

The Generator

Issue 490
June 2022



Palmerston Model Engineering Club
www.pnmech.net.nz - pnmech@trains.net.nz

Managers of the Marriner Reserve Railway - Marriner Street - Palmerston North
C/- 119 Ruapehu Drive - Palmerston North 4410

The Palmerston North Model Engineering Club

Upcoming Club Events

Club Nights typically start at 7.30pm and are usually held at the Hearing Association Hall, 435 Church Street, Palmerston North.

Thursday 23 June

Project Progress

It's been quite a while since we last had an update on the progress of your current project so bring it along and speak to it!

Thursday 28 July

Health and Safety

This topic will be specifically in relation to railway operations at the Marriner Reserve Railway.

Marriner Reserve Railway

Sunday 3 July & 17 July

Railway operations at the Marriner Reserve
Trains in operation from 1pm to 3pm
Weather permitting (Richard Lockett 3230948)

Thursdays

Railway operations for club members
Subject to ongoing track maintenance and weather
Contact track manager (Richard Lockett 06 323 0948)

Annual General Meeting 2022

The club AGM was held on the 26th May at the Hearing Hall, Palmerston North. There were 15 members present. Apologies were given and the minutes of the 2021 AGM were read and approved

President David Bell presented his report for the outgoing year.

Treasurer Lawrence Brooshooft presented the Financial Report for the year ending February 28 2022.

Membership Subscriptions will remain at \$30.00 for the 2022-2023 year.

A Track Managers Report was presented by David Bell on behalf of Richard Lockett who was unable to be present at the meeting.

Club Officers were elected as follows;

President: David Bell.

Vice President: Cynthia Cooper.

Treasurer: Lawrence Brooshooft.

Secretary: Fin Mason.

Committee Members: Chris Morton, Richard Lockett and Jonathan Mason.

Other Club positions:

Newsletter Editor: Richard Lockett

Librarian: Merv George.

Track Manager: Richard Lockett.

There were no items of general business.

Due to the minimal amount of club activities undertaken during the previous year the Compton Shield was not awarded for the current year.

Club Notices

Subscriptions are now due

Membership subscriptions of \$30.00 as set at the Annual General Meeting are now due. Please pay Club Treasurer Lawrence Brooshooft at a club night or preferable pay direct into the clubs bank account via internet banking. **Account number 06-0996-0831663-00**
Please remember to use your name as the reference.

Generator Articles

To make The Generators Editor's job a bit easier let me know of the interesting activities that you are engaging in that would be of interest to our membership.

Photo's and a bit of script to accompany them is all that is needed to produce a good yarn.

Email the editor at rocket@inspire.net.nz or pnmec-editor@train.net.nz

The Marshall

The other day at Marriner Reserve I was asked what project I was working on at the moment by Richard Lockett. I said I had just breathed life back into a Marshall 12/20 single cylinder tractor that had sat in my shed for 5 plus years. Richard said I should furnish an article for our esteemed monthly newsletter. To which I said it was not a model anything, but apparently it is of 1 to 1 scale so I was told.

The Marshall 12/20 as rebuilt by David to working condition. Produced from 1935 to 1938 with 190 built which must make this example fairly rare! Dave may say not rare enough! A single horizontal two stroke engine of 6 inch bore with a stroke of 9 inch's to give a displacement of 254 cubic inch's. The engine is started inserting a special lit piece of rag into a chamber, engaging a decompressor valve and hand cranking the engine till the decompressor engages and hopefully the thing fires up!

Photo David Edmonds



Some years ago, in the 1970s and 80s I collected a lot of scrap iron in the form of vintage tractors. I brought up from the South Island 7 Field Marshall's during that time in various states of usefulness. In the late 1980s I sold the lot due to my divorce from the first wife and the lack of anywhere to store them. To a degree this meant I knew how these single cylinder things worked. As my mechanic friend in Taihape said to me they were passible in 1908 but still trying to sell them in 1958 was unbelievable. I must agree as they are a backward step in many ways.

As a lineman I was working on a aerial cable fault in Millricks Line one day when one of the residents stopped to talk to me. This was my first meeting Grant Stephens, owner of the tractor. As the conversation went on, he told me that he had this unique vintage tractor sitting in his shed for many years and that he had never seen it going. For some obvious reason I said I would like to look at it. I then said I would help him get it going as I knew something about them. So, after some cursory investigation the tractor was shifted to my workshop with the help of a friend of mine, Lawrence Cocker.

What was in the first place a freeing of linkages and the installation of a reconditioned fuel injection system, alas bloomed to another much larger job. Finding 12 gallons of water in the transmission along with ½ a gallon in the motor lube chamber was one thing, but broken axle bearing, worn out handbrake shoes, which are inside the first gear, 100% blocked radiators, perished rubber seals on the radiators and cylinder head, missing decompressor parts, rotten tyres and seals, missing clutch linings and clutch fork parts that needed replacing made the job much larger indeed. As the parts are hard to find we had to import the clutch release bearing from England. Relining of the brake shoes was done in Hamilton and the decompressor parts along with many other parts were made by myself. Ever linkage needed new pins and the drawbar needed a total rebuild. The reed valve block needed two replacement reeds and the fuel filter needed up grading to a paper element type. The fuel line was replaced by one taken from a Fowler Model V as was the injection system cam follower.

These came from the Harris Collection (Sansons) sale a year or two back. It was no five minute job. The process of restoring to running condition meant pulling the tractor to bits and cleaning it out, replacing what was no longer serviceable and recovering what was. The hardest part to do was the tyres. Fitting the new ones to the Dunlop cast Iron centres was more than a little testing, but with the help of Kolin my mate it was done in a couple of days hard yacka. Removing the gearbox to get at the handbrake linings uncovered some rural type work done in previous times that had broken the bearing carrier on one side, so I had to machine another out of 22mm steel plate. Many clearance fillers were made to take up slack and a liberal use of sealant was required. The steering was sound out of modifying the ball joints by packing/shimming the springs in the joints, to say it had Armstrong steering is a understatement! I think they always had bad steering.

In conclusion I shall never work on anything like this again as everything was just too heavy, maybe models are an answer as you get older. I feel for the owner Grant Stephens, as he had to wait years for me to get to finishing it to a sound going condition.

On retirement I assumed I would have heaps of spare time. I do not!

David Edmond

The most popular colour scheme of a new Marshall 12/20 from the 1930's was green with red wheels



Photo Web

Leonardo da Vinci's Models

We visited Amboise, a town along the Loire River in France, where there was a Chateau named the Clos de Luce. Here Leonardo da Vinci spent the last three years of his life as a guest of Francis 1 in the early 16th Century. During this time he designed many working structures but he never built any of them. His drawings are on display along with various models built to scale, in several rooms of the Chateau. There were several of these models built to full size by IBM outside in the gardens for the public to operate. The gardens covered more than an acre and these were well spaced. Children especially enjoyed operating a military tank with gun apertures. A water lifter known as an Archimedes screw drew much attention by all. There was also an arched bridge built over a stream, and an Aerial Screw. This working model uses a bevel gear to spin the canopy and support structure, illustrating a way da Vinci thought flight might be possible. This was available for purchase as a model to build, which is what I eventually built up to display at a Club meeting.

I now see that there are numerous models available to buy on line at various prices. Try Googling Pathfinders Design and Technology for options. Laurie Perkins



Top Left Leonardo Da Vinci's sketch of an Aerial Screw Flying Machine.

Left. Large scale Aerial screw in the grounds of the Clos De Luce, Ambrose, France

Above Right. Aerial Screw Model as built by Laurie.
Lower Photo's Laurie Perkins

Club member Brian Wiffin ex Dannevirke who has resided up in Matamata for a number of years, had focused his modelling activities on clock making over the last few years and has produced this Sensitive Drill Press. Made from castings that he acquired from Stan Compton way back in 1990 when Stan moved back to the UK.

The term Sensitive derives from the fact that when using small drills you need to be able to feel through your hands how well the drill is cutting so as to prevent breakage of the drill. Applying too much pressure to a small drill will bend it causing breakage along with allowing the drills flutes to clog up with swarf which will cause the drill to snap in two!

Most drill presses use the rack and pinion method of lowering the spindle/drill into the work piece, the rack being cut into the quill which is the movable component containing the spindle. This example of a Sensitive Drill Press has the lowering lever acting directly onto the quill which doesn't require gears to be produced and is possibly the most sensitive in providing the required feel for drilling the smallest of holes. So don't be afraid of acquiring parts for a project that you may think you will get round to doing one day because one day will come round, Brian's proved that! Thanks Brian.



Photo Brian Wiffin

Date and Time			Activity
Thursday	June 23rd	7.30pm	Club Night Project Progress
Thursday	July 7th	7.30 pm	Committee Meeting
Sunday	July 3rd	1pm to 3pm	Marriner Reserve Railway
Sunday	July 17th	1pm to 3pm	Marriner Reserve Railway
Thursday	July 28th	7.30pm	Club Night Health and Safety
Thursday	August 4th	7.30pm	Committee Meeting
Sunday	August 7th	1pm to 3pm	Marriner Reserve Railway
Sunday	August 21th	1pm to 3pm	Marriner Reserve Railway
Thursday	August 25th	7.30 pm	Club Night

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.net.nz with "**Generator Please**" in the subject line.