

## Potteries Model Boat Club

As a member of the above club you also be an affiliated member of The Northern Association of Model Engineers N.A.M.E.

It is a requirement of the council whose waters we use and other organisations that we come into contact with that we have cover for Public Liability Insurance. This is achieved through N.A.M.E and their brokers Walter Midgley and the Royal Sun Alliance Insurance who with their knowledge of all modellers activities arrange the most suitable cover.

### Steam Power

If you operate a steam powered model boat it is an insurance requirement that your pressure vessels (boiler – refillable gas tanks) are all examined, tested and suitably certified to the nationally required manner. The method of carrying this out has been worked out over the years by the majority of the model engineering societies assisted by the Royal Sun Alliance. This method follows the lines of PSSR (Pressure System Safety Regulations) and is known as **The Examination & Testing of Miniature Steam Boilers (Revised Edition 2012)** and is generally known as the **Green Book**.

#### **The procedure for this is as follows**

There are basically two categories for boilers defined by the product of the working pressure and the volume. The first is for small boilers below 3 Bar/ Litres, most model boat boilers will fall into this category. The second is for boilers between 3 Bar/Litres and up to and including 1100 Bar/Litres. These are to be copper or steel but not Stainless Steel.

The person presenting boilers for testing shall be members of the club or society under whose name it is to be examined and/or tested.

- 1.** The boiler will be prepared and presented for examination and testing by the owner. If a new boiler and if it has not all ready been carried out it will require a shell test. This will be the basic boiler with no fittings and preferably no cladding, which is then subjected to a hydraulic test to twice the working pressure. If the manufacturer has carried out this test and the correct certification for this is available then this could be acceptable. This will only be required once unless any major alterations are made to the boiler.
- 2.** A Written Scheme of Examination will be prepared by the boiler inspector, this will be unique to the boiler and will stay with the boiler for it's life and if the boiler changes hands will be passed on to the new owner.
- 3.** All the fittings and operating fixtures will be attached to the boiler and it will then be subject to a repeat hydraulic test at one and a half (1.5) times the working pressure. For boilers below 3 Bar/Litres this will only be carried out once unless any major alterations are carried out. For boilers above 3 Bar/Litres this will be repeated every four (**4**) years.

4. Finally the boiler and fittings will be installed in the model and fired up to working pressure when a **steam test** will be undertaken to examine for leaks, the correct operation of the water gauge, any water feed pumps, the pressure gauge and the safety valve. Also the correct calibration of the pressure gauge and safety valve. For both categories this steam test will be repeated every twelve months (12) but no longer than fourteen months (14). The Steam Test can only be undertaken after carrying out and during the validity period of a satisfactory hydraulic test. The appropriate certification can then be issued and the system put into service.

### **Liquid Petroleum Gas (LPG) Tanks**

If the model boiler is fired using LPG and it uses a refillable copper gas tank then the tank must go through the required test procedure as follows:-

The test shall be a hydraulic test followed by a safeguard test.

**The Hydraulic Test** shall be carried out at 1.9 times the pressure as listed for the percentage of butane/propane mixture to be used at 55° C as listed in the relevant tables.

**The Safeguard Test** The tank should be partially filled with the respective gas and immersed in tepid water to ensure there are no leaks from the fittings.

The required certification can then be issued.

**THIS TEST SHALL BE REPEATED EVERY TWO YEARS**