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The MICROMETER

AUCKLAND SOCIETY OF MODEL ENGINEERS INCORPORATED

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REGISTERED NEW ZEALAND PUBLICATION

A Lovely Line-up at MLS:

Some of the NZR locos seen at MLS on the special day held on 3 February - Peter Tomkies' 3.5" gauge A class on the right, followed by other ASME related locos including - Don Moffat's WAB 800 and Greg Burrows-built WAB (now renumbered and owned by another). At far left is Grant Anderson's Phantom (built to look like an early J), with a nice-looking 3.5" KB below which was built by Les Fitt in the 1960s and now owned by a New Plymouth club member.

(Thanks to Grant for the photo and locomotive descriptions).





Train Roster

	Date	Electric Driver	Electric Driver	Steam Driver	Train Controller	Station / Guard	Station / Guard
	5-Mar-17	B Aickin	I Ashley	Voluntary	<u>G Anderson</u>	M Richardson*	Voluntary
	12-Mar-17	A Bailey	G Beazley	Voluntary	<u>T Robinson</u>	J Service*	Voluntary
am	19-Mar-17	P Dowdeswell	M Granger	Voluntary	<u>D Russell</u>	K Ryan*	Voluntary
pm	19-Mar-17		D Housley	Voluntary	<u>D Russell</u>	A Shirley*	Voluntary
	26-Mar-17	J Lankow	D Moffat	Voluntary	<u>G Wills</u>	R Stratton*	Voluntary
	2-Apr-17	M Moore	M Plant	Voluntary	<u>T Lawrence</u>	R Crook*	B Cooper
	9-Apr-17	P Moy	R Reichardt	Voluntary	<u>D Black</u>	P Jones*	Voluntary
	16-Apr-17	P Woodford	B Aickin	Voluntary	<u>S Meikle</u>	M Luxton*	Voluntary
	23-Apr-17	I Ashley	A Bailey	Voluntary	<u>T Robinson</u>	B Matchett*	Voluntary
	30-Apr-17	G Beazley	P Dowdeswell	Voluntary	<u>G Anderson</u>	J Service*	Voluntary

Note: There is a double roster for the Panmure Basin Festival Day on the 19th

10:00am to 1:00pm and 1:00pm to 4:00pm. Extra volunteers required!

Bold and Underlined Name:

This is the designated **Train Controller**, i.e. the person in overall control of all operations for the day

Bold with Asterisk* Name:

This is the designated Stationmaster, i.e. the person responsible for activities in the station area. The Stationmaster is also responsible to account for the day's takings.

Drivers: Please keep your eyes open for unusual or suspicious behaviour around the track which may affect the safety and/or smooth operation of our trains. Report such activity to the Train Controller.

Please Note:

If for some reason you are unable to attend on your rostered date, you are respectfully reminded that it is **your** responsibility to find a replacement member to fill the gap – please don't let the rest of the team for the day be left short-handed.

Also, please ensure the member you arrange a swap with is one who is rostered to undertake the same role to ensure we always have members with the appropriate training and experience on the day.

MARCH CALENDAR

Tuesday March 7th, 7.30pm - General Meeting , ASME clubrooms.

Sunday March 19th - Panmure Basin Festival Day. As many volunteers as possible will be needed to assist the two rostered teams on the day.

Tuesday March 21st, 7.30pm - Committee Meeting.

Coming up: Saturday April 8th, 1pm - ASME Fun Run and barbecue. Current boiler certificates will be required for ASME club members' and visiting steam locos.

President's Report

With the Panmure Basin Festival Day on 19th March 10am to 4pm, the rostered team are going to be very busy with the crowds to be expected on the day. Therefore we need any and all volunteers to come and assist for any time they can make available on that day. A light lunch will be provided for those members who turn up to assist.

The committee has approved the building of more new bogies - to fit the leaf sucker wagons and for some of the better old trolleys converted from raised to ground level type for smaller locos - and we are looking for volunteers to assist in making the parts required.

The Auckland Council has renewed our Permit to Operate through to the expiry of the current ADR registration certificate.

We have received a very nice letter of thanks from SMM for the Club members' work in replacing a large part of the boat pond decking late last year.

The late Steve Berkley's "Simplex" loco (advertised for bids in an earlier issue) has now been sold to the highest bidder and almost all of the funds passed on to the family.

Jim Greasley (our ASME "Centurian") has moved into care at St Andrews Village in Riddell Rd and Graeme Murray has endured a lengthy stay in Middlemore Hospital with a back problem - we wish them both well.

The ASME Fun Run and barbecue will be held on 8th April. Current boiler certificates are required for Club members and visiting steam locos.

Timothy Robinson

President

Antique lathe for sale

Our Secretary has had some correspondence with the owner of a Barnes treadle-operated metal lathe who was wondering if it was of any interest to us. This machine probably dates back to around 1900. The owner does not have a photo available at the moment, but a similar machine can be seen at www.goldmachinery.com/machinery/9341.htm (The "operator" shown in the photos is probably not included!)

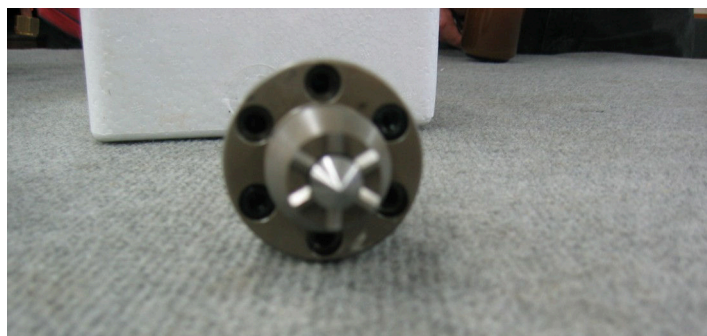
Any enquiries, contact Mike Moore.

Bits and Pieces February 2017

Conducted by Mike Jack, Report and Photos by John Lankow

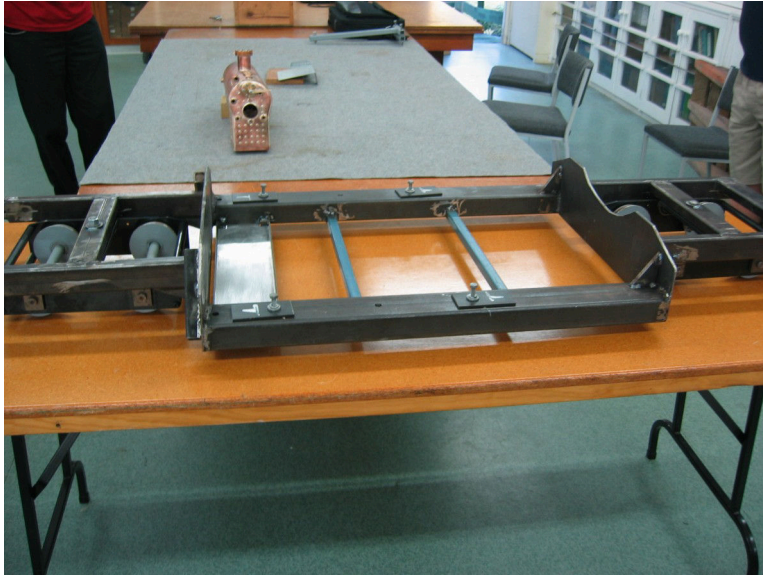


Allan Bailey brought along the latest instalment for his Polly V kit – the boiler. It looked very similar to the one I have just spent many months building, but with a much better finish!



Also displayed by Mike were a few of the latest products from his 3D printer: these were patterns for driving wheels and other bits for a 7mm scale loco that a client in the UK is building. These items were so small and fragile Mike ships them in cotton wool. We weren't allowed to touch!

Mike Jack showed us what he had just bought in China – a Face Driver set for his lathe, which enables turning between centres but without having to use a lathe dog to rotate the work (and get in the way when cutting near the headstock end of the workpiece). The Face Driver uses a spring loaded element with sharp teeth to bite into the end of the workpiece and cause it to rotate. A number of different tooth patterns were included in the kit. This tool appears to be unavailable in NZ.



Greville made this chassis for a low-loader wagon to carry the club's new Billy-Goat leaf sucker/muncher/blower around the track. Thanks to Bruce Matchett, ASME were able to acquire this machine at a substantial discount, following trials at the track. The vacuum hose is 10 in. in diameter. Greville also showed us a slide of the unit sitting on his trailer, so we could all see what it looks like. I haven't heard it going yet, but I sincerely hope that none of my close neighbours gets one!



Ron Copeland has been doing up his deck. He had a quick think about the number of screws he would have to use to screw it down (1600!) and decided to make these jigs to locate them in the right places.



Picture from cover of Billy Goat Owner's Manual.

Timothy has been overhauling a mill that he bought second hand. When it came to replacing the heavy motor, he made this simple but clever attachment to extend one of the forks on his forklift and allow the new motor to be easily placed within the chassis of the mill. The various bolts were left with enough "wriggle room" in their mounting holes to allow accurate line-up of the motor's mounting bolts. A rubber pad stops the attachment from accidentally sliding off the tapered fork of the lift truck.



We display our work at GVR's Vintage Festival

ASME were invited to display our models at the Glenbrook Vintage Railway's Steam and Vintage Country Festival on February 25th and 26th 2017. After a slow start, and given some much-needed encouragement by Dave Housley, a small team got together and produced a well-attended display, predominantly of aero engines, traction engines and steam locomotives. Our thanks to the team at GVR for letting us have free access to the Station House and its facilities to set up our exhibition.



Unloading exhibits in front of the Station House.



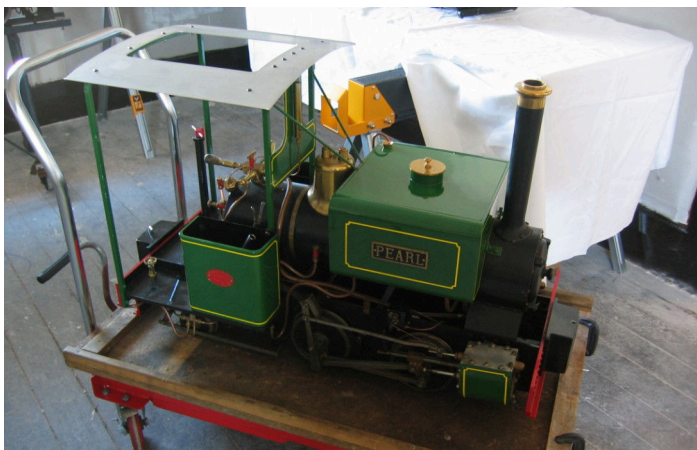
Some of the locos on display. This room was undergoing renovation, so no ceiling lights! OK during the day, though.



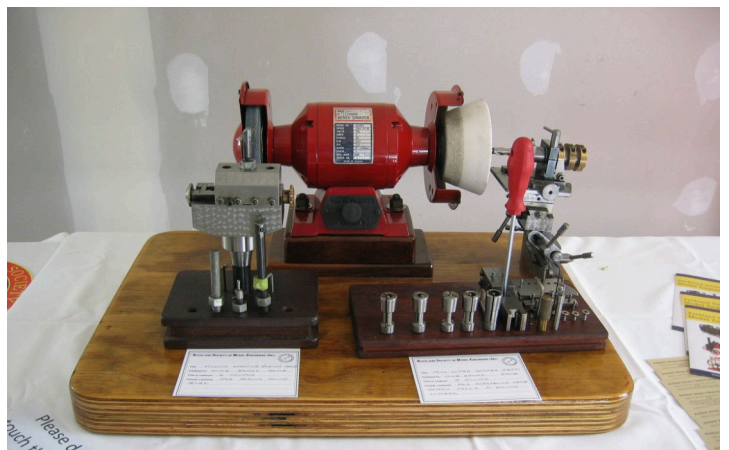
Some of the many aero engines on display....



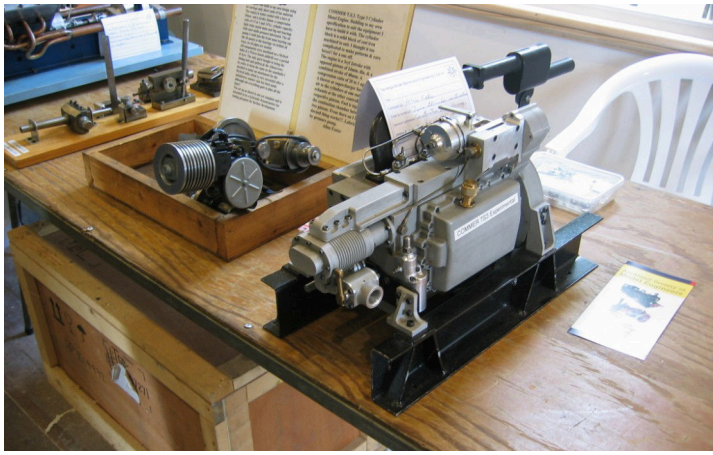
This is one of many by Allan Roberts.



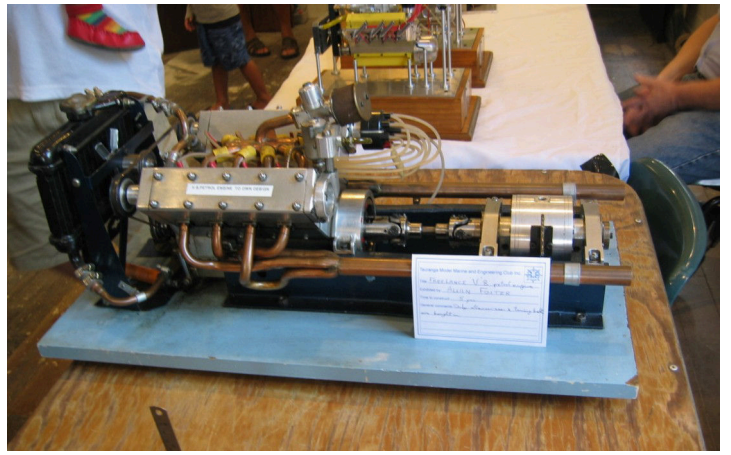
Bruce Matchett's "Pearl", displayed on the front verandah.



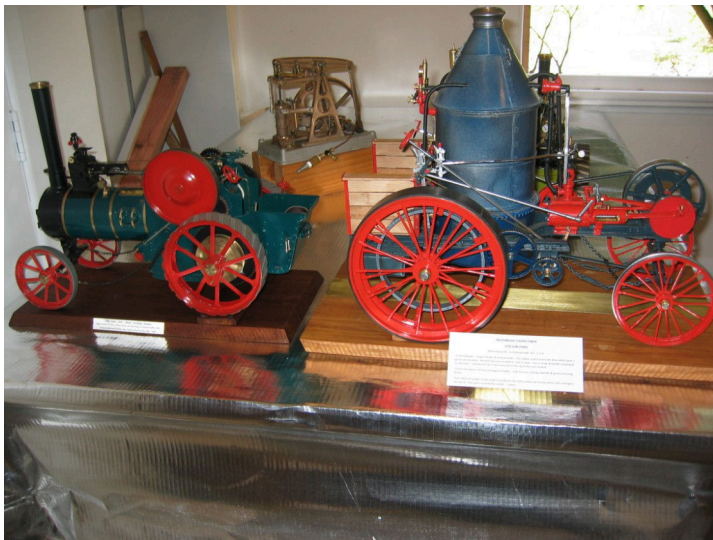
Mike Banks's tool and cutter grinder.



Allan Foster's Commer TS3 Experimental engine...



and his freelance V8.



Some of Dave Housley's exhibits...



Flying the flag. The only picture I have of Dave himself! And after two nights trying to sleep on a camp stretcher in the Station House, he wasn't in a fit state to climb up and take the banners down again when the show was over!



Mike Banks's Beejax and riding trolley behind. To the left can just be seen the "King". This was moved out onto the verandah during the day, where it attracted a lot of attention, making it difficult to get a photo of. Never mind, I have plenty of others! (See p10).



The shadows were lengthening as we finished setting up on the Friday afternoon. Glenbrook Station looked so peaceful - this all changed the next day!



And while we're on the subject of GVR, the following item was copied from the February 2017 edition of ***Model Torque***, the newsletter of the Hawke's Bay Model Engineering Society:

Boilers restore life to old train

1:56 PM Monday Oct 10, 2016

Published on NZHerald.co.nz Photos / Michelle Thompson

History was made last week when Dannevirke engineering company RCR Energy completed two steam locomotive boilers, the largest boilers built in New Zealand for more than 60 years.

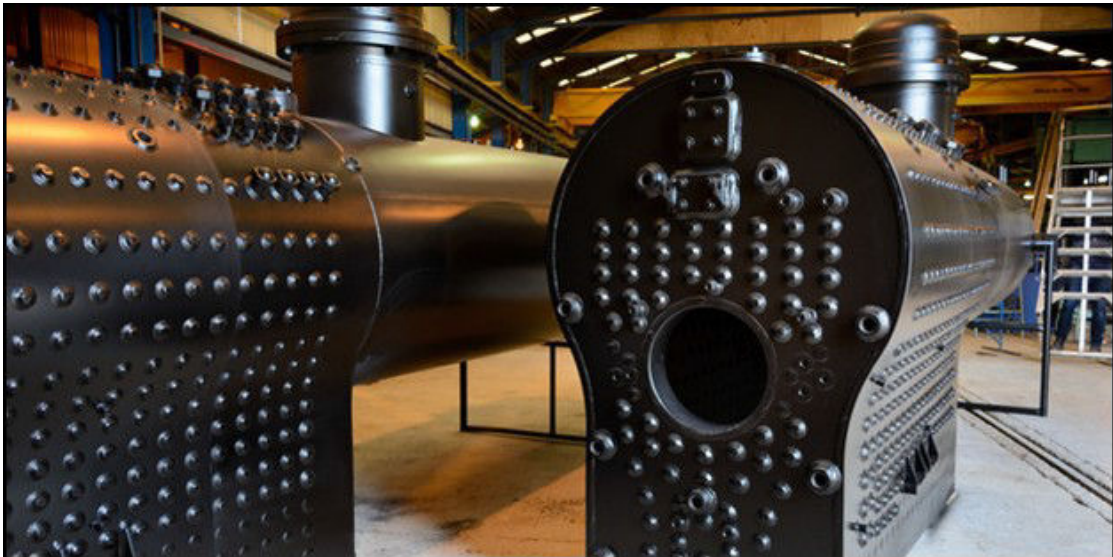
They are for the Glenbrook Vintage Railway (GVR), a steam-operated 8km long tourist railway which carries 30,000 passengers per year between Glenbrook and Waiuku, south-west of Auckland, staffed entirely by volunteers.

Trains run on Sundays and public holidays between Labour Day and Queen's Birthday weekends and for special events such as Day Out with Thomas and charters. When the GVR opened 40 years ago, motive power was provided by Ww 480, an ex-New Zealand Railways tank locomotive, then more than 60 years old. Weighing 52.5 tonnes, this was one of a class of similar locomotives employed all over the country on suburban passenger trains, shunting, and near the end of the NZR career, hauling coal trains on the West Coast.

After years of faithful service by Ww 480, by mid-2013 major repairs were required on the boiler and a detailed cost estimate of the repairs were carried out. As an alternative, two New Zealand manufacturers were asked to provide estimates for a new boiler.

Boiler designs today are much advanced on those last used by NZ and other railways in the 1950s. These had mostly riveted joints, while today in commercial boilers, riveting is unknown, superseded by welding. Although welded boilers had been recently built and operated successfully on locomotives in NZ, these were smaller than the Ww type and used on duties less onerous than on the GVR.

As there was much conservatism and scepticism among NZ rail enthusiasts about the suitability of welded locomotive boilers, approaches were made to users of locomotives with welded boilers having duties similar to those of the GVR - Puffing Billy in Melbourne and Queensland Railways in Brisbane. Both organisations were helpful. Puffing Billy operates the most intensively worked steam locomotives in Australia or New Zealand, and through trial and error has refined the design of their many welded boilers to give excellent reliability. Similarly, Queensland Railways operate a heritage fleet of steam locomotives more similar in size and duty to those of the GVR, with welded boilers built in-house and employing up to date features and welding techniques.



The new boilers in the workshop of Dannevirke engineering company RCR Energy before shipment.

The QR boiler designer was engaged to draw up a welded version of the NZR Ww boiler design using proven QR features. This design and a detailed scope of works to design and build one or two Ww boilers, was forwarded to three New Zealand and one Sydney manufacturer for a quote. Included in the evaluation was a visit to each of the tenderer's works and an assessment of their design capability, management systems and documentation, and an order was placed with RCR Energy for two boilers in view of the substantial per-boiler saving and with GVR's second Ww locomotive, 644, in mind. Several months of discussion between RCR Energy and GVR followed to refine the design with visits by GVR staff to RCR, with the details examined and signed off by certifiers SGS.

The codes to which the boiler have been built are very much more stringent than NZR boilers, which has been reflected in thicker plates and tubes, more robust inspection plugs and support of flat surfaces. Once SGS had approved the designs, construction commenced and several visits were made to Dannevirke by GVR staff to inspect work in progress. SGS also visited regularly and inspected the work done, compliance with the drawings and particularly weld quality. The supply of boiler fittings and joined small and large tubes was GVR's responsibility and many large non-standard size tubes had to be specially made in Germany. The importer arranged for parts of the shipment to go to three other New Zealand heritage railways using the same diameter tube. Joining of the large tubes was a problem. On one end of each the diameter is increased and on the other end decreased.

Hydraulic testing of the boilers to 150 per cent of normal working pressure presented no problems, and both were signed off as fit for service by SGS. Now the real work by GVR starts - connecting the smoke box, installation, cladding, connection of pipe work and fitting of grate and brick arch, reassembly of the locomotive, painting, testing and final certification.

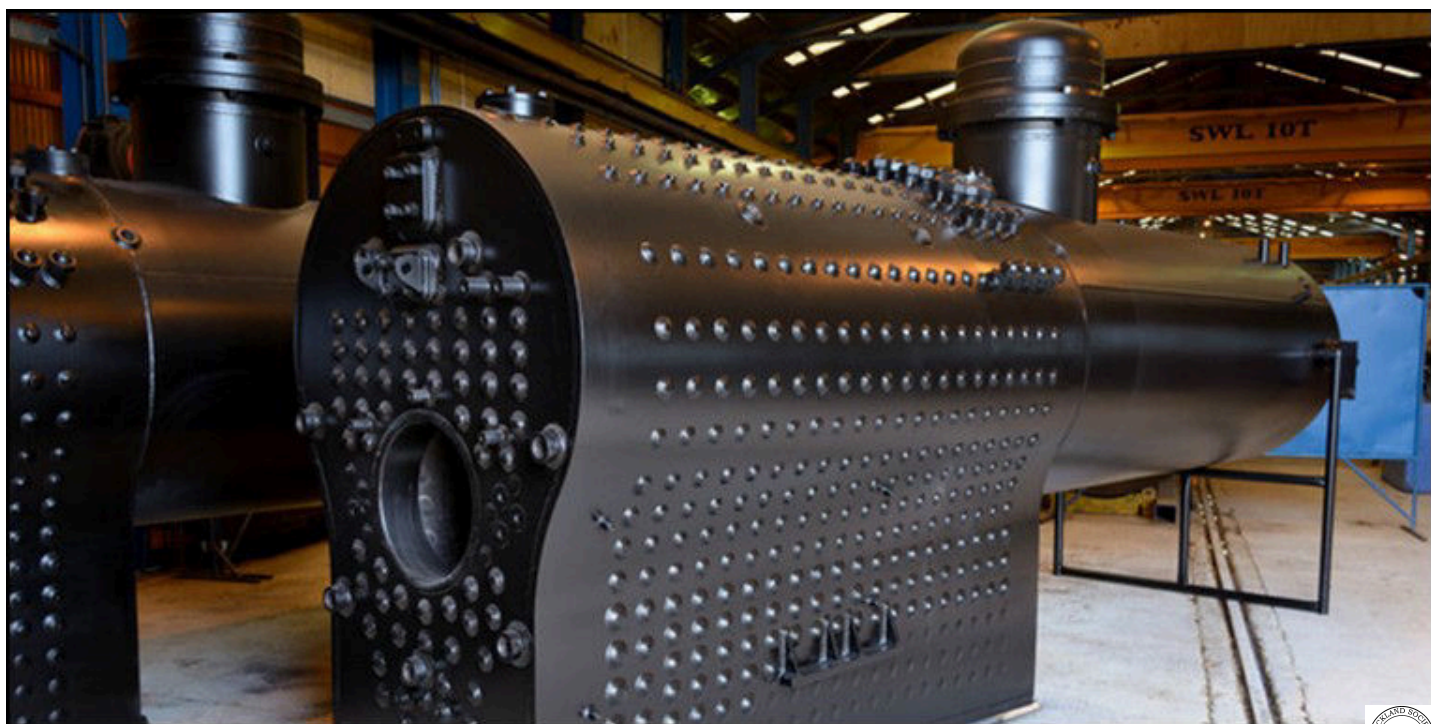
"Throughout the process, RCR Energy and its staff have been extremely cooperative, helpful and professional and a pleasure to work with" John St Julian of GVR says.

"Personally I have found this to be a most interesting and satisfying project"

"In railway preservation circles, this is really something and provided the installation and commissioning of the boiler goes to plan, we will have achieved something that has eluded a certain much better known and very much better financed Australian example"

"I put this down to a well-researched and tight specification on our part and an extremely well organised and professional planning, design and control process by RCR, plus of course, absolutely first class welding skills"

"To this technocrat, most of the welds are things of beauty."



Mike's "King" takes to the track

On a beautifully sunny Sunday February 5th 2017, Mike Banks ran his new King-class loco for the first time in a passenger-hauling role. One passenger trolley was used and the engine performed flawlessly for the full three hours with plenty of power to spare — we are now having to get some more trolleys made!

The pictures are self-explanatory: the top two were taken by Grant Anderson, the rest by Allan Bailey.

