

Number 644

April  
2019

# The MICROMETER

AUCKLAND SOCIETY OF MODEL ENGINEERS INCORPORATED

PO Box 14570, Panmure, Auckland 1072, NEW ZEALAND

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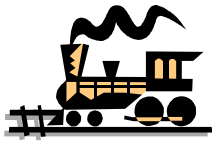
REGISTERED NEW ZEALAND PUBLICATION

## A Trailer full of Models

Mike Banks and Bruce Cooper displayed some of their own, and some of ASME's display models at the recent Brits & Euro Car Show in Pakuranga.

Photo: Grant Anderson





# Train Roster

Date	Electric Driver	Electric Driver	Steam Driver	Train Controller	Station / Guard	Station / Guard	
<b>7-Apr-19</b>	M Granger	M Plant	Voluntary	<b><u>T Robinson</u></b>	<b>B Matchett*</b>	M Vickers	
<b>14-Apr-19</b>	M Hollis	D Housley	Voluntary	<b><u>G Anderson</u></b>	<b>R Souter*</b>	D Vaughan	
<b>21-Apr-19</b>	J Lankow	M Moore	Voluntary	<b><u>D Russell</u></b>	<b>A Stratton*</b>	D Beecher	
<b>28-Apr-19</b>	P Moy	A Shirley	Voluntary	<b><u>G Wills</u></b>	<b>K Ryan*</b>	S Shirley	
<b>5-May-19</b>	R Reichardt	P Woodford	Voluntary	<b><u>B Aickin</u></b>	<b>R Stratton*</b>	M Vickers	
<b>12-May-19</b>	I Ashley	A Bailey	Voluntary	<b><u>P Dowdeswell</u></b>	<b>P Tomkies*</b>	D Vaughan	
<b>19-May-19</b>	G Beazley	M Granger	Voluntary	<b><u>T Lawrence</u></b>	<b>R Crook*</b>	S Wilson	
<b>26-May-19</b>	M Hollis	D Housley	Voluntary	<b><u>S Meikle</u></b>	<b>K Ryan*</b>	D Beecher	

**Bold and Underlined** Name = **Train Controller**, i.e. the person in overall control of all operations for the day

**Bold with Asterisked\*** Name = **Stationmaster**, i.e. the person responsible for activities in the station area and for the day's takings.

## **Please Note:**

If for some reason you are unable to attend on your rostered date, you are respectfully reminded that it is **your** responsibility to find a replacement member to fill the gap – please don't let the rest of the team for the day be left short-handed. **Note: the Train Controllers for both affected days must be informed of the swap in advance. It is the responsibility of the person who initiated the swap to do this.**

The details of the swap should be noted in the Run Book.

Also, please ensure the member you arrange a swap with is one who is rostered to undertake the same role to ensure we always have members with the appropriate training and experience on the day.

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## **APRIL CALENDAR**

**Tuesday April 2nd, 7.30pm** - General Meeting, ASME clubrooms

**Tuesday April 9th, 7.30pm** - Workshop Night, ASME clubrooms

**Tuesday April 16th, 7.30pm** - Committee Meeting, ASME clubrooms

**Coming Up** - **This Weekend** - Saturday 30th and Sunday 31st March. Vintage Harvest Festival at GVR. See poster on p11.

# Committee Comments

## Committee Comments – April 2019

The additional level of security at the clubhouse through using pin numbers to cancel the alarm was introduced from 19th March, albeit with first having to sort out some technical difficulties. The change simply requires a pin number (now advised to all authorised key holders) to be entered into the alarm keypad to cancel the alarm, rather than using the alarm key switch. Please be sure to follow the detailed instructions to ensure trouble free access. The current key will still be used to open gates, doors and padlocks as at present.

Mike Banks and Bruce Cooper organised a very good model engineering display for the Club at the Brits & Euro Car Show on the first Sunday in March – the display included several of their locos as well as items from the Club's museum display case. Bruce Matchett turned up to assist with the never ending queries from an amazed and interested throng of people who were at the show. Thanks to all involved for keeping the Club's name in the public arena.



The barbecue luncheon and unveiling of the plaque commemorating the late Jim Greasley's immense contribution to our Club took place on Saturday, 16<sup>th</sup> March at ASME. A group of members enjoyed a nice lunch prepared by Greville and Janet Wills and then attended the unveiling of the plaque which is fixed to a trestle bridge pile headstock adjacent to the main visitor entrance to the Waipuna Junction shelter. Six steamers made it along for the fun run, although one had to retire early. Good weather helped make the day very social and enjoyable.

Tony Lawrence and Mike Moore, assisted by various other members, have continued on with the replacement of the bolts in the James Greasley Trestle Bridge (JGTB) and after perfecting the methodology are proceeding at a good pace – last Saturday they managed to replace 10 in the morning! Bob Aickin is working on plans for safety fencing to be installed at the south-west end of the girder bridge. The Dsa still requires final checking by President Timothy before being reintroduced to Sunday running.

An updated Membership List and the 2018 Report to the Charities Commission have been uploaded to the Members section of the ASME website. If you haven't visited this section for a while, have a look as there is a lot of relevant information for members.

The Society's insurance covers have been renewed with Vero, albeit with a small increase in annual premium. These provide material damage cover on the Society's key assets and an indemnity cover for officers and volunteers (subject to excesses and conditions). Holding comprehensive insurance policies is both prudent and a requirement of our Council Licence (property lease).

As reported in the February Micrometer, the application for a renewal of our Amusement Device Registration was posted to Worksafe on 10<sup>th</sup> February – they say they are currently working on it and we are hopeful we will receive it in time to organise the permit to operate from Auckland Council before expiry of our current authorities on 8<sup>th</sup> April.

Dave Housley has volunteered to head the organisation of a 60<sup>th</sup> Exhibition at the Clubhouse in November this year. Dave will be looking for help, so please think about how you can be of assistance in making this a meaningful display of model engineering.

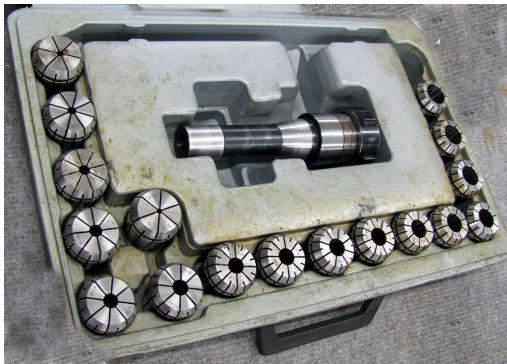


## Bits and Pieces, February 5th 2019

"Words and Music" by Dave Russell

Quite a small showing on this night, as members still on holiday.

Firstly, **Grant Anderson** explained the process for making new piston rings for his Phantom using carbon impregnated PTFE. Various factors come into play when choosing this material. Problems can arise around expansion of the material under working conditions. Cost can be quite high for raw material so consideration should be given to the saving of the centre "waste" part of the material. You can see where Grant has tried to overcome this by end parting the material to leave the centre intact to make smaller rings in the future.



**Mike Banks** brought in some collets to carry on from previous items shown, in the form of his set of Vertex collets that he uses on his mill. Mike has recently purchased, through a Vertex agent here, a Morse Taper holder of the same ER32 collet size so that he can use them in his lathe.

**Pete Woodford** was presented with a small job of making the hex's in some Allen head cap screws a bit bigger (*deeper?*) than standard to prevent stripping of the hex. No problem - just wheel in the spark eroder and make up a copper electrode to the correct size and presto "jobs done". Thanks again to the members who keep us up to date on modern solutions to old problems.



### Check Valves

Check valves, also known as clack valves, are non-return valves which are fitted on all water pipes feeding water into the boiler of the locomotive, and also on oil delivery pipes. In the majority of model locomotives they are simple valves fitted with a single rustless steel or bronze ball. The lift of the ball is generally restricted according to the duty involved. For instance where mechanically driven pumps are involved, the lift of the ball may be restricted to about one-eighth of the ball diameter; for slow-speed pumps or hand operated pumps, the lift may be about one-sixth of the ball diameter, while for use with injectors, the lift would be set at about one-third of the ball diameter.

The usual method of constructing the actual seating for the ball is to first use a drill of suitable size, follow this with a reamer, put through slowly and carefully; the upper chamber is then opened out with a drill and a "D" bit of diameter some-

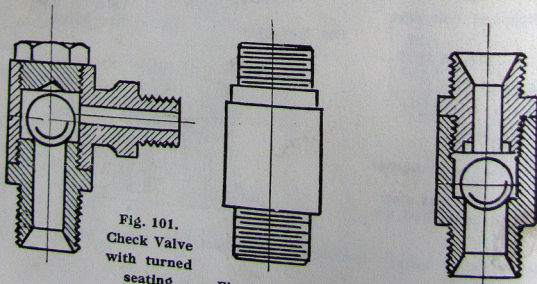
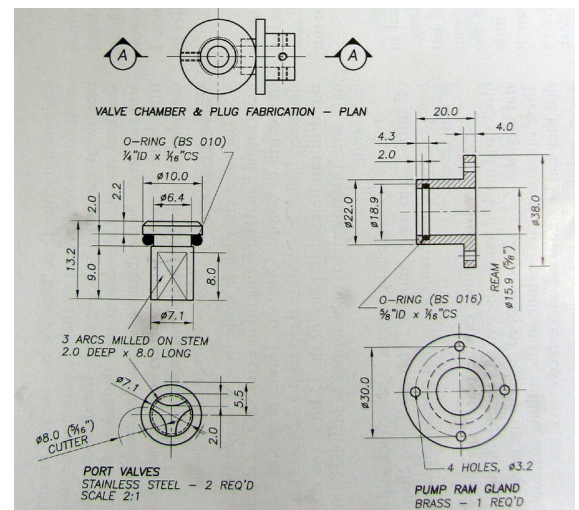
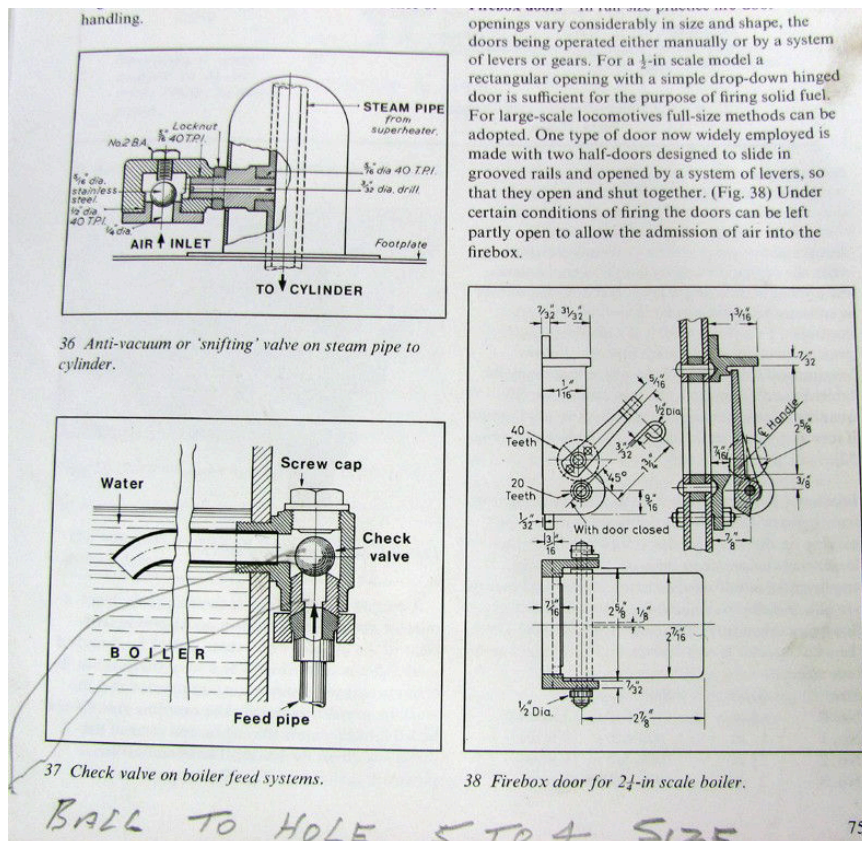


Fig. 101.  
Check Valve  
with turned  
seating

Fig. 102. Check Valve for use with top feeds

After a long running problem of not being able to get the injectors to work properly on his 5" gauge GWR King locomotive **Mike Banks** called on the help of Bruce Piggott to help solve the problem. After much testing and trying of pipes, pressures etc they decided the chamber size around the ball valve was too small and was causing the injector to first start and then quickly stop due to the ball moving over the feed outlet blocking it. By easing the size of the chamber and including a V shaped register in the ball valve cap for the ball to sit against the problem was solved. The photos show some examples of various valve designs that Mike has found to be reliable and work well.

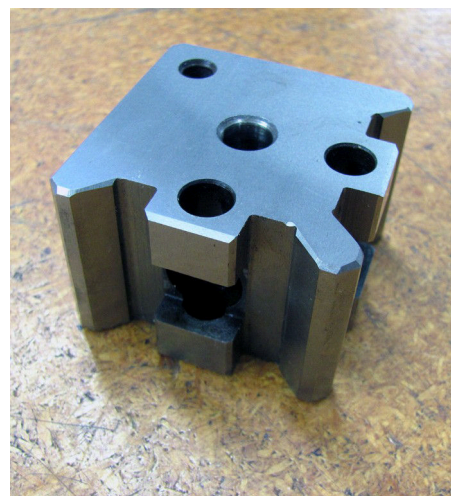




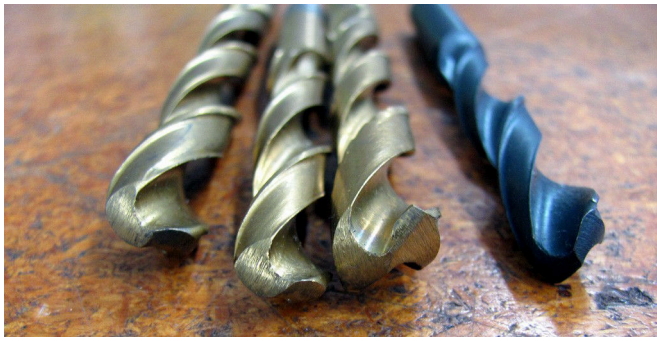
## Bits and Pieces, March 5th 2019

Also by Dave Russell

**Peter Tomkies** was asked to make an adapter for a steering wheel to fit a different steering column, for an old Ford, I think. No problem was the answer - if you have a piece of suitable material to make it from. His friend produced a lump of 4140 steel, so Peter set to and made the item as shown. Secondly after his bad experience with a cheap and nasty tool post holder, Peter had bought a much better item that just had a hole in the middle that was too small for his Myford lathe. Greg Burrows offered to spark erode the centre hole to the correct size.

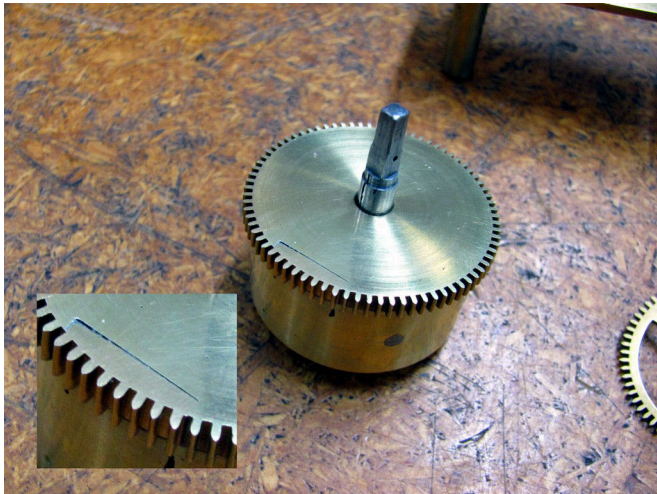
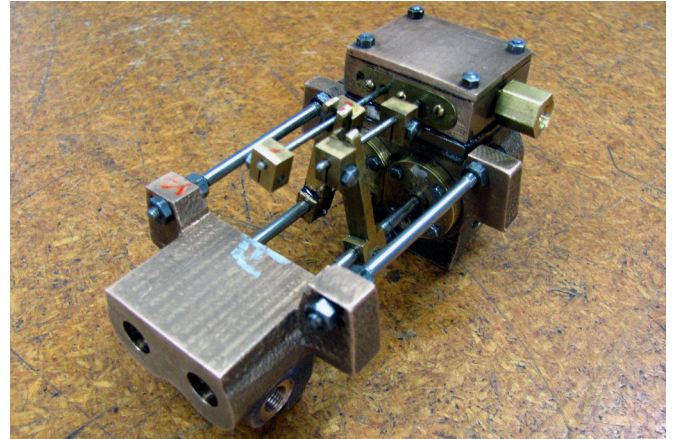






Here is another warning about buying what looks like cheap items from China. **Greville Wills** had bought these drill bits as part of a comprehensive set of drills that looked good from a distance and cheap as chips. Normally people buy these items on an impulse and only for use when in a hurry away from the workshop, Greville was astounded to see the state of these when opened, they looked like they had been abused beyond help.

This nice little Duplex Pump is being built by visitor Bill Parker for use on a Traction Engine. We are all looking forward to seeing it run when finished. Good work, Bill.



**Michael Cryns**, who is well known as our resident club clock expert brought in some parts from a "Victorian Light House Clock". The clock had suffered a broken mainspring that resulted in some damage to other gears in the clock. The photo and inset show what can be done to repair these valuable and unreplaceable parts, A section of the damaged gear has been removed and a new piece soldered in before being machined and the gear teeth cut to match the rest of the gear.



**Mike Jack** has been working on improving the accuracy of the live centre he bought from China. After considerable reworking Mike is happy now to use it in the CNC lathe when machining the axles for the pony trucks of his mass-produced fine scale locomotive parts.



Lastly **Mike Banks** has had some problems with the boiler from his 5" Beejax model. The problem started with a leak in a superheater flue. After fixing the leak and upon bringing the boiler up to hydraulic test pressure the flue collapsed (consensus: due to the flue being "soft" after being annealed during the repair procedure). Shown are various tools for boiler work and removal of the damaged flue.



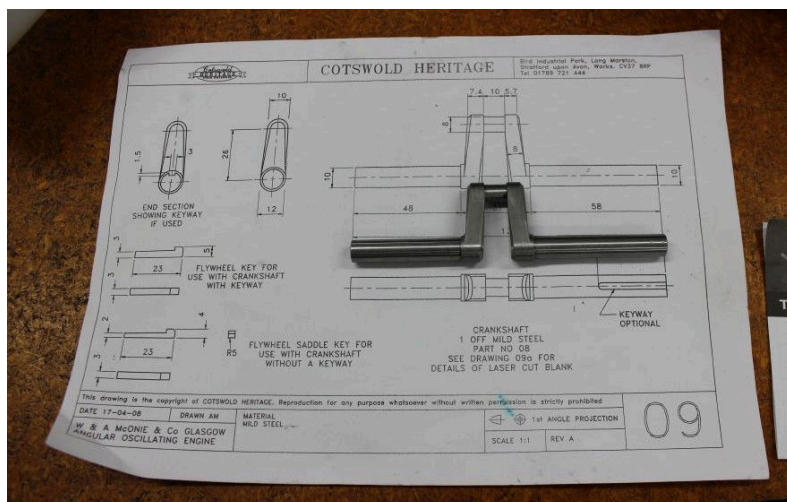


## Workshop Night Tuesday 12th March 2019

Presented by Greg Burrows

Tuesday night was another well attended ASME Workshop night. We started at 7-30 and approximately 13 members turned up to talk about the bits and pieces they had brought along. The meeting was closed down at around 9-45pm.

The bits and pieces started with the smokebox for a 5" Gauge Nigel Gresley locomotive built by **Martin Plant**. A couple of meetings ago he brought along the name plates for the loco and was trying to work out how he was going to attach them. He set them up and Easy-flowed a couple of screws to the back and then used these to bolt the names to the smokebox sides. He is continuing to make good progress on this model.



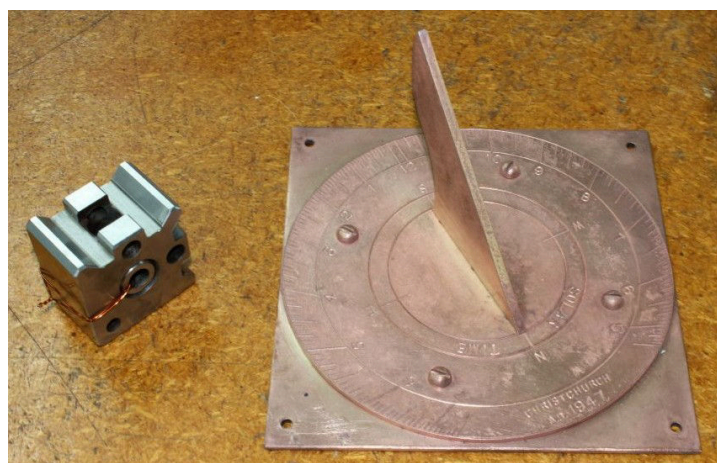
This item is from the workshop of **Michael Jack**: it is a crank shaft for a little stationary engine he has been asked to make for a customer. Michael tells us this is the first crank shaft he has made and it made a good project to get his teeth into and learn about the secrets of setup and holding involved to make a nice job. He was very pleased with his result.



**David Russell** has been working on his Beejax for a little while now (something like 20 years give or take a little) and he thought it was time to dig it out and see how it was keeping and to bring it along so we could all enjoy it. He has had it running on air and tells us he is very pleased with the timing and the sound it makes.



He also had the boiler and all the components to go with it. The boiler has a little bit of work to be done before it can have a boiler test, but it is looking very nicely put together so far. Well done David.



**Peter Tomkies** had a sun dial that needed a clean up when he brought it along to the last meeting and asked what he could use to clean it with. Now it has returned and is looking a whole lot better! The suggestion was to soak it in citric acid and as you can see it has cleaned it up nicely.

Also in the same photo is a tool post that Peter brought for his little lathe but ran into problems with the hole in it not fitting over the bolt on his cross slide. So it was taken away by Greg Burrows and a slightly larger hole was spark-eroded in it to enable it to fit his lathe. Another happy model engineer is he.



One of our members we have not seen for a while, **Murray Granger**, came along with this vertical boiler and water supply tank he is building. The tank was made out of an old stainless steel Thermos flask he was given and does the job very well. His boiler still needs a little bit of work before it will be ready for use.



Bill Parker has been asked by a family to see if he can sell some castings and a set of drawings for a 4" scale Burrell Traction Engine that was started many years ago by a guy that is not a member of a club and had imported the castings and CE certified boiler from England back in the early 90's. Unfortunately he has had to move into a home and cannot carry on with the traction engine project.

In the photo you can see the crank shaft with 2 of the gears mounted on it, the castings of the smokebox and castings for the centre of the wheels and one of the large gears from the final drive. This is a big engine with the rear wheel measuring 24" in diameter.



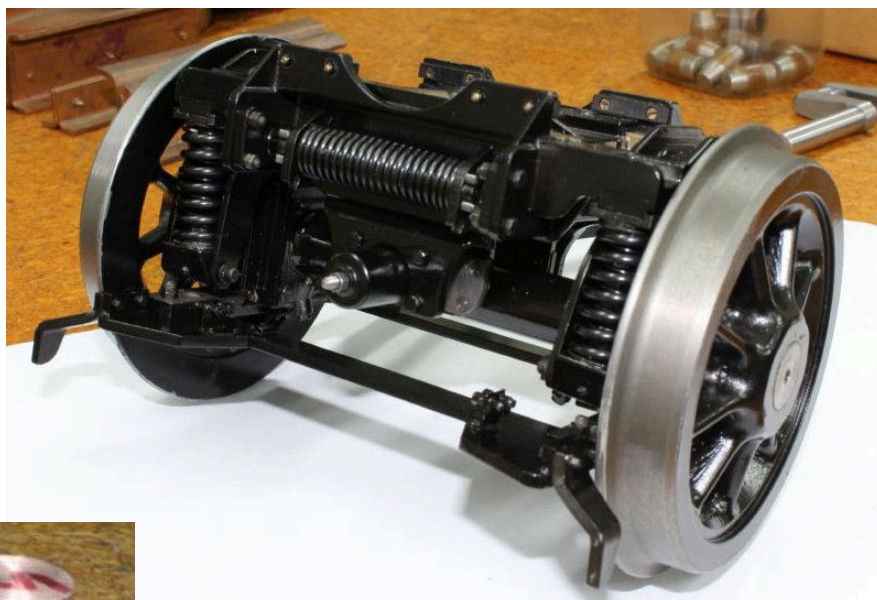
**Kevin Ryan (?)** has been busy making a fire screen for a friend and told us about just how much work was involved in the making of it. The photo shows you some of the jigs he had to make so he could bend the tubing that was used to make up the frame to the various radii and lengths he needed. He also had a set of photos to show us but they didn't copy well. Sorry.

**Murray Hollis** is at it again. He likes nothing more than to find a little project that requires that little bit extra thinking about. This time it is an old Tellus vacuum cleaner (the old aluminium ones). Unfortunately this one has had a little bit of water in it and the corrosion had started to do its thing. Not to be outdone Murray has been experimenting with different ways to remove the damaged and corroded screws from part of the body so he can carry out a good overhaul job.





**Michael Jack** has been working furiously on getting together the pony trucks for his locomotives he is building. The upside to this is the pony truck is also used on other classes of British locos and with a couple of changes it will also fit on the class 9F Evening Star class locos, which is what this pony truck is for.



**Peter Woodford** brought along a couple of copper electrodes used for EDM spark eroding, in this case a hexagon and a square. The copper electrode is made to the size of the job you want minus a small amount to allow for the spark gap to burn the size you need. This is usually around 0.008mm a side.

**Greg Burrows** has been building a 3D printer from a Chinese supplier. He has finally got it to start printing. It still needs to have the setting sorted out to get a good print out of it, but this is a slow process and requires printing lots of test pieces and making adjustments and trying again. You can see some of the problems he is having with the samples he brought along.



Well that is a quick round-up of the workshop night and as always it is a good time to ask all those questions about engineering or other ideas on how to do something that you would like help with. (Remember the un-asked question will not get answered)

So remember this meeting takes place at 7-30 on the second Tuesday of the month and all members are welcome to come along and join in. At the next meeting we are going to give a talk about the ins and outs of EDM spark eroding and EDM wire cutting.

Cheers Greg B



FRANKLIN VINTAGE  
MACHINERY CLUB

2019

Presents

# VINTAGE HARVEST FESTIVAL



AT THE

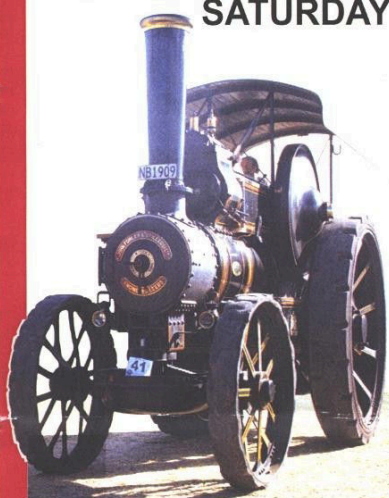
**GLENBROOK VINTAGE RAILWAY**

SATURDAY 30<sup>th</sup> and SUNDAY 31<sup>st</sup> MARCH

9AM TO 5PM

*Featuring*

- Clydesdale Horses
- Vintage Tractors in Action
- Old Time Threshing
- Traction Engines
- Vintage Engines
- Steam Trains
- Vintage Cars
- Vintage Shearing
- Farm Animals
- Big Band Music
- Kids Activities
- and Much More ...



**100  
YEARS**

Franklin Trucking History  
John Deere in New Zealand  
Pukekohe Vegetable Growers Assn



ADMISSION – Adults \$10, Children Free (Rides Optional & Extra) PARKING – FREE

Follow the Drury – Waiuku, or Pukekohe – Waiuku Route, Turn into Glenbrook Station Rd (signposted)

Further information: Ph 027 571 1232, or email the organiser at: [2robbz@gmail.com](mailto:2robbz@gmail.com)





*And finally, if you think we have problems getting through to some customers at Waipuna Junction:*

*A couple of weeks ago, my wife and I travelled on the Coastal Pacific train from Christchurch to Picton. When we went to use the outdoor viewing carriage, we found it closed. Only then did we discover a pile of copies of this letter on the dining car counter. It seems that recently someone using their phone on a selfie stick failed to see a tunnel coming up! (Ouch!) They wanted the train stopped so they could recover their phone... -Ed*



Dear Passenger

## Important notice regarding your Great Journeys of New Zealand Rail journey

### OUTDOOR VIEWING CARRIAGE CLOSURE

Following an increasing number of potential safety incidents on KiwiRail's Great Journeys of New Zealand scenic rail services, our outdoor viewing carriages will be closed from 9 March while a safety solution is found.

KiwiRail's Group General Manager of Zero Harm, Katie McMahon, says while the carriages have been in use for the past 10 years, in recent months an increasing number of passengers have placed themselves and others in danger by leaning out of the carriage to take photographs.

"Despite the number of signs and announcements on board our trains pointing out the dangers of this, we have seen passengers leaning out with selfie sticks, ipads and their bodies often unaware of an approaching tunnel which could cause a tragic incident for themselves and others in the carriage.

"Outdoor carriages like these are predominantly used internationally on heritage or very slow moving trains. Our award-winning Northern Explorer, Coastal Pacific and TranzAlpine trains travel through beautiful often windy topography. We are a hilly country that requires a lot of tunnels.

"We know some of our passengers will be disappointed that they will not be able to use these outdoor carriages while a solution is found. We offer our heartfelt apologies to them, but we cannot risk a safety incident like this tomorrow or at any time."

KiwiRail will continue to tow the carriages as the train's generator which powers train systems such as lighting, refrigeration and air-conditioning carried onboard. Passengers, however, will not be allowed into them.

Finally, we apologise for the short notification and for any inconvenience that the change to this service may cause.

Kind regards

### Great Journeys of New Zealand

Freephone: 0800 872 467 | Overseas: +64 4 495 0775 | Email: [bookings@greatjourneysofnz.co.nz](mailto:bookings@greatjourneysofnz.co.nz)  
Hours of operation: Monday to Sunday: 8am - 5pm (closed 25th of December)