

Number 623

May
2017

The MICROMETER

AUCKLAND SOCIETY OF MODEL ENGINEERS INCORPORATED

PO Box 14570, Panmure, Auckland, 1741, NEW ZEALAND

Club House: Peterson Rd, Mt Wellington Auckland

Telephone: (9) 570 5286

Club Web Site: www.asme.org.nz

President	Timothy Robinson	09 296 2949
	e-mail address	president@asme.org.nz
Secretary	Mike Moore	09 443 6050
	e-mail address	info@asme.org.nz
Editor	John Lankow	09 576 5400
	e-mail address	editor@asme.org.nz

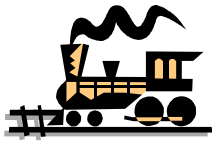
REGISTERED NEW ZEALAND PUBLICATION

The Good Old Days

Transportation as it used to be
before railways were invented.

(Picture by Dave Housley)





Train Roster

Date	Electric Driver	Electric Driver	Steam Driver	Train Controller	Station / Guard	Station / Guard	Station / Guard
2-Apr-17	M Moore	P Moy	Voluntary	<u>T Lawrence</u>	R Crook*	B Cooper	
9-Apr-17	M Plant	R Reichardt	Voluntary	<u>D Black</u>	P Jones*	Voluntary	
16-Apr-17	P Woodford	B Aickin	Voluntary	<u>S Meikle</u>	M Luxton*	Voluntary	
23-Apr-17	I Ashley	A Bailey	Voluntary	<u>T Robinson</u>	B Matchett*	M Vickers	
30-Apr-17	G Beazley	P Dowdeswell	Voluntary	<u>G Anderson</u>	J Service*	T Sharp	
7-May-17	M Granger		Voluntary	<u>D Russell</u>	M Richardson*	D Beecher	
14-May-17	D Housley	A Shirley	Voluntary	<u>G Wills</u>	K Ryan*	Voluntary	
21-May-17	J Lankow	D Moffat	Voluntary	<u>S Meikle</u>	R Stratton*	M Vickers	
28-May-17	M Moore	P Moy	Voluntary	<u>T Lawrence</u>	P Tomkies*	D Wilson	
4-Jun-17	M Plant	R Reichardt	Voluntary	<u>T Robinson</u>	R Crook*	T Sharp	
11-Jun-17	P Woodford	B Aickin	Voluntary	<u>G Anderson</u>	P Jones*	R Copeland	
18-Jun-17	I Ashley	A Bailey	Voluntary	<u>D Russell</u>	M Luxton*	D Beecher	
25-Jun-17	G Beazley	P Dowdeswell	Voluntary	<u>G Wills</u>	B Matchett*	M Vickers	

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 Asterisked* 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.

MAY CALENDAR

Tuesday May 2nd, 7.30pm - General Meeting , ASME clubrooms.

Tuesday May 16th, 7.30pm - Committee Meeting.

President's Report

At the ASME Fun Run and barbecue on 8th April, we had two steam locos and 10 Club members for the barbecue - a good afternoon.

A reminder to members regarding Train Controllers and ASME track running days:

The Train Controller is the person in overall control of all operations for the running day and does all the necessary paperwork. Train Controllers are approved by the ASME committee.

No Train Controller means NO Track Running.

If a Train Controller cannot do his rostered day, please find a replacement Train Controller.

Timothy Robinson

President

Wanted to Buy

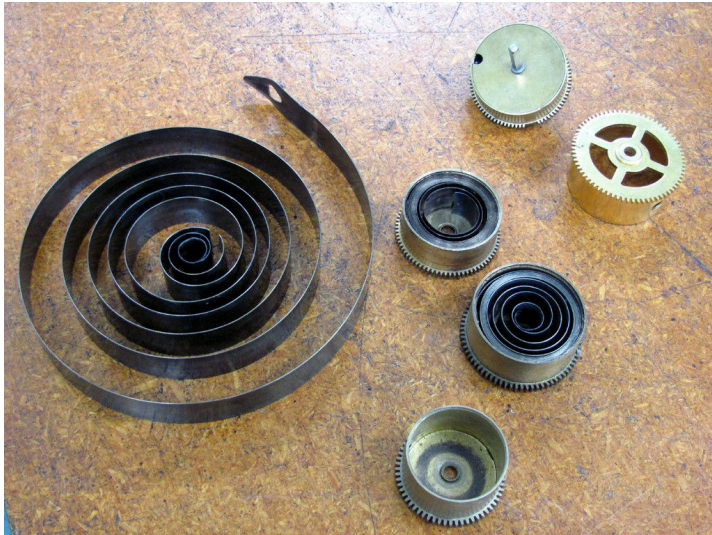
An ex-ASME member is looking for a 5" gauge steamer so he can do passenger hauling.

Would prefer something running or that needs only a minor amount of work to do to get running.

Contact Jim Garrick Ph (09) 263 8311.

Bits and Pieces April 2017

Conducted by Bob Aickin, Report and Photos by Dave Russell



These clock pieces are part of a repair job that Michael Cryns is working on. Considerable damage was done to the clock motion when the main spring broke: when this happens the stored energy in the spring is suddenly released in an uncontrolled manner causing pivot shafts to bend etc.



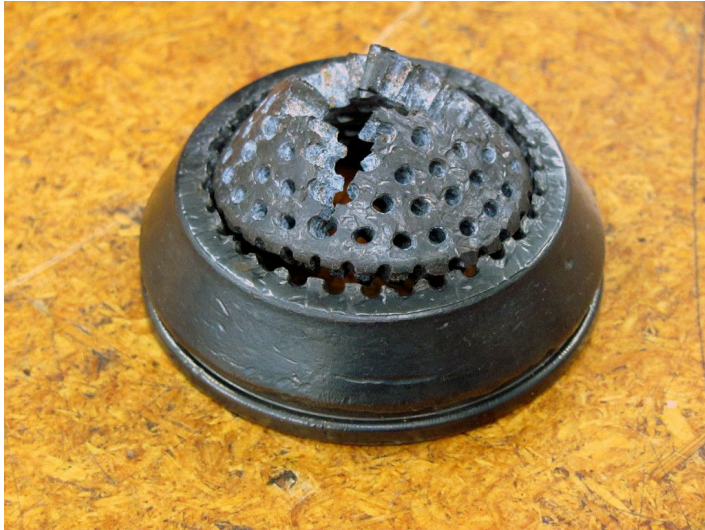
Supreme Steel produced these 4130 steel castings from waxes produced by Mike Jack, Mike was pleased as it now opens a new method of producing steel scale parts for his clients. The 4130 needs to be heat treated before machining. Mike also brought in some combination levers made to correct a rare measurement mistake on a Don Young valve gear design.



Grant Anderson has been trying out different blast nozzles for his Phantom locomotive, the intention is to try and stop the Welsh coal we are now using from filling the smokebox with ash to the extent that it covers most of the tubes on a long day's running. Grant has been using an article from the Aussie ME magazine to help guide him.



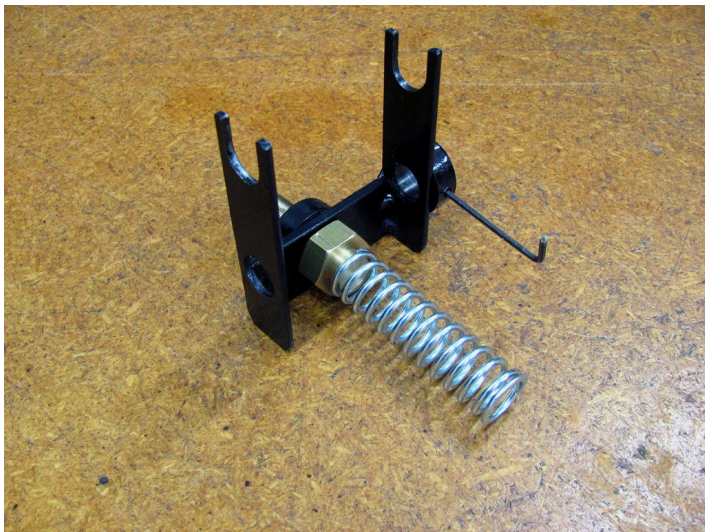
Mike Jack has produced these BR Timken bearing covers for 7-1/4 gauge. They are cast from lost wax moulds made in the silicon mould that was made from an original casting (on right) after it was cleaned up. This method meant that Mike had to allow for double the shrinkage when drawing the model in CAD.



This ABS plastic extrusion nozzle brought in by Peter Woodford proves what plastic will do to metal over a period of a number of years: the raised part in the middle was actually three pieces that had been forced from flat to the point of parting company from the main body.



Peter also had a trick question about the mirror off his motor cycle that nobody seemed to be able to answer - the thing is the main arm attached to the mirror has a L/H thread and matching lock nut where it attaches to the adaptor that fits to the handlebars with a R/H thread!



This adjusting unit with spring is a part of the club leaf blower that Greville Wills has made. It is nearing completion and initial trials are proving very encouraging.



Murray Grainger has made this LPG burner (flame thrower) after searching the internet for ideas of which he found many, some useful some not. Murray built it as a second burner to help heat a boiler he is making, the large clamp can be attached to a stand to hold it at the angle required.

ASME Fun Run

After a very wet few days, Saturday April 8th turned out to be a nice and fine afternoon for playing trains. Grant Anderson's 7¼" Phantom and Mike Banks's 5" King were the only two steamers to take part, but there were several spectators to enjoy the atmosphere and a great afternoon was had by all. Greville came armed with some competitions for drivers to test their driving skills and the results are shown on the next page. Dave Russell came armed with his camera and the pictures below help tell the story.



John Lankow, whose first loco is still under construction, looks on while Grant demonstrated the tasks required in preparing his loco for the track.



John adds coal to the fire while Grant supervises.



Mike drives while Greville watches on. By the amount of concentration apparently taking place, this looks like it could be a slow running test, where the driver must travel the length of the station as slowly as possible without actually stopping. The winner takes the longest time: a time penalty of 10 seconds is subtracted from the result for each time the loco comes to a dead stop along the way.



While the locos were cooling down at the end of the day, a fire of a different kind was burning. Greville in charge of the barbecue.

AUCKLAND SOCIETY of MODEL ENGINEERS Inc

Club Day 08/04/2017

Two members with loco's and several other members attended.

The results are as follows:

1 Nominated Time		(to do 1 circuit of the track)				Placing
<u>Driver</u>	<u>Loco</u>	<u>Run No.</u>	<u>Nominated Time</u>	<u>Actual Time</u>	<u>Differences</u>	
			<u>(Mins:Secs)</u>		Mins, Seconds	
Mike Banks	King Edward viii	1	3:00	2:52	0:08:00	1st
Mike Banks	King Edward viii	2	4:00	4:11	0:11:00	2nd
Grant Anderson	Phantom 7.25	1	3:30	3:48	0:18:00	3rd
Mike Banks	King Edward viii	3	4:00	3:38	0:22:00	4th
Mike Banks	King Edward viii	5	4:00	3:15	0:45:00	5th
Mike Banks	King Edward viii	4	4:00	5:16	1:16:00 not counted interrupted	
2 Slow Running			<u>Seconds</u>	<u>Penalties</u>	<u>Class</u>	<u>Placing</u>
				<u>for stopping</u>		
Grant Anderson	Phantom 7.25	2	196.0	-20.0	176.0 Steamers	1st
Mike Banks	King Edward viii	2	198.0	-30.0	168.0 Steamers	2nd
Grant Anderson	Phantom 7.25	1	126.0		126.0 Steamers	3rd
Mike Banks	King Edward viii	1	102.0		102.0 Steamers	4th
3 Draw Bar Pull			<u>Kg</u>	<u>(Assisted by GW2 double braked trolley)</u>		<u>Placing</u>
Grant Anderson	Phantom 7.25	3	49	(towards highest point across pond)		1st
Mike Banks	King Edward viii	3	39	(towards highest point across pond)		2nd
Mike Banks	King Edward viii	2	36	(after long Tunnell beside embankment)		3rd
Grant Anderson	Phantom 7.25	2	35	(after long Tunnell beside embankment)		4th
Grant Anderson	Phantom 7.25	1	29	(after 3 way Ped Bridge)		5th
Mike Banks	King Edward viii	1	15	(after 3 way Ped Bridge)		6th
3 Stopping on the line			<u>(mm)</u>			<u>Placing</u>
Mike Banks	King Edward viii	2	-50			1st
Grant Anderson	Phantom 7.25	1	-60			2nd
Mike Banks	King Edward viii	3	100			3rd
John Lankow	Phantom 7.25	1	120			4th
Mike Banks	King Edward viii	1	300			5th
Mike Banks	King Edward viii	4	400			6th
Allan Bailey	Phantom 7.25	1	1300			7th

A good time was had by all.

Of Daleks and Who knows what..

The cover page of the April MICROMETER featured a picture of a strangely intriguing Dalek-type model produced by Roger Mahoney from TSL Plastics. As promised, Dave Housley has obtained more details from Roger who sent him the following in an email:

A brief story of why.

My daughter and brother are Doctor Who fans, my daughter also likes Steam punk gadgets.

I checked out this "Steam punk" stuff to see what it was all about, and saw a plastic steam punk Dalek which had the piston rods going to the centre of the wheels.

Thought this was silly, why didn't they do it properly? My wife then asks me what we should get the daughter for Christmas. Of course the reply, A steam punk Dalek. (a brilliant excuse to get building with approval).

Started looking for used brass and copper while designing the Dalek. Not a lot of luck and time was short, It was early September already. Found nobody with the right stuff in Auckland, but found Little Metals in Christchurch who were very accommodating.

Due to the cost and the minimum size of sheet that I could order, I decided to build three of these things, one for my daughter, one for my brother, and one to sell to recover costs. Yes I'm a sucker for punishment. Six cylinders, three boilers, and all the rest before Christmas. As it turned out I had to flag the third one and concentrate on the others. Although if building a part, I did enough for three, just not finishing the third. Thus at the moment I have one in bits yet to finish.

The design was fairly simple, and because just about every Dalek is different, so a close approximation would do.

Decided to use two double acting oscillating cylinders for simplicity and time was short.

The boiler;

The boiler shell is 3mm thick tube from a refrigeration guy I know. The top is spun from 2mm flat sheet.



The fire box is Bell shaped, with the tube bottom section flared out at the bottom to fit snugly into the shell, with the top another dome spun from 2mm sheet

These parts were all brazed together using 15% silver solder.

The fire box is vented to the outside by four ½" tubes soldered using 45% silver solder, so the top of the box didn't melt off into the boiler.

These vents were quite tricky to get to access/seal.

The operating pressure is 50-70psi, I've tested them to 200psi on our works bottle burst tester. The steam is delivered to the cylinders through a needle valve, then down into the fire box before splitting and back out to the cylinders.

The cylinders;

The valve block has drilled pressure ports and slotted exhaust ports to get a little work from expansion, and drop the back pressure as soon as possible.

The body is turned out of brass and silver soldered to a block.

The gland end is two pieces, a plate to house the seal (Viton O ring), and a covering plate to hold it in.

The piston is stainless with an O ring in the centre. The piston rod is stainless, this is so that when its left on the shelf for years there is less likely to be corrosion issues. The rod and piston are two pieces, I did make a one piece unit but it took too long to machine.

The burner;

I first made a methylated spirits burner with a reservoir that hooked onto the base and back axle, but it was prone to spilling and difficult to light. It also did not make quite enough heat, and I could only get about 10-20psi out of it. The next burner is a small trailer and butane bottle with a modified camp burner (height in the fire box is an issue) (*If only it had been possible to make this like the Tardis—bigger on the inside..... Sorry. Ed*).

Also considered was a set of 16oz CO2 bottles working through a regulator, but decided against this as I would have to design and build the regulator to fit. The worry is if it fails and 800psi enters the boiler, the safety valve would not cope with the flow rate, and OSH might look at me funny. It would fit however, with the Dalek creed of “exterminate all known life forms”.

At the moment the Dalek is used on compressed air, usually when we go to my brother's place, as he and my daughter race them. Using a common pressure source levels the playing field. He won the inaugural race because his had better lapped cylinder valves. However after that my daughter's Dalek had Teflon piston rings and shaft bushes installed, along with a relieved valve face and improved sealing valve faces, my brother's Dalek was well and truly beaten. I've left all the retro fit parts with him as its a good little project for him to do, (he has all the tools for the job,- good practice for him).

