November
2005
No 307

THE GENERATOR

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.**

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TRACK RUNNING

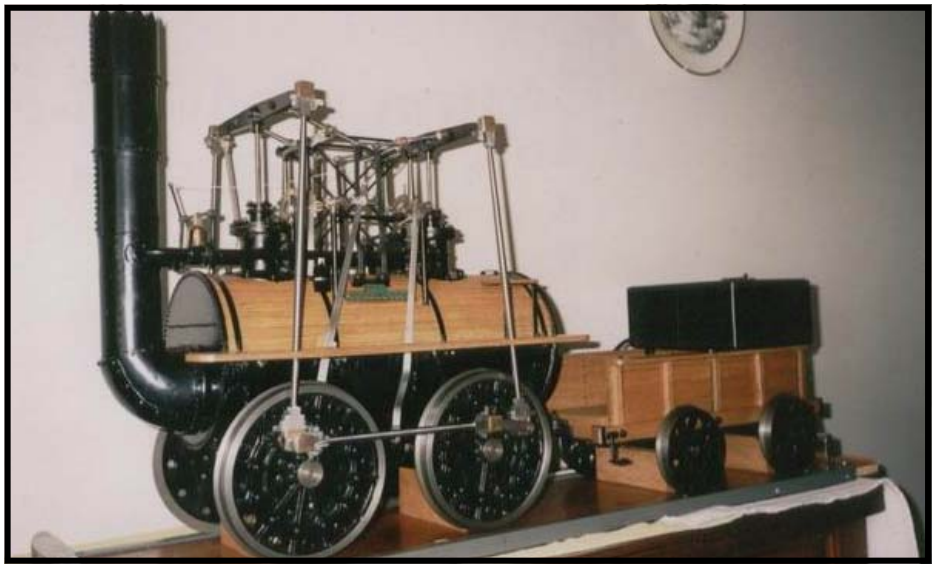
This is held on the FIRST and THIRD Sunday of each month, from 1 pm to 4 pm Summer and 1 pm to 3 pm during the Winter. All club members are welcome to attend and help out with loco coaling, watering and passenger marshalling - none of the tasks being at all onerous.

Visiting club members too, 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



OCTOBER MEETING.

Not quite so many members attending this month, however there was a wide range of models on display.

Jim Spall has a Madison four pump lubricator for a Lawson Engine. He explained that all four pumps could be regulated separately and that some of these units were fitted to early tractors. It was very similar to the mechanical lubricator fitted to traction engines.

Stuart Anderson had photos taken at Havelock North's Open Weekend. He also showed us some American type bogies suitable for 5" gauge freight wagons. These are being offered for sale by John Couchman who can be contacted on (06) 356 4021.

Maurice Job had a radio controlled model of a Gee Bee racer. This was a large model with a wingspan of about 1.2 metres. It is powered by a 20cc Sato four stroke engine. Maurice told of the history of the prototype and told of the models flying characteristics. Then just to show that he has other interests, he showed us a machined driving wheel for a 5" gauge NZR Ka.

Fred Kent showed us the very nearly completed rotary engine for the Fokker Tri-plane that he is building.

Bruce Geange demonstrated on a short length of track the model he has made of the Ford Model T railcar in O gauge.

A full-size replica operates at the Pleasant Point Railway just north of Timaru. Bruce has powered his railcar with a motor out of a CD drive. Apparently the motor used to take the CD into the machine and then eject it out is ideal for powering of such units. Operating headlight of course !!!!

Graeme Hall is well on with a model of the Aveling and Barford single cylinder diesel engined roller. This was drawn up by Edgar Westbury in 1937-8 and represents a 1935 Aveling and Barford. The model has a single cylinder petrol engine. Making some of the gears has created some headaches but so far all have been overcome and the project is now well advanced.

Murray Bold showed us the Garden Gauge 'little house at the end of the garden path' he has made for his railway. Made largely from ice cream sticks and complete with the seated man over the 'long drop'.

Doug Chambers had the exhaust stacks, air horns and radiator filler for the Santa Fe F7 he is completing.

Bruce Manning showed us a beautifully detailed model of a Honda CB 750 motorcycle that he had bought.

Bruce Geange reported that the old diesel Aveling and Barford roller that had sat for many years at Duddings Lake near Marton, is now in the Palmerston North district and has recently been running again.

COMING EVENTS

Mid Week Run at Marriner Reserve Railway

22nd November between 10.00 am and 2.00 pm
Please contact Doug Chambers beforehand.

Track running at Marriner Reserve Railway

4th	December	1 – 4 pm
18th	December	1 – 4 pm
1st	January	1 - 4 pm
15th	January	1 – 4 pm

Open Weekends

Whakatane Open Weekend
14, 15, 16 January 2006

Palmerston North Model Engineers
Locomotion 2006 Weekend 4, 5 March 2006

Marriner Reserve Railway

is to host the
Takaro Kindergarten Christmas Party

5 December 2005 - 10:30 am onwards.
Help from the members is required.

This is the last Generator for the Year so from the Committee, have a Merry Christmas and a Great New Year

The closing date for the next issue of The Generator is Friday 13th January

LETTER from ENGLAND

By Stan Compton

Editor's Note, This months Letter from England is an excerpt taken from a personal letter to me.

With the Middle East dominating our news here alternative sources of fuel for motor vehicles are being examined. Some natural gas is being used in cars but I have heard that local farmers are growing maize to be processed into fuel oil to power diesel engines.
Our trucking industry is having a hard time with the high rate of tax on our diesel oil, along with petrol which is now almost a pound ($3) per litre.
European truck drivers take car to top up in France where the fuel is cheaper. We use the bus service to go to Hereford, late model buses, subsidised obviously are on the route and are almost as fast as a car over the journey.
I still spend every Tuesday working at our Model Railway track in Hereford. There is always mechanical work to be done maintaining rolling stock etc. These days everything has to be recorded after examination to ensure the Public are being safely catered for. Nothing can be left to chance.
We have found children's birthday parties to be very popular. Our Club supplies tables and chairs and a Gazebo, a tent like thing that provides some cover in case it rains. The family bring their own food and we supply a train plus tickets for a set number of rides. The other day there were twenty children at the party and eighty adults, the latter spent their afternoon riding on the trains !!!!
These days I let someone drive one of my engines and I supervise the loading on the small raised track, suitable for the smaller locomotives. I give the same little lecture about not reaching out to grab things etc., before I blow my genuine Birmingham made whistle donated by one of our members, he bought a dozen for us and they are not cheap !! Well last Running Day a little boy sitting on the trolley waiting for me to finish was unaware that in Britain the Guard used to blow a whistle and signal the driver with his green flag. This little boy was evidently a devotee of American TV programs and he said to me, "You should call out 'All Aboard'" !! "Yes" said another child, "That is right". So I obliged in my best baritone voice and they were happy. The fact that they were already sitting down escaped them.
Some children are very good, others wriggle about, even try to turn round and must be watched all the time. Three blasts on the whistle will warn the driver to stop, incidentally he is in my sight all the time, unlike the large ground level track where we have to have a guard riding at the rear of the train.

We had a new driver among our members driving someone else's steam loco with passengers, when he stopped on a grade, thinking he had lost the water in the boiler. With more experience he will realise that the water level varies on grades as one is moving along. The owner of the engine, and it is quite a large one, came to the rescue and foolishly straddled the boiler in the vicinity of the two safety valves. He grasped the cab roof and rocked the engine from side to side. This can be done with a smaller engine to determine where the water level is in the gauge glass. This time the boiler was actually overfull and during this rough handling the safety valves opened sending a mixture of steam and scalding water upwards onto a very sensitive part of the owner's anatomy. Oooh Ah!!!! It must have hurt. Fortunately he was wearing overalls over his trousers.
Anne will tell you that Railways dominate my life, which is why I go out to my workshop every day.
I am building a Welsh Quarry engine, it keeps me occupied. The little fire engine has got put to one side while I get more information. This I have obtained from a very helpful man who lives near Shrewsbury. I took him a little block of bronze that I cut off the Cross from the Ledbury Church. The bronze cross was on it's way to the scrap yard. The man was delighted with the gift having run out of that material and he was a long way from a supplier.
So when I asked to take our Annual Holiday in the Isle of Man she was not surprised. We went to the same little town called Port Erin, right at the bottom of the Island where we stayed ten years ago. This is the terminus for the Steam Railway from Douglas, and is the Capital and a centre for World Finance being a tax haven.
But the Island has a transport system that is unique in the World with all the original trains and trams and even horse drawn trams along the Promenade. To see these horses clip-clopping along at a good pace was wonderful, we were told that they only do two return trips, that is six miles, and then they get a break, and they know it !!!!

The electric tram that climbs to the top of Snaefell nearly 2000 feet high, passes the famous Lexey Waterwheel “Lady Isabella” built in 1860 to pump water out of the lead mine. Real Victorian engineering.

We were lucky it was a clear day at the top of Snaefell but there was a cold wind, it was late in the year.

The Railway up the mountain crosses the highest part of the motorcycling TT course and the day we were there a group of vintage sports car etc. were touring round the course. The owners were having a ball using their gears climbing part of the Mountain circuit.
The bus system on the Island is first class and there is no real need to take a car over on the ferry. We were on a coach trip and our new large European built coach was built for Motorways. The overhang at the front got caught on the ramp as we drove off the ferry, but this had been prepared for and portable ramps were produced to lift up the front end.
It was a nice week away, our Hotel was fresh and clean and the staff were excellent. For once we had a ‘Room with a View’ right at the front overlooking the bay. The food was good and we had nice companions at our table, a retired Garage Proprietor and of course we had something in common. They live not far from us.

Back home now, at last I have got our upper front windows sorted and repainted, they are a thorn in my side. Facing the sun they dry out and then the wet gets in during the Winter.

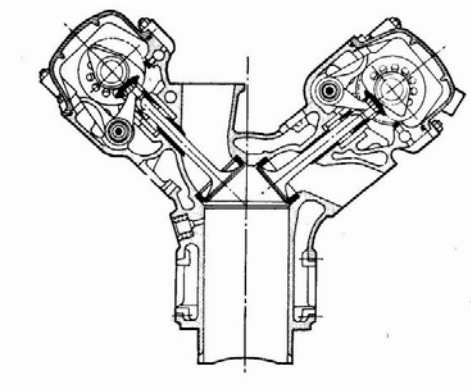
MODEL OF THE MONTH

Not very many of us have seen this particular model as Stan Compton completed it after he and Anne had returned to England. Even though Stan had started to build it in New Zealand very few of us were aware of it. Stan felt that it was a most impractical model as even in 7 ¼ ”gauge it would not really be capable of any useful work. However the challenge of making that peculiar drive and valve gear was not to be resisted and the task was eventually completed. ‘Locomotion’ resides on a chest of drawers in their home in Ledbury.
When Stan takes it to Model Engineering Exhibitions it is displayed with the wheels clear of the track and a small crank handle is turned so that the public can see the intriguing movement of the motion.
Henry Greenly prepared the plans in 1927. The boiler is 6”x 15”, the wheels are 6”in diameter, and the bore is 7/8” and it has a stroke of 3”.
Stan only ever intended it to be a ‘display’ model and you can see that if it were to be steamed, the oil would drip off the motion and onto the stained wood lagging the boiler spoiling the effect.

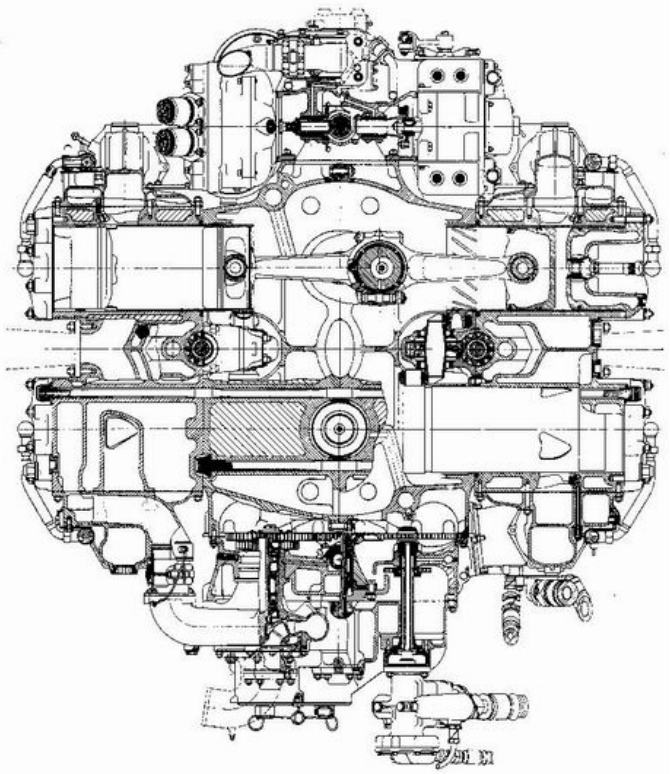
MORE UNUSUAL ENGINES

By Doug Chambers

Most internal combustion engine designers have now settled poppet valves to admit fuel or air into the engine and to allow the exhaust gas to escape.
These valves are activated by cams either via push rods and rockers or directly off the cams.
The cams open the valves and springs close them.
A slight variation is the desmodromic valve gear.
Two cams and two rockers service each valve. One cam opens the valve and the other closes it.



The earliest successful user was the 1911 Grand Prix Delage but it was not until 1954 that the Mercedes – Benz Grand Prix cars perfected desmodromic valve gear to the stage that valve springs were no longer required. Their engines were so far ahead of the opposition that they were never fully developed and in 1955 Mercedes – Benz retired from motor – racing.
Ducati motorcycles are the only current users of desmodromic valve gear.
Roland Cross started experimenting with rotary valve engines in 1920 but his experiments ceased during World War 2 due to pressures of war work making aircraft engine parts.
The sleeve valve system was different again.
Daimler were producing sleeve valve engines in the late 1920s –30s. It was soon realised that pressure charging was a great advantage to sleeve valve engines.
It was in aircraft engines that the sleeve valve was developed to its full potential. Bristol led the way but during World War 2 there was a constant demand for more and more horsepower.
Napiers designed and built their Sabre engine.
This engine was basically two twelve cylinder horizontally opposed engines, one placed above the other and in a common crankcase. The aircraft that were to use this engine were the Hawker Typhoon and later the more refined Hawker Tempest.
The Typhoon was rushed into service before problems with the engine and airframe had been sorted out. The Typhoon was needed to combat the V1 flying bombs that were making life miserable for



'Londoners'.
At first the Napier Sabres suffered from a very short life, being prone to failure after 25 hours.
Finally Napiers asked Bristol for help as they had more experience with sleeve valve engines. Bristols were able to supply some of their sleeves re-machined to suit the Sabre and this modification alone saw the engine life greatly extended.
By the end of the War the Napier Sabre was developing 2700 hp.
At the same time the Packard built Rolls Royce V12 Merlin was developing 1700 hp.
However Bristol were to have the last word in sleeve valve aircraft engines.
Their Bristol Centaurus 18 cylinder radial (two rows of nine) was rated at 2480 hp at 2700 rpm for take off and it held the record for engine overhaul life.
It has often been believed that sleeve valve engines were only suited to big slow revving aircraft engines. Bristol ran one of their 6 ½" sleeves up to 8000 rpm in a single cylinder test engine. The Napier Sabre would blip up and down the rpm scale just like a car engine. So perhaps the potential was there.

The following is an excerpt from Pierre Clostermann's book 'The Big Show' in which he describes the starting procedure in an early Hawker Typhoon powered by the Napier Sabre engine.
As the exhaust gases have a high content of carbon-monoxide which seeped into the cockpit, you had to breathe oxygen all the time. I therefore put on the mask and opened the valve.
Next switch on the instrument panel light.
Set the throttle lever- open five-eighths of an inch (not one fraction more, otherwise the carburettor would flood and there might be a blow-back).
Push the pitch control lever right forward and then back an inch or so to avoid a runaway in the constant speed unit.
Check the fuel tanks and switch to the centre fuselage tanks for take-off. (gravity feed in case the pump fails).
Unscrew the two wobble pumps, one sends a mixture of alcohol and ether into the carburettor, the other a mixture of petrol and oil into the cylinders.
Insert a cartridge into the starter. (The Koffman system, which uses violent expansion of explosive gases to get the engine turning)
If the engine doesn't start first time it will almost certainly catch fire being bung full of juice.
With one finger on the coil booster button and another on the starter button, the cartridge is fired.
A mechanic hanging on the wing helped to 'catch' the engine, which should start with a deafening roar.
The amount of noise is about five times as great as in

a Spitfire. The later versions of the Hawker Tempest saw the Napier Sabre delivering 3000 hp at 4000 rpm in emergency power conditions.
This gave a true airspeed of 440 mph in level flight.

KPR Labour Weekend.

Richard Lockett

I hadn't visited the Keirunga Park Railway for about eighteen months so I was keen on a trip to the Hawkes Bay for their labour weekend meet.
I have never seen so much surface water lying around on the farms along the usually bone dry highway 50 as on the Friday evening travelling over with the road being closed later that night.
The weather cleared around midday on Saturday going from black clouds to blue sky within the space of an hour.
Locomotive Robyn was unloaded onto a surprisingly empty steaming bay (the price of petrol perhaps).
Paul Newton (Rotorua) had his new Denver & Rio

Grande 2-6-2 narrow gauge loco down for a run, a very neat looking engine but had some new engine problems (as you do) and did very little running.
Robyn was steamed on each afternoon and ran sweet as.
I have just been reading our MEANZ operating and safety audit manuals (out for discussion) so whist driving around the track I was mentally carrying out a benchmarking operation comparing the KPR with our own Marriner Reserve Railway. This proved to be an interesting exercise with myself being comfortable as to where the MRR stands re a safety audit. Some railways will have ongoing issues with sight lines through stations/platforms and steaming bay hazards because of physical/lay of the land issues.

A lot of the visitors had left for home on Monday morning so being one of only two steamers running I extended my stay until late and had a very enjoyable relaxing run around which with the trees etc planted over the years now quite big it's a scenic trip round the KPR track.

Thanks to the KPR members for their Hospitality.

FOR SALE

PETROL- HYDRAULIC 'Hunslet' (7 ¼ "gauge)

This is the NZR Dsa built by the late Jim Curtis. Fully detailed the Dsa looks good and runs superbly. This is a classic example of model engineering. It featured in the Australian Model Engineering magazine (September-October 2002) and comes complete with a purpose built driver's car built to the same standard.

See October Generator for a photo.
Enquiries to Jean Curtis,
115 Guy Street, Dannevirke.
Phone (06) 374-7151. Price $10,000.

Don't forget - Club Dine Out.
If you haven't advised Chris Rogers that you wish to attend the End of Year dinner please contact him on Ph 356 1759 to book your seat.

Members and Partners at last year's gathering.