

Boiler testing in the UK

Prior to January 2006, the many national and local organisations, which administered the affairs of the many branches of the hobby, had in place their own requirements for the examination and testing of model steam boilers. However, there were many differences in each party's requirements, which led to inevitable confusion.

To overcome these discrepancies, the main party's involved, got together and came up with a common set of rules which have now been accepted by the Health and Safety executive, all the major providers of insurance for the modelling hobby and the various model engineering organisations.

The basic requirements of the Pressure Systems Safety Regulations 2000 (PSSR) and the Pressure Equipment Regulations 1999 SI NO.1999/2001 (PER) P.E.D 97/23/EC. were used as a the basis for the new regulations.

These new rules came in to operation/effect on 1st January of 2006.

Those involved were as follows: -

Ground Level 5" Gauge Mainline Association.

Health and Safety Executive.

Midlands Federation of Model Engineering Societies.

Model Steam Road Vehicle Society.

Northern Association of Model Engineers.

7 ¼" Gauge Society.

Society of Model Experimental Engineers.

Southern Federation of Model Engineering Societies.

Members of the Trade, Manufacturers and the Model Engineering Press.

Royal Sun Alliance Engineering.

It should be noted that, whilst these rules have been adopted by the leading providers of insurance for the model engineering hobby, individuals, or organisations seeking insurance from other insurers will need to check that these rules are acceptable to the insurer.

Most model clubs (especially those affiliated to one or more of the above) have adopted these rules, however, some may still have additional requirements and/or recommendations concerning recording and reporting of boilers and boiler tests etc, and any such requirements may be contained within publications produced by them. Such publications/requirements shall be used in conjunction with these new rules and shall not be considered stand alone instructions and shall not amend, or overrule any part of the new rules.

From a model steam boating point of view the following are the main rules: -

Small boilers, (i.e. boilers having a capacity of **not more than 1.5 Bar-Litres**) are exempt from the testing regulations, however, they should have their Safety valves tested at least every 12 months in order to ensure correct operation at the correct release pressure.

The Bar-Litre capacity is found by multiplying the **total** internal volume of the boiler (in litres) by the working pressure in Bars.

1 Bar = 14.5038psi.

1 litre = 0.22 (UK) gallons/1.76 pints

1 (UK) pint = 0.568 Litre.

For all other boilers, up to 500 Bar/Litre capacity the following shall apply: -

New boilers: in either Copper or Steel will be subject to a hydraulic test pressure of **2 x (Twice)** maximum working pressure with subsequent tests being to **1½** times working pressure. The applied test pressure shall be sustained for a minimum period of **10minutes**.

Previously tested boilers: In either Copper or Steel shall be subject to a hydraulic test of **1½** times working pressure. Again held for a minimum **10 minutes period**.

Steam Test: An examination, under full working steam pressure, shall be undertaken,

- a. Before first placing the boiler into service.
- b. After every hydraulic test.
- c. At intervals **not exceeding 14 months**.

This basically means a steam test is required every **12 months**, however 14 months is stated to allow for clubs etc, organising suitable test dates/facilities.

Commercially built boilers and their certificates.

In respect of new boilers, inspectors **SHALL** accept test certificates issued by recognised commercial boilermakers, provided that the certificates are in accordance with the **Pressure Equipment Regulations 1999 (PER)** and, where appropriate, carries the CE mark and the documentation has been endorsed by the manufacturers Notified Body.

Certification periods:

The certificate of hydraulic test shall be valid for a period not exceeding: -

Copper boilers: Four (4) years from the date of the test.

Steel boilers: Four (4) years from the initial test date of a new boiler, with subsequent test at intervals of **TWO (2) years**.

Steel boilers in service prior to 1st January 2006 shall be subject to being tested every **TWO (2) years**.

Steam test: (all boilers) Valid for period **not** exceeding **14 Months**.

So there you have it, I hope that clears up any queries, at least for the UK.

Countries such as Australia, New Zealand and the majority of Mainland Europe have, for the main part, adopted the (PSSR) and (PER) regulations as mandatory, and as such they have (to the best of my knowledge) now also endorsed these new rules, however, local clubs/societies may also adopt their own additions. (Not amendments).

From a manufacturing viewpoint, ACS Engineering complies with all of the above regulations.

A full text of these new regulations is available from: -

Walker Midgley insurance brokers Ltd.
Yorkshire Bank Chambers,
Fargate,
Sheffield,
S1 2HD

Telephone number 0114 250 2770

www.walkermidgley.co.uk

I believe there is a small fee.

Sandy Campbell (proprietor ACS Engineering)