

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

Number 659

Telephone: 09 570 5286 Club Web Site: www.asme.org.nz

August
2020

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REGISTERED NEW ZEALAND PUBLICATION



A Hole in the Ground..

..with lots of rusty bolts -

Gun emplacement at Stony Batter,
Waiheke Island.



Train Roster

Date	Electric Driver	Electric Driver	Steam Driver	Train Controller	Station / Guard	Station / Guard	
2-Aug-20	J Lankow	M Moore	Voluntary	<u>S Meikle</u>	R Souter*	R Shearer	
9-Aug-20	R Reichardt	A Shirley	Voluntary	<u>T Robinson</u>	A Stratton*	M Vickers	
16-Aug-20	P Woodford	I Ashley	Voluntary	<u>G Anderson</u>	P Tomkies*	R Stratton	
23-Aug-20	A Bailey	G Beazley	Voluntary	<u>D Russell</u>	D Wilson*	S Wilson	
30-Aug-20	M Granger	M Hollis	Voluntary	<u>G Wills</u>	R Crook*	L Brown	
6-Sep-20	M Plant	B Mattchett	Voluntary	<u>B Aickin</u>	M Luxton*	D Beecher	
13-Sep-20	D Housley	J Lankow	Voluntary	<u>P Dowdeswell</u>	R Souter*	D Vaughan	
20-Sep-20	M Moore	R Reichardt	Voluntary	<u>T Lawrence</u>	A Stratton*	R Shearer	
27-Sep-20	A Shirley	P Woodford	Voluntary	<u>S Meikle</u>	M Vickers*	R Stratton	

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.** Also advise Bob Aickin who is keeping track of the number of duties each of us perform during the year.

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.

AUGUST CALENDAR

Tuesday August 4th, 7.30 pm - General Meeting, ASME clubrooms.

Tuesday August 11th, 7.30 pm - Workshop night, ASME clubrooms.

Tuesday August 18th, 7.30 pm - Committee meeting, ASME clubrooms.

President's Report

July 2020

Hi,

The real winter weather is starting to make its presence felt now, so the good days are appreciated more. This has also been the case with Sunday Running, with really good crowds turning up whenever the chance arises as the public seem to be concentrating on doing cheaper and more local events. An extra hand on Sunday afternoons is always welcome, whether you are just in the area, or would like to help out even if you cannot commit to going on the regular duty roster, so come along and join in the fun.

Greg and Peter have the workshop nights up and running again on the 2nd Tuesday of the month so that is a great opportunity to share ideas and gain some skills and show off what you have been doing, but make sure you bring it along to share with the whole club in Bits and Pieces on club night.

With cold, wet and windy days and nights it can be hard to get enthused about working in the workshop, so why not make use of the extensive source of ideas available within the club in the library. A bit of extra research or knowledge can save a lot of time, expense and frustration in the workshop, so see our friendly librarian, Mark Luxton, and make the most of what is on offer.

Take the time to read the newsletter, and if it inspires you to believe you have something to offer please talk to John or myself to find out how to go about becoming the next editor.

Cheers,

Mike Moore.

Situation Vacant

The committee are looking for a suitable ASME member to take over the role of Editor of our monthly newsletter - the Micrometer.

This person will hopefully have access to a computer and be reasonably competent using Microsoft Word, or, better still, Microsoft Office Publisher. (There may, of course, be similar products around which can do the same job).

The applicant should have a reasonable grasp of English spelling and punctuation, bearing in mind that nobody's perfect!. Don't worry, there will be proofreaders available to knock things into shape before the final edition is released!

The working conditions are not arduous - just a few hours near the end of each month, and you also automatically become a member of the ASME Committee.

If you feel you meet most of the above requirements and wish to have a go, contact the Secretary or the current Editor.

Below is a copy of a letter received from GVR in response to ASME's donation to help them through their recent loss of income due to Covid-19.



Registered Charity No. CC13684

07 July 2020

Auckland Society of Model Engineers Inc.

Salutations

Your group's recent \$1,000.00 donation to the Glenbrook Vintage Railway is kindly acknowledged and a donation receipt is enclosed.

Every dollar you have donated will go towards covering GVR's essential maintenance and core operating expenses including materials, day-to-day bills, and staff related costs. By donating to this Crisis Appeal, you are helping GVR keep our locomotives, carriages and railway in a compliant and running condition.

Your generosity is much appreciated by the Trust Board and GVR volunteer workers, and we hope that we may be able to host your members in the near future.

The Glenbrook Vintage Railway Charitable Trust is a registered charity under the Charities Act 2005 (CC10348) and your donation to the railway is accordingly tax deductible.

Yours faithfully


Tim Kerwin
General Manager
Glenbrook Vintage Railway Charitable Trust Board

Workshop Night 14th July 2020

Presented by Greg Burrows

Well, after having our February meeting and then everyone going into lockdown it has been a while since we last had a workshop meeting at the club. But this month saw the start of these meetings again and we got off to a bit of a quiet start tonight with only around 9 members turning up. With everyone having a break with the lockdown it is hoped that lots of workshop time was the order of the day as we couldn't go anywhere. Both the club night meeting and this workshop night brought out a good supply of members' bits and pieces and what they had been up to. We started the night off in the usual way with a cup of tea and a biscuit to get everyone warmed up.

The meeting was closed down at around 9-30pm.

Photos-1-4. Martin Plant had with him the cab for his 5"g B1 locomotive; He is making a very nice job of this loco and went about telling us how he made the window frames by getting them laser cut and gluing them together and into the rest of the cab. He also had spent some time on his computer drawing up the cab for his Britannia loco and the frames to prove that the drawings were correct and would fit together. Well, no surprises - there were mistakes and he had to do a little bit of redesigning to get the parts to fit in a satisfactory way. But the finished product looks good.

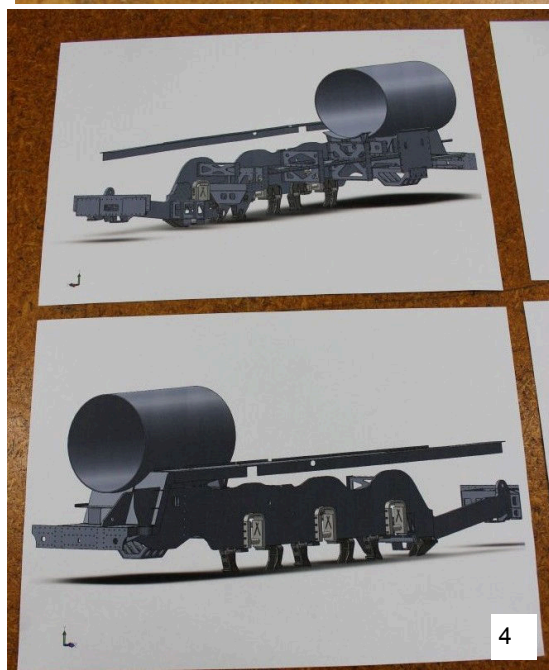
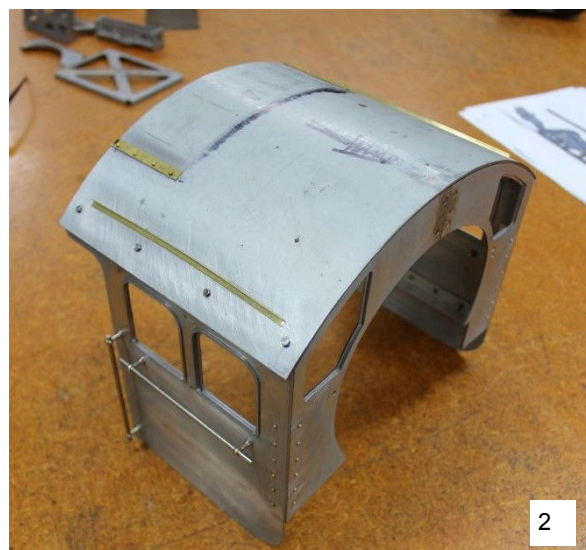
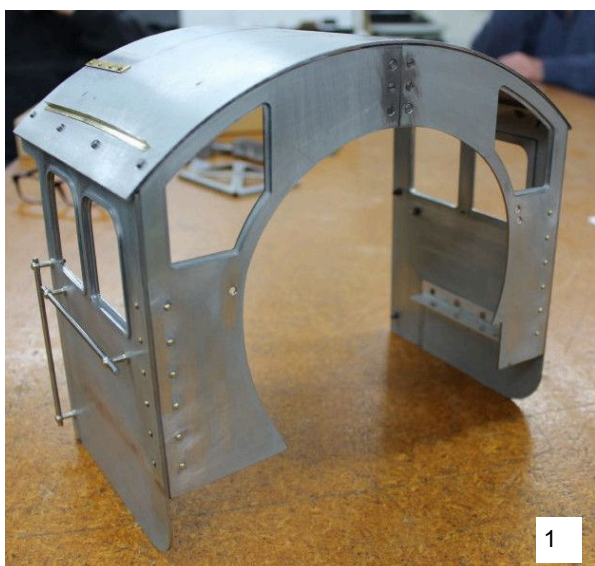


Photo-5. Peter Woodford had been busy in his workshop over the lockdown and came upon a lack of tooling blocks to fit his quick change tool post on his lathe. So after looking through his collection of holders he had a surplus of Morse Taper tool holders that had not been used for ever! After having a look at them he came up with a cunning plan to modify them to the standard square holder by wire-cutting a section out of the middle of them. These blocks have been hardened and ground to make them long lasting, but Peter found out that by drilling them with a carbide spot drill he could then drill through the rest of the block and tap them for locking screws to hold his tools. There is an unmodified block on the left of the photo and the modified one is on the right hand side

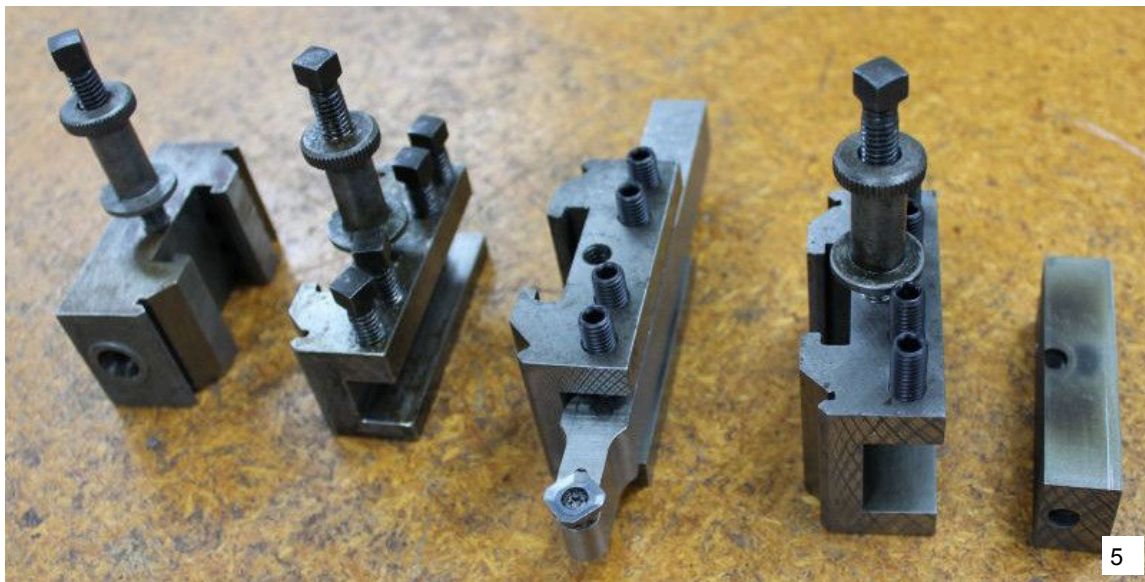


Photo-6 & 6A. David Housley brought along a tool maker's test piece in the way of a vee-block with a difference. It is made up of 4 balls out of a big ball bearing that are held in place by the top ring. The balls sit on a hardened and ground surface with a parallel spacer block. This allows the spacing of the balls so you get 2 different sizes of vee's to lay your work piece into.



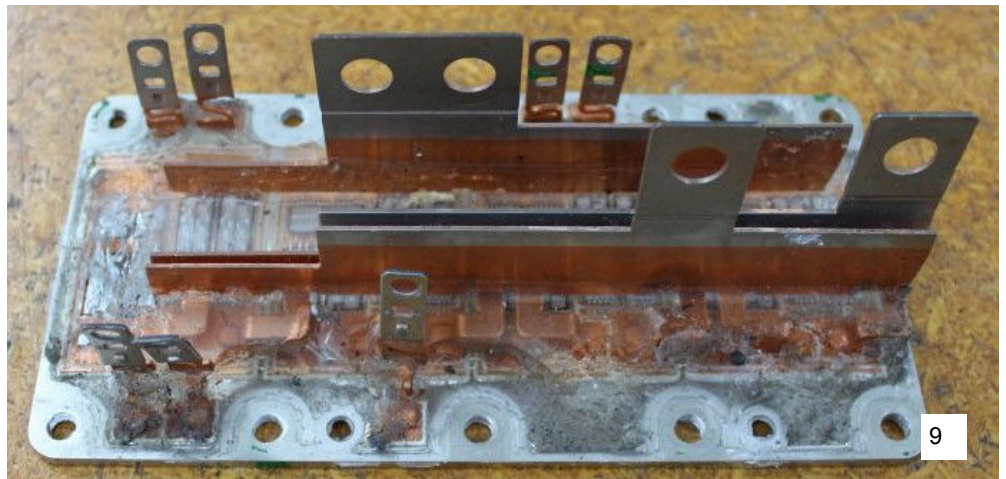


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Photos-7 & 8. Timothy Robinson has been working on the overhaul of some big electric motors for a customer. Upon stripping the motor down it was found that it had problems with a couple of the brush holders and with the age of the motor it was not easy to find a direct replacement for them so he has had to make something that is very close to the original one to fit the motor.



9

Photos-9 & 10 also from Tim are parts of an IGBT 1/2 bridge, An H-bridge is an electronic circuit that switches the polarity of a voltage applied to a load. These circuits are often used in robotics and other applications to allow DC motors to run forwards or backwards. In this case this motor is off an old Planner type machine. In the first photo you will see the one that has let the smoke out, and it's no good anymore. The second photo is what it should look like in operation.

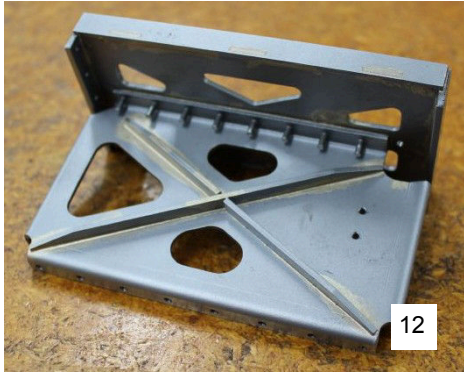


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Photo-11 is the last piece that Tim brought in tonight and is his battery powered hand held pencil grinder that went missing some time ago and he thought he has lost it! But that was until a guy from his work place left his job and when they cleared off the bloke's work space there it was just sitting there waiting to be claimed back. Looking a bit worse for wear Tim couldn't get the battery screw-on lid off so he gave it a gentle smack with the hammer and that fixed it for good! But it made an interesting thing to see what was inside of it.



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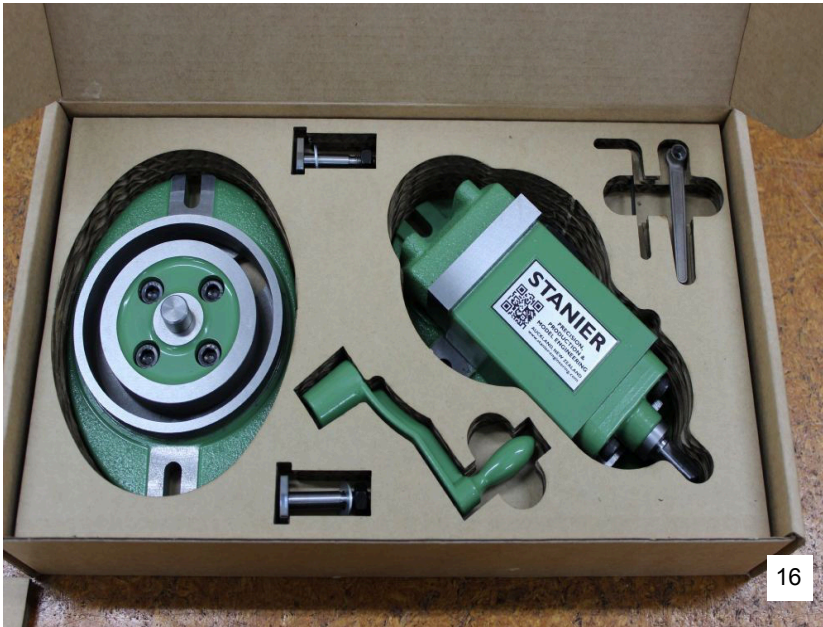


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Photos-12 to15. Michael Jack has been busy again with parts for his 5" gauge Class-3 Locomotives that he is building in kit form. He has had all the spacer frames for inside the frame laser cut and then he has folded them ready for the fitting of any cross braces that are Easyflow welded together to give them extra strength. After they are all welded together Michael has made a set of special blocks that locate very exactly onto his rotary table so he can then machine them in his CNC mill thus getting them all the same and fully interchangeable with each other. These parts are all finished to the highest standards.



16

Photo-16 Michael Jack has also been busy making another batch of his little vices for sale to anyone needing one (*There are times when I wish I had one! - Ed*). His latest modification has been to make up a tool for engraving the angle setting lines around the base of the vice. This little tool marks 10 lines at a time including the 5deg and 10deg marks thus saving Michael a lot of time. (He used to do 1 line at a time, and with 360 lines per base times 30-plus vices this time round it was going to be a long week for him)!

Photo-17 & 18. I, (Greg Burrows) was asked if I could make up a name plate for a guy that is building a 4” Burrell Traction Engine. He wanted to have his own numbers and name on it. So I set about printing a sample off in plastic to see if he was happy with the size and shape. All was good so on to the next stage I went. My 3D printer can print in a number of different materials; one of them is a wax for use in jewellery lost wax casting making. I had not tried this material before and after a couple of attempts I got it to print really well. The left one (picture 17 below) is the wax and the red one on the right is the plastic one. The problem I ran into was the foundry didn’t follow the instructions for burning out the wax I had supplied, and as a result you can see what happened when they poured the bronze metal into the mould. Not all of the wax had burned away and it had left some residue in the mould. This floated to the top of the casting and made it unreadable. So as a result I had to start again. I was not totally happy with the wax resin I had received either: it looked like it had passed its use-by date and looked a little like sour milk. So as time was running out I got Michael to print my pattern with his printer so we could get the casting done. The finished plate came out looking very nice.



Well that is a quick round up of the workshop night and as always it is good to see members interested in supporting this night. Remember if there are questions about engineering or other ideas on how to do something that you would like help with, just bring them to the night.

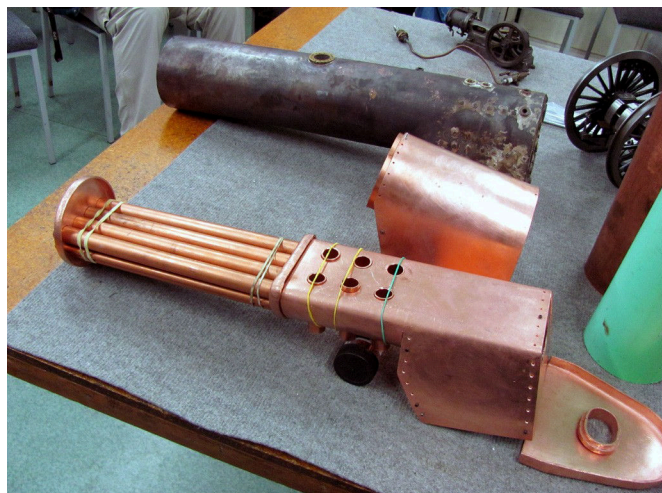
So remember this meeting takes place at 7-30 on the second Tuesday of the month and all members are welcome to come along and join in.

Cheers, Greg B.



Bits and Pieces, 7th July 2020

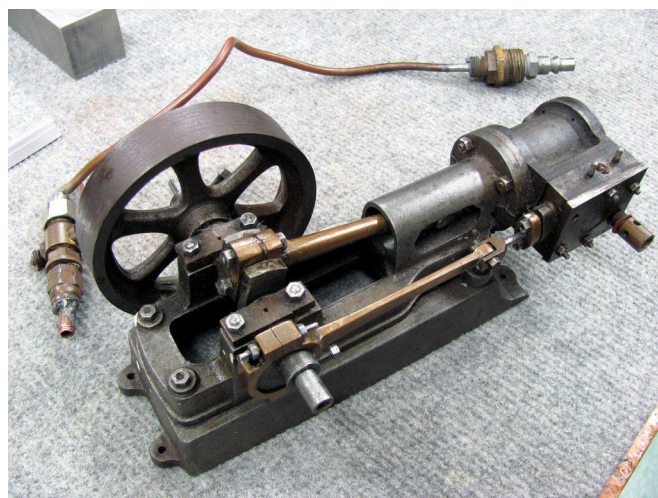
Conducted by Mike Banks, photos and report by Dave Russell



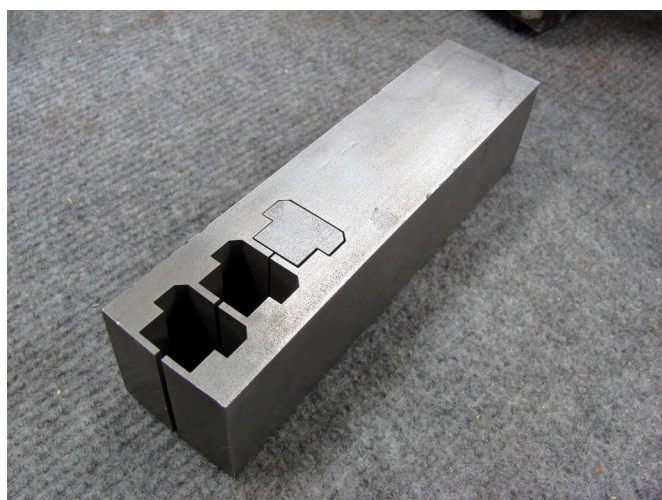
First up tonight was **Bruce Cooper's** new and old boilers for the "Green Maggot". Bruce explained that the old one had many problems like brass bushes and soft solder etc.

The new one on the other hand is looking very good and knowing how fast Bruce works I am sure he will be having it ready for testing before long.

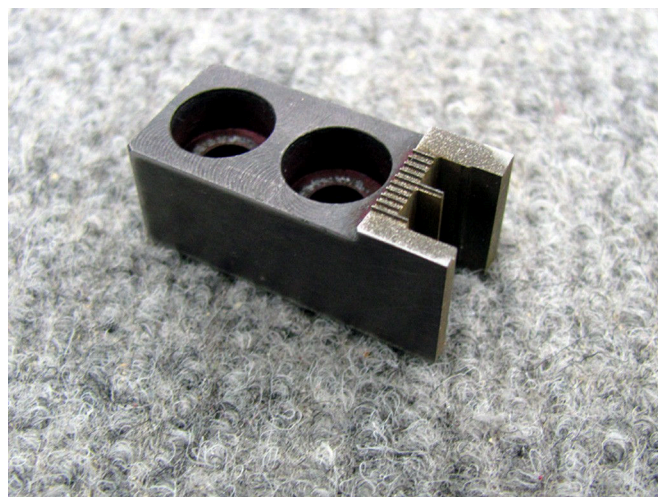
A young lad called **Sam** came to the club with his mother, **Joan**, to ask if it would be safe to run his horizontal steam engine on compressed air. The engine had been built by Sam's Great Grandfather. He and his Mum were re-assured that it was safe to run on air.



Peter Woodford shared this sample test piece that had been made by one of the students he has been mentoring. Cut with a wire spark eroder you can see the effect of the piece being bent due to the stresses in the material.



You may know that **Mike Jack** has been producing his small precision tooling vices for some time: over the years Mike has gradually been making jigs and re-tooling to make their manufacture easier. This item is to enable the marking of the graduations on the vice bases, with this you will see 10 graduations can be marked at once.

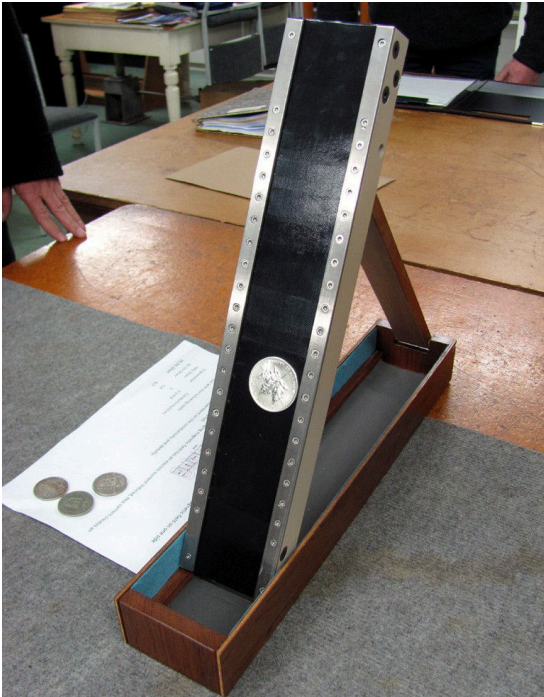


This joint in a piece of thin aluminium angle is a test piece **Greg Burrows** has done to see how this packet of 2.00mm alloy solder worked. Greg is pleased with the first attempt and says the solder works well as long as you don't use too much heat and melt the parent metal.

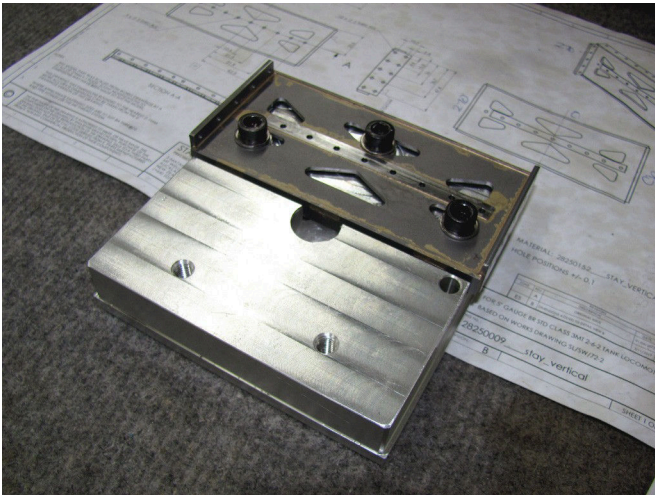


Murray Granger has been busy making these fittings for his stationary test boiler. Murray has been working on this boiler for some time.

My own offering this month was the freshly painted smokebox door for the 5" gauge "Maid of Kent" locomotive. This rebuild is taking longer than initially intended. I am glad to see some paint going on now instead of coming off.

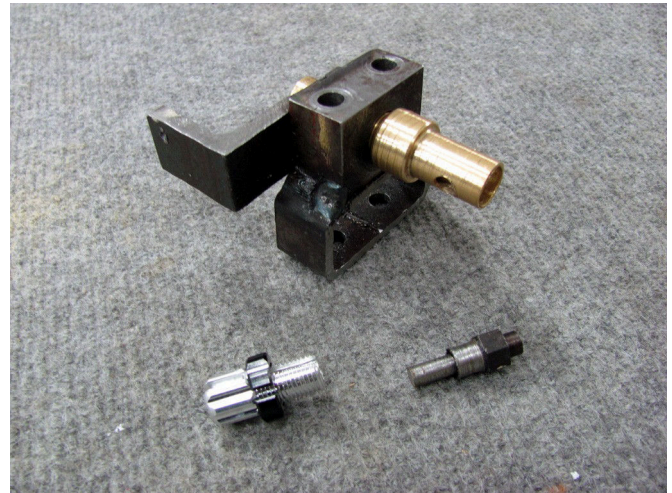


Mark Luxton has made this magnetic slide using some rare earth magnets. This gadget easily shows if a coin has a large or lesser quantity of silver content: the higher the silver content the slower the coin slides down the face.



Mike Jack has made this jig that can be held in his dividing head allowing the attached job to be rotated to allow accurate machining of three sides without having to set the job up each time, Mike is full of good ideas for saving time. The part held in the jig is a fabricated frame stretcher for his class 3 project.

Greville Wills has been making some parts for the failsafe brakes on the club riding trolleys. He bought some parts from the bike shop to use as cable adjusters but when he wanted to tap a hole for it found out that the thread was 10mm x 1mm and he did not have a tap of the correct pitch. A few members said they could help with a suitable tap.



Mike Banks has been asked to fix a locomotive that fell off a workbench and landed on a concrete floor. Extensive damage was caused to most major parts of the engine. The boiler needed lots of work to straighten it up and make it pressure tight again, the cab required lots of straightening and the locomotive would not run along a bench as the crank axle and webs had moved. The locomotive is a 5" Royal Scot built by our late member Alan Gasteen. Mike says the quality of the original construction is to a very high standard. Mike is doing an excellent job of the repairs and we know that his standards are equally as high.



For Sale

Well-built 5in trolley to suit raised rail set up.

\$100.00 ono.

Contact Peter Tomkies at peterlynnnetomkies@gmail.com>

