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2018

# The MICROMETER

AUCKLAND SOCIETY OF MODEL ENGINEERS INCORPORATED

PO Box 14570, Panmure, Auckland 1072, NEW ZEALAND

Club House: Peterson Reserve, off Peterson Road, Mt Wellington,  
Auckland 1060

Telephone: (9) 570 5286 Club Web Site: [www.asme.org.nz](http://www.asme.org.nz)

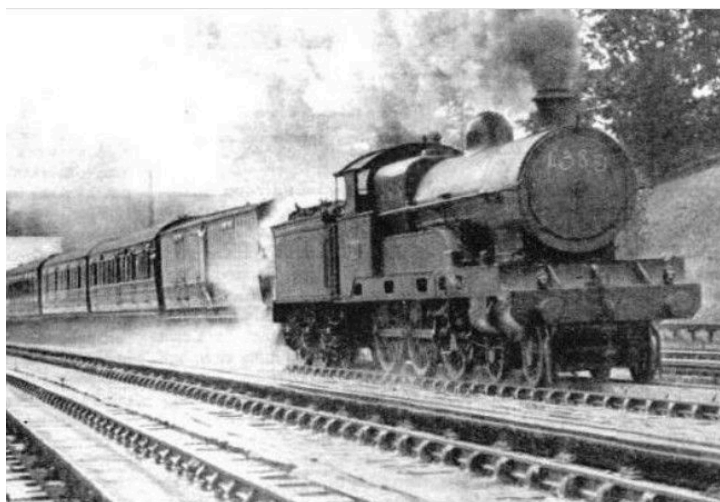
<b>President</b>	Timothy Robinson	09 296 2949
	e-mail address	<a href="mailto:president@asme.org.nz">president@asme.org.nz</a>
<b>Secretary</b>	Mike Moore	09 443 6050
	e-mail address	<a href="mailto:info@asme.org.nz">info@asme.org.nz</a>
<b>Editor</b>	John Lankow	09 576 5400
	e-mail address	<a href="mailto:editor@asme.org.nz">editor@asme.org.nz</a>

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## **Picking up water without stopping**

At the July meeting, the subject of picking up water from water troughs came up, with Mike Banks showing the progress he has made building the tender for his King loco.

More in-depth (excuse the pun) info on watertroughs can be found at  
[www.railwaywondersoftheworld.com/water\\_troughs.html](http://www.railwaywondersoftheworld.com/water_troughs.html)





# Train Roster

	Electric	Electric	Steam	Train	Station /	Station /	
Date	Driver	Driver	Driver	Controller	Guard	Guard	
5-Aug-18	R Reichardt	A Shirley	Voluntary	<b><u>T Lawrence</u></b>	<b>K Ryan*</b>	S Shirley	
12-Aug-18	P Woodford	I Ashley	Voluntary	<b><u>S Meikle</u></b>	<b>A Stratton*</b>	D Vaughan	
19-Aug-18	A Bailey	G Beazley	Voluntary	<b><u>T Robinson</u></b>	<b>R Stratton*</b>	M Vickers	
26-Aug-18	M Granger	M Plant	Voluntary	<b><u>G Anderson</u></b>	<b>P Tomkies*</b>	D Beecher	
2-Sep-18	M Hollis	D Housley	Voluntary	<b><u>D Russell</u></b>	<b>R Crook*</b>	L Brown	
9-Sep-18	J Lankow	D Moffatt	Voluntary	<b><u>B Aickin</u></b>	<b>R Copeland*</b>	D Vaughan	
16-Sep-18	M Moore	P Moy	Voluntary	<b><u>P Dowdeswell</u></b>	<b>P Jones*</b>	M Vickers	
23-Sep-18	R Reichardt	P Woodford	Voluntary	<b><u>G Wills</u></b>	<b>M Luxton*</b>	D Beecher	
30-Sep-18	I Ashley	G Beazley	Voluntary	<b><u>T Lawrence</u></b>	<b>B Matchett*</b>	R Souter	

## **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. **Note: the Train Controllers for both affected days must be informed of the swap in advance.**

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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## **AUGUST CALENDAR**

**Tuesday August 5th, 7.30pm** - General Meeting, ASME clubrooms

**Tuesday August 19th, 7.30pm** - Committee Meeting, ASME clubrooms

**Coming Up:** - Nelson Society of Modellers open weekend October 20-22 (Labour weekend).

# **Committee Comments**

## **Committee Comments – August 2018**

As mentioned earlier, Dave Housley is working on a permanent sign for the trestle bridge, recognising the late Jim Greasley's huge contribution to the Club. In the meantime a temporary sign has been attached to the headstock of one of the piles near the entrance to Waipuna Junction Station.

The Clubhouse has had its mid-year floor sweep & steam wet mopping. So please, wipe up any spills (and remove any dirty footwear before entering the clubhouse) so we can keep it looking good for both ASME's use and the other Clubs.

The continuous hot water heater in the kitchen has had an overhaul – a new valve kit and thermostat have been fitted by Timothy. Hopefully this will restore its reliability. The inner steps on the access track and the small section of adjacent pathway have been poured and make access so much easier – thanks to all those who turned out to help with the pour. Tony Lawrence has now completed the work in a very professional manner and Bruce Matchett has added his touch in beautifying the adjoining garden area. The steel plate for the access track subway has been ordered, collected and after some holes are drilled, will be galvanised and fitted.



It is only 4 months now to the AGM (December) and this is an early advance reminder that we need more members on the committee to help manage and advance the affairs of ASME. On a regular basis this year, there have been only 5 or 6 people making it to committee meetings. More help and new blood is definitely required - could you make a difference? Please give serious consideration to this important matter so that come the AGM, we can have a full and effective team appointed to help the Club move forward.





Grant Anderson took these photos on Saturday 7th July when Bruce Cooper turned up to give his 3.5" G Tich a good run. After an initial problem with the axle pump was remedied, he ran about 20 laps (13kms) which was quite an amazing feat for such a small loco on a hilly track



Mike Banks was also in with the GWR King giving his grandsons (visiting from Canada) a run round the track.



## **Bits and Pieces 3rd July 2018**

Presented by Mike Orange, report by Greville Wills, photos by Grant Anderson

**Grant Anderson** – (i) The digital read out (DRO) head on his mill (10 years old) died. A same make replacement one was available from Machinery House at \$770! They also sell SINO ones (now supplied on some of the milling machines they currently sell). The SINO ones are normally priced at \$230, but one needs to check the plug connectors are the same. Even better, there was a sale in June and he purchased one then for \$195. Has fitted it now and it works a treat - not sure how long it will last although warranty of 1 year is the same as the dearer type!

(ii) – Had his Rosebud grate out of his Phantom loco. It had done approx. 2,200 km running over 10 years and was well worn. Being only mild steel, Grant considered that was a pretty good life and thus he is going to make a replacement from similar material - now the mill is back up and running!



(iii) – He made a replacement front coupling to Traincraft standards for his Phantom as the original was under-scale and really only for show. The new coupling will enable him to be 2nd engine now when double heading on trains.

(iv) – The rear shock absorbers on his old Telstar (the vehicle modified to carry his locos) had begun leaking, a WoF test failure item. So he found some KYB replacement ones on special for \$50 each. (Note that care is needed if you dismantle these as they have nitrogen gas under pressure to stop the oil foaming when working). Other than the gas, he noted that the design was not too different from his 1950's Ford Zephyr ones!

Top picture shows some of the old bits he had left over.

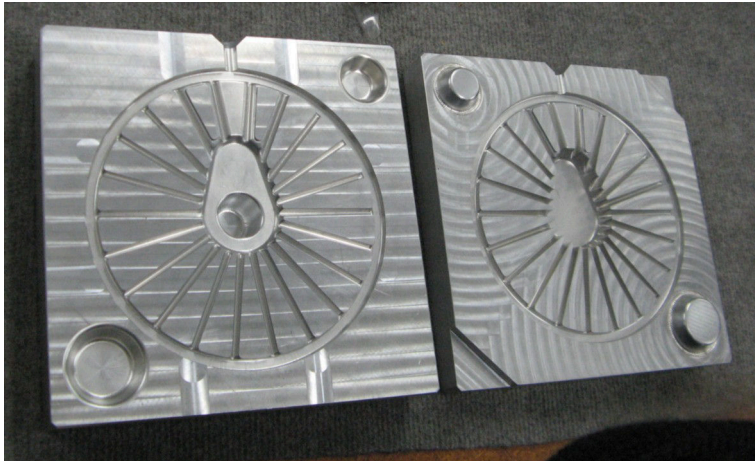
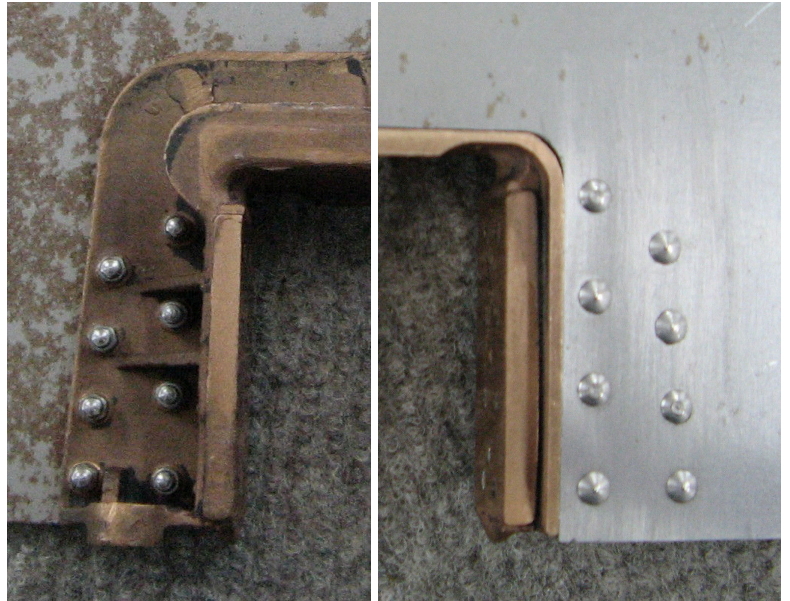


Grant also had a question re how to fit the connecting part of a flexible gravity feed hose for lubricant (seen at left in top picture). Several members tried (and failed!) to push it together. Some suggestions were to heat it to soften it first.



**Mike Jack** has been testing “fitted bolts” in place of rivets as he needs approx. 2000 of them for his BR Std Class 3 Tank Loco.

He tested the bolts with mounting a horn block on test material. The bolts are a close fit in a reamed hole (2.5mm) with a sixty-degree taper on the heads. The tapered head allows it to lock by biting into the base material when tightening the nut on the other side. He used a chucking reamer to get a true clean hole through frame and casting. The countersinks are done with a commercially available 60-degree countersink.



Mike also had on display wheel dies for producing waxes for the driving wheels of a GWR Castle class loco. He commented that the waxes are too expensive to print on his 3D Printer and since the castings on the market are not correct (size and shape), he machined the dies to produce the waxes for casting in cast iron. There was a lot of machining to do with small cutters at high speed.



Mike also related the story about his Machining Centre that had occasionally had a rattle at high revs, from when he bought it second hand sixteen years ago. He thought it was the top bearing in the AC spindle drive motor. The local agent for Fanuc will only send it back to Japan, so it would be too expensive to have fixed. Asked advice from Tim Robinson re servicing the motor and, having studied the machine drawing, when he stripped down the drive train area he found that the V-belt was misaligned: only two of the three V's of the multi-V belt were engaged which put a joggle in the belt. Also, the bolts holding the motor adjustment plate to the machine were only finger tight and the belt was very slack. (Has been this way all the time he's owned it!) Having re-aligned the belt and tensioned it correctly, the machine runs better than ever now, and has plenty of torque and is quiet over all the rev range of 30-10 000 rpm.



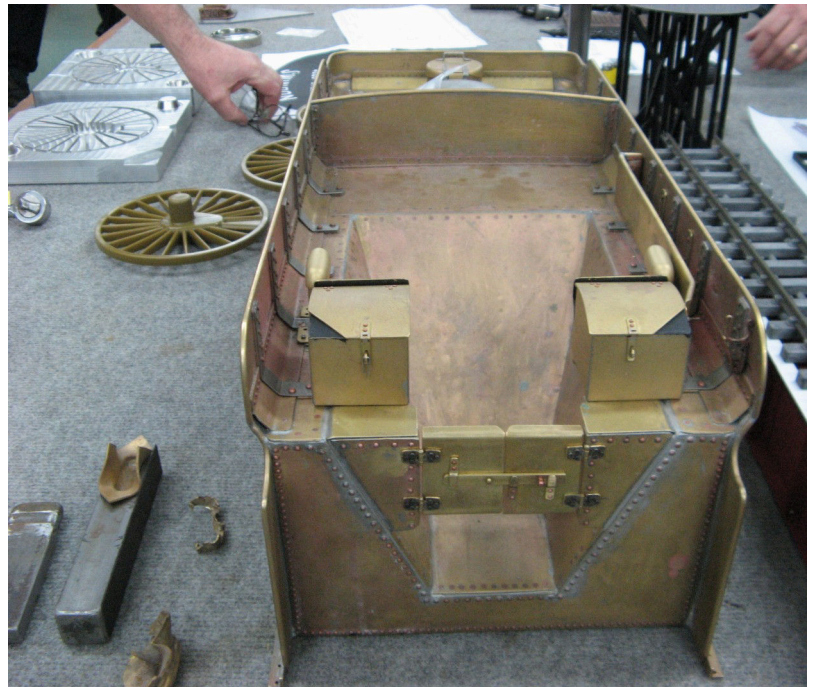


Mike then told the story of Mike Banks asking him (Mike J) to make a plate for his King Loco. So, from Mike B's rough sketch, Mike J Googled to get photos of the original ones. Then brought the image into his SolidWorks CAD program to design the plate. The model is saved as a .stl file which the printer uses to print the wax. This was then cast in silicon bronze.

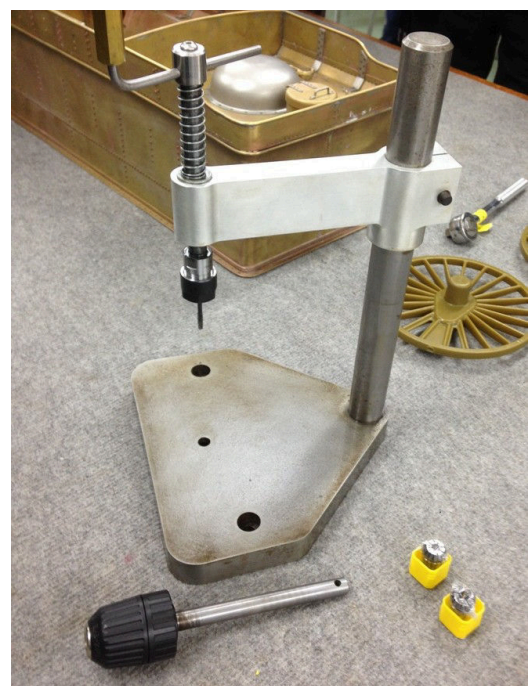
*(Sorry about the picture quality - this was my photo and it is badly out of focus, the plate itself being very small! - Ed)*

**Mike Banks** – brought in his tender for his King Loco to show progress. Items completed since last time were: Addition of the air vents – he used a rectangular shaft to punch into the die (*bottom l.h. corner of picture*) and found (after two failed attempts) that it needed about 10 thousandths more clearance for the metal to form than the actual thickness of the material being rounded. Door lids to the two tool boxes took about 4 days to make – note that the outside corner is cut at 45 degrees! He wondered why but found a reference to its being that way to clear the top sides of tunnels.\* Next job is the winders for the water scoop mechanism .

*\* The correct tender for Mike's King is a larger capacity than earlier versions and so is taller. In full size, if the unmodified tool box lids on this version should fly open when travelling at speed through a tunnel, the outer corners could contact the top curve of the tunnel, with rather nasty results - Ed.*



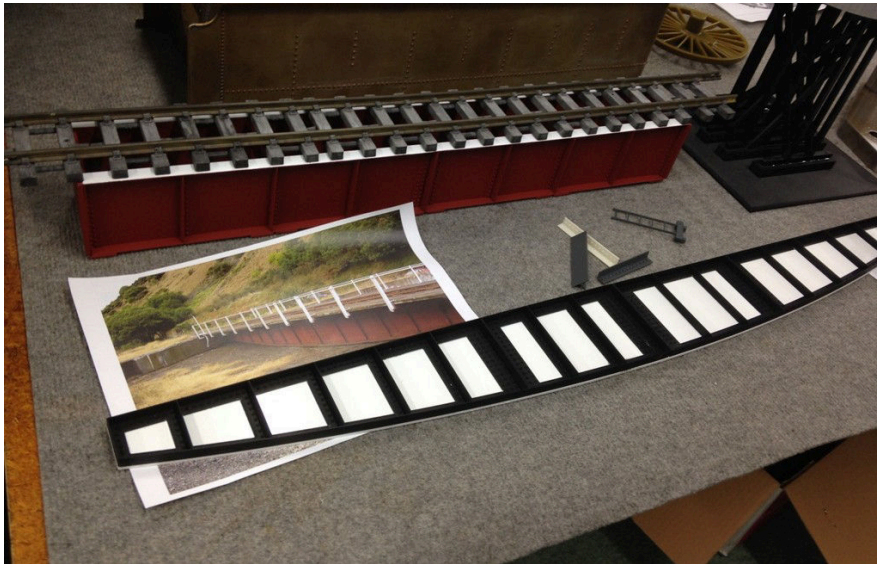
**Pete Woodford** – Brought in a simple tapping device. He did have a problem at first with taps over about 6mm slipping in the chuck – but he fixed that.



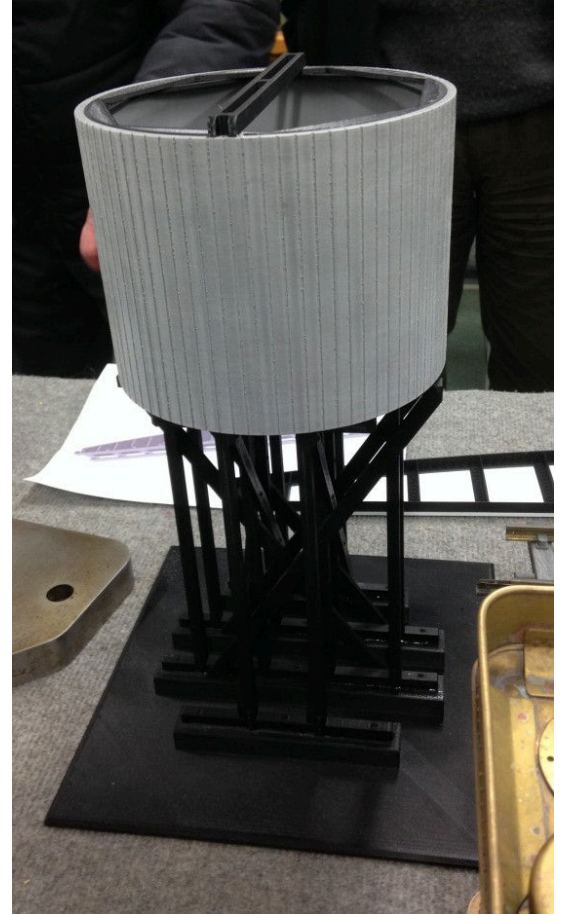




Visitor **Bill Parker** – Had the regulator out of his Phantom – In testing, it had an air leak, so had to find and stop the leak.



**Greg Burrows** – Had some items from his “new found” hobby – Garden Railway. It is to 1/24<sup>th</sup> scale of NZR. i.e. ½ inch to the foot – easy to scale. Several items were 3D Printed. Shows samples of different size imitation rivets. He intends to build a K class loco in this scale. He had calculated the length of the turntable to take the model of the K. He will use 1 ¾” gauge track ex G Quayle.



Another couple of views of Mike Banks's tender, showing the detail of the tool boxes and water tank vent behind. Following the Bits and Pieces session, Pete Woodford showed some videos of full size trains picking up water from water troughs while on the move - water, water everywhere! As mentioned earlier, Mike's next job is to build the winders for the water scoop mechanism. Note, however, that there are no plans for building water troughs on the ASME layout!

