

# **ACW CYLINDER HEAD GASKETS**

There have been several suppliers of the cylinder head gaskets used on the Petter 'A' range water-cooled engines as summarised below.

Early gaskets (part numbers 344577 and 355820) were made by Reinz in 0.75mm (0.030") thick material.

These were then superseded by part number 299867 made by Goetze in 1.25mm (0.050") brown coloured material and engines were required to be modified either by removal of cylinder base shims or machining 0.5mm (0.020") from the cylinder.

However, later versions of the Goetze product (in grey material) suffered from leakage and the manufacture of gasket 299867 reverted to Reinz who produced the joint in the original 0.75mm (0.030") thick material.

**WARNING - The part number was not changed – gaskets under the same part number may be of different thickness !**

Following this Lister Petter produced a kit containing a Reinz gasket and a 0.5mm (0.020") cylinder base shim as a replacement for the Goetz type of joint.

None of these gaskets are still available from the manufacturer and it has become apparent that various thicknesses of gasket can be found on different engines.

Part Number **THA 299867** as supplied by Marine Engine Services Ltd is made from material 1.25mm (0.050") thick and is therefore suitable as a replacement for Goetz type gaskets. It may also be used in place of Reinz gaskets but because of the increased thickness either machining or removal of cylinder base shims must be carried out to achieve the correct 'bump clearance'

In any event, we recommend that 'bump clearance' is checked when fitting these replacement gaskets, procedure as follows:-

- 1 Set the piston to 6.35mm (0.25") before TDC
- 2 Place three pieces of soft lead wire or soft solder equidistant on top of the piston. Ensure that the wire pieces are not aligned with the valve heads and/or combustion chamber.
- 3 Replace the cylinder head with the new gasket and tighten nuts to a final torque setting of 32.5Nm (24 ft.lb) for rocker support and 29.8Nm (22 ft.lb) for remaining nuts.
- 4 Turn the engine over TDC.
- 5 Remove the cylinder head and measure the thickness of the flattened wire with a micrometer. The average of the three readings should lie in the range 0.66 to 0.76mm (0.026" to 0.030"). If necessary adjust the clearance by re-shimming at cylinder base or machining top face of cylinder.
- 6 Replace cylinder head using sealant round water channels if found necessary.

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