April 2004
No 289

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.**

PRESIDENT	SECRETARY	TRACK CONVENOR	EDITOR
Bruce Geange	Murray Bold	Richard Lockett	Doug Chambers
(06) 357-0566	(06) 355-7000	(06) 323-0948	(06) 354-9379

PNMEC Home Page www.pnmec.org.nz
Email:- pnmec@clear.net.nz

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,

Place stamp here

Coming Events

April Monthly Meeting.
The PNME club's Annual General Meeting will be held on the 22nd April 2004 @ 7:30 **SHARP**
This will be held at the Hearing Association Rooms, Church Street, Palmerston North .
See further details on page 2.

Mid Week Run at Marriner Reserve Railway : 27th April , between 10.00 am and 2:00 pm.
25th May , between 10.00 am and 2:00 pm

Please contact Doug Chambers beforehand.

Track running at Marriner Reserve Railway: 2nd May 1 – 4 pm
16th May 1 – 4 pm

Open Weekends : Thames 15 –16 May. Registration forms available from Murray Bold
Rotorua Model Engineers 24th – 25th April

The closing date for the next issue of The Generator is Friday 14th May

REPORT of the MARCH MEETING

Bits and Pieces.
Stuart Anderson displayed the right angle drive unit for his 7 ¼" gauge Dh.
Doug Chambers had the now painted chassis and boiler components for "Edwin", the Gauge 1 loco being described in 'Australian Model Engineering' magazine, that is his current project.
Fred Kent showed us the progress he had made with his double unit railcar in 3 ½" gauge.

Our guest speaker was Barry Young who gave us a very interesting talk on the history of the Fun Ho ! toys that date back to just before the Second World War. Fun Ho ! had started off in Wellington before moving briefly to New Plymouth and then finally to Inglewood.

Barry was the purchasing officer and became the firm's unofficial historian. He told us of several humorous incidents during his time with the firm and of his own personal collection of Fun Ho ! toys.
After the firm closed he started the Repro line of Fun Ho ! models and published the Repro magazine.
Barry's efforts led to the setting up of the permanent Fun Ho ! museum in Inglewood although he has no longer an association with the museum now.
Barry told us of other New Zealand toymakers, some were in business for just a few years and some were formed to assist overseas toymakers to avoid paying so much import duty.

APRIL MONTHLY MEETING.

This will be the Club's Annual General Meeting.
Members should be thinking of who they think would be a fitting recipient of the 'Clubman of the Year' trophy.
PNME members will be asked about what models they will make available for display at the Exhibition to be held in the Leisure Centre over the weekend of May 8th – 9th. Set up will be on the Friday evening as per usual.
After the AGM there will be time for "Bits and Pieces" so members are invited to bring along their current project.

7.25" LOCOMOTIVES FOR SALE

NZR "TR" Shunting Locomotive and ride trolley.
Briggs & Stratton powered, Albion gearbox. $3500.00

NZR "Wa 165" Built by John Heald (Rotorua) as featured in Jan/Feb 1998 AME (Issue 76)
Call for further details.

All enquires for both Locos to Dennis McConkey Phone 04 - 904 6195

LETTER FROM ENGLAND

By Stan Compton

A friend called in with a story about being called out to help someone who owns a tow-trucking business. He was short of staff and a call had come in to remove a trailer that had broken away from a private car and was lying in a ditch alongside the motorway. He was told "You drive the 'Range Rover' and I will lead with the truck with the hoist to lift it if you can't tow it."

Instead of finding a small 6 x 4 trailer it turned out to be 10 metres long, and 2 metres high and contained a glider. This was being towed with a Ford Escort car !!! A passing semi-trailer had created a vacuum, which tore off the trailer hitch.

After dragging the glider – trailer back onto the highway, it was hooked up to the 'Range Rover' and they started off back to the base. After a while the 'Isuzu' engine recently fitted to gain extra power, began to overheat. A hose was leaking and they had no way of effecting a repair. The glider-trailer was parked up in a safe place and the 'Range Rover' complete with all the 'light cluster' on top, was lifted up and put on the tray of the tow truck to return to base advertising their predicament. I have yet to learn what the owner said to his mechanic.

I have been reading a book called "The Rugged Road" by Theresa Wallach 15BN 09535098-2-6 describing how she, aged 25 and Florence Blenkiron, aged 30 both experienced motor cyclists with a love of scrambling etc. undertook to ride from London to Capetown a distance of 7,500 miles, in 1935.

This is a journey that would not be possible today but I admire their courage and determination to get there with a most unsuitable outfit. The only firm that would sponsor them was "Phelon and Moore" who some of you may recall built a 600cc single cylinder motorcycle called the 'Panther'. The engine formed part of the frame. 'Phelon and Moore' were not prepared to build a special 'trials' version, it had to be a standard road bike. 'Watsonian' supplied a touring side-chair and a standard trailer. What a pity they did not provide a wider side-chair chassis with a suitable box for their supplies. That trailer was a problem when they got into the sands of the Sahara Desert.

Travelling on sealed roads down to Gibraltar was no problem and they did quite well even

over the Atlas Mountains in North Africa, but once in the Sahara Desert their problems began. Rocky track shook everything loose, but soft sand was their worst problem. They had a set of pulley blocks and used the outfit as an anchor to pull the released trailer up to it, moving forward 15 feet each time. The noonday sun at 120 degrees Fahrenheit meant climbing under the trailer to escape the worst of the heat and to recover from their efforts. They struggled on until so exhausted they slept on the sand until daylight, too tired to worry about creepy-crawlies that might get into their sleeping bags which I assume is the reason for the tent mounted on top of the trailer.

After a while the engine began to knock badly and they were lucky to find some friendly tribesmen who supplied a man and two horses to tow them the last 75 miles into a desert outpost manned by the French Foreign Legion. The officers in charge were very helpful to these crazy English women and their mechanics soon diagnosed the 'big-end' was gone. Nothing for it but to cable back to the works for replacement parts. This meant a long wait as air services were not like today. Full marks to the mechanic who replaced the big-end having only metric spanners available for the task.

Our adventurers now pressed on with their journey only to suffer a broken trailer hitch. Luckily alongside the track was an abandoned car with a hitch on it. Unfortunately the pin was 1" inch in diameter and their shackle was ¾" inch. It took a whole day to file the pin down and open up the shackle having no vice to hold the parts.. You have got to admire those two, they did not give up.

At the next desert outpost the officer in charge refused to let them carry on towing the trailer for the next stage. He knew how bad the sand was. This meant waiting for the next bus and willing hands loaded the trailer onto the roof of the bus.

Even without the trailer it was hard work getting through the next section and they were relieved to find their trailer with their supplies waiting for them. Soon they were out of the desert and driving on bush tracks, which had ruts the width of a truck. This was a problem with a narrow outfit, putting a real strain on the front forks and the rider. The front wheel spokes began to break, ending up with a shattered front hub.

They put all the parts in a sack and leaving the bike with a note tied to the handlebars accepted a lift to the next town where a native craftsman brazed the cast hub together and respoked the wheel.

Pressing on, they soon found they were on decent highways, Uganda had very good roads, and well organised facilities, who says 'Colonial Days were bad news?'

By the time they got to Capetown the bike was in a bad way with rubber bands doing a useful job. So ended a incredible effort. Sad to relate those women parted there. Theresa Wallach returned home by sea having no funds left at all, but her partner Florence Blenkiron returned overland on the new motorcycle and sidecar sent out by the firm who made "Panther" motorcycles. Theresa Wallach became a sergeant instructor of dispatch riders in the ATS during World War 2 and ended up in the USA running her own motorcycle business. She died in the USA in 1998.

Her partner also worked for the army on motor vehicles in WW2, she later married, helping her husband to run a business in India. She died in 1991.

PS Full marks to cow No 569 who dragged Kim Riley to safety when the Manawatu River flooded recently.

RE-SPARING LANCASTER PA 474

By Doug Chambers

The RAF have several Spitfires, a Hurricane and a Lancaster bomber that form the Battle of Britain Memorial Flight. The Lancaster PA474 joined the Memorial Flight in 1976 and over the years has averaged between 85 – 100 hours during the display season which is between April and September. Fatigue meters were fitted to monitor the airframes fatigue life and by 1996 the fatigue life had come to an end. Permanent grounding of PA 474 was not an option but there were no historic records to guide the operators (RAF) in exactly what would be required to ensure the airframe structures integrity.

Remember the Lancaster was built during the Second World War and once the War was over the Lancasters that had survived were replaced with Avro Shackeltons and by the 'V' range of jet bombers, i.e. the Valient, Vulcan and Victor, so none had achieved a high number of hours.

The Armstrong Whitworth Argosy had a similar wing to the Lancaster as did the Avro Shackleton and both these aircraft had suffered problems around the bolt holes in the main spar which could have resulted in fatigue failure.

Fortunately sufficient metal extrusions were found left over from the Shackleton re-sparing and they were made available.

On September 25 the Lancaster left it's Coningsby base for St. Athan in Wales and after landing PA 474 was towed into the hangar where it was to reside for the next eight months. Squadron Leader Frank Lovejoy was appointed Project Officer but the work was beyond the capabilities of the RAF alone. British Aerospace (Bae) held the design authority for the Avro Type 683 Lancaster and their expertise was vital to the project. Private Contractors and the Military do not have a good history of working together on any project but both teams realised the importance of keeping the Lancaster airworthy and national pride meant that all worked together achieving a very high state of co-operation.

Firstly the Merlin engines were run and the performance data was recorded to provide a comparison after the overhauled engines were refitted. The aircraft was then de-fuelled and X rays were taken of all the inaccessible components. Then PA474 was levelled up on jacks and the undercarriage was removed and sent to Dowtys of Cheltneham for overhaul. The propellers were sent to Arrow Aviation near Exeter in Devon and the four Merlins went to RAF Coningsby for maintenance.

The engine nacelles were removed and then the outer wings were taken off the centre section.

The next stage saw the fuselage front section removed from the wing centre section. This involved the removal and labelling and bagging of a tremendous number of bolts and hydraulic fittings.

Then the rear section of fuselage had to be removed from the wing centre section.

Towards the end of October the wing centre section , outer wing sections and trailing edges were loaded onto a 'King' trailer and departed St. Athan for BA e Chadderton, near Manchester. BA e were responsible for the replacement of the wing spars and any further components that they felt should be replaced.

Work continued at St. Athan on the remaining components. Cleaning previously inaccessible areas and dealing with corrosion. Some re-skinning was necessary and the mid-upper turret was removed and completely overhauled.

In February the wing centre section was returned to St. Athan followed in March by the outer wings. The fuselage front and rear sections were reattached to the wing centre section and at last the Lancaster started to look like an aircraft again.

Fuel tanks, engines, undercarriage and all the associated hydraulic and electrical components were refitted and tested. Finally engine runs were done and fuel flows, rpm, temperatures and oil pressures were checked. Then the compass had to be swung. This cannot be undertaken in wind

over 5 knots, as it is vital that the aircraft remain steady during this operation. There were now delays as St. Athan experienced a period of high winds.
The team at St. Athan had been very committed to the overhaul of PA 474. Work started at 7.30 am and usually went on to 8.00 pm. When it was desirable work continued in the weekend.
Finally, with all the tests completed PA 474 was weighed and found to be 69 lbs (31 kgs) heavier. This was due to modern bolts, rivets and screws being heavier than the original wartime fixings.

On May 13th at 3.27 pm Lancaster PA 474 took off on a test flight, during which all systems were checked. Stalling tests were undertaken in both 'dirty' and 'clean' configuration. In the dirty configuration, ie undercarriage down PA 474 stalled at the low speed of 45 knots (51.7 mph). Each engine in turn was shut down and the propeller was feathered. PA 474 returned to St. Athan at 4.37 pm and the engineering staff found there were only a few very minor faults needing attention.
On May 15th pilot Flt Lt Mike Chatterton signed off the form 700 and returned it to Squadron Leader Frank Lovejoy. PA 474 was now officially back in the Battle of Britain Memorial Flight. In the afternoon PA 474 was flown back to RAF Coningsby, but by a diverse route. After several flypasses over St. Athan, the Lancaster was headed for Cowbridge and Maeseg where flypasts were performed for the locals who had worked on the aircraft during its time in Wales.
There followed a low pass over Cardiff Airport and another at Filton airfield operated by British Aerospace .PA 474 flew over Gloucester and Cheltenham enroute for Coningsby. RAF Cottesmore near Stamford requested that the Lancaster make a low pass over the airfield which was hosting the bi- annual 'Tornado' meet and this request was willingly complied with.
At RAF Coningsby the public, station staff, TV , radio and newspaper press were all waiting to welcome PA 474 home.
This huge undertaking has ensured that the Lancaster, will be available for display at air shows for many years to come. The end result is a credit to the team of dedicated engineers who put aside professional differences to achieve work of the very highest standards.