

Proper installation of cylinder-head gaskets in seven steps

Please follow the engine-maker's general instructions for installation

1. Carefully clean, degrease, and remove left over coating and the sealing elements from the components (cylinder head/cylinder block).

2. Make sure to clean any dirt and oil from the threaded drill hole for the cylinder-head bolts. Inspect the threads for damage and make sure they work smoothly.

3. Check the component surfaces:

- remove any protruding material with an oil stone
- use a straight edge to make sure that the component dimensions are consistent throughout: Length: 0.55 mm; Width: 0.03 mm
- scratches must be removed (surface grinding by professional)

Value	Metal-soft material	Multilayer metal	Metal Elastomer
R _z	15 - 20 µm	11 µm	11 - 20 µm
R _{max}	20 - 25 µm	15 µm	15 - 20 µm
W _t		8 - 10 µm	

4. Center the cylinder-head gasket on the engine block (without additional jointing compound). Be sure not to damage the coating.

5. Mount the cylinder head

- Avoid scratching the sealing surface
- Watch out for any left-over material such as metal shavings that could reach the gasket from the cylinder head



Practical repair: Installing
**cylinder-head
gaskets**

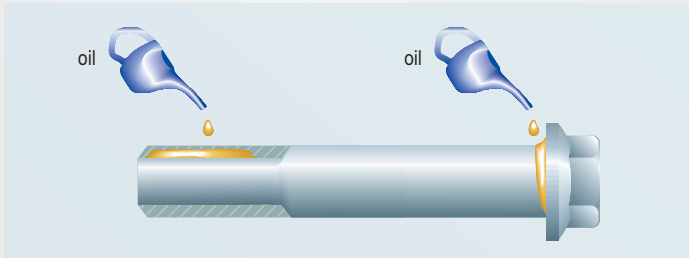


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6. Cylinder-head bolts

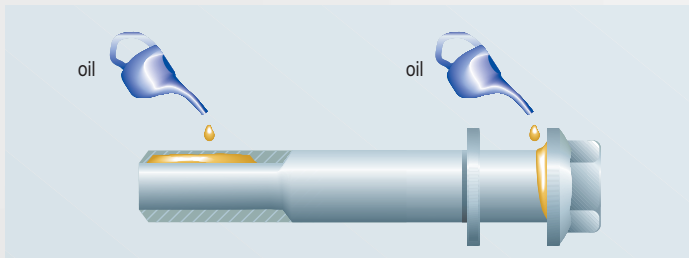
6.1

- As recommended by automaker:
Generally replace the cylinder-head bolts and washers
- **Lightly** grease the threads and bearing surfaces of the bolts



6.2

- If there is a built-in washer, add oil between it and the bolt head
- Careful: Never grease the washer's bearing surface on the cylinder head



7. Bolt tightening

- Follow the tightening sequence recommended by the manufacturer (working out from the center in a cross pattern or in an outward spiral)
- Torque/tightening angle: stepwise in accordance with tightening instructions
- Follow the instructions for subsequent tightening, if applicable



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