

The Generator

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October 2023



Palmerston Model Engineering Club
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Managers of the Marriner Reserve Railway - Marriner Street - Palmerston North
C/- 119 Ruapehu Drive - Palmerston North 4410

The Palmerston North Model Engineering Club **Upcoming Club Events**

Club Nights typically start at 7.30pm and are usually held at the
Hearing Association Hall, 435 Church Street, Palmerston North.

Thursday 26 October

Club Night

Health and Safety - A little First Aid refresher for you

Saturday 25 November

End of year Gathering

Visit to Hawtree's Radio Museum, Whanganui

Some details page 2.

Marriner Reserve Railway

Sunday 5 November & Sunday 19 November

Railway operations at the Marriner Reserve

Trains in operation from 1pm to 4pm

Weather permitting (Richard Lockett 06 323 0948)

Thursdays

Railway operations for club members

Subject to ongoing track maintenance and weather

Contact track manager (Richard Lockett 06 323 0948)

Club Notices

October Club Night.

We have arranged for a St John first aid educator to upskill us on current best practice with regard to CPR (Cardiopulmonary Resuscitation). We also hope to have a defibrillator available for you to become familiar with the use of. Please feel free to bring along partners, friends etc it might save your life. Thursday 26th October, 7.30pm sharp!

End of Year Gathering.

Just a slight change to the program to our Whanganui visit in that we will visit Graham and Viv Hawtree Radio Museum which also features Meccano and a diecast model collection in the morning with Barracks Sports Bar being recommended as a lunch venue having a reasonably priced lunch menu. A visit to Axiam Metals has been arranged for the afternoon to be guided by our Whanganui based club member Ewan Pound. The PNMEC wish to make best use of the vehicles travelling over to Whanganui i.e. car pooling, a separate email will go out to arrange this in early November. Saturday 25th November depart PN at approx. 9am.

Wanted to buy.

Dave Spark wishes to purchase a 6 inch independent 4 jaw chuck for his Myford ML7 Lathe. If you know of one looking for a home please contact Dave at PH **06 368 6034**

Marriner Reserve Railway.

Unfortunately, recent weather has meant the cancellation of our Sunday track running occasions mainly due to the strong winds to which more are predicted for our spring and early summer! These winds become an issue for track running in that the large trees at the Marriner Reserve are brittle and shed sticks and branches with little effort and this becomes a significant hazard for the operation of the railway. If the winds forecast on our Sunday track runs are approaching 20 kmph then we have to consider this potential hazard as to whether the railway is operated or not!

Club Night Report

Buy, sell or exchange was the theme of our September club night and there was a good turnout of items for sale at prices to sell! Mainly books and magazines centred around our hobby which is to be expected but also some tooling and metal castings for construction projects and even a locomotive chassis. Not everything sold but it did generate plenty of discussion over a cup of tea.

Bruce Geange had been working on the restoration of a couple of 0 gauge locomotives, one a 1925 0-4-0 Hornby which new cylinders had to be fabricated to replace the original ones which were missing in action. The other live steam 2-6-0 locomotive was of unknown manufacture and had at some point in its life taken a nose dive off a table perhaps with the resulting smashed up front headstock and frames needing to be repaired. On closer inspection by Chris Bjerga, the valve gear looked to be of a Henry Greenly design which possibly would have made the locomotive a Bassett Lowke model. Any other thoughts on this locomotive would be appreciated by Bruce.



The mystery 2-6-0 spirit fired 0 gauge locomotive

Photo Editor

The Mount Pilatus Railway

Mount Pilatus rises from the flat land surrounding Lake Lucerne in Switzerland. This is a typical razor back mountain comprising a ridge with sheer to very steep sides. Typically, there are only a few meters of relatively flat land separating the two mountain sides at the top of the ridge. The Mount Pilatus Railway carries passengers to the top of this mountain and is the worlds steepest rack and pinion railway. Photo-1 was taken in the late afternoon showing a train arriving at the Visitors Centre. Photo-2 shows the Hotel in the foreground and the visitors centre in the background. The railway runs down the mountain side to the right of this building, while the newly installed cable car runs down the opposite side of the mountain to the left.



Photo 1



Photo 2

Jean and I went climbing on Mt Pilatus in June and were fortunate enough to visit on the third day the renovated railway was operating. The Mount Pilatus Railway is a 4.75 km railway that climbs a little over 1,600 meters connecting the ferry terminal at Alpnachstad on Lake Lucerne to the hotel, restaurant, and tourist centre on the top of mountain. The construction of this railway was completed in June 1889 and relied on specially built steam locomotives to push carriages up the mountain. Construction took 400 days (think Manawatu Gorge that has taken years and is still not completed) and at their peak these steam trains carried 100 thousand passengers per year up and down the mountain. Much of the civil engineering works built to support the original railway are still in use today. Photo-3 shows a typical section of the original track support structure. Photo-4 shows the renovated rail system at the lower station. Note the slide in, slide out, points system at the top of the photograph.



Photo 3



Photo 4

A typical rack railway has the racks orientated with the teeth vertical, relying on the weight of the locomotive to oppose the vertical force produced by the pinion engaging with the rack. Because of the steep gradients encountered on this railway, the forces produced by the pinion engaging with the rack are significant. To compensate for this the racks are orientated with their teeth horizontal. Furthermore, each rack has two sets of gear teeth, one on either side of the bar which are engaged by two opposing driving pinions. This configuration has the advantage that there is no vertical force trying to lift the locomotive thereby disengaging the drive. Photo-5 shows an example of how the rack drive system is configured.



Photo 5

In 1937 the steam locomotives were retired, and the line was electrified. While electrification offered many advantages and reduced the running costs, the problems associated with thick ice forming on the catenary cables restricted the railways operation to the summer months, May through till November. When the railway was partially closed for redevelopment, patronage had increased to 350 thousand passengers per operating season. Photo-6 is a file photo showing the upgraded electric trains now in use.



The hotel at the top of the mountain opened in 1890 and relied on patrons either taking the train to the top or doing it the Swiss Way and climbing the mountain. In 2010 the hotel was remodelled, a visitors centre was constructed, and a cable car was installed. The cable car could provide all year-round transport, conveying passengers to the mountain top direct from Lucerne. Photo-7 shows the cable car approaching the mountain summit. Nicknamed the “Dragon Ride” the engineering behind this cable car is spectacular. Photo-8 shows the view from inside the passenger car as we approached the summit. Lucerne and Lake Lucerne can be seen in the distance.



To accommodate the remodelling and construction work, the hotel company purchased the railway, temporarily limited the carriage of passengers, and used this infrastructure to carry construction materials to the top of the mountain. On 5th June 2023 the renovated railway reopened for full passenger service with upgraded tracks, new trains, and new terminal buildings.
Story and photo's David Bell

Photo 8



Date and Time	Activity
Thursday 26th October 7.30pm	Club Night Health and Safety A First Aid Refresher
Thursday 2nd November 7.30pm Sunday 5th November 1pm to 4pm Sunday 19th November 1pm to 4pm Saturday 25th November All Day	Committee Meeting Marriner Reserve Railway Marriner Reserve Railway End of year Gathering
Sunday 3rd December 1pm to 4pm Sunday 17th December 1pm to 4pm	Marriner Reserve Railway Marriner Reserve Railway

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