



Palmerston Model Engineering Club www.pnmec.org.nz - pnmec@trains.net.nz

Managers of the Marriner Reserve Railway - Marriner Street - Palmerston North PO Box 4132 - Manawatu Mail Centre - Palmerston North 4442

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. **23 September**

Cancelled

28 October

Only if back at level one.

Marriner Reserve Railway

3 October & 17 October

Only if back at level one Railway operations at the Marriner Reserve Trains in operation from 1pm to 4pm Weather permitting (Kerry Puklowski 06 353 6189)

<u>Thursdays</u>

Railway operations for club members Subject to ongoing track maintenance and weather Contact track manager (Richard Lockett 06 323 0948)

PRESIDENTS REPORT

In light of the Covid Restrictions and the unpredictability associated with this current outbreak the Clubs Organising Committee has taken the unusual step of cancelling club meetings at the Hearing Hall until further notice. Unfortunately this does mean cancelling the September meeting, a conjoint meeting with the Palmerston North Aeroneers. This was building up to be the biggest meeting of the year.

We are proposing a return to regular monthly meetings when it is safe, and when there is confidence that future plans can be implemented.

Despite these restrictions, life at the Marriner Reserve will continue. Because we are dealing with an outdoor setting the Thursday gathering can continue providing social distancing can be maintained. However, we do recommend that attendees bring their own cup. If any members are feeling the effect of isolation, get down to the track on a Thursday morning for some fresh air and good company. The coffee is not too bad either.

Sunday Running is also in abeyance. A decision on the future of this will be made once the shape of future level restrictions is known. We will advise all club members by email when operations will restart.

Your welfare is our concern. Keep Healthy and Keep Building

David Bell

Remembering the good times, Locomotion February 2020. Club members Kyle Mudgeway and Alex Philipp receiving instruction in the art of Traction Engine driving from the master Bruce Geange.



Finding The Correct Solution

Sometimes we are faced with a problem and the solution isn't quite so easy. This was the situation when I required a dual joy stick controller for a skid steer type tracked harvester. A search of the internet could have found this but not so. Special features narrowed the search down to one option, but it was extremely expensive and more complicated than what was required.

Often, the less complicated the better - less to go wrong. So he set out to make one. Neat and tidy, it would have everything enclosed in a die cast case. Problems soon arose.

When the control handles were in the neutral position they should line up, adjacent to each other. This proved near impossible with manufacturing tolerances and internal detents in a fixed housing. Adjustable detent positions were difficult in the space available.

For compactness the control potentiometers (pots) were connected directly to the end of the control lever spindles and solid mounted into the case. Not a good move. This could easily put side loading on the pots due to manufacturing tolerances, or wear in bushes, etc.





So back to basics, firstly the controller had to work well. Secondly, it had to be durable and thirdly, it had to be ergonomic, practical and have reasonable looks. The end result shown in the picture below achieved most of these goals (maybe not the looks) with the added benefit of being relatively easy to "set up" – the pots needed to be in their null position with the levers in the detents.

All setting up could be done with the case lid removed. The lid supports a limit stop setting the maximum forward and reverse speeds. The pots were connected to the spindles with a short length of plastic hose. Simple enough but after a while the hose took on a "set" and could slip on the shafts so they were wire locked onto the shafts. The finished controller worked well and gives a good feel. It also featured an emergency stop switch and an interrupt switch which stops travel momentarily, then when deselected provides travel again at the previous selected speed. Merv George





The Generator

A Perspective: Ten Months of Covid Lockdown

I have just finished watching a Covid update accompanied by the usual complaints from businesses that cannot operate normally. I hope this article puts things into perspective, and highlights the fact that we are in better shape than a lot of people.

A work colleague of mine lives in the province of Alberta in Canada with his wife and young family. He is a senior engineer working for an international design and construction company. This area of the country was hit hard by the Covid Pandemic, but the provincial economy is based on the oil industry and having a total lockdown (as we understand it) was not an option. The province went into lockdown in November 2020 when they were unable to get on top of a Covid outbreak. The Premier stating the lockdown would continue until 70% of the provincial inhabitants were fully vaccinated. That vaccination level has only just been reached. Ten months under increasing lockdown conditions while continually working from home.

When lockdown conditions were imposed, his employer closed their engineering offices and all staff were dispatched to work from home. This was a significant change in circumstances but they had prepared for that and protocols were well rehearsed. Everybody was able to access their essential records and work continued seamlessly. To put things into perspective the senior engineers were typically consuming two tanks of fuel in their pickups each week going between various construction sites and the company's office. Under lockdown conditions, working from home with no site visits, one tank of fuel lasted from November until April. And that fuel was consumed collecting food and household supplies.

During this time, with only minimal provincial support, businesses had to become creative to keep some cash rolling in. Motels with swimming pools started a lucrative scheme by which a family could hire a room (under strict lockdown rules) and have access to the swimming pool, one family at a time. This may not seem like a wild weekend away, but if you are locked up in a house with young children (with the emperature in the mid 30's day and night) a chance to use a swimming pool is an opportunity not to be missed.

The Canadian Government had decreed that petroleum was an essential industry and that production must continue without interruption. Furthermore it was also decreed that work on construction projects of national interest should continue without delay or deferment. So against this backdrop approximately 25% of the provincial engineering workforce continued working while everybody else was locked down at home.

Oil processing facilities cannot run indefinitely without upkeep and maintenance. Many of the components within these have limited lives and it is customary for each plant to be taken out of service once a year for refurbishment, inspection, and repair. It was hoped that the bulk of this maintenance could be deferred until after the lockdown conditions were eased. But alas, they didn't quite make it. The first processing plant shutdown could not be deferred any longer and this meant bringing together a workforce from across Canada and the World to work on one site under strict quarantine conditions. This particular servicing required approximately four thousand workers on one site working three shifts a day seven days a week until completion. All this was organised and managed by engineers working in isolation at home.

A large portion of the oil sands infrastructure in Alberta is located on the Athabasca Rise, an extremely isolated region with difficult access. Each major production facility is complete with its own airfield suitable for large jets, and worker hotels capable of housing several thousand workers each. Normally a workforce this large would be accommodated in the hotel attached to the facility, but covid protocols did not allow that. To accommodate the social isolations required, the workforce was spread out and workers hotels attached to other processing plants in the region were used to accommodate the overflow. Some companies chose to house their workers further afield and in this case the company chose to accommodate their workers in Calgary and flew them to the site and return at the end of each shift (two jets, an hour flying time each way, three return trips a day). Arrivals at the facilities airfield were staggered so that the terminal building could be cleared before the next flight arrived. Furthermore the personnel

The Generator

on the plane were kept separate from the workers about to board the plane for the return trip. To facilitate contact tracing all workers were allocated a seat, and they used that seat on each flight throughout the entire project.



An oil sand production facility in Alberta Canada

To minimise worker contact the site was divided into cells, each partitioned by temporary walls to isolate the teams. The workers in each cell were all from the one company, and did not have any contact with workers nearby. Some site wide specialised trades like heat treatment, non destructive testing, and specialised welding teams had staff dedicated to each cell. Supplies and materials were moved around the site by a dedicated team and laid down in each cell without worker contact. Certainly, no walking to the site store to get another packet of electrodes. The working shifts were segregated so that only certain trades were on site on any one shift. The electrical and instrumentation trades for example had the midnight till morning shift, and they did not see or mix with the mechanical trades working on the other two shifts.

So how did it all go? Well they almost made it. A flight attendant on an aircraft moving refinery staff (not maintenance workers) spent a night with her boyfriend, she got Covid from him. She in turn gave it to a passenger on one of her flights, a site courier driver, and he infected 25% of the site in the last week. There is an old saying about the best made plans of mice and men.

The lockdown conditions around Edmonton have finally been eased but this has created another problem that few foresaw. Companies are re-opening their offices wanting all employees back in a central location. However, most of the workforce have been working at home for over ten months, and have become quite cosy working from their basements. There is a general reluctance to move from home back to central offices. In recognition of this, most companies have given their staff a grace period so they could ease themselves back into travelling to work. The message is "our offices are open and all staff must be back in full attendance by a set date". In general that final date has just passed, but there are a lot of empty desks over there.

The onset of winter will prohibit all but essential work on the refineries. But planning is now under way to service other refineries in the late winter and early spring under covid conditions. The reason. The smart money is predicting that Edmonton with its 70% vaccination level will be back under lockdown by Christmas. It appears a full vaccination rate of 90% is required to allow any sort of normality.

The Generator



Some would say the latest manmade environmental disaster currently being inflicted onto the planet, oil sand mining in Canada!

Footnote: This article was completed on 10th of September and reflected the status at that time. Subsequent to this, we have been advised of the following:

Another lockdown has been declared. After eight full days working back in the office all staff are now back working from home. The scale of this outbreak is worse than the first. If left unchecked, the demand for ICU beds will likely exceed 150% of availability within 10 days.

David Bell



If you would like to be notified when this newsletter is published, send us an email with your **Name, Club** and **Email** address to <u>pnmec@trains.net.nz</u> with "Generator Please" in the subject line.