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# The MICROMETER

AUCKLAND SOCIETY OF MODEL ENGINEERS INCORPORATED

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REGISTERED NEW ZEALAND PUBLICATION

## **MICROMETER visits GVR**

and the Franklin Vintage Machinery  
Club's Harvest Festival.

See pages 6,7.





# Train Roster

Date	Electric Driver	Electric Driver	Steam Driver	Train Controller	Station / Guard	Station / Guard	Station / Guard
5-Apr-15	J Lankow	D Moffatt	Voluntary	<b><u>T Robinson</u></b>	<b>R Street*</b>	P Tomkies	D Addis/G Taylor
12-Apr-15	M Moore	P Moy	Voluntary	<b><u>T Lawrence</u></b>	<b>J Burnett*</b>	J Clarke	R Copeland
19-Apr-15	M Plant	R Reichardt	Voluntary	<b><u>G Anderson</u></b>	<b>R Crook*</b>	J Davies	G Dickey
26-Apr-15	P Woodford	B Aickin	Voluntary	<b><u>D Russell</u></b>	G Healy	<b>P Jones*</b>	D Leybourne
3-May-15	D Booth	B Cotton	Voluntary	<b><u>G Wills</u></b>	<b>M Luxton*</b>	H Martin	C Mitchell
10-May-15	P Dowdeswell	M Granger	Voluntary	<b><u>D Black</u></b>	<b>G Murray*</b>	A Pritchard	M Richardson
17-May-15	M Hollis	D Housley	Voluntary	<b><u>T Lawrence</u></b>	<b>J Olsen*</b>	K Ryan	A Shirley
24-May-15	J Lankow	D Moffatt	Voluntary	<b><u>S Meikle</u></b>	R Stratton	<b>R Street*</b>	G Taylor
31-May-15	M Moore	P Moy	Voluntary	<b><u>T Robinson</u></b>	P Tomkies	D Addis	<b>J Burnett*</b>

**Note: Some changes in April**

### **Bold and Underlined Name:**

This is the designated **Train Controller**, i.e. the person in overall control of all operations for the day

### **Bold with Asterisk\* Name:**

This is the designated Stationmaster, i.e. the person responsible for activities in the station area.

The Stationmaster is also responsible to account for the day's takings.

**Drivers:** Please keep your eyes open for unusual or suspicious behaviour around the track which may affect the safety and/or smooth operation of our trains. Report such activity to the Train Controller.

### **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.

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.

### **General Meeting Tuesday April 7 at 7.30pm.**

The speaker will be Geoff Patterson who has a Drone business . He will be speaking on the technical aspects of flying these drones , the applications they are utilised on and the legalities of such operations.

Arranged by Dave Housley.



# President's Report

As this letter goes to press, news is breaking, which we model engineers should have been expecting for some time. The metric system is to be abandoned.

It did get off to a bad start. Trying to copy the idea that the nautical mile was based on a minute of latitude, the founding unit, or "metric yard", was supposed to be an exact fraction of the distance between Paris and The North Pole. Mistakes were made and it was never anything of the sort. Then the insistence of dividing everything by 10's resulted in the millimetre, a unit so small that a user of respectable age has difficulty seeing it. The unit of mass was defined by the gram; too big for apothecaries and too small for grocers. Theoretically the system provided names for every decade: these were only occasionally used apart from the popularity of centimetres in dressing. Engineers closed ranks early and refused to have anything to do with units other than multiples of the powers of three. That had some merit but the unintended effect was that abbreviations for all units became the same; mils could mean millimetres, milligrams or millilitres. That problem has never been solved.

Even the decimal money was a shambles. Good old terms such as threepence, sixpence and two bob were lost and have only been replaced with clumsy phrases like "a twenty cent piece". The elegant temperature scale devised by Daniel Fahrenheit was changed for no good reason. That scale was based on the idea that the important limits for everyday use are the freezing point of the sea and boiling point of water. It was argued that these measures were most likely seen on a dial and therefore the range comfortably occupied half of the circle (180 degrees), providing adequate resolution for all practical purposes. The fanatical metricists scrapped that, reverting to the older idea of starting from the freezing point of fresh water and ending at the beloved 100 set at the boiling point of water which is only precisely correct at a specified atmospheric pressure. The resolution of the scale remains insufficient often having to resort to use of fractions of a degree.

Once the whole mess was more widely used, the mismatch between the metre and the gram became problematical and so rather than admit the mistake the system was redesigned and arrogantly called "International ". The base unit still uses the metre but now the kilogram is the unit of mass resulting in a whole new set of derived units. Engineers are not without some blame. The beautifully evolved imperial system relied on division over and over again. A ruler marked out in inches, an ideally useful unit for practical purposes, could be evenly divided as many as 128 times and with the careful use of tools such as dividers these units could be transferred accurately to work. However the rot was setting in and with the advent of repetitive production sadly even the noble inch was metricated by the advent of micrometer dials. Make no mistake, an engineer who uses 'thou' is already on the slippery slope to metrication.

It is hard to know where we will go from here. The ever diminishing metricists are saying that if they can't have their metres they want to move back to chains so they can have 100 links. None of this addresses the cause of the real problem which is that the 10 base number system only ever arose from our habit of counting on 10 fingers. Apart from that there is hardly any merit as 10 can only be halved once, making it only marginally better than 7, 9, 11 or 13. The designers of the early imperial measuring systems were not so easily led and used a base of 12 or, better still, 16. The whole problem could be solved by changing the number system; 16 is clearly ideal and is already used in some areas. Then, perhaps, some proper units such as pounds and ounces could be restored as well as the foot with its 12 inches ideally divided into units which halve by the simple expedient of doubling the denominator. Such a simple yet perfect system will be hard to promote because it exists and nobody can become newly famous for it. We may be waiting for some time yet.

David Black, President.  
1/4/2015.

## Bits and Pieces March 3 2015

Conducted, with photos and reports, by Dave Russell.



Our multitalented member John Olsen has been trying something new again, this time in the form of hand woven hemp fenders for his steam launch. John has never done this before but consulted some books and the internet and then taught himself. He has done a fine job as can be seen: he is however uncommitted about making the one for the bow of the launch. This will be similar to that seen on many older tug boats.

Peter Woodford brought along an assortment of items that would be familiar to anyone who has raced motorcycles or had experience working on them at close quarters. The plastic tube item at top of the photo is for setting the float levels on carburetors, and the syringe and brass tube are for measuring and setting the oil level in the front suspension forks.



Always on the hunt for something that can be adapted for a model engineering purpose, Greg Burrows has found this one-way valve fixed inside a length of copper tube that he is going to use for the vacuum brakes on his locomotive. As the valve parts are made from plastic they would only be suitable for cold operational uses.

Greg has also been asked to make some loco plates for an NZR WAB class being crafted in 7-1/4" gauge, the one on the left with the large numerals was machined on a CNC mill. The more detailed one was lost wax cast using one of Mike Jack's 3D printed waxes.



Greg's last item tonight was a dimmer switch that he has obtained. It will handle 245Volts at 8 Amps. He has a couple of spares for sale if anyone is interested.

Graeme Murray had a Vertex dividing head for sale on behalf of a deceased estate, looked to be in good condition with little use, please contact Graeme if interested.



The last item tonight was a rod threaded with a 16mm equivalent of an Acme thread. Mike Moore explained that a tap had been bought from Australia to cut the inside thread in the bronze nut, and a special traveling steady had been made to support the rod while turning the thread.

A day out at the Franklin Vintage Machinery Club's

## Vintage Harvest Festival

Sunday March 22nd turned out to be a beautiful day, so what better to do than take a trip out to Glenbrook Vintage Railway and have a look at the "goings-on". The Franklin Vintage Machinery Club, and other contributing organisations, put on a magnificent display.



There were many beautifully restored engines on display - most of them, such as the few seen in the pictures above, chugging away doing something useful, like driving pumps, etc. These are just a few of the many photos I took during the afternoon.



This Boothmac Climbing Gear Jack Pump was interesting (though not that easy to see in my photo). It has a clever design where the larger (oval) gear appears to climb over the smaller gear, so converting rotary motion to vertical.



How's this for a "portable entertainment centre"? Somewhere in there is a stationary steam engine driving a generator which powers the music system and the sound comes out the speakers which can be seen under the corners of the canopy.



There were tractors - lots of them. Oddly enough, most of them were red. Perhaps it's something to do with making them outstanding in their field!



My favourite was this one (my dad used to own one just like it!).

And trucks.. how's this for an old-timer? I recall seeing it on the streets of Pukekohe many years ago.



Star attraction was the Foden steam wagon. Unfortunately, when I saw it, it was "parked" between two cars, and with lots of people around, making it difficult to get a good picture. However, I thought the view inside the "cockpit" might be of interest.