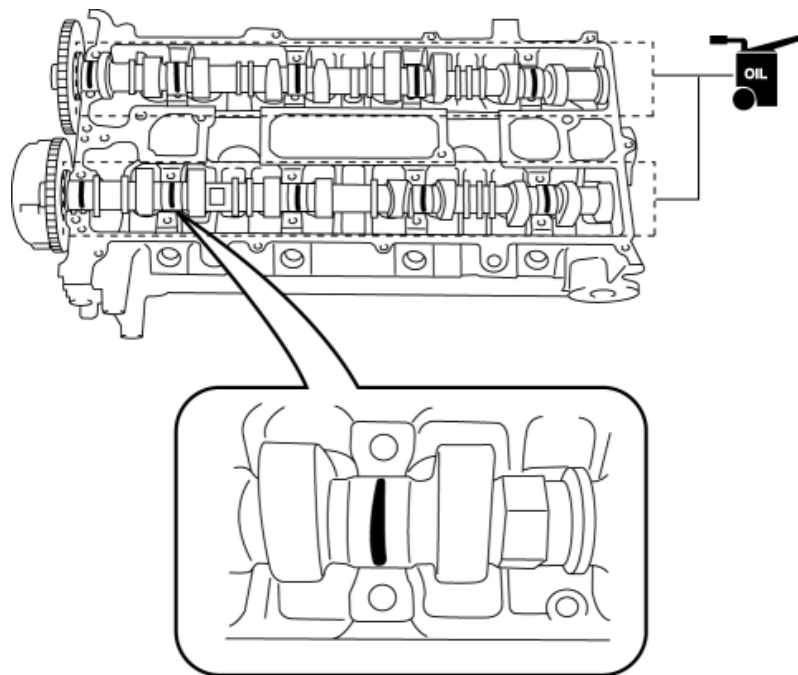
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Camshaft Installation Note

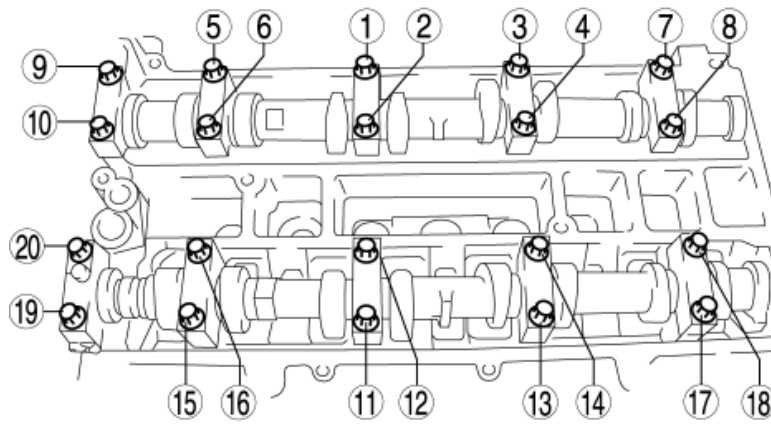
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