

EXPANSION LINK

BASINGSTOKE and DISTRICT MODEL ENGINEERING SOCIETY



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Editor Austin Lewis



*"I only said blow the b***** leaves away"*

Courtesy – ~~The Italian~~ Basingstoke Job

Editorial

This issue is dedicated to boiler testing, photographs old and new around the club site and a trip to Beamish.

Boiler testing: what everyone should know

Our club uses the criteria set out by The Southern Federation for testing boilers of all types used in miniature engineering. This can be found in the 'Green Book', *The Examination and Testing of Miniature Steam Boilers (Revised Edition 2012)*. Every boiler owner is supplied with a copy, at cost (50p), on completion of a boiler test by one of our testers. You should read this carefully as it is the owner's responsibility to ensure that his boiler is in a satisfactory condition to be operated. It can take up to 8 hours to carry out the hydraulic and steam tests on a 3" – 4" or 4 ½" scale traction engine boiler and up to 4 hours to do the same on copper-boilered 3 ½" or 5" gauge locomotives. Included in the 'Green Book' is the statement that the owner is responsible for presenting the boiler in a suitable condition for testing, it is also only fair to the boiler tester and his assistant(s).

Listed below is a simple guide of things you can do before the [Hydraulic Test](#) to save both you and the tester time:

1. Pressure gauge removed and boiler blanked off.
2. Safety valves removed and blanked off.
3. A nipple fitting made and fitted into the highest point of the boiler and threaded to fit the clubs test equipment (¼ BSP, or a Goodall type filler on very small boilers).
4. Grate and ash pan removed OR it must be possible to examine inner firebox and tubes.
5. Front tube plate and firebox clean and ready for inspection.
6. The regulations require the water capacity to be proven, which is part of the hydraulic test. This can be either the latest type professional builder certificate that will list the Bars Litres etc, by draining the boiler completely after its hydraulic test into a container and measuring the contents, or presenting the boiler empty and measuring the quantity used fill it.
7. The boiler must have a unique identification number indelibly marked onto it, in such a position as it can be read by the tester.

Further to the above any clacks known to not seal should either be blanked off or rectified before testing and any leaking regulators needs to have some system for sealing off the main blast pipe. Hopefully the above will be of use to members when presenting their boilers for testing.

In addition to this, of course, when it comes to do the [Steam Test](#) you must have at least two working methods of getting water into the boiler, so steam your boiler before presenting it, making sure water gauges are working including blow down, safety valves blow at correct pressure and pressure gauge is red lined (on the gauge face, not the glass) at working pressure. Hand pump, axle pump, crosshead pump and injectors, whatever method is used must work. It follows also that non return valves (clacks) must be in good working order.

Do all of the above and you should not have too much trouble in getting your boiler through it's test.

Types of Test

There are three sorts of test you need to be ready for:

Initial Hydraulic test: This is performed on new boilers, and on boilers for which you do not have evidence of a previous hydraulic test and boilers which have been modified or subject to damage and repair. Test Pressure is 2 times working pressure and certificates last FOUR years.

Examination & Hydraulic Test: These tests involve a cold examination of the boiler and a hydraulic test at a lower pressure (1.5 times working pressure) and must be repeated every FOUR years for a copper boiler or every TWO years for a steel boiler.

Examination & Annual Steam Test: This is a test to ensure that the pumps/injectors, water & pressure gauges and other fittings operate correctly, are correctly fitted and sound. For example safety valves must prevent boiler pressure rising more than 10% above working pressure with full blower.

Remember you **must always** have a valid hydraulic **and** annual steam test certificate if you want to steam the boiler at the club or in public.

Documentation

For a hydraulic test you need to arrive with:

- (1) Initial/previous Hydraulic test certificate(s).
- (2) The boiler's record card and history/drawings.

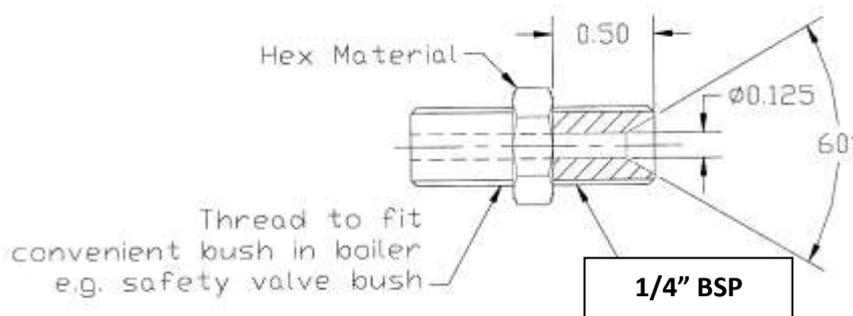
For a steam test you need to arrive with:

- (3) Valid Hydraulic test certificate.

Other things to note:

- (1) If the boiler is not built to a standard/established design, you will need to provide calculations to show its design has adequate strength.
- (2) Don't forget, although it is not a boiler test requirement, B&DMES insists that you must be able to drop the grate "on the run" when undertaking public running.

Suggestion for a boiler testing converter



(Dimensions in inches)

Lastly please remember we don't expect to ONLY see you when you need a boiler test - the Club needs your help and involvement to continue to operate. Without your support we will not be here to test your boiler and just see how much commercial boiler testers charge!

Christmas run – last before ‘kink’ in the track was removed



Kink in the track



The building of the track during 1977 - 1979

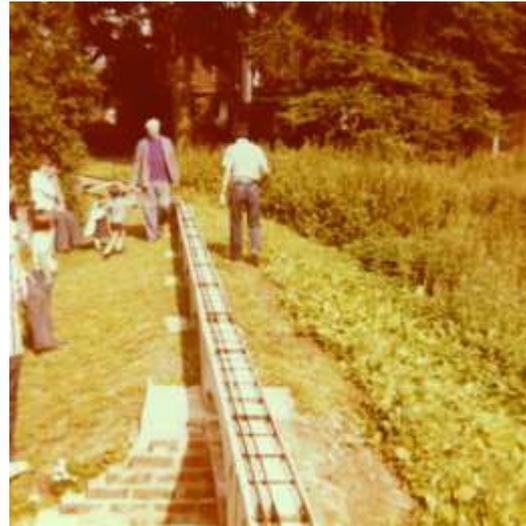
















Track refurbishment January 2014





New angle iron supports in place



First lengths of new track in place waiting for the curves to be adjusted, ties to be welded and sleepers laid

Starting work on the new fencing now installed along the exit stairs from the platform



A visit to Beamish Open Air Museum

John Taviner



The Steam Elephant



Wooden unsprung carriages

Beamish open air museum is situated in the county of Durham. The aim of the museum is to give an insight into everyday life, farming and industry in the early 20th century.

Built on a site of about 300 acres it houses relocated and replica buildings and large a collection of artifacts and vehicles from the late Victorian and Edwardian periods. These include trams which are mostly original plus locomotives and buses, some of which are replicas. To add to the atmosphere of the times the staff are all dressed in period costumes. The entrance to the site is through the cast framework of a huge steam hammer. Unfortunately I did not get a photograph of this very impressive gateway. My camera was still in its case.

The museum was first opened to the public in the early seventies. Since then it has expanded and is indeed still expanding. As mentioned earlier, the site covers an area of about three hundred acres. This is divided into sections which include a small town with shops, a terrace of houses, a railway station, a livery stable with a fine collection of horse drawn carriages, a Barclays Bank, a newspaper office of the Sunderland Daily Echo, a print shop, a huge Masonic temple and a garage. The latter was of particular interest to me having spent my entire working life as a motor mechanic. Included in the garage equipment was a small machine shop as did the garage where I worked between leaving school in 1949 and coming to Basingstoke in 1967. Spare parts for cars in those early days were practically nonexistent and worn parts had to be repaired and re-machined or in some cases made from scratch. It also houses what is believed to be the oldest petrol pump in existence. Hand operated of course.

Other sections include a mining village with miner's cottages and pit head winding gear, a wagon way with working replica locomotives, a school complete with desks and slates to write on, a church and last but not least a coal fired fish and chip shop serving fish and chips cooked in beef dripping. Needless to say the goods had to be sampled although I must say that I found them to be rather greasy for my taste.

A tram track goes all round the site with stops for all the sections. Travel on these is all included in the entrance fee and can be boarded or alighted from as you wish. I remember riding on trams on a regular basis in my childhood when living in South London. The trams had wooden seats, the backrests of which could be reversed to suit the direction of travel. Except in the case of later trams, with enclosed ends, the driver had to stand on an open platform to operate the basic controls of power controller and wind on brake.

I have only listed the sections of the museum that I had time for during my visit. To see everything would require more than one day. I will describe those places I did see in more detail.

In the town, which was opened in 1985, there is a terrace of houses which includes a Dentists surgery, a Solicitors office, a music teachers house and a family home. All equipped with the necessary tools for the profession.

The largest of the shops represents Anfield Plain Co-operative store, fully stocked with all types of goods from ironmongery to clothing. This shop has a fully operating cash carrying system and there were no tills at each counter. The assistant collected the cash from the customer and sent it, with the bill, in a container along an overhead wire to a central cashier who then returned it with any

change and the receipted bill to the assistant and thence to the customer. This all sounds rather complicated and time consuming to us nowadays but was probably no worse than waiting at the checkout in to-days supermarkets. A sweet shop, making and selling a large range confectionary, gives demonstrations of the making of the sweets but the best bit is you get to taste them as they are finished.



Coffee Pot No 1

Unfortunately they only make one sort at a time so you only get to taste that one. Newly opened in 2013 is a bakers shop baking and selling a range of bread, cakes and pastries. This is all done in full view of the customer and the smell of baking bread is great. Proposals for future additions include a chemists as well as fire and police stations. They already have, although not displayed, the components for a gasworks and a cinema. The railway station was not in operation during my visit and the engine shed was closed so did not get to see what locomotives they have. The track only extends for about a quarter of a mile. It originally ran to the colliery but was cut short when the tram track, which goes all round the site, was laid.

At the colliery village is a row of miner's cottages, all with outside toilets some complete with sheets of newspaper cut to size and hung on a nail behind the door. The village school contained desks and slates for the pupils to write on. A Wesleyan chapel completes the main buildings of the village. Most of these were dismantled brick by brick and transported and reassembled. They all look as though they have been there for many years. A new build stable block is under construction to house the pit ponies that are kept here. Also housed here are a number of narrow gauge industrial locomotives. I do not know if any of these are serviceable. Completing the buildings here was the pit head winding gear with steam powered winding engine which is steamed on a regular basis, but not whilst I was there.



Kopple Well Tank



A later Tram with enclosed driver platform

The Pockerly waggonway, opened in 1999, recreates the transition from waggonway to railway. Three replica engines are in operation here, although not at the same time. These are George Stephenson's Locomotion No1 recreated in 1975, William Headley's Puffing Billy 2006 and John Buddle and William Chapman's Steam Elephant 2002. so called because the chimney resembles an elephants trunk. The latter was in steam and running on the day of my visit. Passengers ride in wooden unsprung open carriages, loose coupled, resulting in a jerky take off as the couplings tightened and a series of jolts as the buffers came together on stopping. Believe you me I would not like to travel too far in this type of carriage, although in its day it would be acceptable as passengers would not have known any different.

This just about covers all the sections that that I visited in the time allowed. I have only mentioned the main exhibits in each place, there are many others. Those sections not visited included a working farm and a fun fair. Exit from the museum is through the usual gift shop.

John Taviner

Basingstoke & District Model Engineering 2014 Calendar (Issue 1)

Jan-14

- 1 Members Day (Wednesday)
- 7 Meeting Night
- 18/19 Maintenance Weekend
- 21 Bits & Pieces Evening

Feb

- 4 Meeting Night
- 9 Driver/Public Running Training (Sun)
- 15/16 Maintenance Weekend
- 18 Meeting Night

Mar

- 1/2 Maintenance Weekend
- 4 Meeting Night
- 16 Driver/Public Running Training (Sun)
- 18 Meeting Night

April

- 1 Meeting Night
- 12/13 Miniature Steam Rally
- 15 Bits & Pieces Evening
- 21 Public Running (Easter Monday)
- 29 Bring & Buy Evening

May

- 4 Public Running
- 13 Stationary Engines
- 18 Visitors' Open Day (Sun)
- 27 Meeting Night

June

- 1 Public Running
- 10 Bits and Pieces Evening
- 21 Members Running & Barbecue(Sat)
- 24 Meeting Night

July

- 6 Public Running
- 8 Meeting Night
- 13 Members Running Day (Sun)
- 22 Meeting Night

Aug

- 3 Public Running
- 5 Bring & Buy Evening
- 19 Meeting Night

Sept

- 2 Meeting Night
- 7 Public Running
- 14 Visitors' Open Day (Sun)
- 16 Meeting Night
- 27 Members Running Day (Sat),
incl. Fish & Chip Supper
- 30 Meeting Night

Oct

- 5 Public Running
- 12 Members Running Day (Sun)
- 14 Bits & Pieces Evening
- 25 Halloween Public Running (Sat
Evening)
- 28 Meeting Night

Nov

- 11 Bring & Buy Evening
- 16 Members Running Day (Sun)
- 17-21 AGM (Date to be decided)
- 25 Meeting Night

Dec

- 7 Public Running
- 9 Meeting Night
- 23 Meeting Night

Public Running 11am to 4pm (setup from 9:30am) Sunday, unless stated otherwise

Member's Running days 10am to 5pm

Tuesday Evening Meeting 7pm to 9pm, with optional members running afternoon

Maintenance Weekends - Working parties to keep track & site shipshape. Check notice board for details

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