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No 356

THE GENERATOR

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

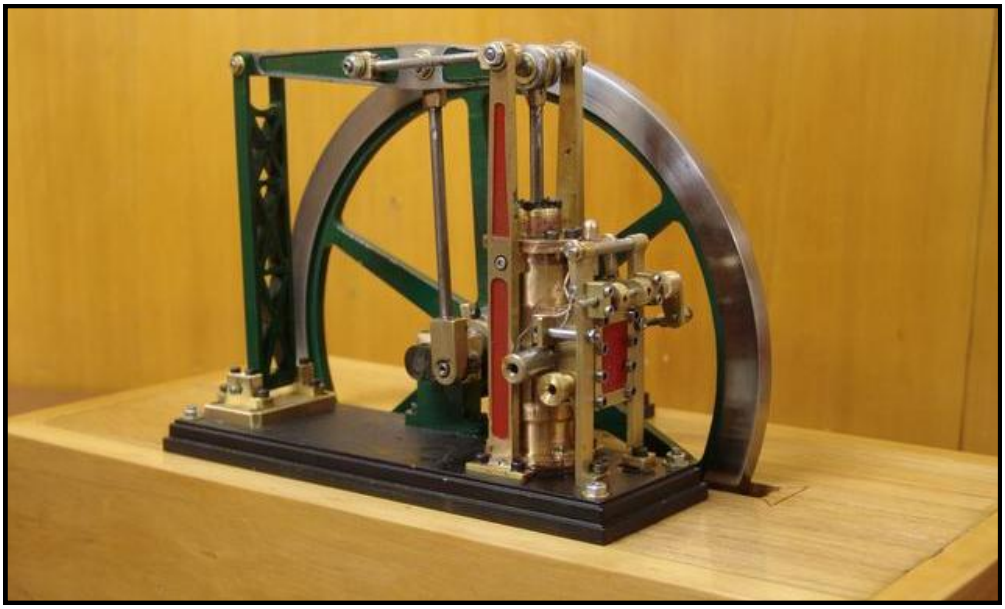
This is held on the FIRST and THIRD Sunday of each month, from 1 pm to 4 pm Summer and 1 pm to 3 pm during the Winter. All club members are welcome to attend and help out with loco coaling, watering and passenger marshalling - none of the tasks being at all

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 AGM

The Annual General Meeting again passed through the separate phases, reports and elections were soon over and now the Officers and Committee are leading us into the next financial year.

The election of officers resulted in the following.

President	Richard Lockett
Vice-President	Cynthia Cooper
Secretary	Stuart Anderson
Treasurer	Murray Bold
Committee	Robert Edwards
	Fin Mason
	Chris Morton
	Dave Newstead
	John Tweedie.
Editor	Doug Chambers
Librarian	Doug Chambers
Track Convenor	Richard Lockett.

The boiler committee is appointed (not elected) and the four members are continuing for another year. They are Doug Chambers, Chris Rogers, Ken Neilsen and Richard Lockett.

The recipient of the **'Clubman of the Year Trophy'** was Richard Lockett in recognition for the continuing hard work he puts in maintaining the Marriner Reserve facility and organising safety audits of the PNME operation. He is also an area safety auditor and has assisted clubs in the Wellington & Hawkes Bay to maintain safe operating standards.

With the official part of the evening over members attention was drawn to some models displayed on the table.

John Tweedie had his recently completed beam engine.

Ian Stephens had his Vertical Cant Saw or Deal Frame Saw. After the log had been squared up by the breaking down saws it was put through the multiple blades of the Deal Frame saw which produced the boards to the size required. Ian had a sample piece that he had cut in the miniature saw and it showed that the model was working after the fashion of the full-size.

Bruce Geange had parts of the Caterpillar D 8 that he is making. Bruce has overcome the challenges of producing realistic track components and is moving on to the axle and transmission housings.

Les Fordyce had the last of a series of Paving stones that he has made. This one has a mosaic of the Feilding Rail Wab and coaches on coloured tiles.

Ian McLellan had the boiler and components for a 'Tich'.

Barry Parker had photos showing progress with the 5" gauge 'Mountaineer' that he and Doug Chambers are building as a joint effort.

MAY MONTHLY MEETING

This is to be held at the

Manawatu Mail Centre

(This is adjacent to the PN Railway Station)

Please be ready for the tour at 7:25pm

Closed footwear is an OSH requirement.

COMING EVENTS

Mid Week Run at Marriner Reserve Railway

25th May between 10.00 am and 2 pm
Please contact Doug Chambers beforehand.

Track running at Marriner Reserve Railway

May 2nd from 1pm to 3pm
May 16th from 1pm to 3pm

Note:- We will need helpers this weekend as many of our members will be at the Thames Open Weekend

Open Weekends

Thames Small Gauge Railway	15 -16 May
Manakau Live Steamers	5-6-7 June

The closing date for the next issue of The Generator is Friday 11th June

Trolley Skirts

Kerrin Galvin

With progress moving along at a snails pace on my 2 new driving trolleys, due to other domestic chores. Thoughts have been given to what to put between them when coupled to run as a unit to prevent hands feet & maybe even the odd heads getting put between the trolleys but made in such a way as to make them easy to install & remove when required. To date I have not seen many offering's & one or two leaving, in my opinion, much to be desired (which way round does this thing go ?????)

One day while out driving I had a bit of a eureka moment while sitting at traffic lights when I looked at the gear shift cover in my Rav. I remembered seeing an article in the Model Engineer on how to make a bellow cover. A search of my Model Engineering database finally turned up a 2 part article on "Origami in rubber". I hunted down the articles in my back issues & had a read. I thought the approach had merit but that there must be something else that was better.

By chance about that time a flyer arrived with the then latest copy of Model Engineer in which was a picture of a machine bellows. Google searches then followed & finally I found what I was looking for a New Zealand company that makes Bellows to order!

The company is the Bellows Company Ltd, (usual disclaimer other than to be a happy customer) You can find them on the web at, www.bellows.co.nz From there you can check out some of there products & download a form to sketch out dimension etc for your requirements. They are only too happy to answer questions and if the following pictures don't answer your questions then its quite likely that they may be able to send you out a sample bellows for you to look at.

After exchanging a couple of phone calls & emails and settling on dimensions an order was placed for the bellows shown below. They have four rare earth magnets on each end, 2 each side, I think they can benefit from 2 more each side on the top & after using them a couple of times will have them installed. While looking at the pictures just a couple of things to note,

I had them made a bit long & figure that I may get 2 out of the one

That I have sized them to completely cover the gap between my trolley's on my design

Picture 1 shows a side mockup shot of the Bellows fitted between 2 trolleys at Palmerston North, neat tidy and very easy to fit

Picture 2, a shot from the top. Now before you all jump & down and go "A-HA they don't work"

Then you will be pleased to know that I didn't have enough bits of steel to put on the inside of the aluminium end plates for the magnets to gab!

My keys are visible in the next picture! Once again neat & tidy don't you think?

Picture 3, There you go, keys, proves that these magnets are strong & can really grip through the ali, and they do!

Ok now a bit of info on the bellows themselves.

The team at Bellows offered 2 options for what I was after one was PVC, the other Polycarbonate.

I opted for the polycarbonate.

Why? Well because of the following "Three sided Polycarbonate Bellow – Ridged material.

If you can make the three sided one work for you it would be a lot better than the PVC because it holds its shape and it looks very tidy."

There are a couple of options on how to fix them to

what ever ….
Magnets were my choice for ease of fitting, etc. Velcro, a bit more fiddly to fit but still relatively easy. It may also be possible to fit them using twist buckles but I didn't explore that option

The pleats are 25 mm high, the bellows are quite ridged. Basically you can have the pleat any size you like, but I figured that at 25 mm they look about right in our size. There is a + - 3mm tolerance on Dimensions, so factor that in when working out sizes. The length between trolleys is about the hardest to figure as far as allowing enough size for the bellows to open out, as I said above I think I can make 2 out of mine & still have them work, I just have to finish both trolleys to see!

So there you go, if like me you have been wondering what to put between trolleys to prevent accidents then this has to be a great option.

THIS MONTH'S FEATURED MODEL

Half Beam (Grasshopper) Engine

The engine was built from plans and instructions published in Australian Model Engineer (AME) in 2008-09 (issues 141-145). It is based on an engine that was imported into South Australia from Britain in 1840 by John Ridley. It had apparently been used in Britain to drive a timber mill, but in Adelaide was used to power a grain mill. The plans were drawn from a photograph of the engine at an exhibition in 1915 but the prototype has since been lost.
I had always wanted to build a beam engine and was attracted to the motion of the half beam design so when the construction series appeared in AME it seemed like a good opportunity. The first job completed was the flywheel that was made using the rotary table on the mill. My lathe was too small to swing the 260 mm disk of 12 mm steel that I had cut by a friend at a local engineering shop. The job was eventually done but it is not something I would recommend or do again myself. The rest of the job went reasonably smoothly apart from the odd hiccup and mishap, mainly due to my inexperience.
The key to getting a smooth running engine is to have the distance of the pivots of the radius rods of the parallel motion exactly the same as the distance from the pivot on the beam to linkage to the piston rod. The rods were clamped to either side of the beam and drilled through the assembly to locate the pivot holes.
The engine ran quite well on air after initial set up but needs a few tweaks. The slide valve rod only has a bushing on one side of the steam chest and the valve lifts a little. The engine looks quite well and I do like the motion. I am tempted to put a small electric friction drive to the flywheel under the base for display purposes.

John Tweedie

THANK YOU from ENGLAND

by Stan Compton

To all our friends and relatives in New Zealand
How can we thank all of you for looking after us, driving us around, feeding us with some great company, we shall remember our trip for a long time. Such a pity we missed seeing some old friends in Palmerston North and Feilding, also our dates got confused and we were unable to meet up with my sister Muriel and her family in Hawkes Bay. As one gets older flying gets harder to cope with, modern planes are so good but to sit for a 14 hour hop from Dubai to Melbourne sees my knees seize up. During the quiet time when everyone tries to sleep I had to get out and stand up to rub my knees before I could move. I apologised to the woman in the seat behind me, "Don't worry luv, it gets us all the same," in a Brummie accent, Birmingham being our destination. You would not believe the trouble I get into going through Security at Airports, I am a belt and braces man and I dutifully put my outer garments into the tray provided. My spare cash and keys in my flight bag goes through the tunnel no problem, but every time I walk through the archway a warning sounds, 'this old man is a dangerous criminal' is the inference. "Step to one side please" then I am searched with a sensitive detector "Beep Beep" it goes, the man's face lights up, my braces!! "Please remove them and place them in the tray". This time I walk through the archway and am clear, luckily I was not asked to remove my belt as well!!!!! Anne did enjoy meeting all her old workmates from Palmerston North Hospital, something she never expected, so thank you Jim, Cheryl and the team for organising it.
Thanks also to our family in Wellington and Auckland, plus Cheryl in Palmerston North for finding us a bed, also the kind souls who gave Anne a birthday party, this was the big one, mores' the pity. The Palmerston North Model Engineers, who transported me to Monrad Park where the railway track I helped to build is now so tidy with many native trees.
To all our friends who came to the empty railway station to see us off on the 'Overlander' a big thank you and a worthwhile trip. Our daughter Jane met us in Auckland and Anne's niece \Elizabeth met us at Birmingham Airport, this was so welcome. Now we are back to cold nights and bright days.

LETTER FROM ENGLAND

By Stan Compton

Probably thirty years ago Gavin McCabe brought a visitor from the Isle of Man to my workshop in Palmerston North. He arrived in Wellington, a ship's engineer who had built a 5" gauge 'Isle of Man Railway' 2 -4 -0 tank locomotive.

His drawings were published by Don Young in his 'Locomotives, Large and Small'.

Now recently a Hereford club member was disposing of his large 7 ¼" gauge (3 ½" bore) tender locomotive built to 'Thomas 2' drawings.

The drawings and castings are now no longer available. Someone from the Isle of Man who is new to steam locomotives was very interested in the engine and subsequently bought it. Prior to this I wrote to the man I had met years ago, knowing he would be involved in the local group, and explained to him that I had watched the engine being built and the commercial boiler was of first class construction, regularly washed out and treated water had always been used.

Even so the purchaser wanted an independent boiler test and I was able to witness this examination after first doing a hydraulic test to this five year old boiler built of 10mm steel plate. The tester had a device that cost $8,000, this showed minimal internal corrosion but some scale was to be seen with and endoscope on the firebox crown. Our local water pressure is 90psi, yet it had failed to reach this spot due probably to the lack of a manhole, just washout plugs being fitted.

This reminded me of a steel 'Romulus' boiler I had to condemn because the washout plugs were covered by the mainframes. When it was acquired the gauge glass blow-down was OK, the rear of the foundation ring was clear but not the sides, even with this blockage the engine made plenty of steam.

One of our club members has just completed a 7 ¼" gauge 'Hunslet' quarry engine and wanted advice on putting the lining on the tank and cab. He was not getting good results with a borrowed lining wheel, maybe he was not using new enamel that goes with the tool. Maybe the finish was too glossy, I get good results with a draughtsman bow-pen, proper lining brushes are hard to obtain and need a steady hand and a lot of practice. I recall watching, many years ago, a young girl in a bicycle factory painting the gold lines on bicycle frames; she made it look so easy. Her brush had bristles about 50mm long, once loaded with paint, guided by one finger two parallel lines appeared like magic, the best bit was the joining-lines across the frame tube, perfect. Many women have a dexterity men have no hope of achieving, at the same factory the women lacing and truing bicycle wheels had to be seen to be believed, the speed of the operation while talking to their neighbour was amazing.

Always I have built the tender first before the locomotive, especially important for a first attempt, machining and fitting axle boxes is good practice, a slight error being unimportant. Also a completed tender, in primer is always a saleable item and is ready for use when the locomotive is completed.

I heard of someone, keen to steam his new locomotive had no tender so he made a lash-up with an ice cream container perched on the driving truck. You can guess what happened, the lash up failed and the driver ended up back at the station with wet trousers to ribald comments about a weak bladder!!!

Do any of you remember a moped called a 'Norman Nippy'. In 1956 I was put in charge of the assembly line, I had no idea of the problems to produce such a modest machine of quite acceptable design by a German firm. You will all know that bicycle saddles are mounted on a tube secured by a pinch-bolt and can be raised or lowered to suit the rider. Imagine if the bore is undersized as I found some of the imported frames to be. Add to this a few thousand saddle tubes that were found to vary in diameter by up to twenty thousandths of an inch. This was why I found them being fitted with a heavy rubber mallet, leaving no hope of adjustment later.

On complaining to the management I was told that in the old days producing the 98cc 'Autobyke' it was common to turn the machine upside down to drive the saddle tube in!!!

I later learnt that the factory in Germany our materials came from, 70% of the total product, had no roof. If it rained the machinery was covered to protect it. The German 'Sachs' engines were no problem, I do not recall a single failure, so credit to that German firm which exported the best.

One other problem was the fitting of the handlebars, imagine a stack of 20,000 and all rejected. The taper for the expander plug, the usual method used to tighten the handlebars into the forks, was not the same as the handlebar tube. Consequently the firm got reports of loose handlebars causing accidents. Why had I not found this out?

Well on assembly the bolt was just nipped up for test on a set of rollers, then stored before sale.

I made a list of fifty items that needed attention and distributed it to every head of departments concerned. This resulted in me being 'stood on the carpet' in front of the General Manager. After obtaining no help I left for pastures new!!!

OF INTEREST (Perhaps)

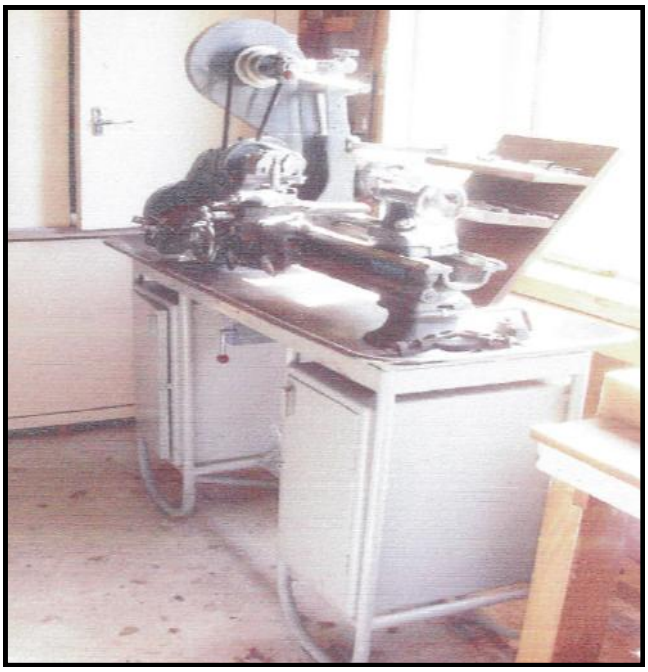
By Doug Chambers

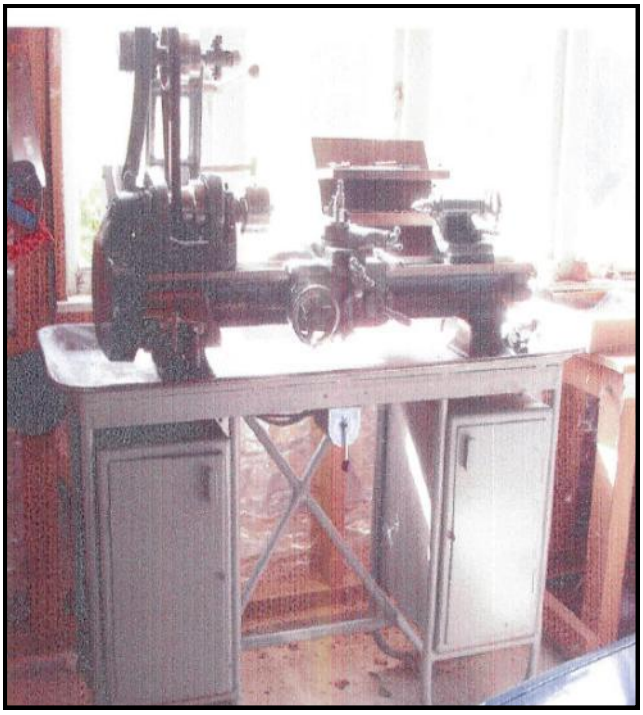
In 1963 The Norton motorcycle works in Bracebridge Street was closed. Bought out by the AMC empire who continued to produce Norton motorcycles along with Matchless and AJS at their Works.
A lot of Norton's machinery and plant was taken to the AMC works and a skeleton staff was left at the Bracebridge Street works to clean out the factory. Crankcases were broken up with sledge hammers and all the scrap went to Francis Fletcher Metals, everything from castings to shelving.

During the clean-out an urgent phone call was received from the AMC works, where the multi-spindle drill that processed the Norton Dominator crankcases was playing up. About three hundred sets of crankcases had been scrapped because the drill for the central bosses wouldn't run true.
Bob Collier, one of the clean up team was asked to find the multi-spindle operator (who had been made redundant) and ask him how he had coped.
When he called at the man's home and asked what might be the cause of the problem the man thought for a while and then said, "Didn't they take the plank with the drilling machine ?"
It turned out that the old machine had a lot of play in the spindle and this had been taken up by holding a long plank against it to prevent it from chattering.
Such was the state of the machine tools that were being used to produce components in one of the British industries legendary companies.
Of course it wasn't very long before AMC too folded up, and Norton, Matchless and AJS all became legends of the past.

Your Editor owned a 1964 Norton 650cc twin and no doubt the crankcases were machined on that old multi-spindle drill. They must have been using the 'plank' when my crankcases were drilled as I never had any problem with the engine.

For Sale





The above lathe came out of the old Ag Engineering workshop at Massey.

I used to work for Stan Compton there and successfully tendered for his old lathe when they sold them off.
It is in great order and comes with - 3 jaw - 4 jaw - travelling steady- live centre- dead centre - tailstock chuck and tool holders.

I am looking for $2200 or very near offer which is what I paid for it.

Thanks, Paul Turner
Ph 355 9204 or 021 134 7978