The MICROMETER

AUCKLAND SOCIETY OF MODEL ENGINEERS INCORPORATED

Number 652

December 2019

PO Box 14570, Panmure, Auckland 1072, NEW ZEALAND

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

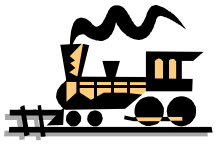
Telephone: 09 570 5286 Club Web Site: www.asme.org.nz

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

A Little Loco's Big Day Out

Bruce Cooper's Tich was on display at ASME's 60th Anniversary Exhibition.



Train Roster

Date	Electric Driver	Electric Driver	Steam Driver	Train Controller	Station / Guard	Station / Guard	
1-Dec-19	M Moore	M Plant	Voluntary	**D Russell**	**R Stratton***	M Vickers	
8-Dec-19	R Reichardt	P Woodford	Voluntary	**G Wills**	**P Tomkies***	D Beecher	
15-Dec-19	A Shirley	K Ryan	Voluntary	**B Aickin**	**D Wilson***	D Vaughan	
22-Dec-19	I Ashley	B Matchett	Voluntary	**P Dowdeswell**	**R Crook***	R Shearer	
29-Dec-19	- - - - - - - - Xmas / New Year Break - No Roster in Operation - - - - - - - - - -						
5-Jan-20	- - - - - - - - Xmas / New Year Break - No Roster in Operation - - - - - - - - - -						
12-Jan-20	A Bailey	G Beazley	Voluntary	**T Lawrence**	**M Luxton***	M Vickers	
19-Jan-20	M Granger	M Hollis	Voluntary	**S Meikle**	**B Matchett***	D Beecher	
26-Jan-20	D Housley	J Lankow	Voluntary	**T Robinson**	**R Souter***	R Shearer	
2-Feb-20	M Moore	R Reichardt	Voluntary	**G Anderson**	**K Ryan***	D Vaughan	
9-Feb-20	A Shirley	B Matchett	Voluntary	**D Russell**	**A Stratton***	M Vickers	
16-Feb-20	P Woodford	I Ashley	Voluntary	**G Wills**	**P Tomkies***	D Beecher	
23-Feb-20	A Bailey	G Beazley	Voluntary	**B Aickin**	**D Wilson***	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.**

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.

DECEMBER CALENDAR

Tuesday December 3rd, 7.30pm - General Meeting, ASME clubrooms. Also 2019 AGM and election of committee members and officers. (**Note - no meeting in January**).

Tuesday December 10th, 7.30pm - Workshop Night, ASME clubrooms

Tuesday December 17th, 7.30pm - Committee Meeting, ASME clubrooms

Coming Up - Hamilton Model Engineers Inc. **Steam N' Steel 2020 Convention**, Hamilton, January 9th-13th 2020.

Notice of Annual General Meeting
of
Auckland Society of Model Engineers Incorporated

The Committee gives notice that the next Annual General Meeting will be held at the ASME Clubrooms, Peterson Reserve, Panmure on Tuesday 3rd December 2019 commencing at 7.35pm.

The Agenda items will be the relevant items as set out in Rule 16.

A new President must be elected as per Rule 16.13, (the current President having held office for three consecutive terms) and new committee members are required. If you think you are committee material, don't be backward in coming forward!

Committee Comments

Committee Comments – December 2019

The next meeting (on 3rd December) is the Annual General Meeting of the Club. Make no mistake about it – this will be the most important meeting of the year. It is **YOUR** opportunity to have a real input into the running of the Club; either by putting names forward for the Committee, or volunteering yourself, or both. If you have never been on this committee or the committee of a similar organisation, you will find that being a member is fun, instructive and will give you real opportunity to make your views known. Also you will have the chance of getting to know a bunch of really nice guys better! So do not be shy; indicate your interest to the President or another Committee member.

ASME is now 60 years old! And a range of celebrations marked the occasion throughout November. Firstly, Ross Crook gave a flawless presentation (using technology of the time) of the prelude and opening days of Stage 2 of our Railway (back in 1972/73) at the General Meeting. This was preceded by a few slides of even earlier times, mainly taken by the late Basil Wilson, on the other side of the Basin and recently digitised by Grant Anderson. Ross also showed several other short movies of related interest. A lovely supper followed, prepared by Jan Anderson and Wendy Housley, which even included a birthday cake!

Secondly, the 60th Anniversary Exhibition was held in the Clubhouse Basement, organised by Dave Housley, on the following weekend. A very good range of model engineering items were displayed. Thanks to all those who made an exhibit available or came along to socialise; and again to Wendy Housley who very ably looked after the catering needs of members over the weekend. A full report is included later in this Micrometer..

Finally, on Saturday 16th November, the combined 60th Anniversary/Xmas Party luncheon was held at Ryder's in Avondale. A lovely roast dinner was enjoyed by all, followed by prizegiving of the various awards from the

previous weekend's exhibition. Armed with an icecream each, we then piled into the cinema to watch a British comedy film made in 2017. A special thanks to all those who supported the Club at these 60th Anniversary events.

The re-gauging of two Club locos (EC & Dsc) have been contracted out to Ikon Engineering. The Dsc is having steel tyres fitted to increase the back to back (B2B) distance to Traincraft standards as this report is written. The Ec will be next; it's existing wheels hopefully may be re-profiled to give the correct measurement without the need for tyres. The work is required to ensure the locos will be able to traverse the new ground level points, as it was only recently established that the as-built B2B measurements were incorrect.

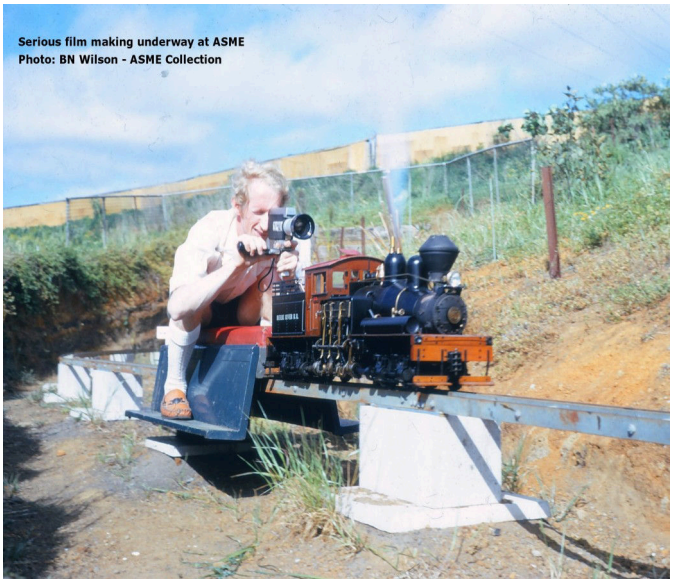
At the Steam N' Steel Model Engineering Convention at Hamilton in January 2020, MEANZ will hold their Bi-annual General Meeting. The Committee have discussed a possible remit to go to the meeting to ensure some discussion evolves around raising funds to help in resisting the changes for our hobby suggested in the recent discussion paper "Implementing the Health and Safety at Work Act 2015: Better Regulation Plant, Structures and Working at Heights", should that become necessary.

(With apologies to Doug Leybourne for plagiarising his words from the Micrometer November 2002 used in the first paragraph of these Comments – still as relevant today as it was back then!)

October Photo Competition

The competition was won by Life Member Peter Anderson of Wellington.

The mystery member was Ross Crook (a member since Dec 1969) who regularly helps out as a rostered Station Master for Sunday train running. The loco is a 5"g Shay named Beebe River RR, built & owned by Gerry Gerrard from the New Plymouth Society of Model & Experimental Engineers Inc. The photo was taken on the open weekend for the new ASME extension (stage 2) in 11-12 November 1972. It was taken just out of the long tunnel portal and before the girder bridge which route the then new line took back in 1972. The photo was taken by Basil N Wilson. Up behind on the boundary is the net fencing of the then neighbours - a market/ garden nursery business called Massey Woods Nursery.


Serious film making underway at ASME
Photo: BN Wilson - ASME Collection

For his correct answers, Peter wins the Chocolate Fish prize! It is now up to Grant Anderson to make sure the said chocolate fish is delivered to Peter Anderson in factory-fresh condition!!

60th Anniversary Exhibition 2019

Saturday started against the forecast of drizzle and turned out to be a fine day with exhibitors arriving at 9 o'clock sharp, eager to display their models. Set up for the show was planned for 9 o'clock until 12 o'clock giving ample time to ensure their models were displayed finely. We had 12 club members displaying which is a healthy percentage of 20% of the membership. Judging was conducted over the whole of Saturday afternoon and gave the judges a hard task as the standard of the exhibits was very high.

A live steam operation was carried out by Greg Burrows with his Foden Steam Wagon displaying the novelty of steam transport to members by giving rides along the board-walk. Bruce Cooper was running his 3 ½" Tich around the track trying to get around in one steaming and Allan Bailey was running his 5" Polly all day.

Sunday arrived with rain and unfortunately put a damper on things as even in the afternoon with regular running hardly anyone turned up. This gave Allan Bailey more time to get acquainted with his Polly and for Bruce Cooper to get to know Kathleen better. Grant Anderson also ran his NZR 7 ¼" loco after running at Thames on the Saturday, making a good live steam display with three engines running. Saturday was also a quiet day with takings from the track being exceeded with donations to the exhibition. The same was experienced on Sunday.

A good crew turned up for the working bee on the weekend prior to the exhibition and also the same crew turned up on the Friday to set up the basement for the show , these members were John Lankow, Mike Banks, Pete Tomkies, Tim Robinson and Pete Woodford.

Although not many members of the public turned out over the two days it gave club members time to sit and have a yarn and socialize. A few visitors displayed an interest in the club and Mike Banks did his very best to get them further interested to come along to our meetings.

Thanks must go to Wendy Housley for the running buffet over the weekend; thanks also to our security crew of Tony Lawrence and Dave Russell and thanks to all our members who turned up to make the exhibition successful.

Dave Housley, Exhibition organizer.

ASME 60th Anniversary Exhibition

Members' Model Engineering Awards

Jackson Cup:

(Awarded for the best completed exhibit, providing the judges deem it up to a high enough standard. It can be awarded only once for any one exhibit).

Awarded to **Mike Banks** for his 5" gauge Great Western King tender locomotive.

Editor's Note: I have taken many photographs of this model, starting while it was still under construction. This picture I regard as the best (it was a fluke!): it was taken with a hand-held camera, and somehow the light, focus and framing all turned out perfectly! It is shown without alteration. I have decided not to reduce it in size as it shows the impressive workmanship and attention to detail of Mike's work.

Kresta Cup:

(Awarded for the best engineering exhibit, providing that the judges deem it up to a high enough standard.
It can be awarded more than once for the same exhibit, providing that the judges deem that there has been sufficient increase in the progress on the exhibit since the cup was previously awarded).

Awarded to **Greg Burrows** for his 1/3rd Scale Foden Steam Wagon

ASME Shield:

(Awarded for the best-completed piece of workshop equipment.
It can be awarded only once for any one exhibit).

Awarded to **Murray Lane** for his improved tailstock for a Myford Lathe (seen at left in the above photo - the original Myford tailstock is shown on the right).

New design tailstock for a Myford

This tailstock for a Myford lathe was designed and made by Murray Lane to replace the original unit
It has a number of advantages over the original design

1/ It has a rack operated mechanism which allows quicker and easier movement of the spindle.
2/ When drilling holes deep holes it allows quick withdrawal to clear the swarf from the drill.
3/ The spindle does not have to be screwed back to eject the tool and it can be knocked out in any position.
4/ The spindle travel of 125 mm is 30 mm longer than the original.
5/ The spindle is fully supported over a length of 280 mm.
6/ The nose of the tailstock body extends 30 mm further over the cross slide.
7/ The spindle is 4 mm larger in diameter and is made of 4140 high tensile steel.
8/ A dial shows the amount of travel, one full turn is 100 mm.
9/ The dial is held in place with a friction coupling allowing it to be set to any position.
10/ There are 4 rack handles which makes for a better balance as per turret lathes.
11/ The rack handles can be rotated to any radial position and locked in position with a knurled ring.
12/ The top slide can be moved 25 mm closer to the lathe centre.
13/ It can be power fed into the work piece by a simple attachment to the cross slide.
14/ The top is flat allowing attachments to be fastened to it.
15/ The nose is cylindrical allowing attachments to be clamped to it.

Jack and Ethel Hocking Cup:

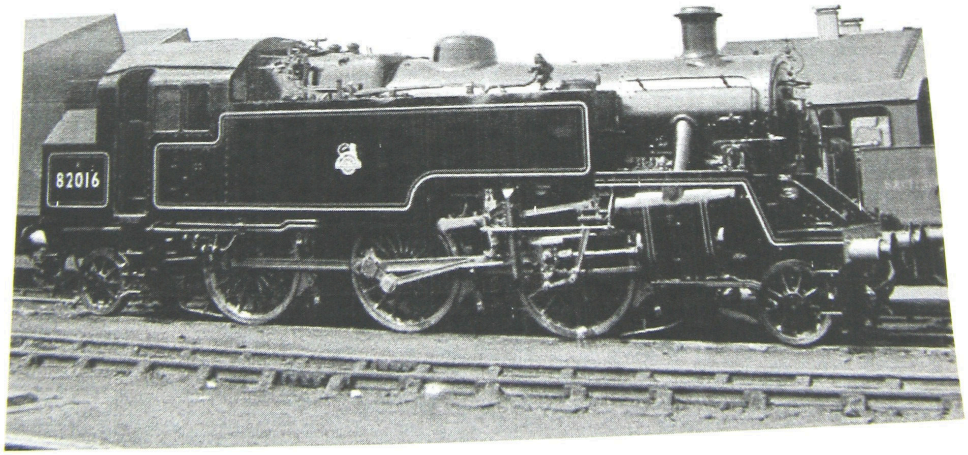
(Awarded to the best exhibit of a British locomotive type to any stage.
It can be awarded more than once for the same exhibit, provided that the judges deem that there has been sufficient increase in the progress on the exhibit since the cup was previously awarded).

Awarded to **Mike Jack** for the on-going progress of his 3MT locomotive.

BR Standard Class 3MT 2-6-2 Tank Locomotive

As a start, the story of this model goes right back to my very first Tri-ang Hornby model. It was a favourite. Move on forty years and I find a book I had as a youngster which fell open at the 82000 class page and I wondered why one never sees live steam models of this mid-size locomotive. After a bit of research it turned out that there was none preserved which meant it was not possible to photograph and measure one in order to create a model of it. As it turns out, most of the original works drawings have been kept and I have purchased around 200 part and assembly drawing copies and am now using SolidWorks to design the model in 5" gauge (27mm = 1' scale)

On display are the two pony trucks. The front one has side control springs to centralise the truck and guide the frames around curves while the rear truck has swing links to do the same job.

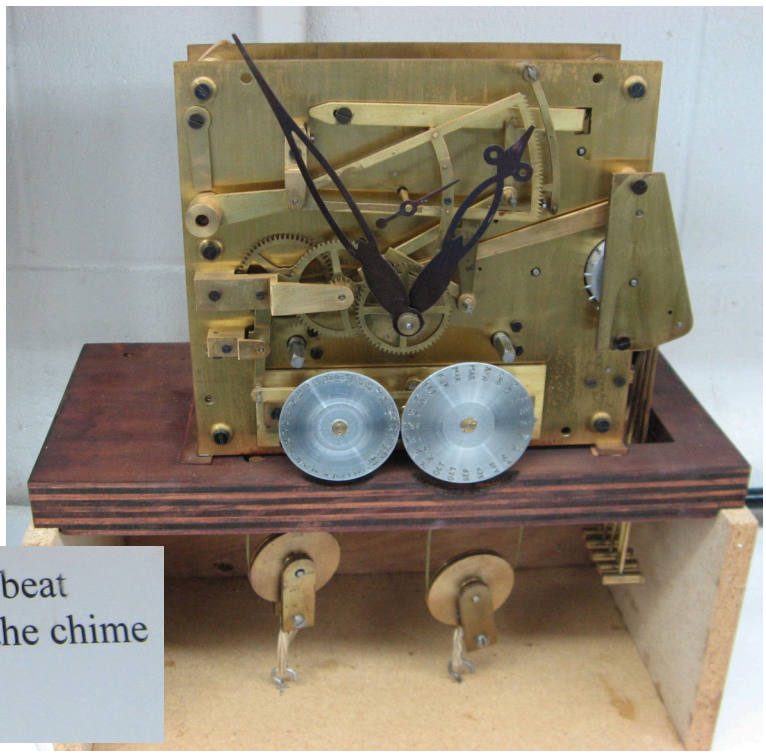


None of these mid-size locomotives was preserved after steam was withdrawn from service on British Railways in the 1960's so there is a new locomotive being built to the original works drawings by the 82045 Trust. It will run initially on the Severn Valley Railway. I am building a second model which will be donated to the trust for them to use to help raise funds.

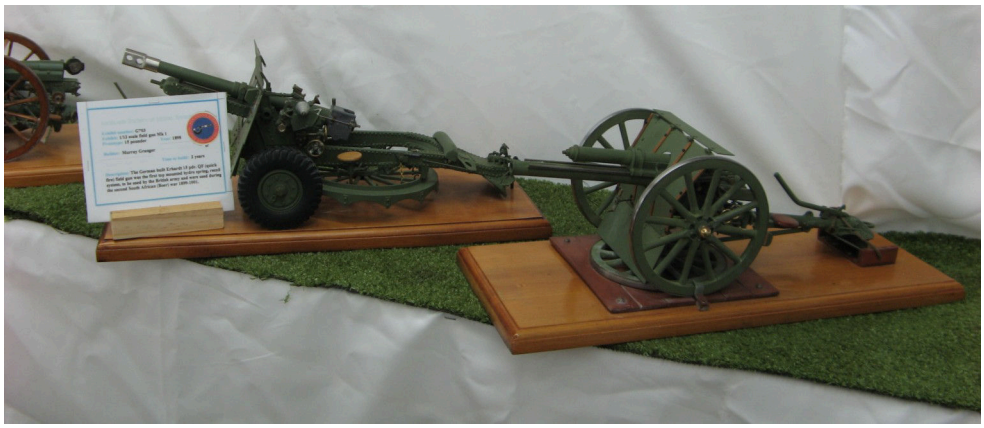
Horological Trophy:

(Awarded to the best exhibit in the horological field.
Parts made by the builder are to be considered before parts made commercially. It can be awarded more than once for the same exhibit, provided the judges deem that there has been sufficient increase in the progress on the exhibit since it was previously awarded).

Awarded to **David Wilson** for his long case clock movement.



Long case clock movement with dead beat escapement and differential drive for the chime and strike.



Committee Cup:

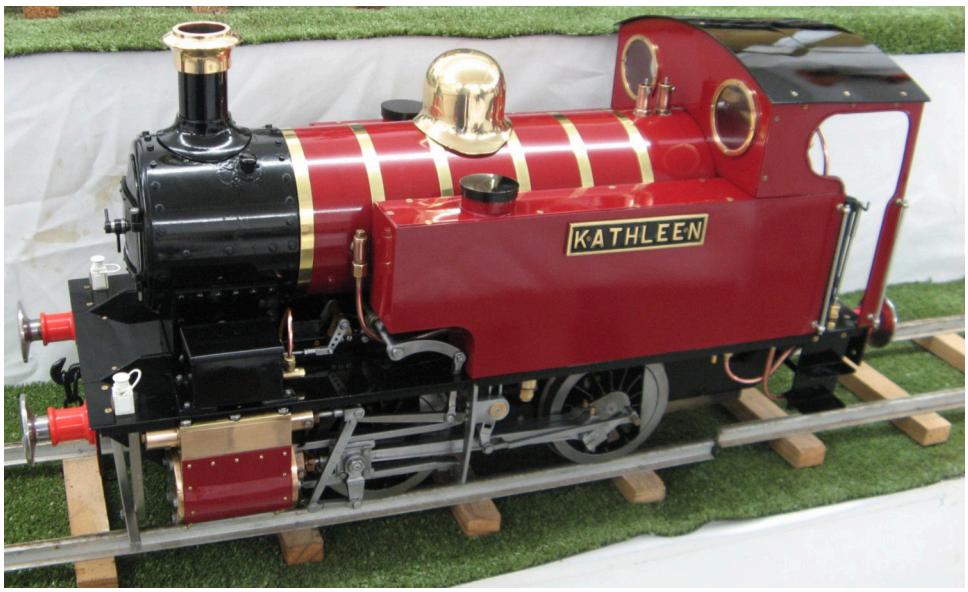
(Awarded to the best completed junior exhibit. If there are no junior exhibits it can be awarded at the judges' discretion for any exhibit to any stage.
It can be awarded more than once for the same exhibit, providing the judges deem that there has been sufficient increase in the progress on the exhibit since it was previously awarded).

Awarded to **Murray Granger** for his 1/12th scale artillery pieces.

Peter Baker Memorial Trophy:

(Awarded for the best painted exhibit providing the exhibit is completed.
It can be awarded only once for any one exhibit).

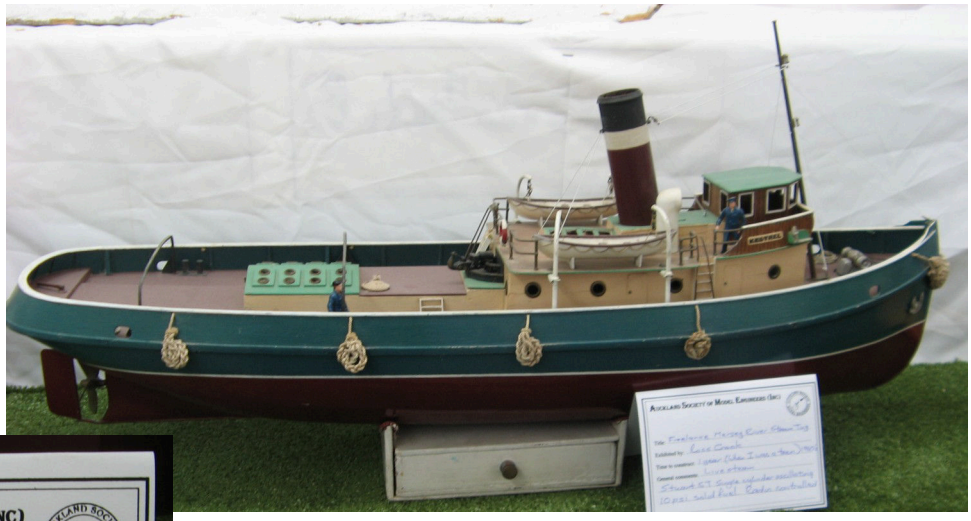
Awarded to **Bruce Cooper** for the excellent work he has done restoring “Kathleen”.

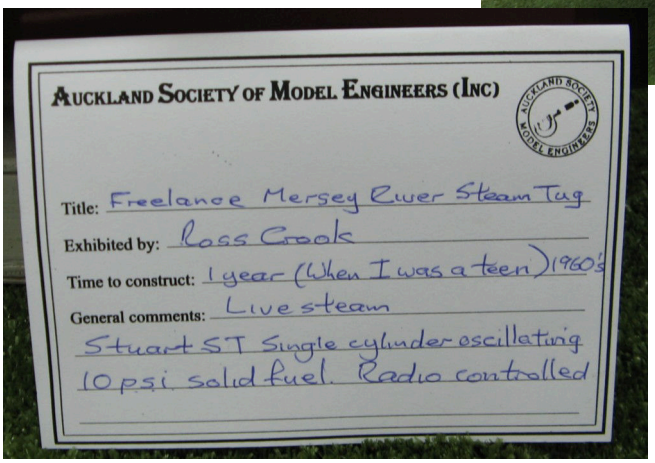


Les Fitt Memorial Award:

(Awarded for any exhibit to any stage at the judges’ discretion, providing it is not a locomotive. It can be awarded only once for any one exhibit).

Awarded to **Ross Crook** for his freelance Mersey River steam tug.




AUCKLAND SOCIETY OF MODEL ENGINEERS (INC)

Title: Freelance Mersey River Steam Tug

Exhibited by: Ross Crook

Time to construct: 1 year (When I was a teen) 1960's

General comments: Live steam

Stuart ST Single cylinder oscillating

10 psi solid fuel. Radio controlled

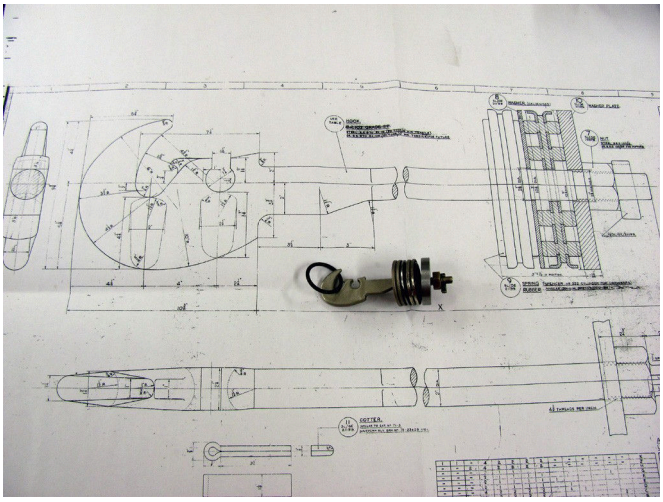
Beginner’s Medallion:

(Awarded at the judges’ discretion for the best-improved beginner exhibiting any item of model engineering.
It can be awarded only once to any ASME club member).
Awarded to **John Lankow** for his unfinished loco - adapted from Martin Evans’ freelance “William” design to appear as an NZR Wa tank engine.

Bits and Pieces 5th November 2019

Photos and report by Dave Russell

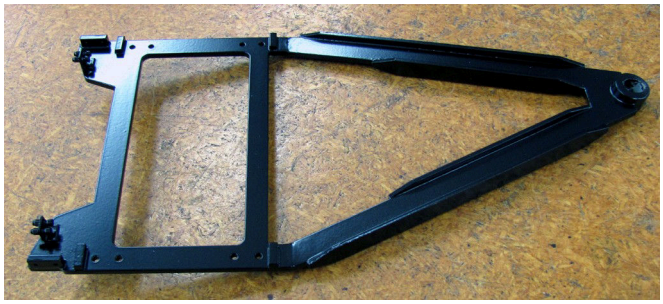
Bruce Cooper has been working hard on his restoration of the “Green Maggot”. While it is looking good with some new paint, Bruce says the boiler still has a couple of leaks and there is not a lot that is lining up or fitting together when re-assembling.



Mike Jack produced this BR standard coupling link and shock assembly as per the works drawing shown. The drawing covered most BR standard locos with tables showing size and measurement details for different types.

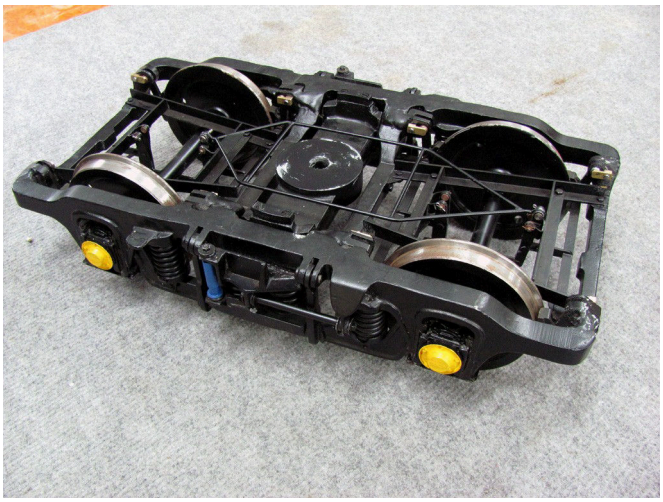
These “Prince of Wales Feathers” plaques are for a Traction Engine. Mike Jack was asked to make them for a customer.

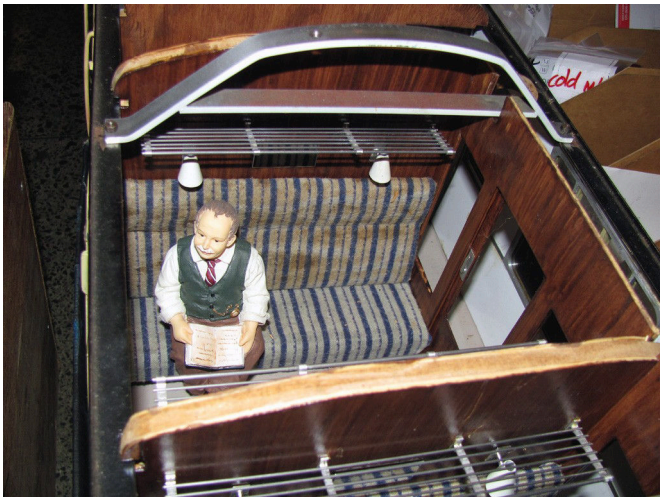
Since Mike is about to start seriously painting a lot of parts for his class 3 loco project, he thought he should get some practice in with the spray gun. So before getting stuck in with his new gun he restored this old Devilbiss unit bought at a club auction. Mike is pleased with the resulting job as shown on the pony truck pivot frame.



Some members may remember the 5” gauge, scale BR carriage that Mike Jack built some years ago from a kit ordered from the UK. It seems Mike did such a good job that after seeing the article on it in the GL5 magazine in England a reader contacted Mike and as a result Mike has sold it to him and it is being shipped off back to Blighty.

The photos show various parts; one of the bogies, the frame and detail of the interior. The seat material is from an old pair of pyjamas and before sending on its way, Mike had a scale copy of the magazine it is featured in printed and left on the seat next to one of the passengers.

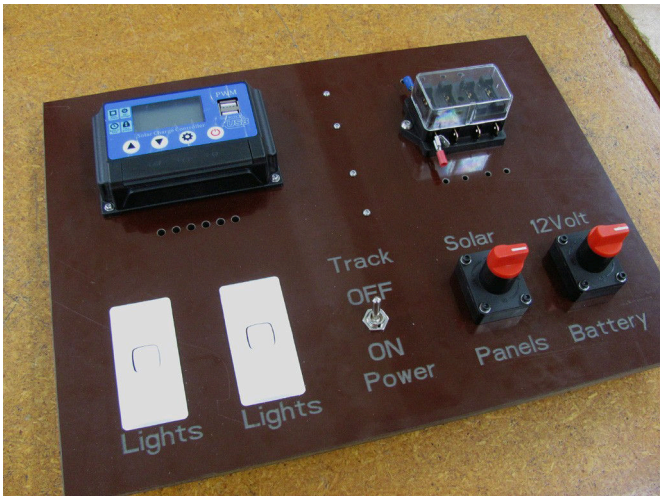




Peter Woodford, sick of burning his arm on the lead-lamp purchased these “leadless” LED small work lamps from Bunnings and Supercheap Auto, surprisingly bright and cool.

Mike Banks brought in a set of reverse number punches obtained at a club auction. These could be punched into a mould to produce a raised character in the finished work or punched into thin sheet metal to produce a raised imprint on the reverse side.

Greg Burrows’ shed for his garden railway is to be solar powered as will some of the items on the railway itself. This control panel is just part of the set up.



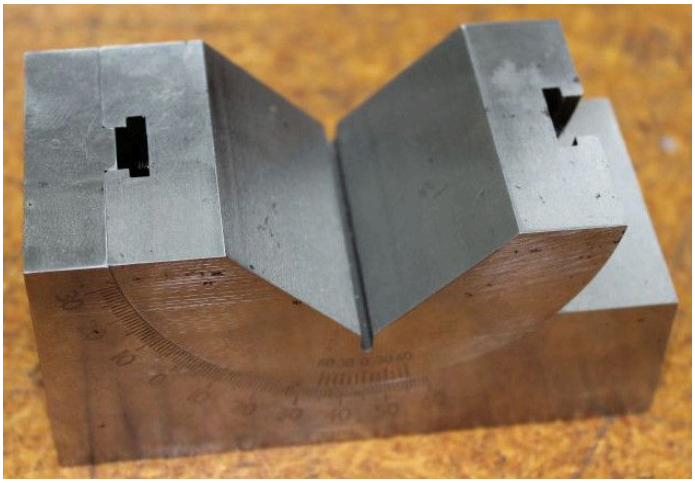
As part of the ongoing maintenance on the James Greasley Trestle Bridge this water-cooled diamond tipped core drill is being modified to adapt to a hammer drill. This is used to remove the corroded frozen bolts from the woodwork.

Peter Tomkies brought in some acrylic sheet that he was giving away and said it would be good for packers. Peter also had a photo of an old bandsaw, free to a good home.

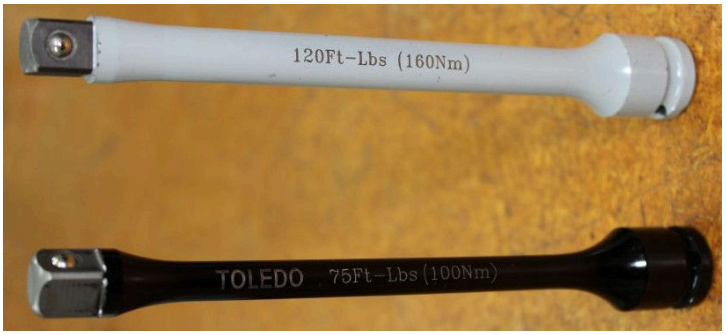
Workshop Night, Tuesday 12th November 2019

Well we got off to a bit of a quiet start tonight. After the 60th model display down in the basement of our models and running all weekend I think we had a lot of tired people and the thought of coming out was put aside for a well-deserved rest. We started the night again with a cup of tea and a couple of bikkies. We had approximately 8 members turn up this time to show us what they have been doing. The bits and pieces were a little light due to the numbers for the night. The meeting was closed down at around 9-20pm

Peter Woodford brought in a vee block that has a vernier scale on the side of it to allow you to set it to the required angle for machining of the item it is holding. These are a very useful block and a lot easier to use than the angle-setting wedges that are usually quite thin in cross-section and want to slip out from under the job as you try to tighten up your vice.

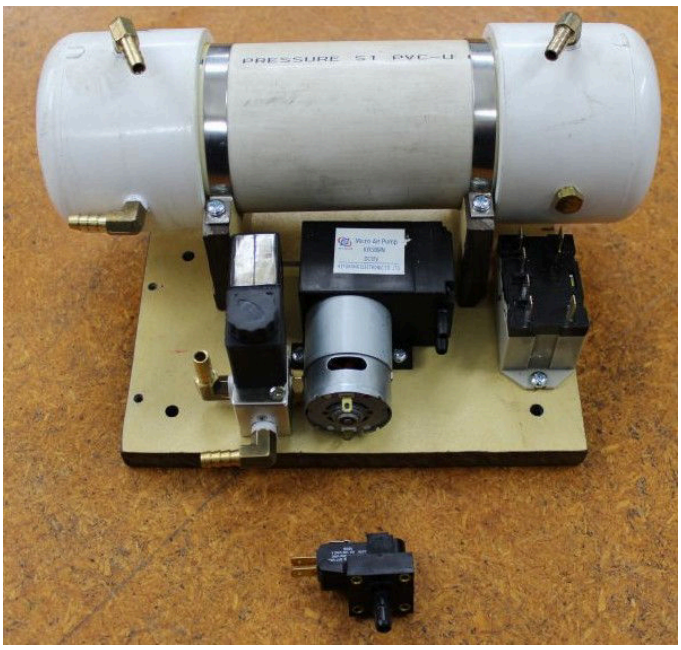


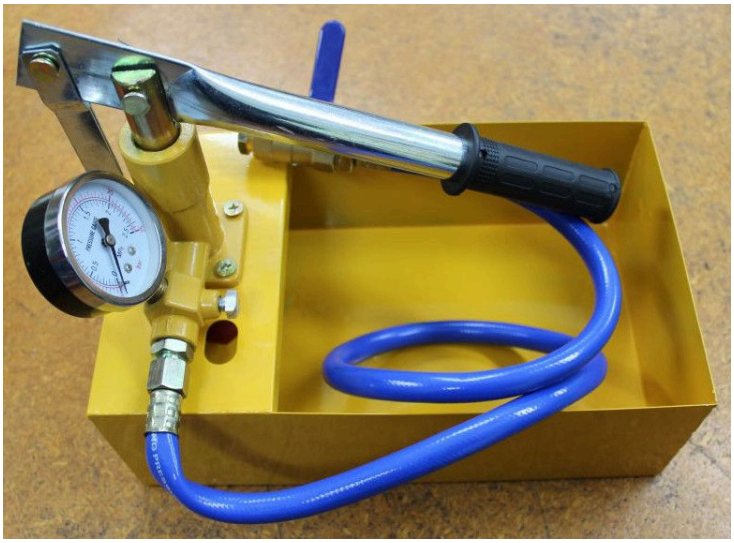
Peter also brought along these ½" drive extensions for use in torqueing up nuts, bolts etc with a rattle gun. Peter has been looking for a 100 Newton-meter one to use on a job at work and finally found one. You can see the difference between the two of them by looking at the diameter of the shafts that are machined down to give the desired torque you want to use. The idea was each bar was made for a set amount of torque and when this was reached it would twist a little and not allow the torque for the wrench to overpower it.



Michael Jack had brought along some items he has been making for his locos and some tooling to help in the manufacture of the lovely small vices he sells. The first item was a broach for cutting the square hole in the handle for tightening up the vice. The second item was the handle he had used the broach on to cut the square hole. The last item was a coupling hook for the Class 4 locos he is building. It can also be used on some of the other classes of BR locos as well. These ones have been cast from wax patterns that Michael makes and used in the lost wax process. The material is white bronze and the small thread on the end of it was cast in as well. Michael wanted to use the brand new die nut he had just purchased to clean up the thread from the as-cast condition. It worked well but he was very disappointed with the quality of the die nut as it does not run true with the thread. And we can confirm that Michael's thread is running true with the rest of the job. This photo shows how much the die nut runs out.

Timothy Robinson has been working away at building a new vacuum tank and pump setup. He has used a length of plastic waste pipe and some end covers for the main tank. Tim found a supplier for the little 12 volt vacuum pump in China and has added a vacuum switch to control the operation of the pump so it doesn't run all the time.

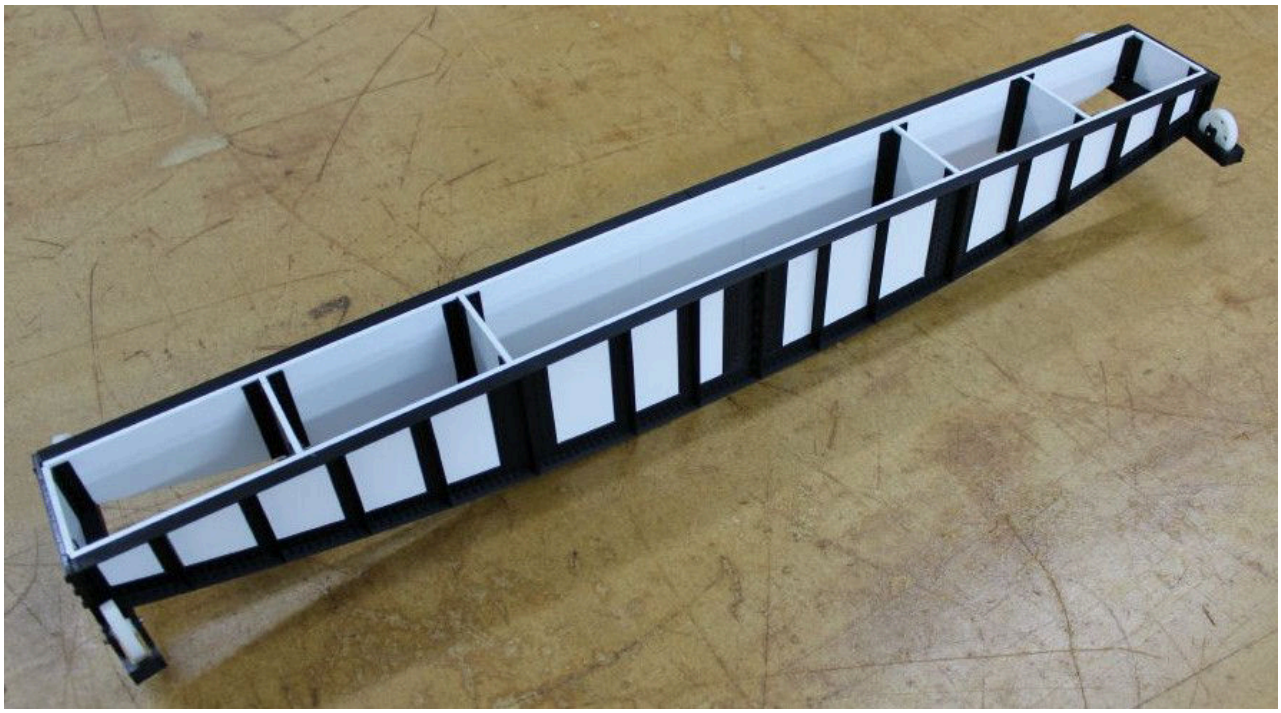




Bruce Cooper brought along a boiler test pump that he has been working on so he can apply some pressure to his loco's boiler while he is carrying out repairs to it. He was using the Club's test pump but thought it would be a lot easier if he had his own one in the workshop therefore freeing up the Club one for Club use. This nice looking little unit came in from China at a very reasonably price as a complete unit: he just made a couple of small changes to the fittings to match up with what he has on his boiler.

Graham Beazley has been very busy in his workshop again designing and making a new set of clutches to be used on his telescope tripod stands. These are part of the gear that is motorised to enable the telescope to follow the movement of the stars or planets you are looking at. The unit on the left is the old one that came with the tripod and was very limited in the amount you could freely move the telescope when you are setting it up on a targeted star/planet etc. His new and much better design (on the right) uses a hand tightened clutch that you can release and allows you to make a bigger movement to a new position and tighten it up again so it can carry on tracking. Before, you had to wait for the motors to drive the telescope around to where you wanted to look. As usual Graham has done a wonderful job of this and all by manual machining and polishing. (No CNC machines). Very nice work Graham!

From **Greg Burrows** is a nice little ¼" drive for a socket set that he bought from one of the tool companies that call into work. It is a very flexible unit with the head being able to swing through 180 degrees from one side to the other. (This is how you get the ratchet to work in both directions). The handle also will open up to form a Tee handle that is useful for tapping-type operations.



Also from Greg Burrows is the start of the turntable for his NZR garden railway in 1/24th scale. The turntable is made up of ABS white plastic sheet 3mm thick and the black parts have been 3D printed in ABS with all the rivet detail printed into them and all glued together with MEK. A couple of meetings ago he brought along the little motor and gearbox that will be used to power it around.

Well that is a quick round up of the workshop night and as always it is a 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.

Also 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. The December meeting will be the last for the year and we *will not be having one in January 2020, so the first meeting will be 11th February 2020*.

Cheers, Greg B.