

Service Engineering Bulletin

SB2190

Payen HeadSaver®



Absolute Excellence



When a cylinder head gasket requires replacement on an engine it is often the case that the cylinder head face will need resurfacing. This is to overcome excessive distortion or warpage as well as any impressions left in the head face by the bore seal of the removed gasket. It is important when rebuilding an engine to ensure that the cylinder head surface is flat otherwise premature failure of the new cylinder head gasket will occur.

Cylinder head and cylinder block resurfacing will have the effect of increasing an engine's compression ratio. When only a minimal amount of material is removed the increase in compression ratio can often be ignored. However, when the components have been machined several times or if heavier machining is required, then the compression ratio must be restored to its original value. If this is not done then detonation or pre-ignition can occur which can lead to expensive engine damage, plus mechanical interference between the valves and the piston as well as retardation of the camshaft timing.

A solution is to use a Payen HeadSaver® together with a standard gasket. It is recommended that only one Payen HeadSaver® is used and in most cases it should be fitted against the cylinder block face. There are exceptions to this rule where the Payen HeadSaver® is fitted to the head face when the engine has liners, which stand above the block surface. All Payen HeadSavers are clearly stamped with a symbol indicating the surface to fit against. The cylinder head gasket is still required in order to seal combustion gas and fluids as well as to compensate for the dynamic stresses seen on an engine in service.

The Payen HeadSaver® should be coated on the side that faces the head or block surfaces and uncoated on the surface in contact with the gasket. The coating recommended for this should be an oil resistant product.

Payen HeadSavers are laser-cut from stainless steel and match the appropriate cylinder head gasket geometry in order to optimise the sealing performance. The HeadSavers are extremely durable and offer a surface finish, which can accept all types of cylinder head gasket designs.

- The original Payen HeadSaver® provides the best and most cost effective sealing solution
- Simple but proven product, which prolongs engine life
- Laser-cut from stainless steel to the precise geometry of the appropriate cylinder head
- Extremely durable
- Can be used with all types of cylinder head gasket designs

