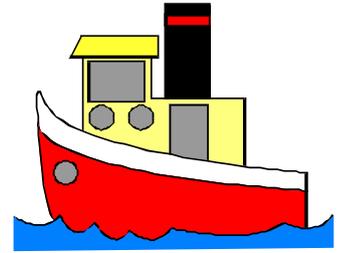




# Wheels and Floats



Newsletter December 2019

## TAURANGA MODEL MARINE AND ENGINEERING CLUB INC.

The Secretary  
PO Box 15589  
Tauranga 3112

Palmerville Station Phone 578 7293

Miniature Railway Memorial Park  
Open to Public, weather permitting  
Sundays in Summer: 10am to 4pm approximately  
Winter: 10am to 3pm approximately

Website: [www.tmmecc.org.nz](http://www.tmmecc.org.nz)  
Facebook: Memorial Park Railway Tauranga

### MEETINGS

General Members Meeting every first Tuesday 7pm.  
Committee Meeting every second Thursday at 7pm.  
Maintenance Tuesday mornings from 9am.  
Engineering discussions Tuesday evenings 7.30pm.

### COMMITTEE

President: Russell Prout 548 2881  
Vice President:  
Club Captain Bruce McKerras 577 0134  
Secretary: Jason Flannery 572 1165  
Treasurer: Owen Bennett 544 9807  
Committee: Ash Thomas, Max Donnelly,  
Joanne Knights, Bruce Harvey  
Brian Fitzpatrick.  
Boiler Committee: Peter Jones, Bruce McKerras,  
John Heald.  
Safety Committee: Chris Pattison (Chair), Peter  
Jones, Warren Karlsson.  
Editor: Roy Robinson 07 5491182  
[royrobkk@gmail.com](mailto:royrobkk@gmail.com)

### CONVENERS

Workshop: John Nicol  
Track : Bruce Harvey, John Stent.  
Librarian: Chris Pattison  
Rolling Stock: Bruce Harvey  
Website: Murray de Lues

### OPERATORS 2019

22 December W Karlsson  
29 December B McKerras  
5 January M DeLues  
12 January B Fitzpatrick  
15 January J Flannery  
26 January B Harvey  
2 February P Jones  
9 February W Karlsson  
16 February B McKerras  
23 February N Bush  
1 March M DeLues  
8 March B Fitzpatrick\  
15 March J Flannery  
22 March B Harvey  
29 March P Jones

### President's Report

Our Annual Open Weekend was cut short by very bad weather on the Sunday but that didn't stop visitors from Rotorua, Manukau and Cambridge from attending. Grant Alexander enjoyed many circumnavigations with his newly completed e-steamer, Bill Krippner showed off his exceptional 3-1/2" JA and Dennis Serle ran his very capable WAb. I have said it many times but again I say our visitors bring colour and light to club activities and you cannot expect visitors if you don't visit other clubs. You don't have to take a loco or go with a friend, just rock up and introduce yourself and join in where you can. A big thank you to our visitors for your support.

A very special thank you to Barb for attending to the catering needs whilst Roy attended to other matters. Barb was supported so well by Zara, Ashley G on the BBQ and several others throughout the day. Thank you everyone.

Thank you to Bruce M, Jason and Joanne for all the coordination and preparation.

I had the great privilege of presenting a Lifetime membership award to Owen Bennett on the day (and to Bruce Harvey a few weeks later). This honour is bestowed upon those who have given so much for so long to the club and the award is very well deserved.

Ron Salisbury came along and joined in on the celebrations so I was very pleased he could present the Ron Salisbury Trophy for best completed project by a Junior,

Max Donnelly was the appropriate recipient for his 5" gauge ride car, well done Max and thank you Ron.

I presenting the Norm Decke Award for Best completed project by a senior to Owen Bennet for the two seater Buggy. Well done Owen and it was great to be treated to a demonstration run around the club.

Joanne Knights is our first fully qualified 'Lady' Steam Loco driver. Well done Joanne, keep it up.

A huge thank you to Marilyn Davies and Carolyn Stewart for the support in ticketing and greeting our public.

A huge thank you to you everyone for joining in the open weekend activities.

Nov 29th was Max Donnelly's 16th birthday....that's a lot of candles to get lit but as Max was soon to find out a lot more to blow out. Eventually with his lungs nearly giving up he blew to the last one out and was granted his wish. That wish-to drive pulling passengers all by himself and all day long. Congratulations Max and thank you to all who helped him celebrate.

On Nov 30th we took part in the Tauranga Xmas Parade, float number 12 was dressed at Page Engineering the night before and thanks to Joanne, Jason and Ashley T with the support of a few other club members had Shane's large trailer bursting with colour. With kids on board waving to the crown and a few tickets to give away we made our way down through the crowds. It was really nice to hear comments from the crown that they recognised parts of the float from their visits to our track. We are all winners from the crowd support, well done to you all.

After the Xmas Parade I found myself heading to Auckland for a 70th and an anniversary. No one left in my house so I took the dog. Only problem was he thought the hot weather on Saturday was a great time to jump in the river and the swamp. This made for an airy drive but all good. Whilst returning from Auckland on Sunday I took the opportunity to call in to ASME at Panmure Viaduct Basin. What an amazing track, regrettably no locos as I arrived too early in the day. Never mind the dog and I went over to the pond next door and were pleasantly greeted and made welcome by Bob and his team. Continuing my way home I called in at Thames and was made very welcome there too. This is such a great spot for a miniature Railway and they do a great job of making all welcome. A little closer to home I called in at Waihi but alas the rain may have caused them to close early (or I picked the wrong day). Never mind I will be back.

The 2020 Convention is the next major event on the calendar and for those travelling to Hamilton we hope you all have an enjoyable time. Hamilton have a beautiful track and have always made us very welcome.

As this is the last newsletter to be sent out before Xmas, I would like to take this opportunity to thank our club members for their tremendous support throughout the year. Should you or your families be travelling this summer, be careful and may you have a safe return home.

On behalf of my wife Christine and I we wish you a very merry Xmas and a Happy and successful New Year.

Your President

Russell Prout



## Double Fairlie project Part 3

*By Geoff Hallam*

So much work had to be done to the house in the last 6 months of 2018 to get it ready for sale. This meant that the progress on the Double Fairlie had to be temporarily stopped. We put the house on the market in the beginning of September and didn't really get the bulk of the house painting finished until the end of November. House sales were really slow thanks to the idealistic policies of our new Labour government!! Nuff said.

With a bit more time on my hands I decided to get back to the engine and try and pick up where I had left the project. The most compelling job was to see if the boiler made steam and how much. The construction work to date had been essentially cosmetic and getting the model to look like the prototype. The next stage involved the real work in making everything functional in the space allocated. The whole locomotive was disassembled and the parts put into separate trays so they didn't get mixed up. The boiler had all the fittings removed so I could put them back with sealing washers and PTFE tape. I found that one of the gauge glasses was cracked, so I couldn't have been as careful as I thought at some stage. I must admit I was a bit concerned about that part of my design, namely the length of the glass columns and being mounted across the full diameter of the boiler. Anyway the first photo shows everything working as it should, mind you there were a few hiccups getting there.



*The boiler sitting at 40 psi with the safety valve going full bore.*

The first problem was trying to get gas into the tank. Liquid butane was spraying from the filler valve as if the tank was full. I could only get enough gas in to provide the next frustration of getting the burner to light back to the ceramic element. I tried two filler valves and they both had the same problem so it was something to do with my design of the tank. I could only surmise that as the gas built up pressure in the tank, it was stopping the liquid from getting down the long filler neck. I soldered a small bore brass tube to the filler valve making the gas exit into the body of the tank. Hey presto, it worked.

A full tank of gas gave me the ability to get onto the burner problem. I had seen the problem before when I converted the Aster Mikado to a gas burner. The only problem was I didn't manage to fix that one and had to revert the engine back to meths firing.

Meths wasn't going to be an option for the Fairlie, so I had to fix it. It didn't matter how low I turned the gas valve down, the burner would go out and not pop back. I tried another jet but the same thing happened. I could turn the flame down to a minimum when the burner was out of the boiler, so much head scratching followed. I found a No 5 jet which I think was 0.2 mm jet size as opposed to a No 6 at 0.25mm. The same happened with the smaller jet so I was getting nowhere. I also found a small 1mm diameter hole on the backhead of the Accucraft Black 5 boiler, so I drilled the same size on Fairlie back plate above the burner. If there was a reason for it being there could it be to allow the flame to pop back? Well if it was it didn't work on this boiler. As a last resort I raided the Accucraft Black 5 for its gas jet.

There were no markings on the jet body so how could you measure the diameter of such a small hole? With a bit of lateral thinking I shone a laser beam through the jet and adjusted the height from a sheet of paper until I had a 1 mm diameter spot of light. The No5 jet was held at the same height and got a 1 mm dot as well so logic would say that it must be a No 5 jet.

I had to try it as I had run out of ideas. A new jet holder was made for the metric thread and everything set up for another test. The jet holder was adjusted so you could just see the tip of the jet in the air intake hole again. I intrepidly went through the same process to light the burner and b\*\*\*er me, it popped back and started to heat the boiler. If I have no idea what the difference is between the two No 5 jets but it works. I now have the fun of sourcing another jet for the Black 5 before I can run it again.

The boiler got to 25 psi in 4 minutes and the new safety valve from Roundhouse decided to let go. I thought I would sort that problem out later as the excitement demanded an instant fix. I decided to raid Lady

Anne for her valve and quickly had the boiler lit and raising steam again. With 40 psi on the gauge and the safety valve fully open I could turn the gas control down low and the safety wouldn't stop. As can be seen from the previous photo the gauge glass had bubbles in it even though all bores in the fittings were more than the glass internal diameter. We learnt on the Australian Garden Rail tour that you could put a thin piece of wire down the glass to fix the problem. Why I hadn't done it before I tested the boiler I will never know! A couple of thin pieces of stainless wire were inserted down the gauge glasses and the boiler tested again. Surprise surprise----- it worked. Thanks Aussies.

I now had the challenge of getting everything to fit into the confined spaces of the side tanks. You can see from the photo below how many different pipes had to bent to fit into the engine. It was great making each individual pipe fit for purpose. The agony came during the final assembly. Just about every pipe had a space or route issue with the previous pipe I had just installed! By the time I was getting to the last few pipes it was looking to be almost impossible to get everything in. I had to go back several times and change the sequence of the install.



*Gas tank with heater condensate trap, lubricators and pipe work*

One issue I had to resolve during the build was the fact that the whole body wobbled on the bogie pivots. If the bogie mounting screws were made too tight there wouldn't have been enough movement in the bogies to allow for track undulation. I ended up making a one leaf radial spring for each support bracket to fix the problem. It was a bit of trial and error for the strength of spring. In the end I could only find a small piece of spring steel that would do the job so I could only make the two I needed. Luckily they worked first time. Servo extension cables were bought from Aliexpress and these enabled a reasonably tidy job of the wiring. I was going to use a resonant chamber whistle but completely ran out of room.

A nice adjustable whistle was bought from microcosm-engine.com in China. They make some really nice steam parts and fittings namely the boiler pressure gas regulator and control valves used in this build.

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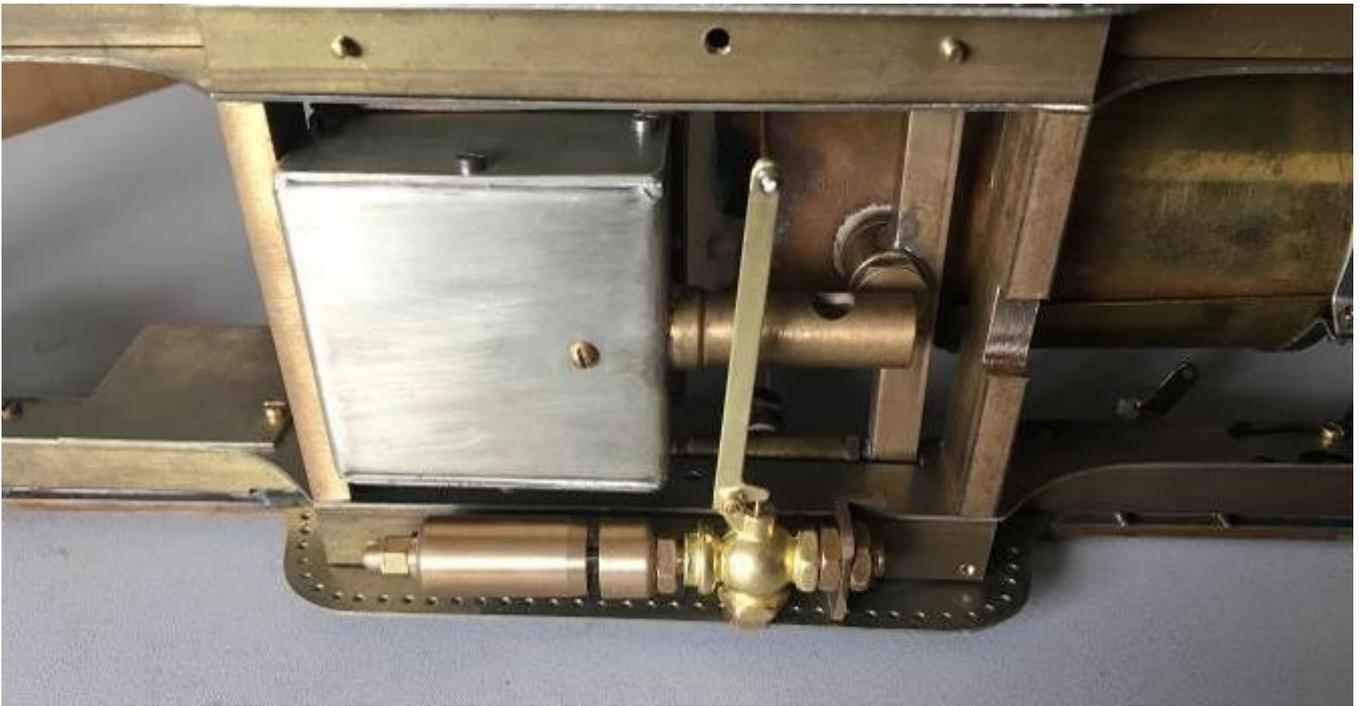
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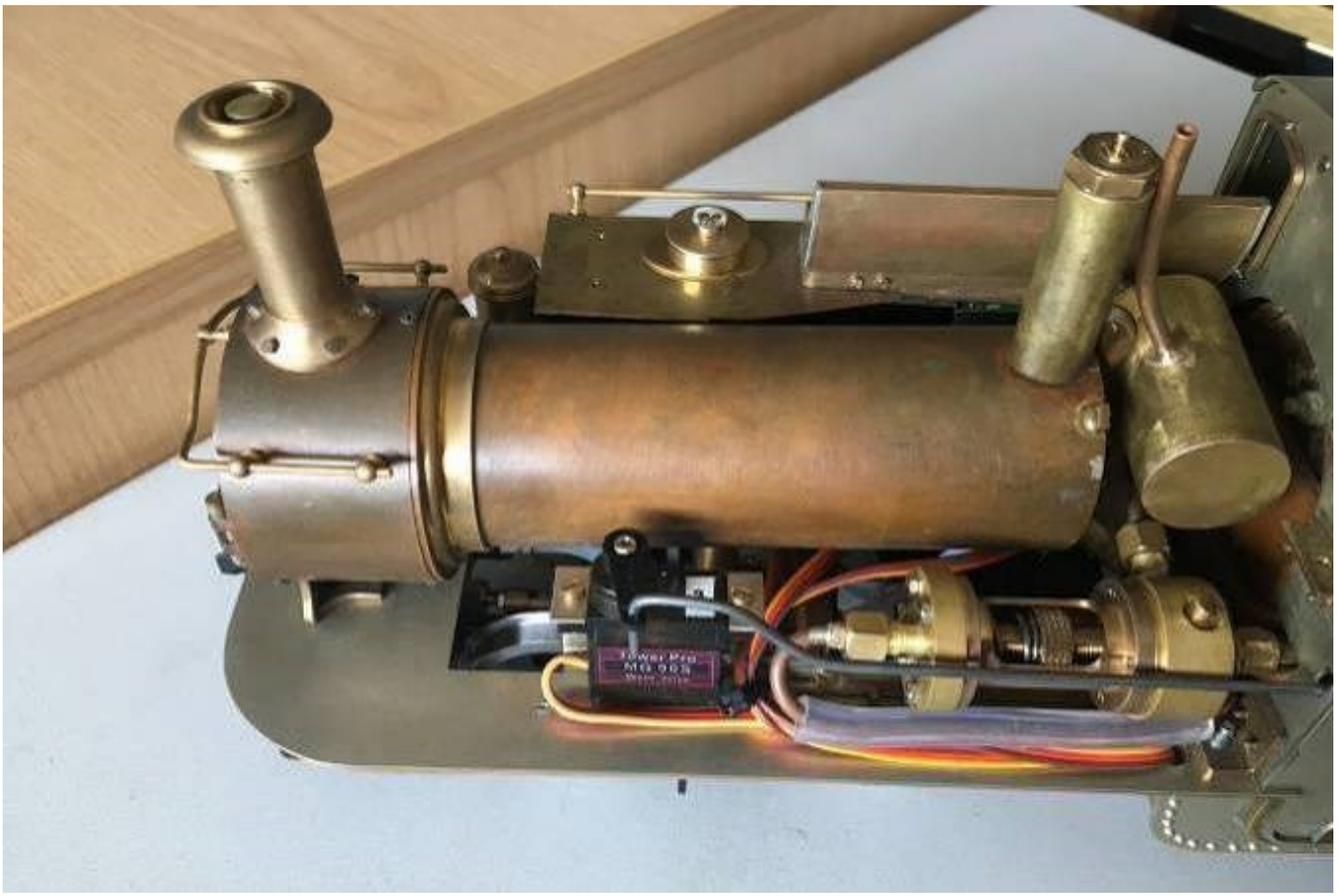
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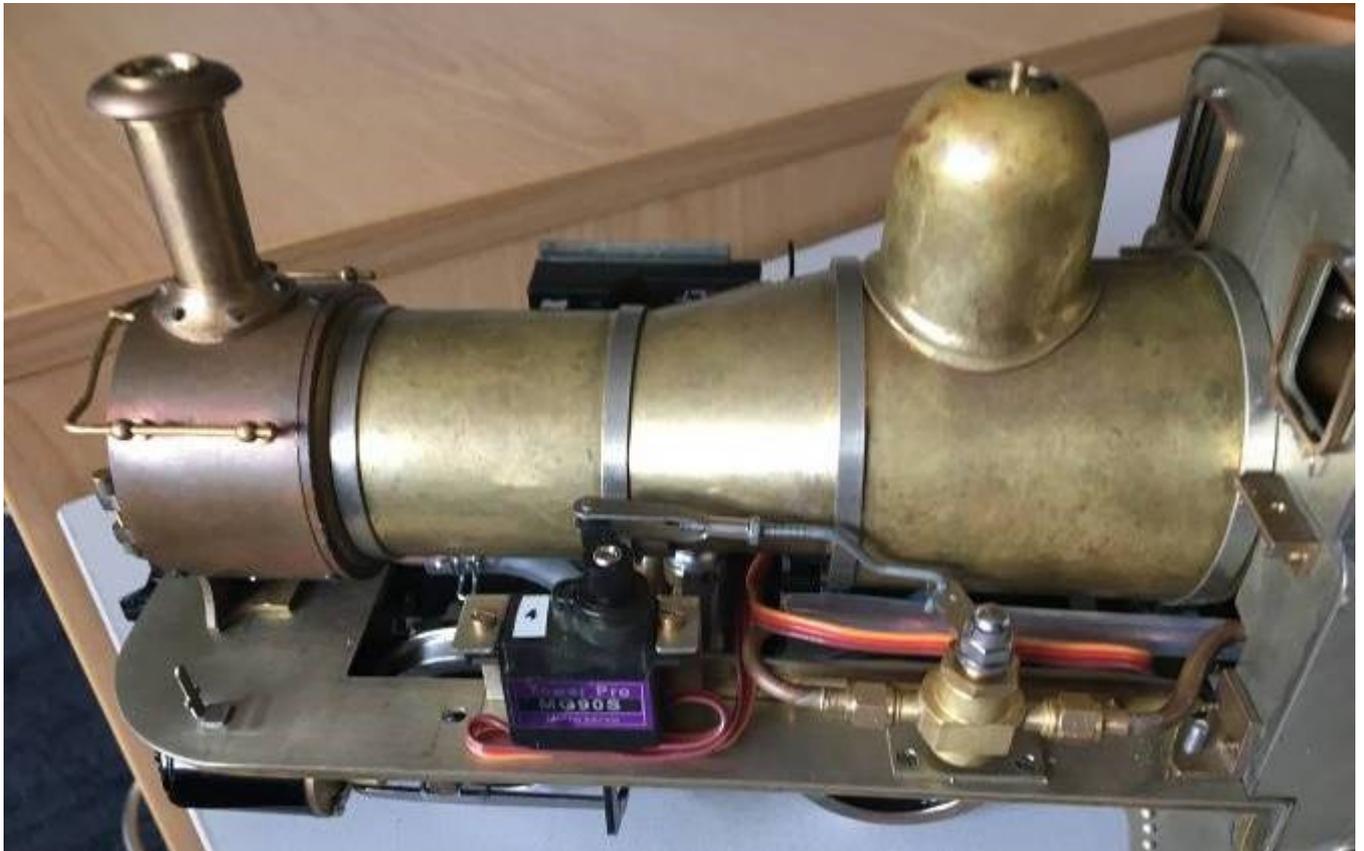
*The whistle and valve mounted below the firebox. A slot had to be milled in the cross beam to allow the Gas jet to be inserted into the burner*



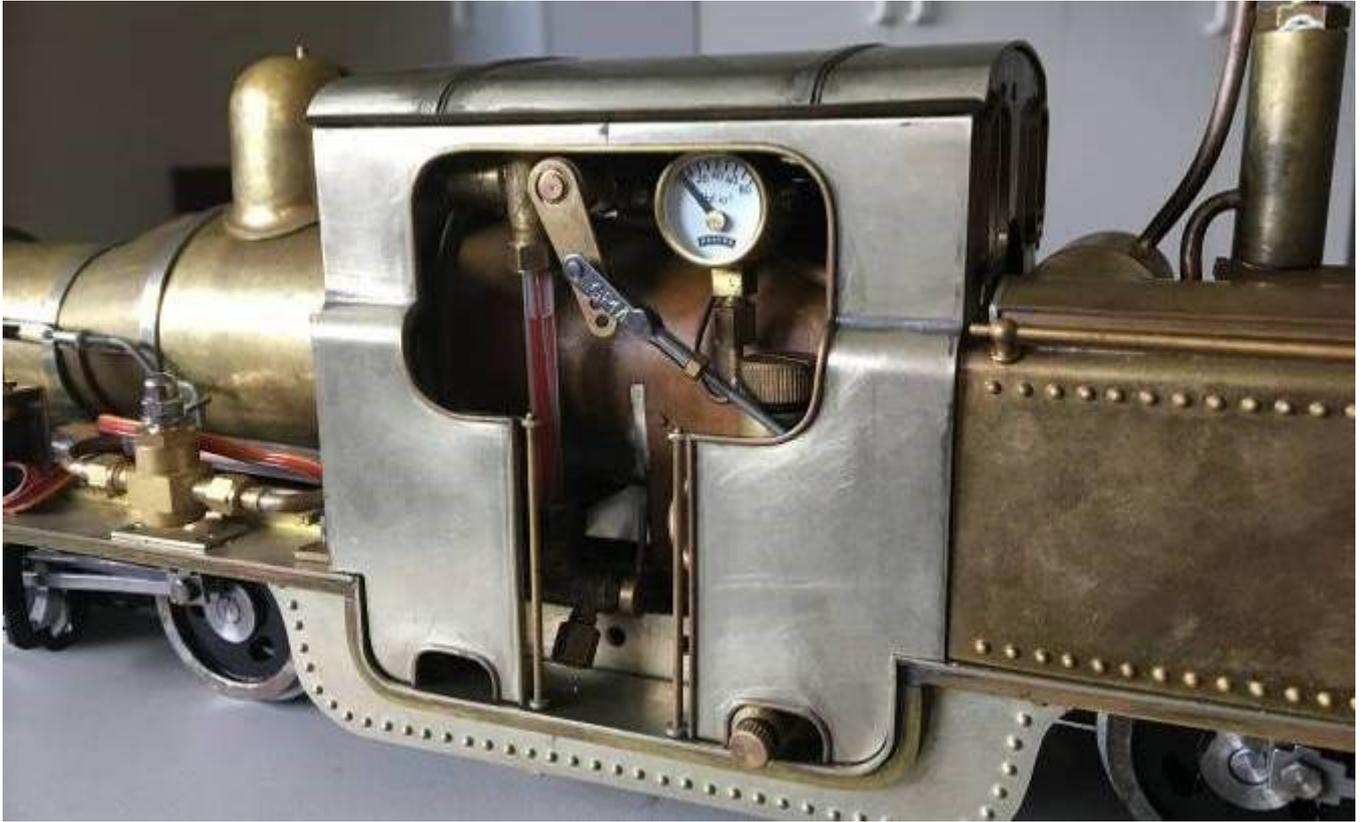
*The gas tank heating element.*



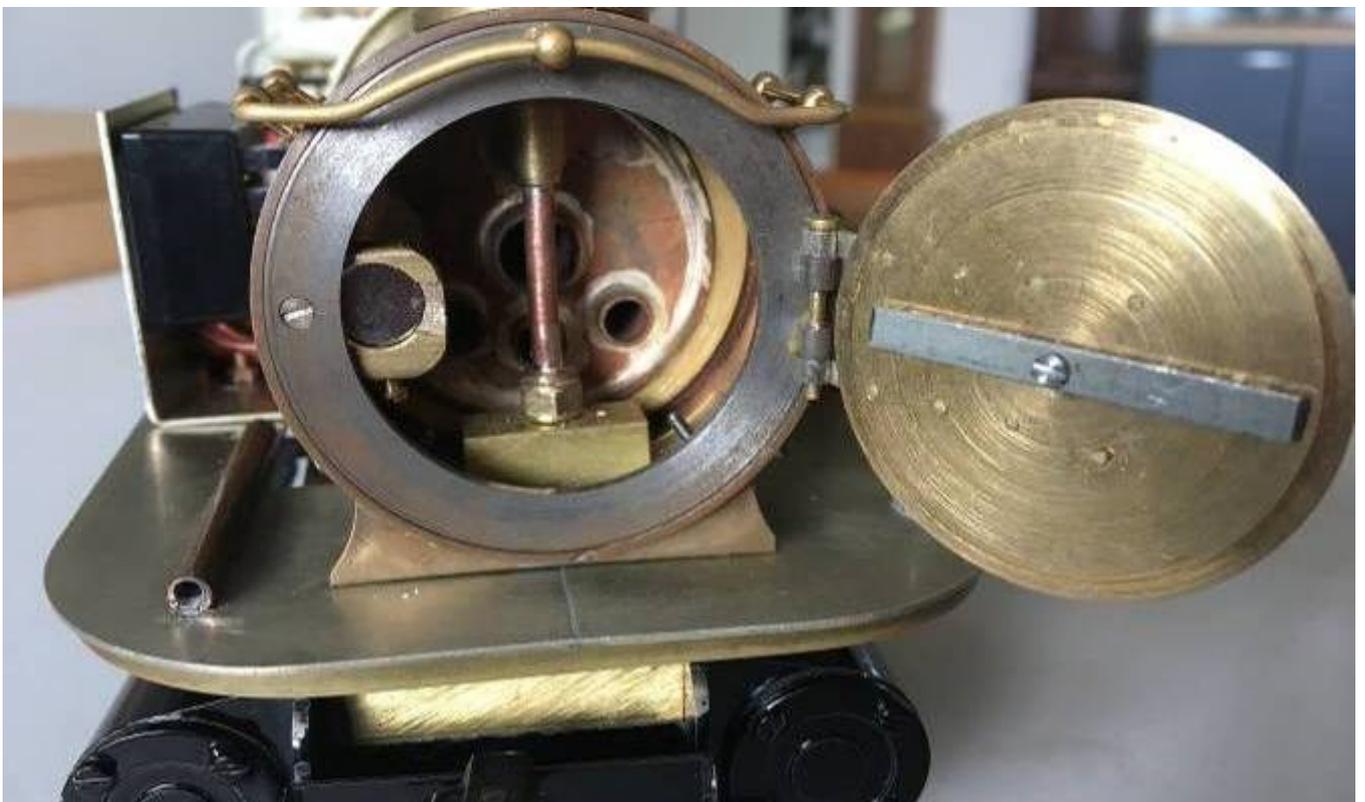
*6 channel Radio receiver, heat deflector and whistle servo*



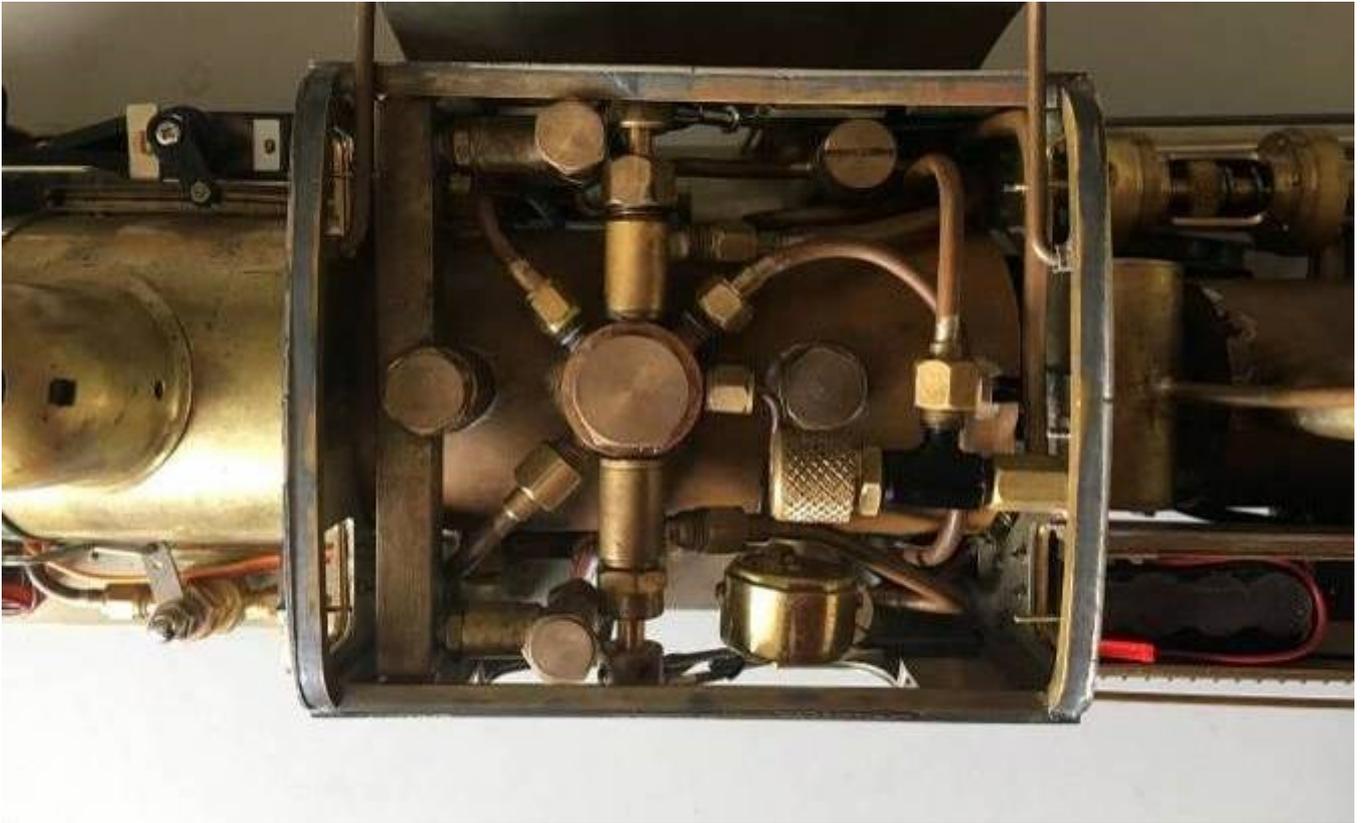
*Gas tank steam heat servo and control valve*



*Lubricator drain screw in foot plate opening and water gauge with wire insert just visible*



*Smoke box door neodymium magnetic catch (idea pinched from Accucraft again) Home made chuff pipe installed*



*A view of the cab layout showing the position of the Roundhouse gas control valve mounted on the RH spectacle plate. There was literally no where else it could go!*



*The rolling road test showed no problems, so the next exciting stage was to give it a run out on the track*

A total of 10 laps were done light engine just to make sure nothing was going to fall apart. No loose screws or problems meant that the Vale of Rheidol coaches could be connected up for a reasonable load test.



*A couple of photos showing Merddin Emrys effortlessly pulling the 9 Vale of Rheidol coaches*





*I just had to pull the rake of Festiniog stock as a final run of the day* What has been learnt from the progress so far?

The gas tank doesn't need the steam heat feature. I measured the gas tank temperature with an infra red thermometer and it was 42 Deg C!! The steam exhaust in the rear smoke box gives enough heating by conduction.

No need for the steam pressure gas regulator. The burner kept up with steam demand and the safety didn't lift too often.

Neodymium magnets die with heat over 60 Deg C. The rear smoke box door magnet works fine and holds the door closed. The front magnet failed after the second steam up and only just held onto the door. I have since sourced some high temperature magnets from Aliexpress that will work up to 360 deg C.

The electronic water gauge and Enots valve are going to be essential as the water usage was higher than expected.

This completes the build stage and I know there will be a few more changes before it gets painted. Not sure when that is going to be but at least I know it runs successfully.

The workshop and new railway will have to be built before I can think about painting it with black panels and Maroon.

## Town and Around :

Max had a Birthday. Oh, to be 16 again!!!!

## Upcoming Events :

Hamilton Model Engineers  
**“Steam and Steel”** Con-  
vention 9th to 13th January 2020  
Mark this date in you Diary  
NOW!!!!!!!!!!!!!!!!!!!!!!



## Disclaimer :

The views and opinions expressed in articles contained in this magazine are those of the author (s) and do not necessarily reflect the policy, position or opinion of the TMMEC or its officials.



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# Old Railways Time Clock

Recently on TradeMe was advertised "NZ Railways Otahuhu Workshops Clock—in—Clock" . Now, this is the sort of stuff that spins my wheels!!!!!!!

A : Has character

B :: Is a work of art.

C : Comes from a bygone era.

And most importantly

D : Has a story

I flicked the add on to Peter, after all Peter did work at the Otahuhu Workshops for a number of years and I thought he may have a "story".

Peter's reply follows :

Hi Roy, it is a lovely piece, I did a lot of clocking in and out at Otahuhu over the 7 years I was there but don't remember one as flash as that !

We used to work 7.30am to 4.00pm and had a 3 minute margin .ie last clock in was 7.33am earliest clock out 3.57pm. A queue would be waiting by the clock at 3.50 pm. Your time card was in a rack next to the clock, you removed it from one side recorded your time and placed it on the other side which was recording if you were on site or if you had left,

These days they sign a time book in and out so nothing much has changed. You put your card in and push a lever which would record the time. The same card had your daily job list that your time was booked, which you filled in the time allocated to a particular task.

If you booked in at 7.34am or out at 3.56pm you were docked 15 minutes. If you were running late in the morning you would somehow let your mate know and he would clock you in.

I remember in the diesel shop you would be hard to beat one old codger to the front of the queue for clock out most days, B.... H..... was his name. he would be there at 10 to knock off with his card in the machine waiting for 3.57. on more than one occasion one of the tradesmen would be standing behind him waiting for the second hand to get just about to the hour and would reach across and push the handle down. Poor old B.... would pull his card out and look at the 3.56 as he was pushed aside and the rest of the 40 or so would clock out and leave him to lament over the 1 minute early clock out. In those days they were getting about 6 shillings an hour so he was going to lose 15 pence, what a disaster. You could buy a packet of fish and chips for that amount of money. He would have to wait until everyone had left so he could stick his card back in the machine and push the lever down half a dozen times to overstamp the time. At that stage I was an apprentice on about 4 shillings and eight pence an hour so would have lost 12 pence if I was late or early to clock in or out.

Great memories, 10,000 hours of trade training and gaining a sense of humour, great days.

Peter.





Pics from the Xmas Parade and all the Work Party. (Notice where they were parked?????)





Above : President Russell presents Bruce Harvey with his Life Membership Certificate.

Below : Owen Bennett's Stanley Steamer Buggy winner of the Norm Decke Trophy.

