



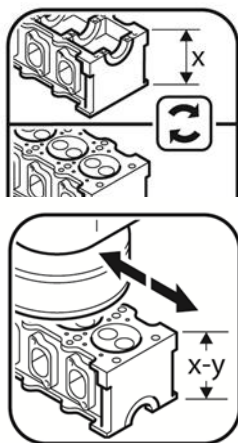
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# Cylinder-head gasket in repair thickness for gasoline engines

In contrast to diesel engines, the cylinder heads of gasoline engines have a combustion chamber above the piston that usually has the shape of a spherical segment. This is where the valve seats and the threaded spark plug hole are located.

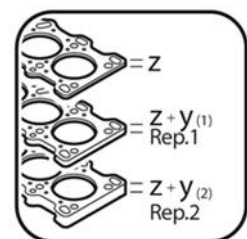


If you machine the cylinder head to ensure a flush, homogeneous surface, you reduce the volume of that spherical segment, and hence the clearance volume above the piston.

The result: combustion pressure rises and compression ratio changes.

This outcome, which would seem to be positive at first sight, has negative side effects. Combustion pressure rises out of control, which leads to significant vibrations in components, and hence greater wear and tear. In addition, you can only drive the compression ratio up to a certain limit if you want to avoid engine knock, i.e. uncontrolled self-ignition of fuel. Last but not least, you have to bear in mind that other components, such as conrod bearings or crankshaft main bearings, are not usually replaced at the same time. So rises in pressure can lead to problems at the bearings. To prevent this, resurfacing dimensions should be kept to a minimum, the rule of thumb being: as much as necessary, as little as possible.

**Useful tips from the gasket experts:** For repair work Elring supplies cylinder-head gaskets in repair thickness for certain gasoline engines. Here it is advisable to choose a resurfacing dimension that equals the difference in thickness between that of the repair gasket and that of the production gasket. As a result, there will be no change in the compression ratio that was originally calculated for that engine. In the catalog you will find the gaskets under the heading "Repair Stage."



X = cylinder head height, Y = material removal by resurfacing,

Z = thickness of the CHG originally fitted, Z+Y = required thickness of repair gasket

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