



Newsletter of THE PALMERSTON NORTH MODEL ENGINEERING CLUB INC

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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 onerous.

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
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This Months Featured Model



REPORT on the July Meeting.

The theme for the evening was "A recent workshop disaster and how you overcame it".

Bruce Geange led off. He is making a large model of the Makatoke rail viaduct. After making 51 parts for the deck they were found to be 1/2" too long.

All had to be re-drilled and shortened.

Bruce has also made a model of the Taupo Totara Timber Co Mallett locomotive in O gauge.

He showed us a left – hand cab side. Due to a distraction in the workshop he managed to make two left hand cab sides instead of a left and a right. He also showed us a connecting rod (too short) and the original boiler shell which was too big.

Ian Stephens showed us three of the four crankshafts he had made before getting one he was happy with.

Robert Edwards said that even after Richard's talk on setting things up in the mill he still had a disaster due to not getting the milling vice square on the bed. Result, two ruined parts for the NZR 'F'. Also reported that the workshop door suffered a severe battering from a job held in the lathe chuck.

Stuart Anderson was making a draw-bolt for his collet holder, job came loose and the job was scored and the milling cutter damaged.

He also reported having the misfortune in having his milling machine vice break, a repair was attempted but sadly the final resort was purchasing a new one.

Richard Lockett showed us parts for coupling rods for the recently completed NZR 'W'. Due to an error in reducing the NZR drawings to scale and in going from Imperial to Metric the rod didn't come out right. Start again!!!

Dick Archer. Showed us the Eureka Tool he made. This device is used for 'backing off' homemade gear cutters. It has two eccentrics but due to a mistake Dick got them 180 degrees out so the tool worked opposite to what was required.

EDITOR'S NOTE the above show that everyone, no matter how skilled makes mistakes. Through the mistakes we learn how to avoid repeating them. If anyone claims they never make mistakes, then it is probably because they never make anything!!!!!!

ON THE TABLE

Ian McLellan had some very old photos of NZR locomotives, some dated back to 1909.

Doug Chambers had a boiler (unfinished) for a 5" gauge 'Climax' bush loco. He explained how an idea from Merv George was used to make the taper section of the boiler barrel.

Chris Morton had the internals of a gearbox and differential.

August Club Night

7:30pm, Thursday 28 August 2008

Hearing Association Rooms

Church Street, Palmerston North

For your enjoyment, delight, appreciation, entertainment and delectation the theme of the August Club

Night will be:

Iron & Steel and Vices & Cracks

There will be a talk, address, discourse, presentation, oration and workshop on the above subjects.

Come one, come all. You are sure to hear something that will enlarge your knowledge, enlighten, instruct and inform you.

COMING EVENTS

Mid Week Run at Marriner Reserve Railway

26th August between 10.00 am and 2 pm
Please contact Doug Chambers beforehand.

Track running at Marriner Reserve Railway

September 7th from 1pm to 3pm
September 21st from 1pm to 3pm

Open Weekends

New Plymouth Labour Weekend
Keirunga Park Labour weekend

The closing date for the next issue of The Generator is Friday 12th September

RAIL-X 2008

PNMEC were once again invited to operate our portable track at the biennial model railway expo. This always promise's to be a cold wet weekend but it's really the only time it's worth operating the portable track from a financial point of view. It's always a bit of a challenge for the club to provide opportunities for younger members to get a decent amount of time to learn and gain experience operating our steam locomotives. We took this opportunity to provide some quality time for Bradley Parker and Daniel Mason to operate locomotive "Robyn" in a controlled environment up and down our 50 metre's of portable track. 23 Km's were covered over the weekend with Bradley being in charge of the loco for 9 hours and Daniel 3 hours. It was interesting watching their confidence grow over the weekend as the management of the fire and water became ingrained in the grey matter. We did get wet but it wasn't too cold this year and we made a few dollars. A big thanks to all who helped and especially our locomotive engineers.



THIS MONTH'S FEATURED MODEL.

By Ian Stephens

After finishing my last model I asked Doug Chambers what would be the next challenge. He suggested a 20 x 20 vertical steam engine. I was keen to get my head around the valve gear, but that in the end did not prove to be much of a problem. The crankshaft caused a bit of strife. The fourth one turned out perfect. The flywheel hub I machined to form a pulley. On the valve eccentric side I also put a small pulley. This little engine has a future to drive a 'deal' frame vertical mill saw. I believe there is one in Taihape. If I can get a photo of it I will be able to build the model from the picture. Thank you Doug for the 20 x 20 idea.

LETTER FROM ENGLAND

By Stan Compton

Rarely in a Museum do we see examples of model engineering with the name of the builder mentioned so it was a pleasure to examine the result of the lifes work of a Mr Trotter of Coleford in the Forest of Dean, near Gloucester.

The folk museum located in Westgate, in the City of Gloucester is not far from my home. Located in a Tudor building about 500 years old, there is much of mechanical interest to examine.

www.gloucester.gov.uk (folk museum). Near the ground floor entrance was a glass case containing a five inch gauge kitset model by Carson, of about 1900, of a 'Stirling Single'. The model, which looks very authentic, had been completed by this Mr Trotter after the original purchaser had given up on the assembly, nothing new in that is there? Years ago I have read our old mentor L.B.S.C. writing about converting Carson engines to run on coal firing instead of meths, so I doubt that the 'Stirling Single' was ever run on a continuous track. Also displayed was a 2" scale compound traction engine, although free-lance it is very authentic with much fine detail work. The builder wanted to include what he considered were the best features of various makes so we have a General Purpose engine with Marshall radial valve gear, Clayton and Shuttleworth crankshaft bearings and McLaren hind axle bearings! Named 'Lord Raglan' this engine was stated to have taken 6000 hours over a period of twenty years, this is possible with working drawings to produce, patterns to make etc. It was obvious time did not matter in the construction of this model, his aim was to produce the finest work with limited resources.

In the same glass case was a 1 1/2" scale model of a Kitson and Hewitson' clip drum ploughing engine showing the same attention to detail as the traction engine. It appears that a full-size engine was being used in a local sawmill to produce steam to run the sawbench. Now here is a challenge, to measure an original engine and produce working drawings long before the same engine was described in 'Model Engineer'. Remember he cannot measure the internal items like the valve ports etc., these like the boiler have to be designed to suit the project. Also on display were two one inch scale models, a showmans road locomotive and a portable engine, the latter complete with shafts to enable a farm horse to move the engine on the farm, again showing attention to fine detail. As one would guess all the models are showing the patina of age with little bright-work visible, so the average visitor

would probably hardly give the work a second glance. Now the real challenge of our Mr Trotter is his free-lance 'Steam Roller' now called '1 ton', painted and lined out with the builder's name on the water tank. It is powered by a twin cylinder steam engine of



2.75" bore and 3.5" stroke. It has Joy valve gear mounted vertically. The rolls are 20" dia on the front and 24" dia on the rear. A riveted, square water tank of 15 gallons capacity is mounted above the steerable front roll. The operator rides on a footplate controlling the engine with throttle, reversing lever and steering wheel. A massive brake shoe is mounted just below the centre line of the left-hand rear roll, application by a hand wheel of about nine inch diameter. I assume drive is applied to the braked wheel, at one ton weight this should be effective. The roller was discovered in a derelict state and has been overhauled by the museum staff. I have a photo of the roller being demonstrated at an outdoor event at 'Speech House' in the Forest of Dean some years ago. With a length of 7 feet and a height of 6 foot 6 inches it is an impressive machine. The builder used it to roll his gravel drive !!!

The rolls appear to be of riveted construction and have a total width of 5 feet. The vertical boiler operates at 40psi, has a single cross tube and is of steel construction. It is 18" in diameter and 36" high and was made by Tom Goodhand of Gillingham, Kent. Maybe the project started with the acquisition of the engine which was built for a bus by Clarkson about 1910. It s a credit to the museum staff to have restored the roller so it is saved for posterity. Some of you may remember the 'Cotton' motorcycles, a pre- War design that were used in racing circles, post-war a smaller machine was produced, but there is one 1922 example of the Marque at the Museum fitted with a 350cc OHV Blackburne engine. Annually a members of the Cotton Motorcycle Club meet in the Museum yard to have a Rally in Gloucester where these machines

were made. I did not see the roller or the motorcycle during our visit. Apparently the boiler is being replaced on the roller.

Being a Folk Museum there is much to see relating to agriculture, fishing and manufacturing in the area. I was interested to find on the top floor of this very old building machinery to manufacture pins.

The headed variety used by the ladies to hold material together while being sewn, obviously a constant demand even world-wide. This was the beginning of the Kirby- Beard Company and I am sure our mothers all remember the 'Kirby Grip', a little device used, even today to hold their hair in place.

Pin-making was Gloucester's biggest industry in the late 18th century until the firm moved to Birmingham where plenty of water power was available until the advent of steam. Coal being plentiful just north of that city, I recall studying a large scale map of that area and found coal mines that were owned by various railway companies, what a pity our gas supplies are now in the hand of European Companies.

MOLTEN STEEL CARRIERS

It was Graham Toms who supplied the information about the molten steel carriers in the UK and Germany for the last Generator. Since then he has had a holiday in Australia and he toured the Whyalla Steelworks (biggest in Australia). Graham was

astonished to see a molten steel carrier there. According to information supplied to the tour party, as well as steel beams, angles, flats, they produce rails from 41kg - 68kg per metre, plain carbon but with the railhead hardened.

The steelworks has about 120kms of narrow gauge (3' 6") track and 20kms of standard gauge (4' 8½"). The coking coal used to smelt the steel comes from Wollongong and Port Kembla in NSW, Bowen Basin in Queensland and Westport in New Zealand.



TRACTION ENGINES IN AUSTRALIA

By Doug Chambers

I worked in Victoria, based in Melbourne for two years from 1968 to 1970. During this time I met several of the older traction engine owners and drivers who had spent part of their lives working the engines during the 1920-30 years.

One of the first things I noticed was that most of the engines were two speed, unsprung engines, although the engines had to travel long distances from farm to farm when threshing. I was told that the roads were very poor in the early days. There was little road metal available and the long distances meant the cost of road maintenance was very high. The third speed could not have been used as the wooden mill being towed would have suffered from broken wheels etc.

I met Alec Fraser and he told me that his father had an American traction engine. I can't remember the make but it was one of those with wheels having round steel spokes resembling a bicycle wheel. Alec remembers as a boy steering the engine while his father drove, towing the wooden threshing mill on to the next farm. Every few miles Alec's father would jump down from the engine footplate and run around the engine checking the wheels for broken spokes. This was done as the engine trundled along so you can see that the speed of the engine would have been only about 2 mph. If he found a broken spoke the engine was halted and another spoke from the bundle of spares tied on the mill was fitted and then the engine carried on.

Later the American engine was traded in on an English traction engine. It was a Foden. By now the roads had improved a little and the Foden and mill could get along a little faster. Alec's father was no longer as spry as he had been and he still leapt off the engine and ran around looking for broken spokes. Alec would close the throttle fearing that his father would be run over or not able to catch up with the Foden!!!!

Although his father never gave up the habit of checking for broken spokes, he never found any broken on the Foden. Alec reckoned this was just as well as on English engines the spokes are cast into the back wheel hub and riveted to the flange inside the rim. No chance of carrying out a repair on the side of the road!!!

It was Alec who pointed out to me the constant difficulty getting water for the tender to replenish the boiler. Out to the west of Melbourne there are no rivers, few streams, and they mostly dried up during the summer. Moving an engine any distance usually meant that an advance party on a bicycle (powered

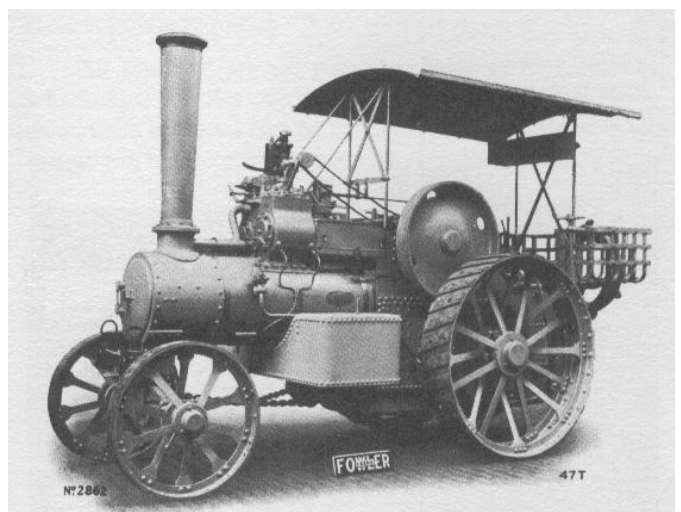
by Alec) would have to check the proposed route for suitable quantities of water before the engine started on its journey. A usual load for the engine would be, Foden and wooden threshing mill, cookhouse and a large water tank on a solid wagon.

Most of the traction engines in Victoria burnt firewood. There are vast coal deposits East of Melbourne but I expect that cost and the availability of good firewood meant that the latter was more popular. This meant that the bunkers were extended with a 'fish and chip' type basket so that a greater amount of wood could be carried on the engine. The burning wood meant that a spark arrester of some type had to be fitted to the chimney and the ashpan had to be a good fit to prevent embers from falling out onto the dry grass.

One benefit of the engines burning wood was not realised until the engines were being restored by members of the Preservation Society's and enthusiasts. Coal burns much hotter than wood and the fireboxes suffer from wastage of steel. However the engines that had burnt wood, had fireboxes in an 'as new' condition which certainly kept the price of restoration down.



Garrett Traction Engine 7nhp DCC



Fowler Tractor 4nhp DCC - Note Chip Basket on Bunker.

To be Continued.

Parliamentary Special

6 August 1908 – 6 August 2008

An opportunity to celebrate New Zealand's industrial heritage was undertaken with the re-enactment of the first train to pass over the centre (mountain) section of the north island main truck railway.

Three club members having some official involvement with the event, Bruce Geange having been commissioned to build a scale model of the Makatoke viaduct for eventual display at the Waimarino museum in Raetihi. Stuart Anderson being on the service crew looking after locomotive Wab 794 and Michael Prior filming the Wab's involvement, both Stuart and Michael also being members of the Feilding steam rail society. Chris Saunders and myself having an unofficial involvement of going for a look (rubbernecking). We arrived in Taihape prior to the special's departure where we caught up with Stuart busy with fire hose, watering the Wab from a hydrant out in the street. Then we shot out to Mataroa and gathered on the overbridge with the Mataroa tunnel just out of sight round a curve 500 metres away. We could hear the special coming as a Telecom contractors van decides to cross the track on the rough service track just as the special rounds the curve. Loud howls from the whistle, if that van had got stuck we would have been in for some serious entertainment. On to Ohakune and a long halt for the special to allow two ex PWD L class locomotives 507 and 509, one from MOTAT and the other from Silverstream Vintage Railway to be piloted by Ka 942 out to the loop at Horopito.

I caught up with Bruce at the station where the Makatoke viaduct model was displayed in one of the waiting rooms, Bruce being in demand having to show off the operation of the Blondin cableway with the press and the travelling VIP's. Being a VIP himself Bruce had a ticket to travel onboard to Taumarunui on the main truck line.

Onwards to Horopito were once the special was brought up by the Wab the L class loco's were attached to the front for the journey to the next loop the other side of the Makatoke viaduct. We chose to view the L class hauled train from the "Last Spike" rest area nestled between the road and railway just before the viaduct. Here there is a commemorative cairn to the official opening of the main truck line in November 1908 by the then Prime Minister Joseph Ward and a newer plaque from IPENZ commemorating the achievement of the civil engineer's in charge of the project.



The descendants of Frederick Furkert the engineer in charge of the southern section were having their photos taken gathered around the plaque and proceeded to show us a gold fob watch

which was presented to Frederick by his staff on completion of the project.

A bit of humour was had at the expense of two workmen giving the rest area a spruce up for Transit, painting a large sign inscribed "Last Spike" facing towards the railway. They were informed that the special was held up at Horopito waiting till they had the spruce up finished. We tried to get the spelling altered to make the sign even more meaningless to the travelling public.



In due course the two L's came along barking hard dragging the Wab along slowly past the cairn. A dash to the car saw us catch a glimpse of the special as it crossed the viaduct, but there were hundreds of people gathered around to witness the sight of two L class and one Wab class loco haul the special across this structure a rare sight indeed.

