

CYLINDER HEAD GASKET REPLACEMENT [L3 Turbo]

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Warning

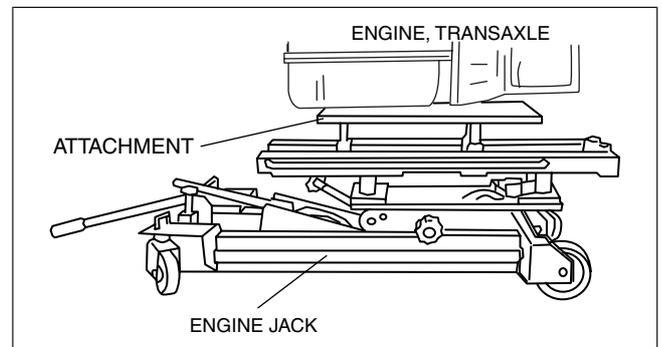
- Fuel vapor is hazardous. It can very easily ignite, causing death, serious injury, or damage. Always keep sparks and flames away from fuel.
- Fuel line spills and leakage from the pressurized fuel system are dangerous. Fuel can easily ignite and cause serious injury or death and damage. Fuel can also irritate skin and eyes. To prevent this, always perform the Fuel Line Safety Procedure. (See BEFORE SERVICE PRECAUTION [L3 Turbo].)

1. Remove the timing chain. (See TIMING CHAIN REMOVAL/INSTALLATION [L3 Turbo].)
2. Remove the generator. (See GENERATOR REMOVAL/INSTALLATION [L3 Turbo].)

Note

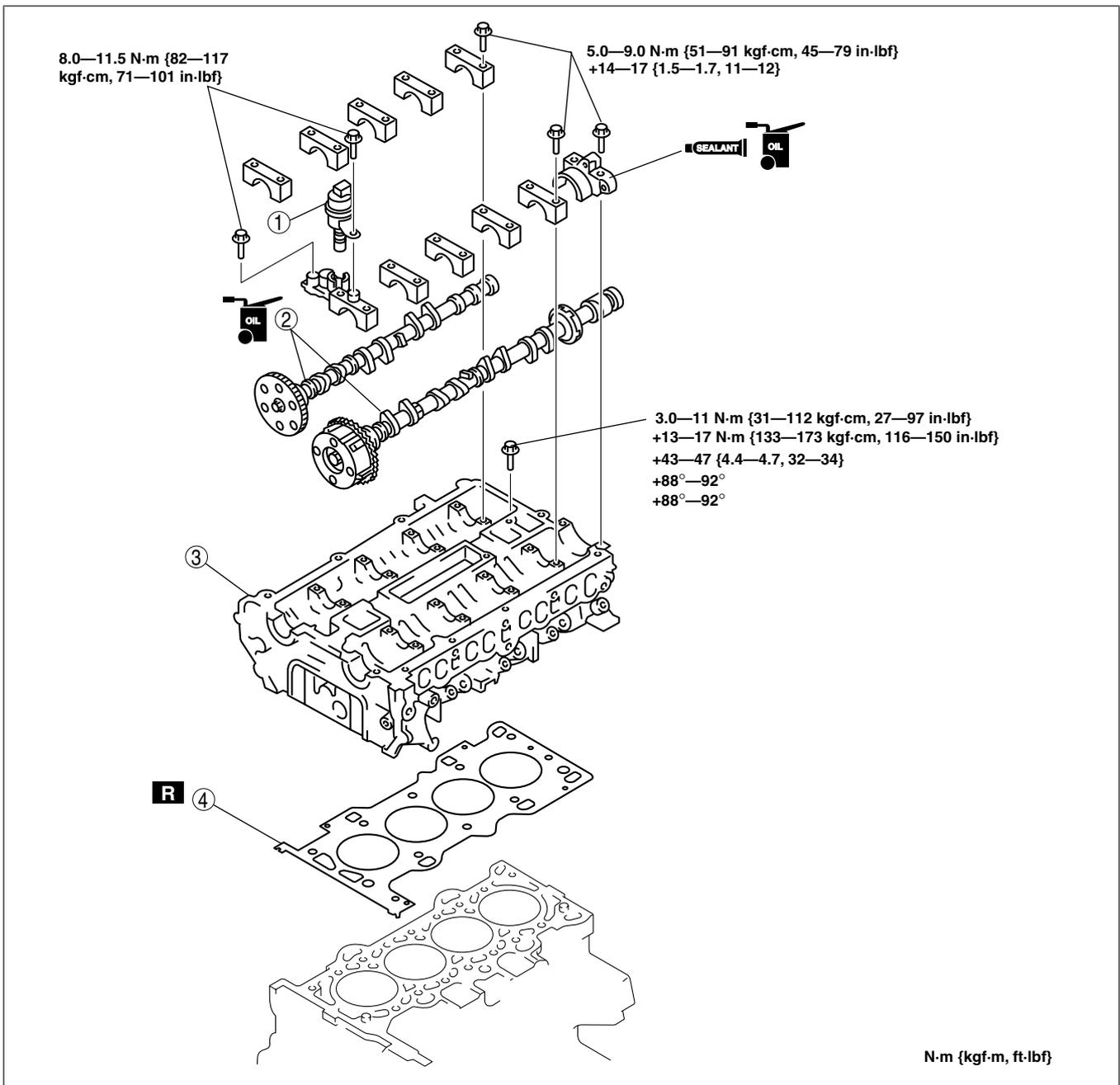
- Place the generator out of the way with the wiring harnesses connected.

3. Remove the exhaust manifold. (See EXHAUST SYSTEM REMOVAL/INSTALLATION [L3 Turbo].)
4. Remove the intake manifold. (See INTAKE-AIR SYSTEM REMOVAL/INSTALLATION [L3 Turbo].)
5. Disconnect the heater hose and radiator hose.
6. Disconnect the wiring harness.
7. To firmly support the engine, first set the engine jack and attachment to the oil pan.
8. Remove in the order indicated in the figure.
9. Install in the reverse order of removal.
10. Bleed the air from the cooling system. (See ENGINE COOLANT REPLACEMENT [L3 Turbo].)



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11. Inspect the compression pressure. (See COMPRESSION INSPECTION [L3 Turbo].)



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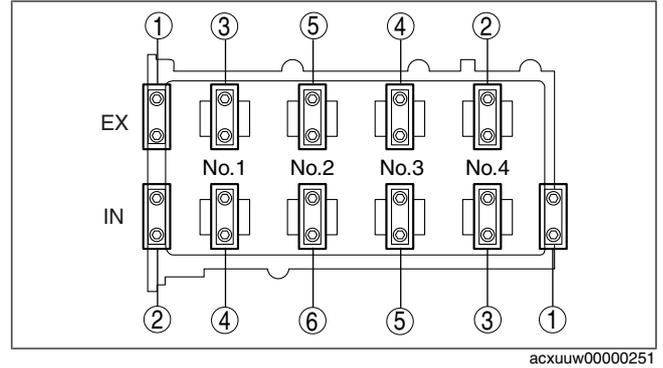
1	OCV
2	Camshaft (See Camshaft Removal Note .) (See Camshaft Installation Note .)
3	Cylinder head (See Cylinder Head Removal Note .) (See Cylinder Head Installation Note .)
4	Cylinder head gasket

Camshaft Removal Note

Note

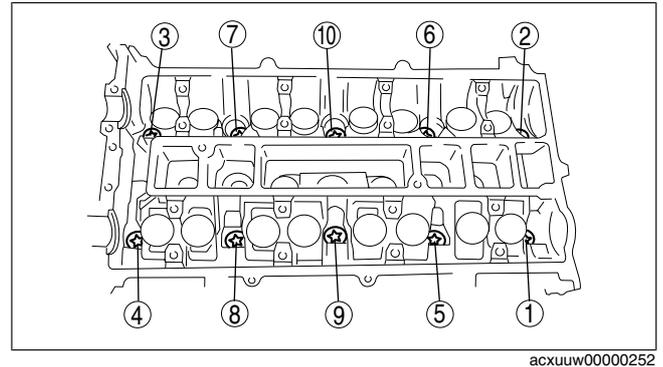
- The camshaft caps are to be kept ordered for correct reassembly in their original positions.

- Loosen the camshaft cap bolts in two or three passes in the order shown, and remove them.



Cylinder Head Removal Note

- Loosen the cylinder head installation bolts in two to three passes in the order shown in the figure and remove them.

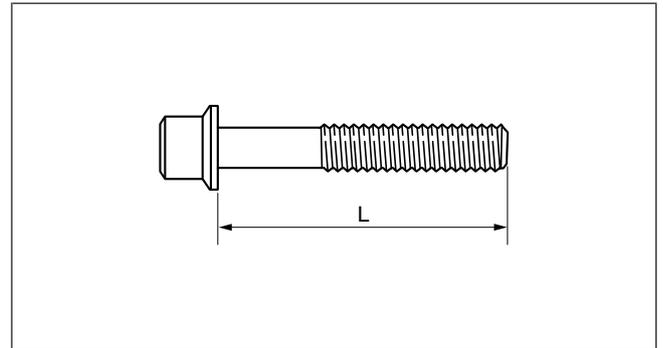


Cylinder Head Installation Note

- Measure the length of each cylinder head bolt.
 - Replace any cylinder head bolts that exceed the maximum length.

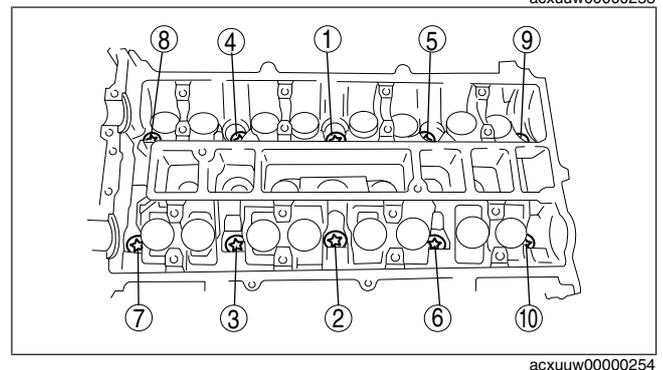
Cylinder head bolt length

Standard: 144.7—145.3 mm {5.697—5.720 in}
 Maximum: 146 mm {5.74 in}



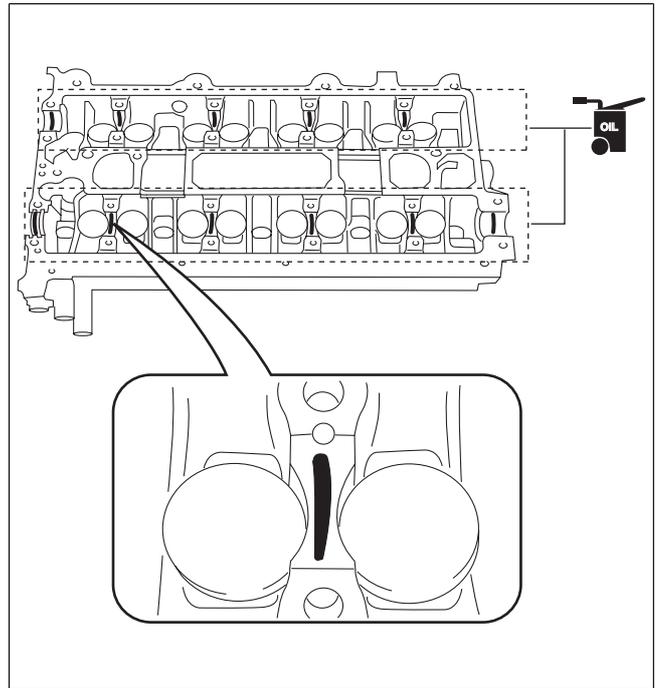
Tightening procedure

- 1st step: 3.0—11 N·m {31—112 kgf·cm, 27—97 in·lbf}
- 2nd step: 13—17 N·m {133—173 kgf·cm, 116—150 in·lbf}
- 3rd step: 43—47 N·m {4.4—4.7 kgf·m, 32—34 ft·lbf}
- 4th step: 88°—92°
- 5th step: 88°—92°



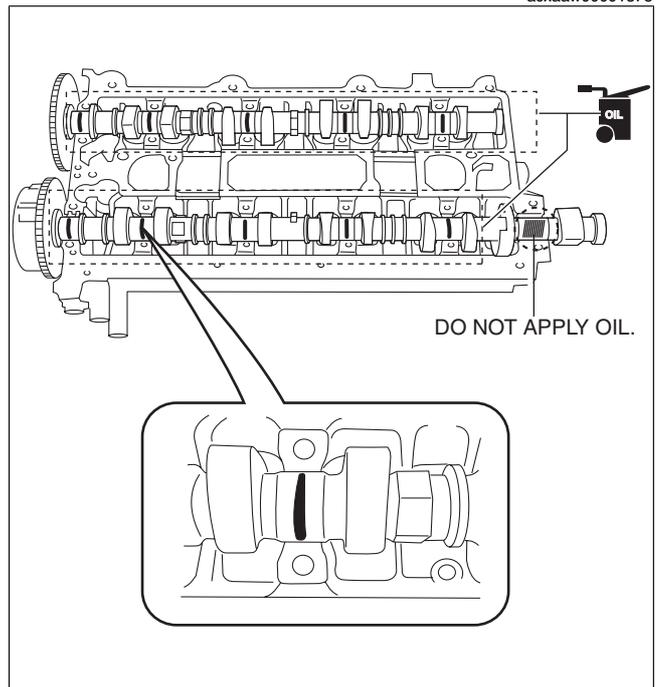
Camshaft Installation Note

1. Apply the gear oil (SAE No. 90 or equivalent) to each journal of the cylinder head as shown in the figure.
2. Install the camshaft with No.1 cylinder cam aligned at TDC of compression stroke.



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3. Apply the gear oil (SAE No. 90 or equivalent) to each journal of the camshaft as shown in the figure. However, do not apply it to the end journal of the intake camshaft.

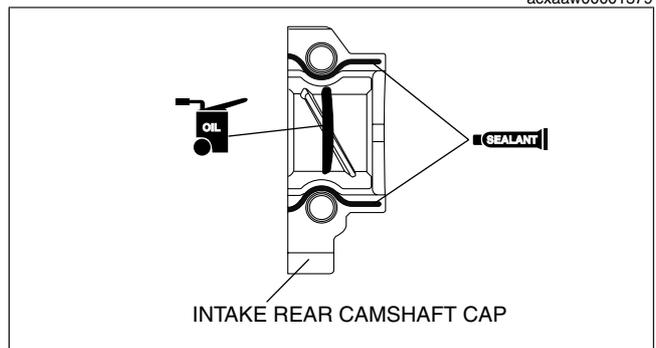


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4. Carefully apply adhesive agent (Loctite 518 or 962) to the area indicated in the figure so that it does not leak into the sliding part then, apply the gear oil (SAE No. 90 or equivalent) to the journal.

Thickness

1.0 mm {0.039 in}



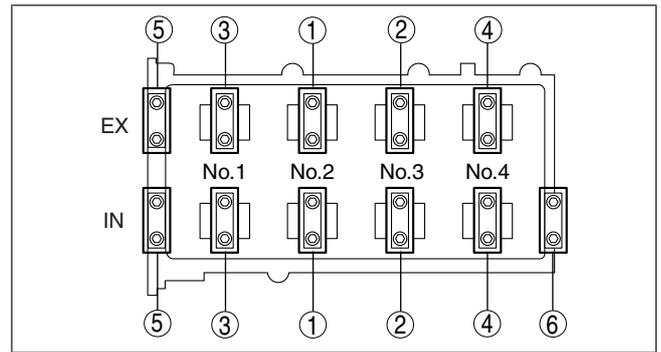
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5. Install the camshaft caps and temporarily tighten the camshaft cap bolts evenly in two or three passes, and then tighten the camshaft cap bolts using the following two steps, in the order shown in the figure.

Tightening procedure

1st step: 5.0—9.0 N·m {51—91 kgf·cm, 45—79 in·lbf}

2nd step: 14—17 N·m {1.5—1.7 kgf·m, 11—12 ft·lbf}



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