October 2009
No 350

THE GENERATOR

Newsletter of THE PALMERSTON NORTH MODEL ENGINEERING CLUB INC
Managers of the **"MARRINER RESERVE RAILWAY"**
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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

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

Place stamp here

This Months Featured Model

REPORT on the September Meeting.

Our guest speaker, **Lawrence Brooshoft** spoke on the use of carbide tipped milling cutters on CNC milling machines. To get a reasonable tool life there must be no play in the table or in the bearings. An essential need is for the swarf to be cleared from the job and this is usually achieved with low pressure air jets.
Although the use of carbide tipped tooling is unlikely to be of great use to the average model engineer, it was interesting to hear of the direction the milling process is taking in the tool room.
Lawrence told of doing a job with a 1mm carbide end mill. RPM up around 20,000, away past the speeds of our mill drills. Very fine cuts are the norm for carbide tooling.

On the table for us to view was **Fred Kent's** O gauge 'Flying Scotsman'. Now it is beginning to look like a locomotive.
Brian Leslie showed us a 3mm drill that had cost him $145.00. It went through the treads on one of his tyres and then on through the sidewall ruining the tyre. If you have recently lost a 3mm drill it might not be a good idea to admit the fact to Brian.
Robert Edwards had a CD that he had made of photos taken by Bruce Geange, Chris Saunders and Murray Bold at the 2009 Model Mee exhibition. You may obtain one from him for $5.

FOR SALE

A Lux drill mill. It has eight speeds, and a three morse taper. It comes with a stand, 13mm chuck. The table length is 20 ¼", width 6 ½". Sideways travel 13" and fore and aft travel 6". It has a 1hp motor, colour is light green. Asking Price $1,100 ono. David Neilsen 06 3551520

A Morgan Mill Drill Apply to Bernie Coyne Phone 06 753 4528

WANTED

A vertical milling machine of the type designed to fit on the bed of a Myford ML 7 lathe. If you have one would you contact Doug Chambers, phone 06 354 9379.

October Monthly Meeting

The October Meeting will be held on the 22nd October, at 7.30pm in the Hearing Association Rooms, Church Street, Palmerston North. Doug Chambers will speak on the recent milestone achieved by the Boiler Committee, (over 100 boilers tested by the Committee). He will give a brief history of the work the Boiler Committee has carried out since the PNME clubs beginning. Richard will also explain the use of the New boiler codes. All boiler operators are requested to attend.

COMING EVENTS

Mid Week Run at Marriner Reserve Railway

20th October between 10.00 am and 2 pm
24th November between 10.00 am and 2 pm
Please contact Doug Chambers beforehand.

Track running at Marriner Reserve Railway

November 1st from 1pm to 4pm
November 15th from 1pm to 4pm

Open Weekends

Havelock North LS	Labour Weekend 24 – 26 October
New Plymouth	Labour Weekend 24 – 26 October
Tauranga 30th Birthday	7 – 8 November
Rotorua	12 – 13 December

The closing date for the next issue of The Generator is Friday13th November

THIS MONTH'S FEATURED MODEL.

The photo on the front cover shows Warick Leslie's first attempt at modelling. With access to a limited amount of workshop equipment, Warick decided to

make the model electric powered. The scale chosen was approximately one thirty-second and the model is based loosely on a John Fowler of Leeds 'Showman's engine'. Warick is completing a 'living van' to complement the traction engine.
The engine looks very realistic as it trundles along. The owner says that his next project will involve something aligned to live steam.

LETTER FROM ENGLAND

by Stan Compton

In a couple of weeks I shall be in the model tent at a local traction engine rally, the Hereford MES have supported this event for many years.
Now the public only want to be entertained, some simply glance at an excellent model of a stationary steam engine, simply not understanding the workmanship. However a pretty cardboard merry-go-round revolving to music really appeals. So every year I try to supply something different.
In the 4th July Model Engineer Jan Pidders describes a design he calls a 'coffee cup Stirling engine'. That should appeal to the public, not too much work, famous last words!!! We all know that friction is the killer of these devices. I had a pair of miniature ball-races ex Air new Zealand, no seals fitted, should be ideal. No such luck, they could not be cleaned, so I visited a local man who supplies Helicopter model kits, the only 3mm bore bearings he had must have been intended for the main rotor spindle. Later I found they had metallic seal covers instead of rubber ones that can be easily removed. Never mind we will see how we get on.
I was able to buy some graphite rod, ideal for the power piston but no clear plastic tube as used in Holland to package biscuits in for retail sale. No matter, I found a white substitute. What I could not obtain was any 2mm diameter silicon tube to seal the plastic tube in the grooves in the top and bottom plate, so I used Teflon cord instead. This requires a lot of pressure to seal so 4BA bolts replaced the screws specified; now we could pass the leak test under water. Now ready for trial.
Balance is important and I can report I did get this simple device to revolve, but only so slowly at about 30rpm. Those metallic seals were the problem; my $30 expense was wasted!!!!
Today it will not run at all so back to square one.

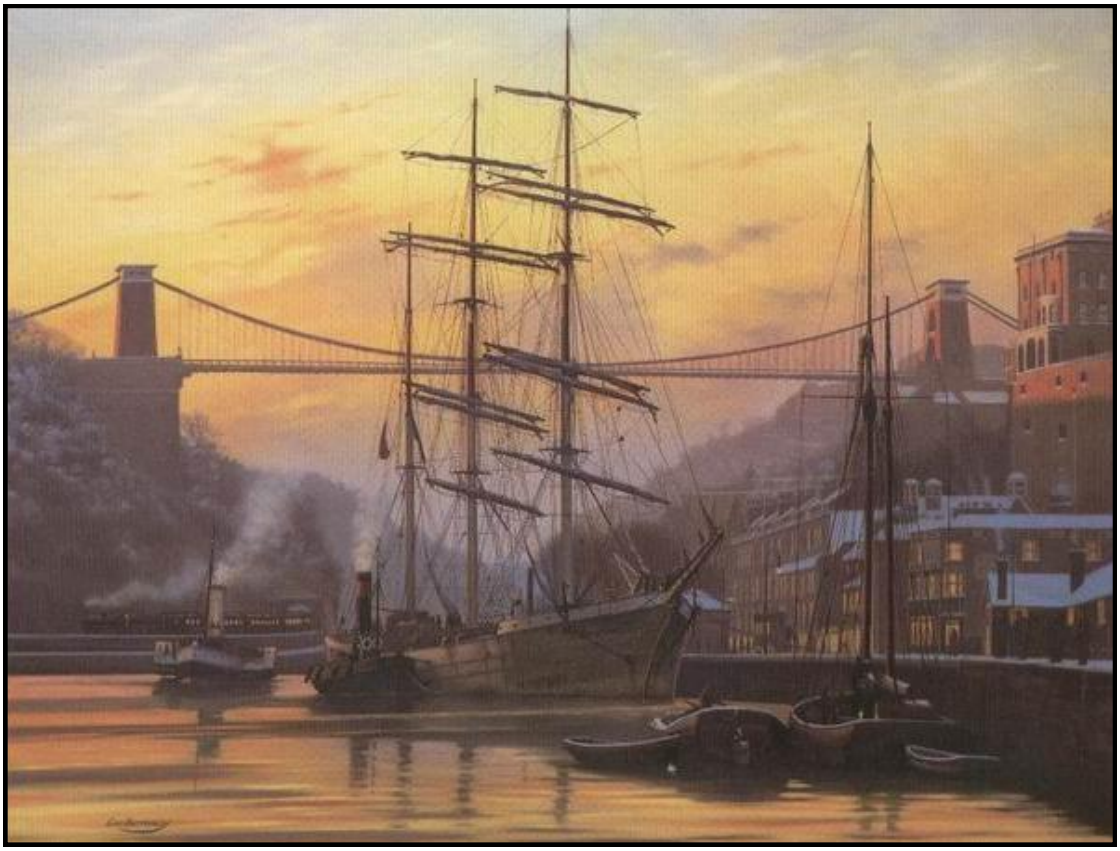
Two visitors to our track site recently, one a youngish man who had a 5" gauge kitset 'Prairie Tank' loco.
He had never driven on a track before so I found him a driving trolley suitable for the raised track. On examination of his loco I discovered that he had removed the springs carrying the leading pony truck!!! Why I don't know. I was not happy about this in case of a derailment , he had no idea why I was so concerned, but I did warn him to drive slowly. You can guess he soon began to speed up and because our raised track is well laid he had no problems. He was unaware that the previous weekend I saw the 'Maid of Kent' that I had sold to another club member, derail on a curve due to excessive speed and overweight passengers that I had tried to refuse a ride to. The 'Maid' finished upside down with the tender still coupled to the driving truck and the drawbar pin being unable to be removed. Luckily damage was slight but I think the driver learnt his lesson, the first time he has been off the track in three years driving that engine.
He did not heed my warning to drive slowly down the grade.
A club member from Mid-Wales arrived at the track site with a 'Simplex' he had bought. I knew the engine and found the steam certificate was out of date. The steam test only last one year with a

hydraulic test every four years for copper boilers. On checking the engine over I found the length of 5mm rod fitted into the hand-pump was bent due to load under pressure. Last year I had asked him to fit a heavier rod which he had forgotten to do. He believed it did not matter, but in use a sturdy handle is easier to use. During testing the gauge-glass blow down valve was found to be over tight and not easy to operate. I suspected the gauge-glass was too long as bubbles appeared after a blow down of the glass. This I pointed out to the owner who is new to the hobby, you would think that he would want to learn from someone with over forty years of experience and who would be only too pleased to give up the voluntary job of boiler inspector.

I forgot to add that the 'Prairie Tank' ran very well, as usual with a new driver they cannot believe how quickly the water goes down in the gauge glass. He kept steam up for over an hour to everyone's surprise, whoever assembled that kitset removed all the bugs. Our new driver had no idea that it was such a good loco. He had experience on the footplate on the Severn Valley Railway and he questioned me when I told him to fire the coal up under the tube plate, "We don't do that on mainline engines". I replied that we do or you will get a hole in the fire!!

Another visitor was a member we rarely see, he bought a nice looking 5" gauge 'King" class locomotive and wanted advice because it would only run in reverse and not very well forward. It appeared that the forward eccentric on the left hand engines had slipped and I am not looking for work like this. If that eccentric only has a small set screw to drive two sets of valve gear no wonder there is a problem. Of course the full-size engine would have had a key to provide the drive. Later I found that this engine had been purchased seized up and was that why the eccentric slipped?
The owner has a clerical background and relies on others for help. This very nicely built and finished engine was too tight in all the coupling rod and connecting rod bushes, probably a tool-maker built job.
PS. Coffee cup does run with a night-light!!!

Editor' Note.
In Stan's most recent letter to me was included this picture of a painting by Eric Bottomly. It is titled "The Avon Gorge" . The detail in the painting bears a very close inspection. From the bare trees on the left we can deduce that it is winter. The roofs of the building appear to have a coating of snow. A steam tug alongside the barque, is she assisting in berthing or is the sailing vessel preparing to be towed out. Note the old side wheeler tug and behind the express train. The suspension bridge in the background, worthy of being painted in its own right.



A picture I would be happy to have on a wall in our lounge, unlike the rubbish that is displayed in galleries today and called 'art'.
I remember reading of a 'modern' painting bought in France by a wealthy American who sent it back to New York where it was displayed in a prestigious Art Gallery. There it was hung and displayed with pride and reverence for three years until a visiting French art critic pointed out to the Head Custodian that the picture was hung upside down!!!!

BOILER PRIMING

Bren Campbell

In the August copy of The Generator Doug Chambers presented an informed article on priming in locomotive and traction engine boilers and mentioned an incident of priming in which a cylinder cover of a "Ka" locomotive was blown out. Yes, all locomotives tended to prime if the water level was allowed to get too high when attacking an up-grade typical of that north of Feilding.
The problem was exacerbated if the boiler was nearing washout time.
The "K" class locomotives were surprisingly tolerant of high water levels such as three quarters of the glass even when plunging straight into the heavy shoulder work heading north out of Taihape. But that level of water in the new "Ka's" was a no-no, they promptly lifted the water and the cylinder relief cocks let off mighty blasts. If there was too much for the cocks to cope with, out went a cylinder cover. Instructions were quickly posted in the drivers' rooms to maintain lower water levels in "Ka" boilers. While the "K" boilers were free steamers the "Ka" boilers were notably smarter and really masters of the cylinders. It was known that water circulation was somewhat restricted at the firebox to barrel throat plate in the "K" boilers and this may have been modified in the design of the newer boilers but cannot vouch for that.
The "A" class compounds were most spectacular when they primed. If they were just starting off when water carry-over occurred they would do a mile a minute on the spot and when the water/steam passed through the double expansion system and roared up the blast pipe and funnel, a local rain shower was created independent of the weather forecast.
The "Ka's" presented another little trick too. Their air brake controls were more modern than those of the "K's". The straight (engine only) brake valve was different from those of the older engines, also the train brake valve was set to create a higher initial application thus when braking for stops the driving wheels had a tendency to sledge, which if the associated brakes were not promptly released wore flats on the treads. The "K's" as in all of the NZR locos had a brake cylinder release lever located just below the drivers' cab window sills so that if the wheels picked up it was a simple matter to bleed off the brake cylinder pressure to release the wheels. The "Ka's" did not have this feature; instead the driver had to place the straight air brake lever to full release to achieve the desired effect. Thus in this relatively mild emergency situation one had to forget the time acquired right hand habit and do a left hand grab for the appropriate brake handle. In the meantime two or three of the then new "Ka's" thumped their ways around the country.

BOOKS DONATED to the LIBRARY

Dick Griffiths has recently donated a small suitcase full of books for the PNME club library.
All are to do with railways both here and overseas.
As club librarian I felt that I should have a quiet read through first and then I would be well placed to write a few notes on each so that you can select what may be of interest to you.
All these books will be added to the library system for members to request and borrow.

'More Footplate Memories' by Rex Hercock. A well known NZR driver recalling incidents from his time at the old Palmerston North depot.

'How North British Built the NZR's J class Locomotives' by the NZRLS. A very interesting soft covered book on building the J class. Most of the photos were taken by North British's Company photographer.

'Single Track' by R.S. Fletcher. This covers the building of the Main Trunk line from Auckland to Wellington.

'The Sanson Tramway' by K.R. Cassells. All about the building, operation and closure of the tramway that ran from Foxton to Sanson. A very interesting read and inspires one to drive the Main Road between these towns to see if any identifiable relics remain.

'Vintage Steam' by Frank Roberts. Frank writes about his experiences driving, 'F', 'Fa', 'L' 'Fairlie R', early 'J' 2-6-0, and 'Aa' class locomotives.
A very interesting look back at the way things really were!!!!

'163 Class F locomotive' by R.B. and E.R. Alexander. An informative book on the 'F' class locomotives with special attention given to No 163.

'Working With Steam' by Kevin Crosado. With the aid of some excellent photos Kevin tells of the 'glamour'? of working with steam locomotives.

'Jubilee Selections' edited by P.F. Dyer.
A selection of items taken from the N.Z. Railway Observer. 'H' class Fell locomotives, Locomotive developments 1933-43, 'A' class compounds, Waihi Goldmining Company, The Glen Afton Branch, The Egmont Collieries Tramway, Nelson Section,

Portland Cement Works, 'Ew' Electric Locomotives, The Mills 'A' class locomotives for Public Works and The Catlins River Branch.

'Articulated Locomotives of the World' by Donald Binns. Garratts, Fairlies, Kitson-Meyer, Mallett, Heisler, Shay, Climax, Du Bousquet, Golwe Articulated and New Zealand Bush Lokeys. Excellent photos and very interesting text.

'The Man From Steamtown' by James R. Adair. The story of F. Nelson Blount, the man who wanted to run a Railway and finally did. The result was Steamtown, USA in Vermont which housed about 100 steam locomotives and railroad cars of every type.

'Veterans in Steam' by Colin Garratt. The last survivors of steam locomotives in East Germany, Austria and down through Southern Europe to the Middle East,

'W.G. Bagnall Ltd' edited by Andrew Neale. A reprint from their 1910 catalogue of Narrow Gauge locomotives and Rolling Stock. The catalogue shows locomotives with all sorts of wheel arrangements, tank and tender ranging from 18" inch gauge to 5foot 6inch gauge.

'New Zealand Railways The first 125 Years' by David Leitch and Bob Stott. Covers from the beginning through to near the end of NZR, just before privatisation.

'Awdry's Steam Railways' by Christopher Awdry. Very good photos of steam locomotives working on various preserved railways in the United Kingdom. Supported by a very well written text.

'On The Old Lines' by Peter Allen. A selection of photos of locomotives taken around the world with a very good text.

'Getting Under Way' compiled by David Lowe. A soft covered book containing photos of sailing ships, coaches, bullock teams and some of the very early locomotives seen in New Zealand.

Bridge under Repair

Richard Lockett

September has seen work undertaken on our two steel bridges at the Marriner Reserve Railway. S and V (Structures and Vehicle) inspections have identified some issues to do with rusting of masonry anchors and bearing pads. A potential hazard has been identified with regard to gaps in the wooden decking, also picked up by a MEANZ audit inspection.

The Levin Bridge has had new clips fabricated, hot dip galvanised and bolted to the abutments by 12 mm thru bolts; these locate and hold down the steel bridge. The decking issue has proved to be more of a challenge with the gaps in the decking being there for a reason due to the thickness of the wooden deck relative to the height of the rail. The rail has an aggressive amount of superelevation on it due to being curved across both bridges. After considerable thought it was decided to halve the amount of superelevation on both bridges to keep in line with what we have been doing on all the reconstructed curves on the railway. This allows the 25mm thick decking to be attached right up to the inside rail. This task involved removing a 6 x25mm steel strip used to partially cover the existing gaps and rewelding it to the inside of the 3.5" rails. Cut the welds holding inside edge of each steel sleeper to the bridge, pack with 5mm packer and reweld. Weld some new cleats to the steel structure and bolt on new wood decking. These bridges are now 20 years old and the wooden decks are in very good condition, no rot at all.

Club Christmas Dinner

26th November 2009,
7:00 (for 7:30) pm, PN RSA

Those of you who were at the last dinner at the RSA (2007) - it won't be like that !
The RSA catering is under new management. Three of us (Cynthia, Bruce & David) have been to a similar gathering there since the change and found it very good. So, we have chosen the same menu (at the same price) as on that occasion (i.e. buffet, good conventional food, tested and proven). We have a corner (the dance-floor) to ourselves.

Palmerston North RSA, Broadway, (dance-floor area, beyond the bar), from 7:00 pm for dinner at 7:30.

Price **$25.50** per person (pay on the night), drinks from the bar (extra),
We need to let them know actual numbers, so please let's know if you're coming as soon as you can. e-mail: **Newstead@clear.net.nz,** phone David at 027 4576175 or Murray at 3557000. Alternatively add your name to the list next Club Night, 22 Oct.

David Newstead