The Generator

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Palmerston Model Engineering Club
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Managers of the Marriner Reserve Railway - Marriner Street - Palmerston North
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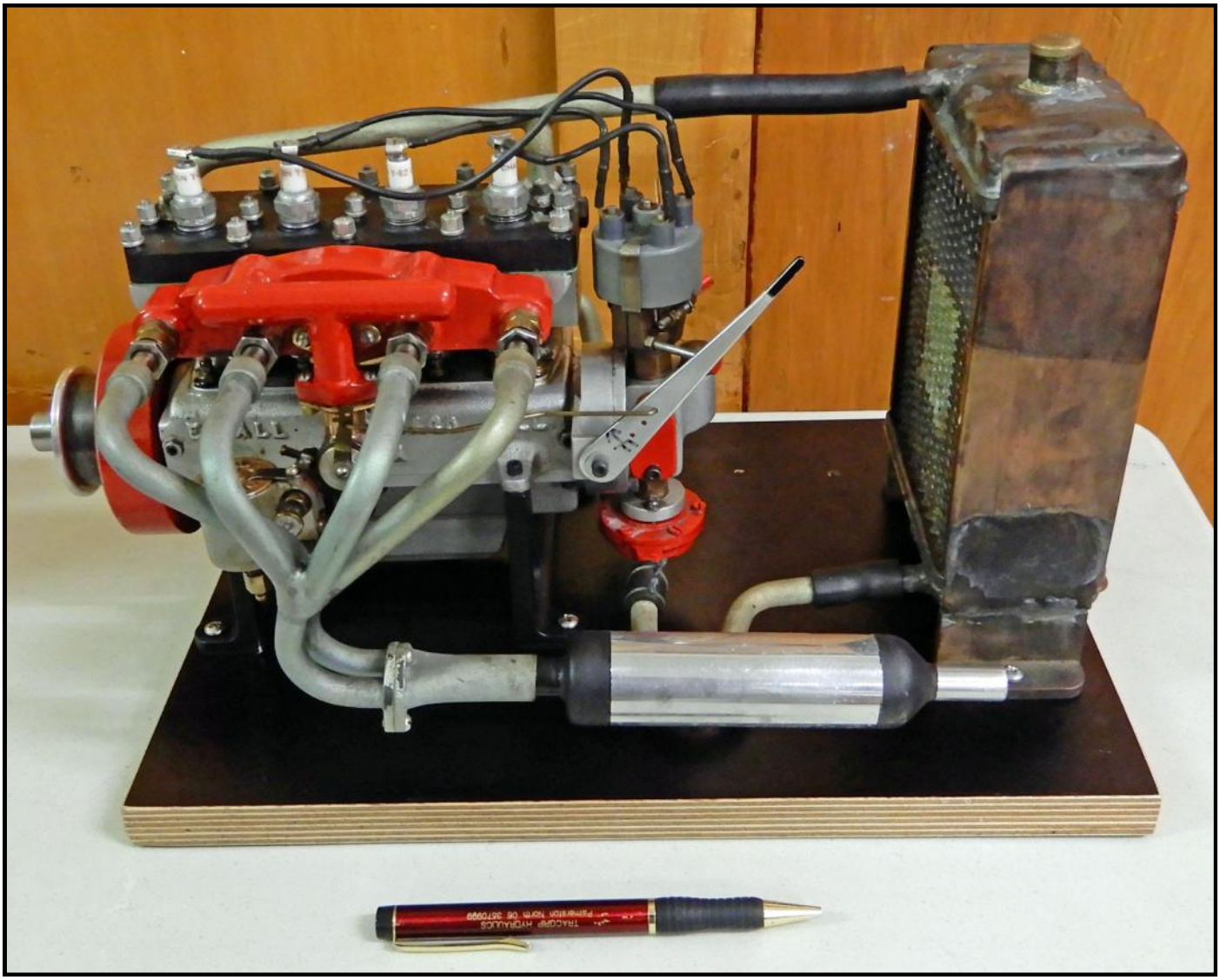
Rebuilding of the "Wall"



This Model is the subject of an article on page 6.
The rebuilding by Graeme Hall

What's on this month and in the future
PNMEC Club Calendar

Track running at Marriner Reserve Railway

April	7th	1pm - 3pm
April	21st	1pm - 3pm
May	5th	1pm - 3pm
May	19h	1pm - 3pm

The Palmerston North Model Engineering Club
Annual General Meeting is to be held on 26 April 2018.

The Palmerston North Model Engineering Club
Upcoming Club Nights

28 March 2019

We have organized a visit to **"ETECH"**
Start Time is 7.00pm Sharp @ 130 Kaimanawa Street, Palmerston North.
Map and more details Page 6

25 April 2019

This is our **Annual General Meeting** at the
Hearing Association Hall Church St Palm North.
All members, friends and visitors are Welcome to attend.

A review has been carried out of books and magazines held by the Club library. A number of surplus items will be available at this meeting for members to add to their collections at no cost. This will also be an opportunity for members to bring along books and magazines from their collections that are surplus to requirements to re-distributed in the same manner. Fin will give a demonstration on binding your magazines.

23 May 2019

We are planning to have an **Electronics Evening**
more details next month.

Meeting Report Thursday 28th February 2019

Robert (President) opened the meeting. The next meeting will be a visit to E-Tech. Members are advised that substantial footwear (closed top shoes a minimum) are required to attend this function.

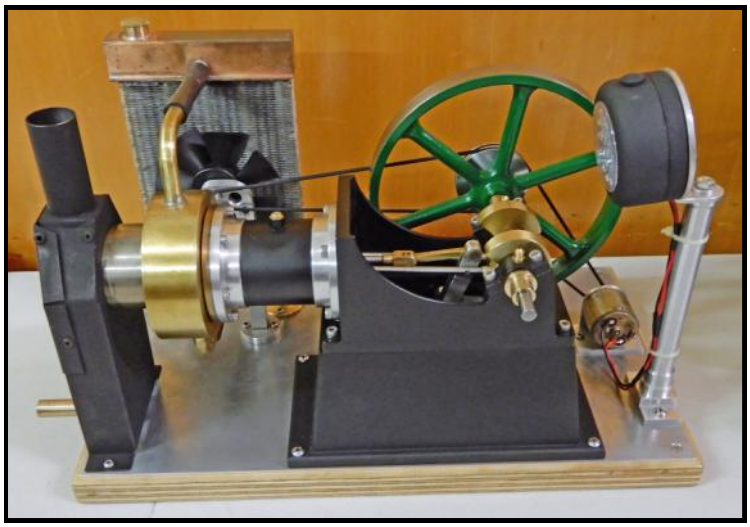
The ModelMee function to be held in the City library building on the 25 - 26 August. We will be sharing this event with displays by the Manawatu Model Railway Club and the local high schools VEX ROBOTICS groups .

Richard Locket then discussed the Les Moore challenge to be held at the "Steam and Steel" convention in Hamilton next January. The "challenge" is to build a steam turbine driven 3½ inch gauge rail vehicle. The boiler is to be based on a cocoa powder tin or similar heated by tealight candles The boiler lid is to be a push fit and **not** soldered into place.
Richard called for members to give some thought to this challenge so that we might maintain our pre-eminent record in the Les Moore event.

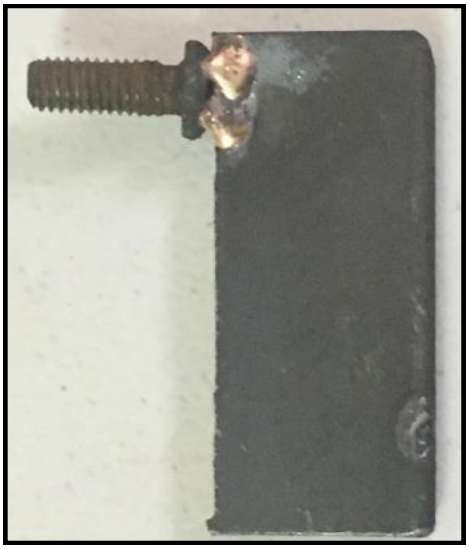
A "what I did in the workshop over summer" (actually a "Bits and Pieces" session) followed.

Graeme Hall showed an American IC engine, (see the front cover and page 6) originally built by someone else from a casting kit. The engine had proved very difficult to start (pull cord on a pulley at the front of the crankshaft). The builder had been over vigorous with a starting pull and the engine ended up on the workshop floor and with a bent crankshaft. It eventually came to Graeme to "see what he could do with it". The engine was based on a prototype of 1930's 50's vintage. The engine is a 50cc in line. Graeme has repaired the crankshaft and made some other modifications and it is now a substantial and very impressive model, which is now running.

As usual Graeme has not been idle over the summer and he had a very nice Stirling cycle engine that is gas fired with a water cooled "cold end". Graeme has built a very nice (and substantial) radiator and the engine looks very impressive. The engine has the power cylinder and displacer inline so the displacer shaft passes through the power cylinder and piston via a very close fitting sleeve.



Fin Mason described his discussions with a friend who is plagued with severe back pain which he has treated by acupuncture. The site for needle insertion is selected by means of a plastic device which is passed over the affected area and, in some way, identifies the spot for needle insertion. Fin's friend was concerned that the acupuncturist had to remove the device in order to insert the needle. After some problems Fin has managed to drill a small hole through the centre of the device. His friend is pleased with it but Fin seemed unconvinced about the procedure.

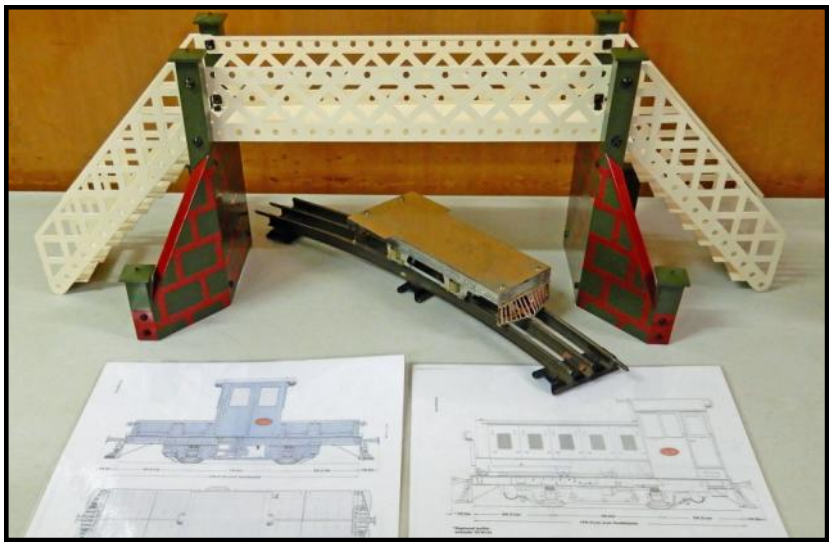


Richard Lockett spent some of his summer reconditioning two of the club passenger wagons which were built in 1994-95. One obstacle he encountered were some hex head cap screws that were badly rusted and resisted most of the normal procedures for removal, including drilling out because of their location. Richard solved the problem by tig welding a piece of

flat steel to the cap and managed, with the assistance of a large crescent wrench, in removing the screws.
He also spent some time with his cousin on his bush block on the west coast inland from Hokitika. They are planning on building a bridge to provide wheeled vehicle access to the property. One of the jobs they did, involved casting a large (2.5 m square, 100 mm thick) concrete slab to be used to form part of the approaches of the bridge.

Chris Bjerga has a neighbour who restores and repairs motorcycles. Parts for early Triumph models are quite difficult to source and apparently con rods are broken quite often. In fact, I was intrigued to learn that, on some models, the con rod becomes very fragile even if the engine has not been run often. Chris showed some con rods that he had made from 7075 aluminium alloy. These were very substantial items with a very fine finish. Chris commented on the propensity of classic motorcycle enthusiasts to insist on a very high level of finish on parts that, under normal circumstances are never seen.

Bruce Geange showed some old photographs of a 1930's vintage electric locomotive that was similar to those used in the Otira tunnel. This Battery Electric loco was later converted to diesel electric and used as a workshop locomotive. Bruce is building Hornby scale models of both. He had also been asked to repair a 1930's station over-bridge (footbridge). He has also built a copy for his own layout. As usual a very nice model.



Letter from England Stan Compton

Years ago one of our club members who had a 20 foot steam boat told me about a vessel named Peace that was ordered from Thornycroft at Chiswick in London. Costing two thousand pounds in 1872 and paid for by someone who wished to bring missionaries out to the Belgium Congo. The specification called for twin-screws mounted in tubes to cope with a shallow draft often found on the river Congo. Bessemer steel plates, small enough to dismantle the hull and re-built on arrival. The plates had to be galvanised. NB The hot-dip galvanising used in the era would last for many years in service. I assume bolts were used to allow the hull to be completely assembled for test, instead of rivets. Each pack had to weigh no more than sixty two pounds. 400 porters were required for the 250 mile trip inland.

Two simple vertical steam engines were supplied, each crankshaft weighed more than the maximum allowed. This created a problem and one got left in a hut on the route. One of the missionaries had an engineering background and took over the assembly of the boat after the four skilled men sent out from the works lost their lives due to tropical diseases. The remaining man walked back over the trail and found the last crankshaft. This enabled him to complete the assembly of the hull, putting the boat into service supplying the various mission stations on the Congo for many years. The original boiler was not a success, replaced with a Thornycroft Speedy as used in the Royal Navy.

Back in the fifties we were living in Canada in our first house near Kingston, Ontario. With a mortgage to pay, I was always on the lookout for more income, extra to wages from the engineering shop I was employed at. It was a new life in a strange country. We were lucky to both find employment. We had been told on arrival to take any job available, later to look for what we wanted to work at. We chose Kingston at Montreal Railway Station and it was a good choice, first we found a small apartment to live in and started adding to our savings.

A rare treat was to visit a local cinema. On the way we passed a Chinese Laundry, the lights were on, and I noticed a flex was plugged into one outlet in the light fitting this swayed, providing power for an electric iron. When we returned from the film show the flex was still moving with use, sometime later I was to meet the owner of the business. He arrived at the engineering shop I was employed at carrying a steel driveshaft off his old washing machine. The shaft was badly worn needing a welding build-up and machining. My employer did not want to take the job on. Having experience with these men previously, I asked if he would let me make the repair at work in my own time. Knowing we had a mortgage to pay and by now had started a family, he was a decent man and agreed. So on Saturday morning I built up the worn shaft, machined it in the lathe at work taking it back to the Chinese Laundry. That ancient washing machine was so badly worn it needed a complete overhaul. With difficulty I managed to get it to work again and it taught me a lesson. When I arrived with the repaired shaft I found the laundry man had a camp-bed right alongside the washing machine, it being his main source of income, the place smelt unpleasant and young Stan had no idea this was how some people lived and worked.

A year or two later I was foolish enough to take on a large job at home installing a crane unit onto a truck, too big to get it under cover. Then realised it was not fair to my employer and telephoned him to say I wanted a half-day off work, drove into town to look for work at the locomotive works. No luck there or anywhere else. When I arrived back at work after lunch I discovered the foreman had driven out to our home, saw the truck out front resulting in me being fired, the only time this ever happened to me. I said my employer was a decent man he talked to me for an hour and I guess he just wanted to give me a telling-off and not lose me. I think he was pressured by the foreman. Please forgive me if I have told this story before, but it was the end of our first attempt at life in Canada. We sold up and returned to the UK with enough money to buy a small agricultural business. That is another story.

I never mentioned the Canadian car I bought on arrival in Kingston. It was a General Motors Pontiac with two doors called a Coupe, but it had a large boot (in the USA called a trunk). Built in 1938 nowadays it would be collectable. First I needed a new 6-volt battery but found someone who sold reconditioned ones and it lasted the three years we were there. I fitted new piston-rings and HT cables to the spark plugs. Now just imaging a winter morning, 20 degrees below zero, the car had to be left outside with a heater unit replacing the dip-stick so the engine oil was kept warm, a couple of pumps to prime the carburettor. The starter groaned and the engine would start after a couple of revs!! American cars had four volt coils returning the six volt once started. It was fortunate I did not buy a Plymouth product, older ones were notorious as poor starters in the winter. I taught my wife to drive in that Pontiac, something no man should do, but she never had an accident.

On arriving back in Kent I acquired an old Austin car that belonged to her aunt who was the local district nurse. Anne still remembers the day we collected it, she had to drive it across a foggy Romney Marsh where her family kept a country pub. The steering was worn, lousy brakes, etc, but we travelled all over looking at small businesses to buy.

If you would like to be notified when this newsletter is published,
send us an email with your **Name, Club** and **Email** address to
pnmec@trains.org.nz with **"Generator Please"** in the subject line.

Rebuilding the Wall – no not Trumps!!

The Wall is a small 4 cylinder engine produced as a casting kit by Elma Wall of Chicago, USA between 1935 and 1952 and sold by Coles Power Models.

I remember seeing this engine running some 30 years ago, built by a friend as a first model build, quite an achievement.

Damage caused by a fall off a bench some 10 years ago onto the flywheel resulted in a bent crankshaft. Partially dismantled, the damage seemed terminal, resulting in parts ending up in cardboard boxes.

I was recently approached to see if it could be repaired to running condition. To make this more difficult – no drawings or construction information was available.

I straightened the crankshaft and then completely dismantled and inspected the engine.

Piston ring seizure on 2 cylinders required ring groves to be deepened to provide more clearance. Con-rod alignment corrected and cylinders honed and all parts cleaned.
A new head gasket made – and the engine reassembled.

Carburettor and ignition system checked over and a plywood base made up to take engine, radiator and fuel tank. An adaptor was fitted to the flywheel to enable a battery drill to be used for starting.

The engine started on the first attempt – relief!!

Further running and some minor tuning produced a smooth-running motor which was returned to a very happy owner.

A very interesting and satisfying project.

Engine Stats:

Wall - 50cc, side valve, 4 cylinder
1 inch bore
Lubrication by internal oil pump to crankshaft bearings
Spark ignition – coil and battery
Fuel – pump petrol

Graeme Hall

ETECH Visit

ETECH is a world class company using laser technology as its backbone to unrivalled precision laser-cutting services.

ETECH offers time-tested, well-proven skills and expertise in the design, fabrication and installation of a vast range of fabricated stainless steel products. From tanks and pipe work to cleaning and agitation systems,
There quality products are part of the success stories of some of New Zealand's – and the world's – most well-known companies.

So do come along and see Hi tech at work.
See next page for a Map and Directions

NOTE - CLOSED IN SHOES REQUIRED

Directions to ETECH

From the Square continue to Ashhurst on Main Street.
After the Napier Road Cemetery, turn Left into Keith Street. Go past the RSPCA.
At the Roundabout, take the third exit to go over the railway line. Turn Left again.
130 Kaimanawa St is 30 Meters from the corner.

Marriner Reserve Railway Operation and Safety Manual

Part-5

We need to undertake a discussion within the club membership in relations to our **Marriner Reserve Railway Operation and Safety Manual.** Towards that end we are going to publish over the next few months the complete document (without photos) in serial form. If members would prefer to read the entire version with photos, this can be found at http://www.pnmec.org.nz/PNMEC%20-%20Operations%20and%20Safety%20Manual-2014.pdf

Palmerston North Model Engineering Club Marriner Reserve Railway Operation and Safety Manual.

4: Grounds Maintenance. The Palmerston North Model Engineering Club (PNMEC) leases the Marriner Reserve from the Palmerston North City Council. This does not mean that we have exclusive use of the Marriner Reserve. As part of the lease agreement we the PNMEC maintain our infrastructure and the rail corridor. This means that apart from the mowing of the bulk of the lawns and the care of the four large trees we are responsible for looking after the bulk of the reserve.

This involves the mowing of the grass beside the rail track and around our other infrastructure. The care of the shrubs and trees along the rail corridor. The further development of rail infrastructure and landscape plantings etc to enhance the railway experience. A rapid response to rectify any acts of vandalism or weather event damage to infrastructure etc. To keep the Reserve tidy, this involves picking up other people's rubbish, bottles and broken glass etc. Removing any graffiti from structures quickly. **Potential Hazards.** The equipment i.e. motor mowers, pruners, solvents, weed sprays etc used to carry out the above activities are potentially hazardous if used incorrectly and precautions need to taken when used such as covered footwear, eye and hearing protection and gloves etc.
Activities should not to be undertaken when the Reserve is being used by any other potential groups of users. A minimum of two PNMEC members should be on site while grounds maintenance work is being undertaken.

5: Railway Infrastructure Construction/Maintenance. Activities associated with ongoing construction and maintenance of the Marriner Reserve Railway has the potential to be hazardous to other reserve users and to PNMEC members undertaking this work.
The Track Manager is generally the instigator of infrastructure construction and maintenance projects.
Due consideration has to be undertaken to identify the equipment needed to carry out the project and to have in place mitigation of any safety aspects arising from the use of this equipment. (PNMEC members and other Reserve users) That the reserve is left in a tidy state and that any potential hazards resulting from construction activities are clearly marked with **Road Cones** at the end of each day, while the construction is in progress.
When **Wheeled or Tracked Machinery** is in use by PNMEC on the reserve that a club member is in place to guard the operational area of the machinery.