

# The Generator

Issue 465  
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**Palmerston Model Engineering Club**  
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Managers of the Marriner Reserve Railway - Marriner Street - Palmerston North  
PO Box 4132 - Manawatu Mail Centre - Palmerston North 4442

## The Palmerston North Model Engineering Club Upcoming Club Nights

26 March 2020

Due to the Covid-19 Virus this meeting is **CANCELLED**

Robert will talk about the basics of CAD (Fusion 360)  
+ Bits and Pieces

23 April 2020

Due to the Covid-19 Virus this meeting is **CANCELLED**

This is the club **AGM**. It will be held at the  
Hearing Association Hall in Church Street  
+ Bits and Pieces

**Note Robert will be standing down as club President.**  
**Also Think of the most deserving Club Member for the**  
**Compton Shield**

28 May 2020

Richard will tell us about his bike tour  
+ Bits and Pieces

## **Inclement Weather on Run Days**

If the weather looks a bit rough, squally, wet, wild or just iffy on the morning of a regular Sunday Run Day and you are wondering if trains will be running; then phone **Kerry Puklowski** and he will let you know if running is going ahead or has been cancelled. **Kerry 027-220-9030 or (06) 353-6189**

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

**Track running at  
Marriner Reserve  
Railway**

April 5<sup>th</sup> 5pm  
April 17<sup>th</sup> 1pm - 3pm  
**CANCELLED**  
April 17<sup>th</sup> 1pm - 3pm

## Club Night February 2020

Chairman Robert started the meeting by thanking all those involved with organizing "Locomotion" especially Cynthia (produced lots of spreadsheets – checklists so nothing got overlooked and things were well organized), The Lunch Ladies plus helpers.

The question was asked "How do we promote Locomotion better?"

Some suggestions were the "Square Affair", Giggle TV, Getting a Radio compare on site (but which radio station?) and the Manawatu Standard "Events and Entertainment Guide".

With the club AGM coming up members were reminded that new committee members are required.

### Reports on the Hamilton Convention:

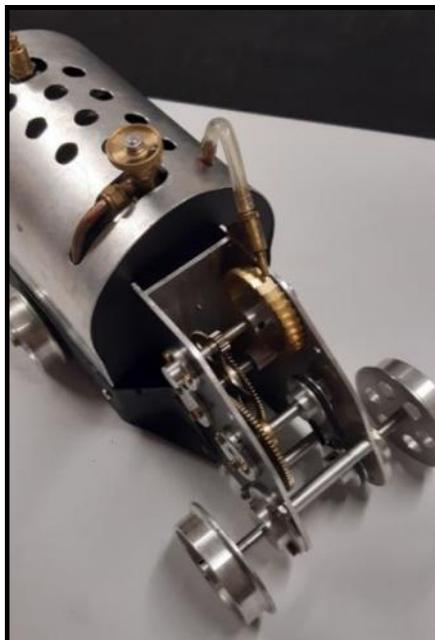
Cynthia read her comprehensive report.

David Bell was particularly interested in the discussions around building boilers, their certification and decreasing safety factors. There are many aspects of boiler certification currently being analyzed by the Powers that be.

Chris Morton talked about the difficulties they encountered trying to camp on site and how a good outcome was achieved eventually.

He noted how there was lack of other facets of engineering being mainly railway / locomotives at the event.

Comments were then made on the Les Moore Challenge: The wind was the downfall of 3 of the entries including ours





(Graeme Hall's) but the deserving winning entry from Nelson with a vertical boiler succeeded!

The next day, after the competition, Graeme's creation ran very nicely – well done Graeme: you put a lot of effort into it. One of the other entries blew its tin lid off (disqualified) while a 3D printed (nicely finished / streamlined) model, casing caught on fire. I'm sure that would have caused some excitement from the owner!

Fin Mason had on display one of Roy Hoods (deceased) partly completed projects, an electric loco – see the picture. If you are interested in this or a large collection of Model Engineering magazines please contact Fin for more details.

Bruce Geange advised us of the upcoming Manawatu Vintage Ag Expo for which he had produced the program with around 400 exhibitors. (Editor's Note: I went to this event which was fantastic. It was very well planned and organized with lots of space for parking and displays and the



bulldozer working displays were a real drawcard. To cap it off there were parades from many of the exhibits – tractors, attachments (fertilizer spreaders) from across the years, vintage cars, trucks, dozers, etc.)

Graeme Hall talked more about his Challenge entry which he called "The Thing". It was a very trying exercise with several design features on a knife edge for success: Tea lights, ventilation, friction, and turbine design. During testing, Graham noticed wet steam coming from the boiler so he added supper heater coils which was beneficial – an added complication in a tin can!

He also had on display a Kinner K5 5-cylinder Radial engine.



This had the crankcase assembled and gearing and cylinder heads completed. He gave an interesting talk on problems encountered and the solutions to them. Some discussion was had about the manufacture of piston rings which Graham has made many of.

The model was originally started by Jim Gardner.

Chris Bjerga displayed the work in progress of a 2-4-4 locomotive. Assembly drawings for this were non-existent so it was difficult "to plan" ahead during manufacture. He will be making the boiler next.

The committee has asked for club night themes / ideas please. (Maybe manufacturing processes, jigs and fixtures, etc??)

Lawrence Brooshooft requires "Don Young" magazines, to purchase or photocopy Please contact him on 021 837 078.

Merv George

## Stan Compton's Letter from England

When I arrived in New Zealand in the sixties I was put in charge of manufacturing air compressors, a new product for the firm. The castings were made locally and the other parts were imported from a well known in England, Now I was to discover that it was common practice to export reject materials. The valves and pistons were all right but the crankshafts sometimes were undersize or oversize where the flywheel fitted, it is important that these must be a perfect fit, being retained with a gib-head key. It is no good leaving the key overtight, an 18" flywheel will still come loose. When castings are being moulded-up it is usual to leave a riser in the form of a rod to vent gases out of the molten iron, usually in an unimportant place. I discovered that the foundry had used the top of the cylinder leaving porous metal. What a problem.

The boat pond at [Hereford Society of Model Engineers](#) often has something of interest on our running days but our problem is to provide access for the public. Enquiries have been made to have a bridge provided, but the cost to build one to modern health and safety standards is astronomical Maybe someday funds can be found, but this year the public toilets have now been replaced.

In 1985 my wife and I had a six-month retirement holiday in the UK as we were living in New Zealand then. We had the use of the house of a relative in Lebury, so I painted it at the same time. She was now a Warden in charge of a new block of sheltered accommodation for the elderly. This meant we were able to help out at local properties to allow the Warden to take a holiday. It was interesting to chat to women who had worked in industry in the Midlands.

One person told me of one of the best jobs she had in the thirties.

Do you remember when motor cars had a temperature gauge on top of the radiator? It looked like a pocket watch and was visible to the driver, cars would overheat in those days. Being a new product, the makers worked out a suitable price to pay for assembly. But due to the natural dexterity of the workers they soon found they could improve on the time allowed and take home good wages for once. Management had to accept this as they had estimated the time needed for assembly.

This reminds me of once watching a girl of about fifteen at a bicycle factory painting gold lines on the black frames of a better quality machine. She used a high quality brush called a Sword in the trade. The bristles were about 50mm long tapering from 12mm to zero. Paint was applied to a palette, the brush used

to work in down to a smooth paste. Now she loaded the brush, not too much paint, a few test-runs onto the palette. Then taking the bicycle frame in her left hand, the brush in her right hand, one finger steadying it, she drew a straight line down the frame tube just long enough. Flick the frame over to apply a parallel line to the first one. Then turn the frame and apply cross lines to complete that tube. What skill. She made it look so easy.

## Kinner K5 – Part 1 by Graeme Hall

Last year I received a box containing a partly completed Aero Engine, a ¼ Scale Kinner 5 Cylinder air cooled radial.

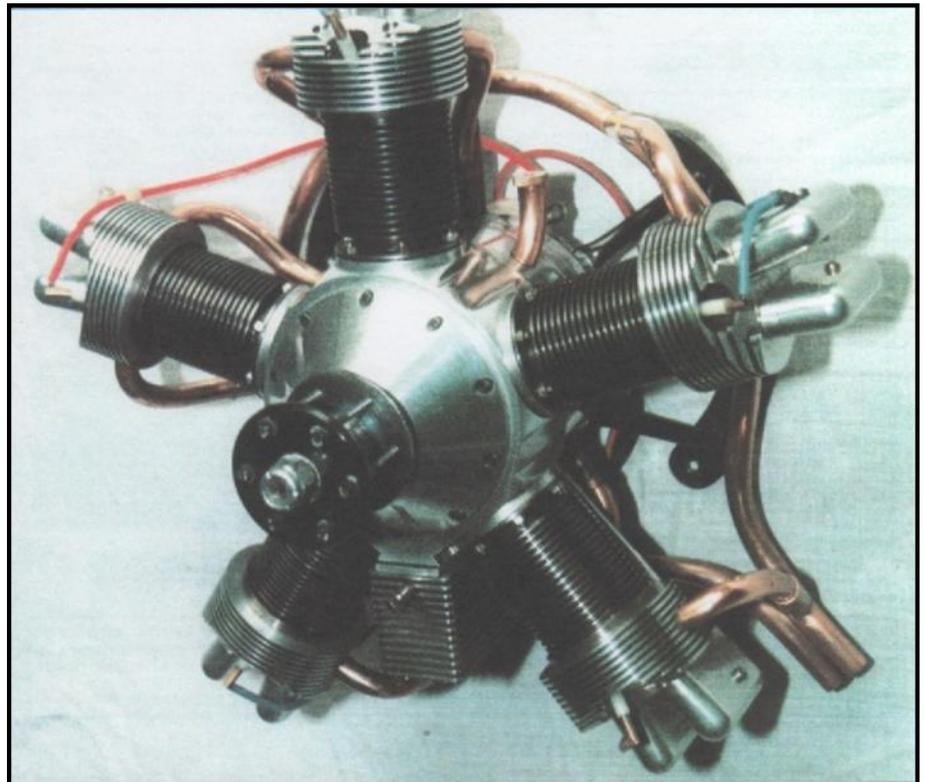
### History:

They powered many small aircraft up to primary trainers of Second World War era.

A 160Hp version powered PT22 training craft and many hundreds were made.

These engines of odd appearance, with slender cylinders on a small crankcase, made it look like it was all cylinders and not much else!

Rough running, rugged, reliable and easily maintained – suited the military.



### The Rebuild:

On inspection of the made up parts and plans, mistakes in construction were found, some due to measurement errors in the plans. As I have experience in building five previous radial engines (all runners) a decision was made to remake some parts.

Re-machining was necessary to reclaim the crankcase and the crankshaft, with a complete remake for the rear gear case, including five cam shafts and drive gears. The existing cylinders were re-machined to give a better appearance to the cooling fins.

*To be continued.*

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