

## IMPORTANT NOTES ON GRADED HEAD GASKETS

Graded head gaskets are head gaskets that are available in more than one thickness for the same engine application. For a number of years the use of graded head gaskets has been limited to a few European engine manufacturers predominantly as a service replacement item for when machining work had been carried out on the cylinder block or head. Since the mid 1980's however, the majority of diesel engines developed by all the leading European and Japanese manufacturers have utilised graded head gasket technology as an integral part of their engine design.

There are a number of reasons why engine manufacturers use graded head gaskets but perhaps the primary reason is that a graded head gasket allows the engine manufacturer to have far greater control over the clearance between the crown of the piston and the cylinder head thereby giving better control over the engines combustion resulting in improved performance and lower emissions.

## REPLACING A GRADED HEAD GASKET

When replacing a graded head gasket always refer to the engine service manual for the engine manufacturers recommendations especially when the cylinder block or head has been machined. The service manual will detail how to measure and calculate the piston protrusion to determine the correct grade of head gasket to be used. Remember one of the primary reasons for utilising graded head gasket technology is for greater control over combustion. Fitting the incorrect grade of head gasket will affect the engines performance. It may become difficult to start, lack power and/or blow smoke. In extreme situations the engine may not start at all or even result in the piston contacting the valves or the cylinder head.

## IDENTIFYING GRADED HEAD GASKETS

The methods used to identify one grade of head gasket from another varies between manufacturers and in many cases between engines from the same manufacturer. Most methods involve either a series of notches, holes, cut outs, numbers, letters or a combination of any of these methods. Always refer to the manufacturers engine service manual for the correct method of identification.

In this catalogue, the notes section at the bottom of the page will advise you of the grades available. We have also provided an identification sheet for each of the graded head gaskets currently in our range. Please be aware that these sheets only apply to OEM and Permaseal graded head gaskets.

