



Newsletter of THE PALMERSTON NORTH MODEL ENGINEERING CLUB INC

Managers of the "MARRINER RESERVE RAILWAY"

Please address all correspondence to :- 22b Haydon St, Palmerston North 4414

PRESIDENT

Robert Edwards
(06) 280-3057
pnmec-president@trains.net.nz

SECRETARY

Fin Mason
(06) 356-7849
pnmec-secretary@trains.net.nz

TREASURER

John Tweedie
(06) 358-0150
pnmec-treasurer@trains.net.nz

EDITOR

Doug Chambers
(06) 354-9379
pnmec-editor@trains.net.nz

March 2016
No 420

**T
H
E

G
E
N
E
R
A
T
O
R**

PNMEC Home Page www.pnmec.org.nz
Email:- pnmec@trains.net.nz

TRACK RUNNING

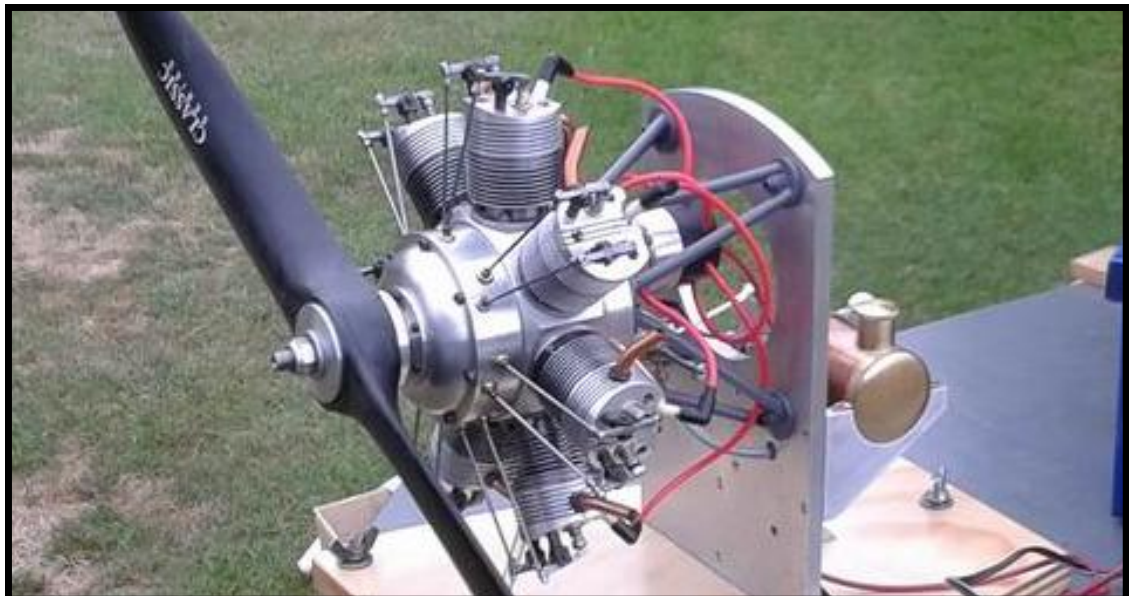
This is held on the FIRST and THIRD Sunday of each month, from 1 pm to 4 pm Summer and 1 pm to 3 pm during the Winter. All club members are welcome to attend and help out with loco coaling, watering and passenger marshalling - none of the tasks being at all difficult. We may even offer you a cuppa.

Visiting club members are always welcome at the track, at the monthly meeting, or if just visiting and wishing to make contact with members, please phone one of the above office bearers.

Sender:- PNMEC
22b Haydon St,
Palmerston North 4414

Place
stamp
here

This Months Featured Model



Report on the February Meeting.

The President, Robert Edwards, who has been unwell, was absent and the vice-president Murray Bold stepped in. Murray's first duty was to present the cheque to Bruce Geange that was added to the Les Moore Trophy. The trophy was won by Bruce's fire engine at the recent Tauranga Convention.

Richard Lockett spoke on the staff required to run the Locomotion 2016 Event.

On the table:

Richard Lockett had the frames and axle boxes for one of the two bogies for his NZR 'U' class.

Graeme Hall has another internal combustion engine under construction. This one is a bit different. It is a two stroke designed about 1870 and has a French Patent. It has an open crankcase with inlet and exhaust valves, the inlet operates by atmospheric pressure and the exhaust valve by exhaust gas pressure. It would have been slow running and the fuel would have been town gas.

Graeme told us of a boat builder in Wanganui who has built a full-size replica of 'Rum Runner', a 1920s racing boat about 9 metres long.

Graeme has been making some of the parts for the boat.

He told me that he now has found the 'knack' for starting the 7 cylinder radial and it now starts on the second 'flick'.

Eddie Bleakley explained that the 'Britannia' is now painted and is mostly back together except for the cab which he brought in to show us, the rest being far too heavy

Chris Morton is looking for a clamp meter, a large one.

Bruce Geange showed us the Garrett Under-type Steam Wagon that he started many years ago and has recently finished. Originally the wagon was to be steam powered.

The decision was made more recently to power it electrically and radio control it. To the members delight it was demonstrated steering around the chairs on the hall floor.

Very impressive!!!

Fred Kent will be moving to Havelock North to live with his son, at the end of this year. As the year passes he will have various items to

dispose of, one being a BMB garden tractor originally powered with a JAP engine which was replaced with a Ford 10. Both engines are under cover so restoration should not be a major challenge.

March Club Night

7:30pm, Thursday 24 March 2016

The March Meeting will be a visit to Merv George's business
JenQuip Engineering
277 Reid Line East, Bunnythorpe.

See the map on Page 3 for directions. If you want to see or find out how a Lavender Harvester works, then be sure to attend.

For Sale

A Burnard six inch diameter, four jaw chuck. In good condition from the late Don Dudley's workshop. Price \$90

Phone Richard or Allison at **06 354 5954**

COMING EVENTS

Track running at Marriner Reserve Railway

April 3rd from 1pm to 3pm

April 17th from 1pm to 3pm

Open Weekends

Hawkes Bay

Open Weekend 23rd – 25th April

PNMEC AGM

April 28th 2016

Hearing Association Rooms at 7.30pm.

THIS MONTH'S FEATURED MODEL

By Graeme Hall

My next project – what to build? Having a liking for small aero engines and have built a number of single cylinder models, a V-twin, a 3 cylinder radial and a 9 cylinder rotary, the next one had to be a Radial. The requirements were 5 or 7 cylinders, no castings, spark ignition, basic design and petrol-oil lubrication.

The closing date for the next issue of The Generator is Friday 15th April

A great deal of time was spent searching through books and magazines looking for a suitable design. A suitable plan, found in a Strictly IC magazine, was used as a starter with modifications to cylinders and cylinder head construction.

The 7 cylinder crankcase and front and rear casings were machines from 4" aluminium alloy bar stock. The crankshaft made from 2.5 dia. 4130 Steel bar with pressed-in hardened crankpin.

The cylinders on plan were cast iron, but changes to dimensions meant free machining mild steel was more suitable – considering the number of cylinder fins to be cut and the wall thickness could be reduced. Cylinder heads next – eight off (one spare) with construction changes incorporating bronze valve seats and guides and larger fin area, then master con-rod, slave rods and pistons from aluminium alloy (bronze bushed) with a single compression ring per piston. Timing gears were cut from steel and bronze, steel gears case hardened. Value components, a very time consuming job! Fourteen stainless steel valves, springs and retainers, steel rockers, pins and pillars – all case hardened.

The dreaded cam rings (2 off), machined to very sparse instructions on plan, found unsuitable with incorrect valve timing events. A new pair made, milling cam lobes until correct timing achieved. Cam rings next case hardened, with the aid of a pottery kiln, with minimal distortion. The induction system is fitted with a mixer, fan driven from the rear gear case to improve mixture distribution. Induction pipes, distributor and carburettor were built. Engine assembled with 9 ball bearing races and many cap screws, nuts, etc. Engine mount and fuel tank built, then ignition wiring and fittings, fuel piping and controls. A suitable propeller obtained and a test run in sight! Nine months later and the first start was a rather drawn out affair!! Ignition and fuel adjustments made until a short run obtained. A modification



to the carburettor to allow a greater fuel flow was made, that made an improvement in starting and running.

Engine is now a good runner, once started, with a rev range of 900 to 5000 RPM, driving a 20" x 8" propeller.

Specifications:

Engine Type: 7 cylinder radial aero engine,
Bore: 0.75" Stroke: 0.8"
Displacement: 2.47 cu in; 40.5 cc
Fuel: Fuelite, 2 stroke oil – 10 to 1 mix

My next project – what to build??

LETTER FROM ENGLAND

By Stan Compton

After twenty years of use our elevated track needs to have over half of the wooden slotted sleepers replaced. The committee must now decide which is the best option to use. The choice can be to buy moulded plastic sleepers which retain metal 'U' clips to hold the rails and cost over \$2000 or to buy the clips and drill holes in new wood or solid plastic sleepers. Our existing rails are 8mm and the clips are formed to fit 10mm rail. Could they be modified to fit or do we purchase tanilised pine cut to size and slotted to save expense? Modification, I feel is impractical.

I recall watching the film 'The African Queen' in New Zealand when it was shown on TV on

Christmas Day. One memorable part was the scene in the swamp when Humphrey Bogart had to get out into the water and drag the boat through the reeds. When he got back on board he shuddered as he removed the leeches off his legs, excellent acting, but what we saw were leeches being removed from the legs of the man who bred them for medical use. Humphrey Bogart could not bare the thought of having them on his skin!! It was a bit disappointing to find it was filmed in a large tank in a studio in Isleworth near London. This was due to the instructions not to get into the water in Africa because of the risk of contracting bilharzis.

I have been reading a book called 'Rockhopper Copper' by Conrad Glass who was born on the Island of Tristan de Cuna in the South Atlantic where he ended up as the policeman in charge of that small community. The title of the book comes from the name of the penguins that breed there, one of his jobs is to make an annual count of the penguin numbers and if the surf is too rough to land their boat he swims ashore to make the count!!

Another of his duties is to supervise the visitors who arrive on the cruise ships, the fee charged helps the Islands funds but sometimes the surf is too rough to land those passengers who had already paid the landing fee and the ship had to sail on. Once a passenger strayed off the walking path to better see a bird's nest below and his leg was stuck in a hole. When he was pulled out he yelled with pain due to having a metal rod in his leg. On being admitted to the hospital he recovered enough that he was able to be taken back to the ship which was a relief to everyone as Capetown in South Africa is the nearest land and over 1200 miles away.

Years ago when I was employed at Massey University I witnessed an example of the problems the teaching staff had to contend with. A male student from India had attended a twelve month course on Agricultural Science in the department I served in. One day one of our lecturers had failed him when he realised he was word perfect on examination, but it was from the wrong page of the text book that he had memorised, so it was obvious he did not understand the question set. He argued with the lecturer stating that he could not return to India without his Diploma as he would lose face!!!! Now do you recall the disaster to the residents of Bhopal due to a failure in the battery factory?

I have often wondered if the engineer in charge had followed a similar route to obtain his qualifications. I also recall being told by one of my students in workshop practice that in India it was common to get a test-piece made for a student by a tradesman!!!

There is a programme on QuestTV.com.uk called 'Salvage Hunters' that we watch. Drew Pritchard scours the country, even over in Europe, for interesting items he can sell often needing work to be done by his small team to double the value. It is interesting to see some of the properties he goes to after an invitation. The properties vary from stately homes to an old type workshop alongside a canal. He will buy what could be called junk, but a padded Victorian Chair, quality castors fitted, is always worth good money. Having good imagination he can see a use for an item not obvious at first. One day he was offered an old rusty winch on cast iron legs. "I will give you fifty pounds if you cut the legs off." "Done" was the instant reply from the workshop owner. "Dad will do the job". Dad duly produced a 9" disc grinder and cut through the retaining bars with no trouble and he was 94 years old!!! When Dad is asked why he does not retire his answer is that he does, every night at 9.30pm.

One of our early club members died recently, Peter Rose a retired GP. He loved to be involved with engineering and dreamed of building a steam locomotive, but it was not to be. He did build a couple of electronic organs and restored music boxes, the expensive ones. He used to tell a story about his early days as a junior doctor in a hospital up North. One day he had to deal with a bluff North countryman and inform him that the problem was that the two lumps down below that everyman knows about, had to be removed. "Ee lad tha's not taking my manhood away"!! The surgical team gave this some thought and decided to find two lumps of rubber, duly sterilised and put in place before sewing up.

In the Newsletters from other Clubs
Blastpipe Petone Photos of Gavin McCabe's No 66 back on the rails after boiler repairs and Paul Barnes at the throttle of 'Florence' his late father's 'Phantom'. Occasional derailment of passenger wagon at a certain part of their ground level track has members confused as there seems to be no obvious fault in gauge or

alignment.

Maidstone Fires on the hill behind Maidstone Park definitely not caused by model steam locomotives as they were not operating that day.

Manakau Live Steamers Chris Drapers Kiwi Rail Dft is out of the paint shop and probably has had its trial runs by now. Greg Burrows 7¼" Mogul is for sale. Rob Loaders NZR Ds shunter is for sale. It is electric powered. Also there is a set of wheel castings and frames for a NZR Ka started by Ron Brown. In Havelock North there is a 7¼" Paddington for sale. It was being built by Scotty Johnstone. The boiler and chassis is complete, needs cab and tanks to complete it.

Hawkes Bay Model Engineers. Some of their members attended the Convention in Tauranga and they seemed to enjoy themselves while there. Work continues on the 7¼" rail extension and there has been steady passenger loadings on the running days.

Nelson Model Engineers Pond has been cleaned out. Members enjoyed the Tauranga Convention and are hosting the Convention in two years time.

Southland Model Engineers Some rather interesting photos of exhibits at the Edendale Crank-Up Weekend.

The Saga of Tr38 Part 4

By Neil Burn

Here we are in the Nelson Club's steaming bays. The Tr's fuel tank is full and the side rods and driving chains are oiled. We are ready to go. A couple of hours later and we have completed ten laps of the track and all is well.

I was surprised to see that the Tr had performed so well just as the full-sized one did at Greymouth so many years ago. Brought back a few memories.

I returned home to paint the cab and make the brass plates for the cab sides. I found some thin brass sheet and cut out the oval back plate and drilled the holes for the mounting screws. Next the surround, letters and numbers were cut out. Each part was cleaned up and tinned with soft solder on the mounting side. The plate was laid across the vice jaws and the components were sat in place. The plate was gently heated from below and once the parts had fused it was left to cool. Then repeat for the other side. The plates were then painted and fitted to the cab sides.

Small copper tubes were fitted inside the cab as

conduits for the wiring for the cab lights and the headlight. A driving truck is needed and that will feature in Part 5.



Editor's Note

Those of us who have got to know Richard Lockett well are aware of his love of native plants and wildlife. He at one stage made a 'Weta Hotel' but sadly some of the locals damaged it. He has plans underway to make another one that could be more securely mounted. However an event that took place on the 25th of February might see that project put aside permanently. We had two or three trees that had died and were becoming dangerous, ready to fall over. Chris and his little chainsaw did the cutting up and then they loaded the wood into Chris's vehicle. A weta that had been slightly crushed and consequently was not in a good humour bit Richard's finger and then resisted attempts to force it to let go. Richard came over to me and told me of the weta's assault on him and explained that all the attempts to make the weta let go resulted in it biting harder than ever. I told him that it is quite easy to make them let go, just fill a basin with water and plunge the hand and weta under the water. The weta then has the option of either breathe or drown and fortunately they take the former option.

Locomotion 2016

One of the biggest gatherings of locomotives and traction engines we have ever had. Good weather and great seeing old friends again. It is reassuring to see that grey hair is not confined to our own heads but also to others from other clubs. Great to see you all and as always a **Very Special Mention must go the team of ladies** who do such a wonderful job in the catering division. The supply of tea, coffee, iced water, biscuits, cake, filled rolls, and the BBQ on Saturday evening showed that they had taken to heart Napoleon's words. "An army marches on its stomach".



To see an online Video - Click below

<https://www.youtube.com/watch?v=OePldVJdFXU>

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