

# The MICROMETER

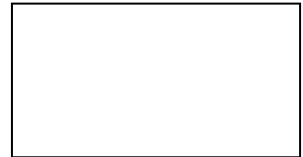
THE AUCKLAND SOCIETY OF MODEL ENGINEERS INCORPORATED  
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Club Web Site [www.asme.org.nz](http://www.asme.org.nz)

**Number 538**  
**August 2009**



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REGISTERED NEW ZEALAND PUBLICATION

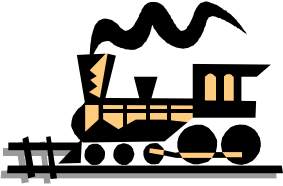


**ASME 50th Jubilee Exhibition**  
**Friday 2<sup>nd</sup> – Sunday 4<sup>th</sup> October 09**  
**Waipuna Hotel, Panmure**  
[www.asme.org.nz](http://www.asme.org.nz)  
[jubilee@asme.org.nz](mailto:jubilee@asme.org.nz)

RETURN ADDRESS  
ASME  
PO BOX 14570  
PANMURE  
AUCKLAND 1741



**Traction Engines at Glenbrooke Vintage  
Railway February 2007**



# Train Roster

Date	<u>Electric</u>	<u>Electric</u>	<u>Steam</u>	<u>Station</u>	<u>Station</u>	<u>Station</u>	<u>Extra Guard</u>
2-Aug-09	T Crake	P Eaton	<b><u>A Gasteen</u></b>	M Hollis*	<b>P Jones</b>	T Lawrence	
9-Aug-09	M Granger	J Harrison	<b><u>B Piggot</u></b>	D Leybourne	W Lord	I Lyons*	
16-Aug-09	D Housley	J McManus	<b><u>A Pritchard</u></b>	<b>H Martin*</b>	S Meikle	A Murley	
23-Aug-09	M Plant	T Robinson	<b><u>D Russell</u></b>	<b>G Murray</b>	E North	<b>J Olsen*</b>	
30-Aug-09	J W-Buys	P Woodford	<b><u>R Van Ryn</u></b>	W Parker	<b>G Quayle*</b>	R Reichardt	
6-Sep-09	J Yearn	D Black	<b><u>G Anderson</u></b>	M Richardson	A Roberts	<b>K Ryan*</b>	
13-Sep-09	D Booth	B Cotton	<b><u>G Bell</u></b>	A Shirley	R Stratton	<b>R Street*</b>	
20-Sep-09	R Craig	T Crake	<b><u>L Farquhar</u></b>	T Taylor	<b>A Watson*</b>	A Whillans	K Toyoda
27-Sep-08	P Eaton	M Granger	<b><u>A Gasteen</u></b>	I Ashley	P Boyes	G Briggs	

1-Oct-09 ----- ASME Exhibition day - Setup Day ----- Everyone who can please -----

2-Oct-09 ----- ASME Exhibition day - Volunteers required on the day -----

3-Oct-09 ----- ASME Exhibition day - Volunteers required on the day -----

Please call Greville (411 5092) if you can help at any time during the exhibition

**Bold and Underlined** name – is the designated **Train Controller**, i.e. the person in overall control of all operations for the day. If you are the **Train Controller** you should phone around the others rostered for that day to make sure they remember to turn up.

**Bold with Asterisked\*** name – is the designated **Stationmaster**, i.e. the person responsible for activities in the station area for the day. The Stationmaster is also responsible to account for the day's takings. **Please Note**, there is no expiry period or date on train ride tickets previously sold.

## Club Calendar August 2009

August 4 <sup>th</sup>	Monthly General Meeting, Graeme Murray will demonstrate a Laparoscopic surgery training apparatus that he designed and built. Possibly a short DVD on the loco that Dave Giles built to assist in the repairs to the Harbour Bridge.
August 9 <sup>th</sup>	Working Bee at club track, work to be done to facilitate the repair to the track signals in the lead up to the Jubilee, further details at the general meeting, start 8.30am. Bring Spades, Shovels and Wheelbarrows.
August 11 <sup>th</sup>	Committee Meeting
August 18 <sup>th</sup>	Workshop Night this month at Mike Jack's, 5 Matangi Road, Mt Wellington

## Presidents Report

Well time is marching on towards the Jubilee and planning is well underway. Myself, Hugh, Greville and many others have been putting in a lot of hours to ensure a successful event.

TV advertising has been booked and production of the advert is in progress at the moment.

Murray Lane has spent many hours putting together the content for the History of the club book that is being produced in commemoration of the clubs 50<sup>th</sup> year. This has been forwarded to Doug Leybourne for proofing and final editing.

A poster has been designed and printing costs obtained.

Two Eftpos machines have been organised for use at the door of the exhibition and the associated banking arrangements made.

Arrangements for the display tables have been confirmed and items booked.

Meanwhile the normal day to day running of the club carries on.

We have had a very close look at the full size smokebox within the grounds. There is extensive rusting around where the chimney joins on, this has been tested to make sure it is not a safety issue and plans are under way to fit a curved patch as a permanent repair. A cap will be fitted to the top of the chimney to stop rain water causing the same problem again. As part of the same project the whole smokebox will be sandblasted, rust proofed and repainted as well as improvements to the support of the whole unit on to the concrete block plinth.

Tim Robinson has taken on the task of getting the signals working in time for the Jubilee weekend and assistance at working bees would be greatly appreciated.

In the stores department we have acquired a large stock of certified cadmium bearing silver solder thanks to Mike Jack who brought it back from his recent visit to the UK. It is exactly the same as what we know as "Easyflo No 2" and has worked out somewhat cheaper than locally sourced product.

A new 20L drum of Steam Oil has been delivered to the club engine shed, this is here for the use of Sunday rostered steam locos, this is a costly consumable and if you require steam oil for private use please contact the club stores.

When at the clubrooms or running at the track please be aware to make sure everything is switched or turned off and that everything is locked and alarm set properly, this only takes a few minutes to check, recently we have had the water left on at the engine shed (can still leak under the steaming bays) and a heater left on in the clubrooms.

General Meeting Entertainment coming up in the near future. In August we have Graeme Murray giving a practical demonstration of a contraption he invented and made to train people in the delicate art of Laparoscopic (Keyhole) Surgery, anyone who wants to "have a go" can do so and indeed will be encouraged to. If time permits Mike Orange has a short DVD on the loco that Dave Giles built to assist in the repairs to the Harbour Bridge. Mike also has a DVD on another loco built by Dave, this is the one that is used for maintenance and runs in the power cable tunnel between the central city and the Penrose sub station, we may view this at the September meeting.

Thanks to Stan Locke for his excellent talk on Nails and Nail making, It is great to see some of our older members passing on their life experiences.

*Gary Farquhar*

## **Bits & Pieces, General meeting 7<sup>th</sup> July 2009**

Graeme Quayle's "Twist Drill Grinding Jig" was up with "words and music" by Graeme to augment the articles which were in the M.E. about November 1963. Graeme has redrawn the plans to include the improvements he has designed. He offers these to any member who may be interested.

It can now be used to sharpen 2,4 and 6 flute cutters, slot drills etc. Graeme has made a nice box to hold it all together. **Photo A**

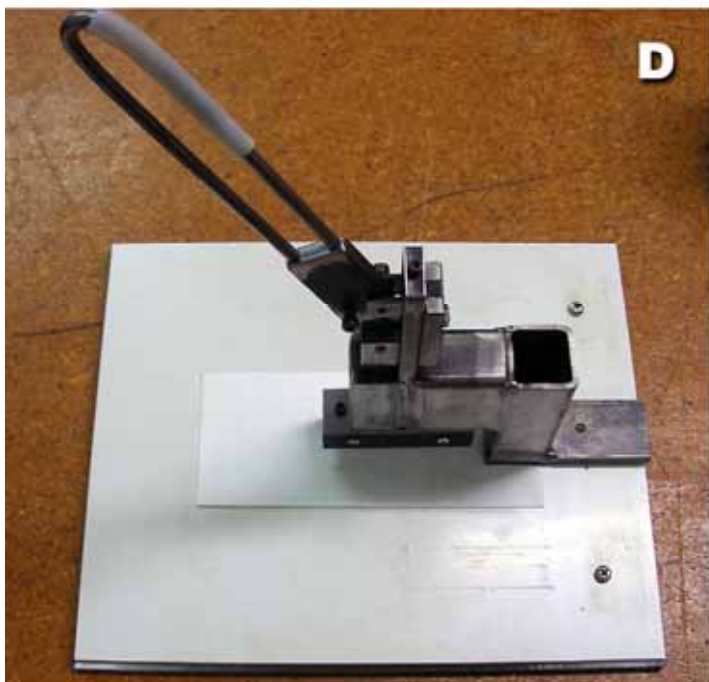
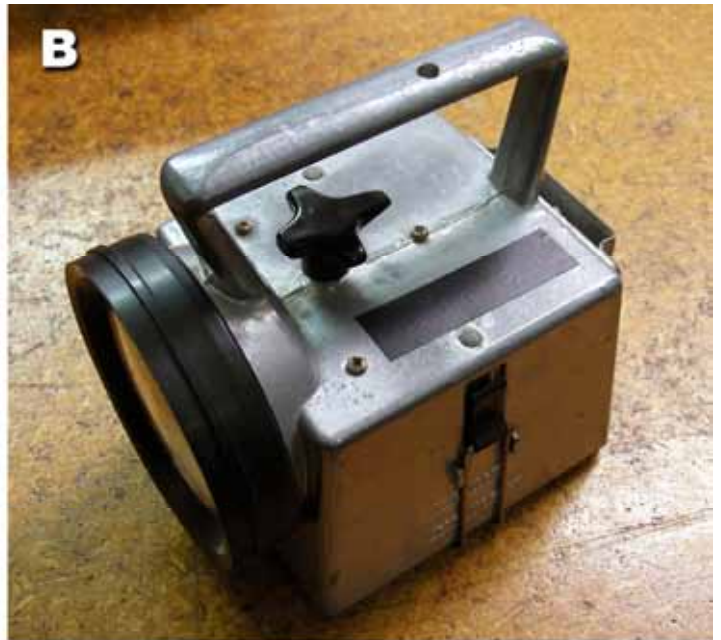
With a bit of research and help from <http://www.footplateequipment.co.uk> I managed to check the correct spelling for the "Bardic" lamp Peter Woodford brought. He has encouraged it to accept "normal" cells so it can be used. When one is not an employee of a (British) railway company one can't get the special batteries. Check the above website for other B.R. station gear used by station staff etc. Peters still shows all the correct colours. **Photo B**

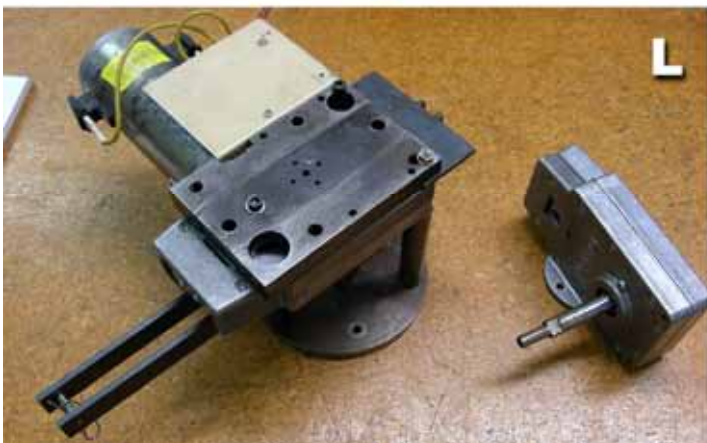
A large brass steering wheel and worm gear that had to be for a Traction Engine proved to belong to Bill Parker for his 4" Foster of course! **Photo C**

Some historical tools went to good homes from a retired soldier who has ceased full size boiler making and at the age of 90 years young, donated his tool box to the club members.

Graeme Murray showed a guillotine he made for cutting regular samples from packaging on the production line at work. Graeme explained how these samples have to be the same size and presented to a "pull tester" to assure the quality. Graeme also regaled us with an anecdote of a bonus supply of good (Nicholson!?) files he bought 47years ago for a dollar each! He broke the last one out recently!

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(Aaaargh! Has anyone also found how difficult it is getting good files lately? I s'pose the traditional factories are struggling to compete? I have been trying to replace my "dead smooth" pivot file for a few years.) **Photo D**

Richard Street has made some nice screw clamps that fit the "T" slots in the cross slide of the Myford. These allow accurate and minute adjustments to be made when taper turning. The design is from George Thomas in the M.E. Workshop magazine. **Photo E**

A nice botanical work of art in brass by Ray Brown was a change of pace from CNC. See!? We engineers are artists too! **Photo F**

Murray Lanes immensely complex dual row rotary (Monosoupape?) engine put in a partially assembled appearance for the record. Through research Murray has discovered some structural changes necessary, and replacement parts need to be drawn and re-made. This engine never ceases to amaze us!

On the more commercial scale, a 10cc "Saito 56" 4-stroke engine was on the table. Gary Briggs went on to mention the tremendous reliability of these engines, having completed at least 140hours at an average of about 10 000 rpm! 140 times 60 times 10 000 = 84million times those tiny valves and pistons have changed direction! These engines put out about a "horse" don't they? **Photo G**

The wonderful scale tender for Hugh Martins loco made from brass sheet and a million tiny rivets, a lot of sweat, some tears and some (extra?) grey hair was up next. The tender is flanged and double row riveted as per full size. Hugh may have mentioned some nefarious activity with two-pot sealant, but I'm not sure. The final product took about 85hours to make. **Photo H**

A Strange brass "what is it?" belied an interesting tale. It proved to be a "Nested" set of troy weights used by apothecaries to weigh gold amongst other things. (... [precious metals](#), [black powder](#), and [gemstones](#). – Wiki) Christopher Ratcliffe's Question: "Which weighs more, a pound of feathers or a pound of gold?" Answer at the end of the "Bits and Pieces". **Photo I**

Greville Wills has been doing some plumbing on his "BeeJax" and will have some progress presented by the 50th Anniversary Exhibition. How about YOU?! **Photo J**

Dave Housley invested in a trepanning tool to carve tyres out of solid bar for his 7 ¼ Phantom on his lathe. The suppliers don't have cored bar in 220mm, so Dave is going to use the inner bits as well. Dave's pilot beam also weighs a tonne (or a ton?), so, as the loco comes together we may not see the whole very often! Keep bringing the bits in though Dave! **Photo K**

Graeme Murray's electric draw bar ejector needed a new one, so Graeme made one out of parts he has lying about. **Photo L**

Ross and son Hayden Purdey have been busy and turning out lovely things! Hayden has turned out some aluminium pens which look better than commercial products. With their home made anodising working so well, a whole raft of possibilities arise! The fine "master engine and spare" Ross has been making are based on the "Mills" diesel engines designs of yesteryear. Please keep up the good work and give us a demo when they run sometime? **Photo M**

All Right! Own up those (Like me!) who said a pound of feathers and a pound of gold weigh the same? Answer by Wikipedia and confirmed by Britannica:

The troy pound (troy) is 5,760 grammes, while an avoirdupois pound is heavier at 7,000 grammes . There are 12 troy ounces per troy pound,<sup>[2]</sup> rather than 16 avoirdupois [ounces \(oz\)](#) in the avoirdupois [pound \(lb\)](#). The avoirdupois pound is therefore 147/12 (≈ 14.583) troy ounces.

..... and since gold is weighed by the troy pound, and feathers by the (avoirdupois) "conventional" system, the feathers weigh more! (It may also be semantics but, about that ton/tonne thing?)

Roger

## Classifieds

### Wanted

We are missing the following recent issues from the Model Engineer and Model Engineer Workshop magazines.

In spite of many repeated requests by Graeme to the company we have had no joy in getting them.

They cover three volumes which cannot be bound until they are received.

Model Engineer issues 4337, 4338, 4339, 4343, 4345 and 4346.

Model Engineer Workshop number 149.

If any members have the missing issues that the club could purchase, please contact Murray Lane

PH: 534 8396, email: [lanemjk@slingshot.co.nz](mailto:lanemjk@slingshot.co.nz)

## Exhibition display item description cards

The following information is required for each single item entered in the 50<sup>th</sup> jubilee display so that display cards can be generated. I am in the process of writing these cards on a computer.

The headings provided are similar to what has been used in the past and are designed to give the public some background on all the items displayed.

**Exhibit:** (The name of the exhibit)

**Prototype:** (The prototype the exhibit was based on)

**Builder:** (Who made the item)

**Year completed:** (The year the item was finished)

**Description:** (Up to a maximum of 38 words giving a short explanation of interest on the item)

**Year:** (The year the prototype was made)

**Owner:** (Who now owns the item)

**Time to build:** (In years or months)

Please email [lanemjk@slingshot.co.nz](mailto:lanemjk@slingshot.co.nz) or write to Murray Lane 63 Andrew Road Howick, Auckland 2010. or phone 09 534 8396 if you require any more information.

## Upcoming Model Engineering & Associated Events

2-4 October 2009      A.S.M.E. 50th Jubilee Exhibition

5-11 Jan 2010      Nelson Society of Modelers Inc., Steam and Cinders 2010 International Live  
Steam Convention [www.nelsonmodellors.org.nz](http://www.nelsonmodellors.org.nz)

## Around the Clubs, reviewed by Alan Emerson

### Leading Points, Thames Small Gauge Railway, Winter 09

AGM time again and a very successful Open Weekend. Visits to the Ocean Beach Railway [with it's coffee shop built to look like a steam loco], to the Taireri Railway and a trip to Australia to the Castledare Convention. Also noted a change of address for the club to 9/11 Queen Street, Thames 3500.

### Engine Booster, Los Angeles, June 09

Great write up on the Spring Meet with a lot of photos of the great number and variety of locos. Great catering too, by the sound of it, no one went hungry.

### Narrow Gauge, Adelaide Miniature Steam Railway Society. July/August/Sept 09

Photos of a number of models nearing completion including a Mallet and an Overlander carriage. Also a model signal box to add to the scale buildings around the track. Not sure whether the model equipment is left around the track permanently or just put out on running days, looks good anyway.

### Steamers and Dreamers, Manukau Live Steamers, June 09

Cover photo of the new DXR 8007 with an article on it's construction. Queen's Birthday a great success despite the odd shower. Copy of the application form for the Nelson Steam and Cinders Event.

### The Generator, Palmerston North, May and June 09

The cover photo on the May issue shows a very ingenious herb harvester. Inside is another Letter from England, a hot air engine and a garden railway. In the June issue an "F" class model loco that was built 70 years ago and is now restored and back in steam. Another Letter From England [always a good read ] a steam powered model aeroplane and a visit to Thames.

### Mailship, Scale Model Marine, June 09

Club news, photos from Model X and the Boat Show. Photos also from the poolside showing the branch that fell into the pond. Article on warships and the 70th anniversary of the River Plate Event.

### Model Torque, Hawke's Bay, June 09

Mid winter weekend a success judging by the photos despite the weather not co-operating on the Saturday. Interesting review of a book written about the gun cotton factory built near Gretna Green during the war. Meanz audit carried out.

### Melsa Newsletter, Maryborough

Plenty of good Club news and pictures. Two large projects under way, A 4.8" scale Burrell traction engine and two replica Stanley Steam cars.

### **Wheels and Floats, Tauranga, July 09**

This year is the 30th anniversary of the Club and the 25th anniversary of the track opening, congratulations. A number of photos of trusty members working around the track, even the dog seems to enjoy it. Amongst the bits and pieces on the table was a Gauge 1 British Rail Class 117 DMU unit built by Geoff Hallam and a set of superheaters for a phantom by Bruce McKerras. Also a couple of photos of a 185 ton Terrex dump truck now superseded by a larger one.

### **Boilers, Rotorua, June 09**

Good account of John Heald's visit to the Cumbres and Toltec Scenic Railroad, sounds great and all on 3 foot gauge. Articles too on Sugar Cane locos, the Thames Open Weekend and the Manukau Open Weekend.

### **Big Wheel News, The Steam Loco Society of Victoria, May/June 09**

Visit to the Casino Miniature Railway. 3.6 km of 5.0" and 7.25" ground level track and a great variety of rolling stock. A visit too to Altona Miniature Railway. Also ground level, the two electric units were big enough to have the passengers sitting inside the units. Also running were steam and electric locos and a tram on what appears to be 7 1/4". Good article on the restored West Coast Wilderness Railway near Queenstown Tasmania. Shows some of the Abt system.

### **Blast Pipe, Hutt Valley and Maidstone MES, July 09**

Some coloured photos taken at Rangiora, some loco remains recovered from the salt water near Oamaru, well past their use by date by the look of them. More on the new Ikon Loco built for MLS. The photo of Basil Wilson driving his 3 1/2" gauge Ab on our track in 1973 brought back some memories. The balance of the auction material will be auctioned at the next meeting on the 5th Aug.

### **Blowdown, Kapati, Winter 09**

Club news and some great photos of their very impressive track work and signals. More on the West Highland Railway and on Duplex Alloy for boilers.

Alan E

## **Incredible Engineering: The Millau Bridge, Southern France**

Letter to the editor

Thank you for the article on the Millau Viaduct. I have driven over the viaduct three times from south to north and once in the opposite direction, and I plan to drive over again in 2010. The memories of the breathtaking thrill of the first sight of the bridge as one approaches from the south haunts me every time I think of it.

One matter that you did not mention is that the bridge is deliberately built with a slight curve (this was not necessary from a structural point of view) so that one can actually see it as one drives over. There are excellent viewing platforms on both the north side and the south – the latter is virtually under the bridge. One can examine models of the five competing proposals for bridging the gorge and a video of how it was built and the engineering problems involved – well worth visiting.

The A75 (Beziers close to the Mediterranean, to Clermont Ferrand in the middle of France) is itself an engineering marvel. Before rising to the plateau where Millau is situated the original Route Nationale passed through Lodeve. At this point the valley is extremely narrow so that the A75 had to be built in two tunnels stacked one above the other. Then the road rises steeply clawing its way up to the plateau in a series of hairpin bends. As an A road the speed limit should be 130kph and is for most of the way, but on this stretch the limit drops to 70kph! Mind you I would not like to attempt to drive it much faster.

If you ever get the chance be sure to drive over the Millau Viaduct – preferably from the south.

Doug Leybourne

## **Free on the Internet**

Graeme Murray recommends a small free program called "**JING**" download from [www.jingproject.com](http://www.jingproject.com)

Another useful program, "**Convert**" is a free and easy to use unit conversion program that will convert the most popular units of distance, temperature, volume, time, speed, mass, power, density, pressure, energy and many others, including the ability to create custom conversions!

Get it from: [www.joshmadison.com/software](http://www.joshmadison.com/software)