

# 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 642

February  
2019

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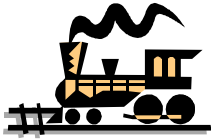
REGISTERED NEW ZEALAND PUBLICATION

## A Sign of the Times

A somewhat hastily modified road sign once seen in central Blenheim - now no longer needed.

See Book Review later in this edition.





# Train Roster

	Date	Electric Driver	Electric Driver	Steam Driver	Train Controller	Station / Guard	Station / Guard	
(Start)	3-Feb-19	M Moore	P Moy	Voluntary	<b><u>S Meikle</u></b>	R Stratton*	B Matchett	
10:00am	10-Feb-19	R Reichardt	A Shirley	Voluntary	<b><u>T Robinson</u></b>	K Ryan*	D Vaughan	
1:00pm	10-Feb-19	P Woodford	I Ashley	Voluntary	<b><u>T Robinson</u></b>	A Stratton*	S Shirley	
	17-Feb-19	A Bailey	G Beazley	Voluntary	<b><u>G Anderson</u></b>	R Souter*	M Vickers	
	24-Feb-19	M Hollis	D Housley	Voluntary	<b><u>D Russell</u></b>	P Tomkies*	D Beecher	
	3-Mar-19	M Granger	J Lankow	Voluntary	<b><u>B Aickin</u></b>	D Wilson*	S Wilson	
	10-Mar-19	M Moore	P Moy	Voluntary	<b><u>P Dowdeswell</u></b>	R Crook*	D Vaughan	
	17-Mar-19	R Reichardt	A Shirley	Voluntary	<b><u>G Wills</u></b>	K Ryan*	S Shirley	
	24-Mar-19	P Woodford	I Ashley	Voluntary	<b><u>T Lawrence</u></b>	P Jones*	M Vickers	
	31-Mar-19	A Bailey	G Beazley	Voluntary	<b><u>S Meikle</u></b>	M Luxton*	D Beecher	
<b>Note: There is a double roster for the Panmure Basin Fun Day on the 10th Feb</b>								
<b>10:00am to 1:00pm and 1:00pm to 4:00pm.</b>								

**Bold and Underlined** Name = **Train Controller**, i.e. the person in overall control of all operations for the day

**Bold with Asterisk\*** 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.

## FEBRUARY CALENDAR

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

**Tuesday February 12th, 7.30pm** - Workshop Night, ASME clubrooms

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

**Coming Up:** - Panmure Basin Fun Day, **Sunday 10th February**. Keep this day free if you can. ASME will be running a double shift that day, and extra personnel will be needed to help control the crowds!

- **February 23rd - 24th** . Thames Small Gauge Railway Open Weekend

- **Saturday March 16th**. A fun run, a barbecue lunch, and the unveiling of a plaque commemorating the late Jim Greasley's contributions to ASME which include the building of the Trestle Bridge.

# Committee Comments

## **Committee Comments – February 2019**

The big day is almost upon us – this year Council have brought the Panmure Basin Fun Day forward (from late March) to 10th February 2019. They are advertising it as a 10am start so we will need those rostered on the “am” shift ready to go from that time. The “pm” shift starts at our normal time of 1pm. Needless to say, help from any other members that can assist at anytime through the extended operating period (10am to 4pm) will be much appreciated. A light lunch will be provided as the “am” shift ends and the “pm” shift begins i.e. lunch will be available between 12.30 and 1.30pm, for all who are able to help out. This is always our busiest day of the year, so please come along to help and join in the fun!

Thanks to Greg Burrows for engraving the plaque and Mike Moore for arranging supply of the material for the Jim Greasley Trestle Bridge permanent sign. This will be unveiled at a special event on 16th March at ASME in conjunction with a Club fun run at the track from midday. Please mark this date in your diaries now – more details will be in the March Micrometer.

The Auckland Council started work in late November on improving the walkway around the part of the Basin near Peterson Reserve. In addition, they decided to make changes to the car park without any further consultation other than that undertaken over 3 years ago (which ASME made submissions on). Incredibly, the result has been a reduction of about 25% of the car parking spaces in order to have space for a central tree and grassed area. This will make the car park an even busier area at popular times without any real practical benefit. We met with the contract representative to complain about the loss of carparks and to request several modifications – this included easing some restrictive, very tight curbing and changes to our unloading ramp. We are still hopeful that several more carparks may be arranged.

Due to an increasing concern over security of keys issued to members and other parties for access to club premises, the committee has been considering how security can be improved, both for the safeguarding of assets and to meet insurance requirements. The cost to change locks was investigated but proved prohibitive, with a concern that any benefit could likely be eroded by any further loss of keys. So the option to add an additional level of security by introducing pin numbers to cancel the alarm has been approved. This change will simply require a pin number to be entered into the alarm keypad to cancel the alarm, rather than using the alarm key switch. The current key will still be used to open gates, doors and padlocks as at present. It is expected this will be introduced from 1<sup>st</sup> March, but further details will be advised directly to those members requiring access to the club, closer to the change.

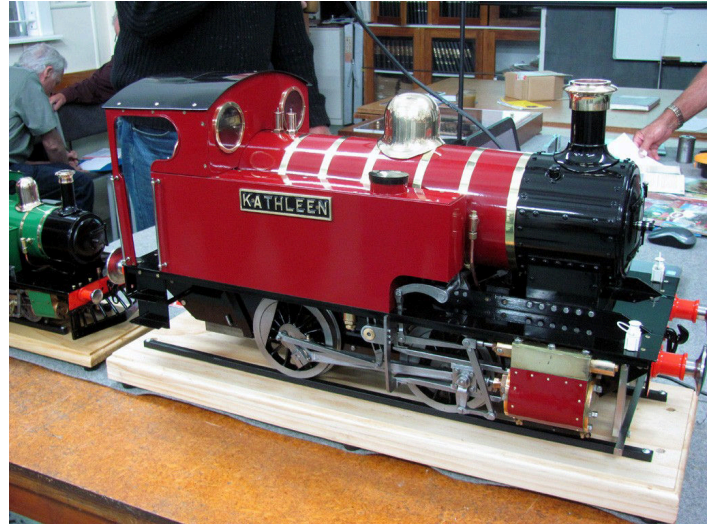
The MEANZ Audit of the ASME Waipuna Miniature Railway was done on 19<sup>th</sup> January and an ADR Form 2A issued by the auditor. Application has now been made to WorkSafe for a renewed Amusement Device Registration in good time to have this issued before expiry of the current one and also in time to obtain a new Permit to Operate from Council.

Subscription and fundraising rebate notices were sent to members by email in December – most have paid (thank-you) but a few remain outstanding. If you have not yet paid your 2018/19 subscription, could you please attend to this promptly.

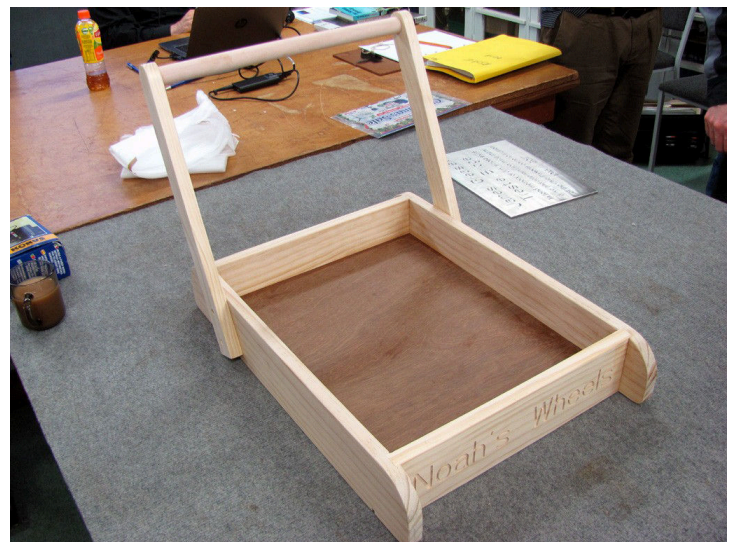
## Bits and Pieces November and December 2018

Photos and report by Dave Russell:

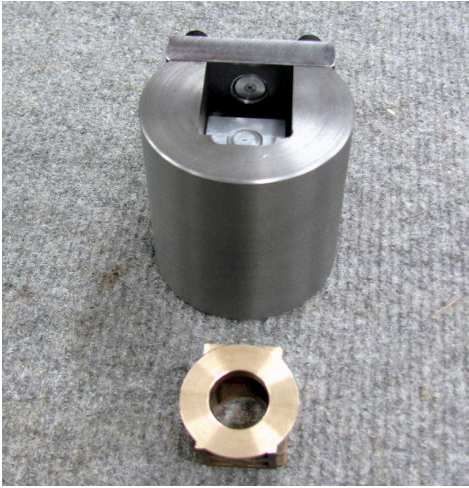
First, I must apologise if I have made any mistakes in this report as I misplaced my notebook and camera for several weeks: fortunately the camera is found but the notebook page is gone.



**Bruce Cooper** has repainted his Tich locomotive and added to the stable with a 5" Ajax "Kathleen". The Ajax was built by Jim Mowat and then owned by Trevor Taylor. The locomotive was badly damaged during a break in at the club engine shed some years ago. Trevor had been slowly rebuilding her before selling to Bruce who has stripped, straightened and repainted the loco. A fine job he has done too. Recent test runs on the track have been successful and Bruce hopes to soon have a boiler certificate approved.



**Greg Burrows** has been busy with the CNC lettering: firstly a memorial plaque to be placed on the trestle bridge near the station in honour of Jim Greasley and secondly on a trolley being made for a young relation. Greg has passed on some of his skills to his partner and she has made this ornament to go in the garden pond.



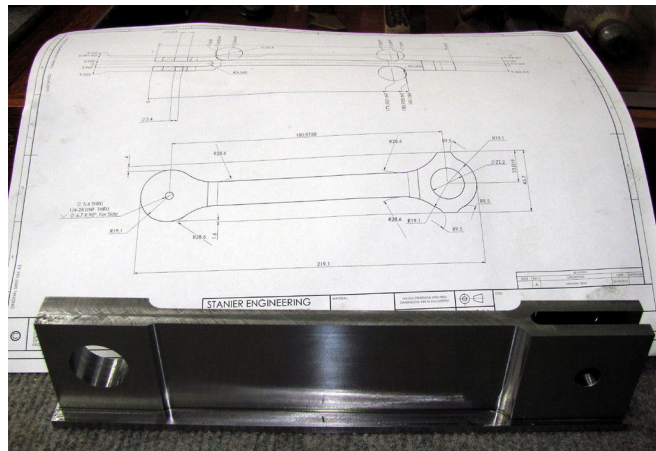
A bit of a collection from **Mike Jack** now that he has moved to working full time for himself.

The machining fixture (top left) was made to hold the axle box in the foreground. Several processes can be performed using it and it will enable Mike to make many more of the same in a much shorter time.

The silver bracelet on the left in the second picture was made using the lost wax method. A silicon mould was made first from the original and then used to make the wax.

The beginnings of a coupling rod with its drawing (below) gives an idea to Mike's method of machining these.

At the bottom of the page is a selection of bronze wax castings produced with the aid of Mike's 3D printer.





This headlight by visitor **Bill Parker** is being built using a Head Light LED torch as the source of light. This looks like it will do the job and fits inside the unit perfectly.



**Peter Tomkies** built this nice display of old knives and Scouting memorabilia after tidying up his and his father's collection.

Sorry not quite sure who it was who made this straight knurling tool and sample piece, but it was a nice job and looked like it worked well.

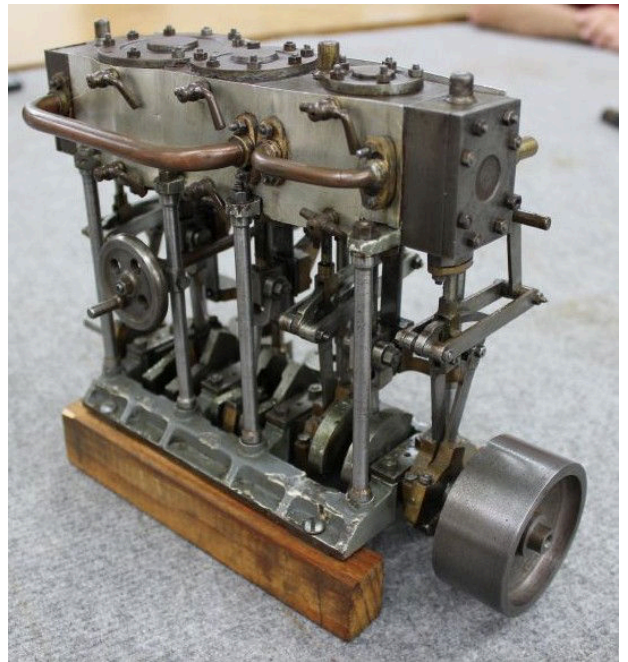
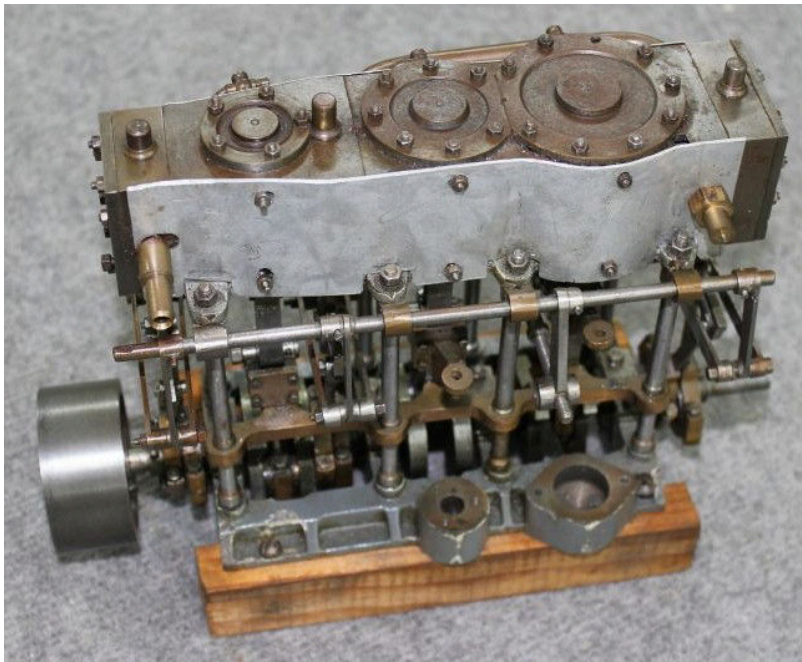


## Workshop Night Tuesday 11th December 2018

Presented by Greg Burrows

We had another good night at the club with a 7-30 start time and approximately 13 members turned up to talk about their bits and pieces they had brought along and to tell stories of what they had been up to in the last month. The meeting was closed down at 10-00pm.

There was a good variety of bits and pieces starting with a partly built Stuart Turner Triple Expansion Marine steam engine out of a ship, brought in by **Mike Banks**. There was not a lot known about this little engine as to who had built it so far. Most of the components are there apart from the air pumps and the water pump that fits on the starboard side of the engine.

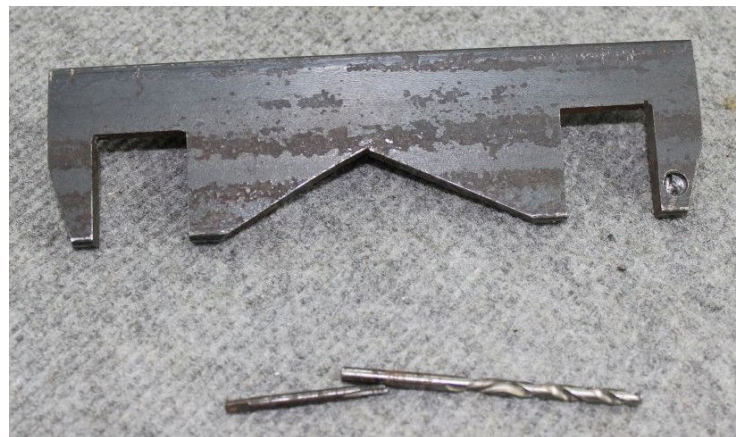


This item was a new brake hose for a motor bike that belonged to **Brian Wilson**. He was having some difficulty in finding one for his old bike he is doing up and found a place that could make up this new one and capable of certifying it as well for use on the road.

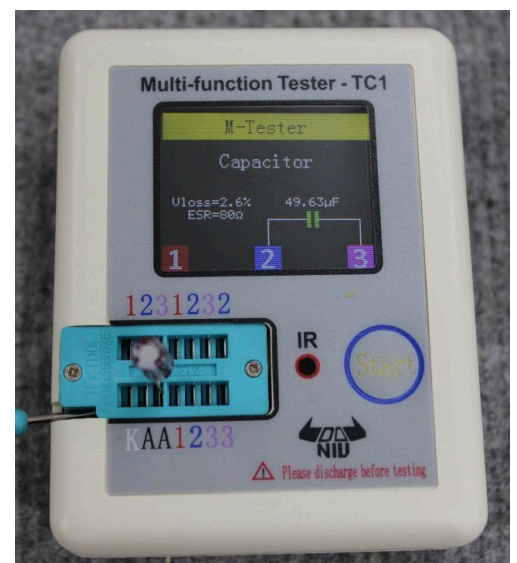


**Graham Beazley** made this item for use on his telescope when setting it up to view the sun. It has a pin hole in one end of the target that is aimed at the sun: this allows the sun light to shine through it and onto the second surface of the target that is used for alignment. When you have the sun spot close enough to the centre of the second surface you can then fit the appropriate sun filter to the telescope and carry on tuning into where you want to look. (REMEMBER NEVER LOOK AT THE SUN THROUGH A TELESCOPE OR BINOCULARS WITHOUT THE PROPER EQUIPMENT. FILTERS ETC)

**Bob Aickin** has been working on his Electric steam Heisler Locomotive, starting with the frames for the power bogies. He has unfortunately succumbed to the broken tap in a hole problem and how to remove it. So he did some thinking and has decided to drill a hole in from the side of where the broken tap is and pick out the remains then fill the hole in again like new and re-drill again. Not a bad idea but his big mistake was buying some of those really good quality drills from one of the local hardware shops that sells "top quality made in China" drills, so that when you use them they sometimes have a tendency to unwind in the flutes. Anyway the remains of the tap had been removed and he now just has to fill in the hole and carry on.



**Greg Burrows** brought in this little gadget for measuring electronic components. Resistors, Transistors, Capacitors just by placing the component in the appropriate slots and pushing the test button. It then tells you what the item is and its values. I bought this item from a Chinese web site for cheap stuff. Banggoods.



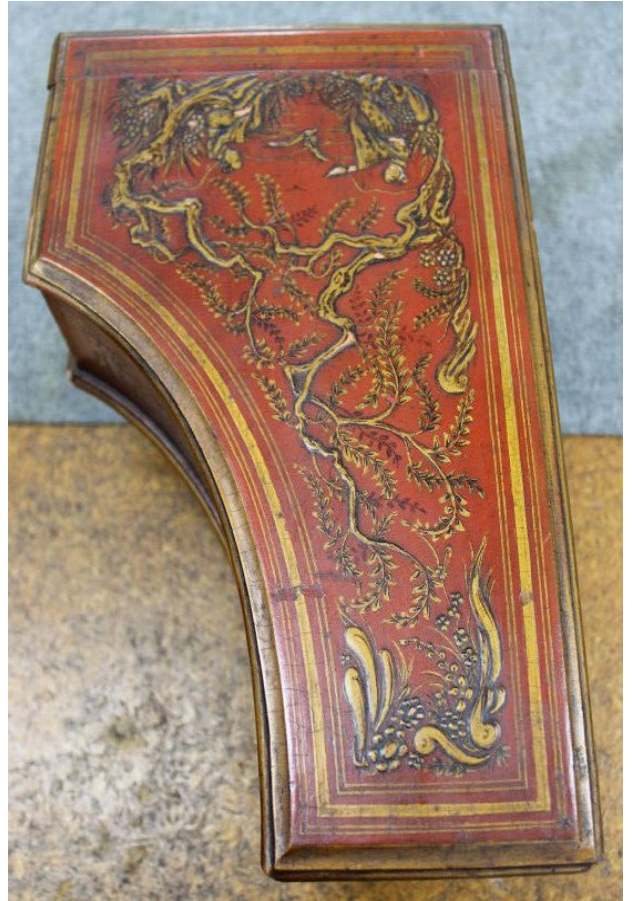




**Peter Woodford** needed to make up some nice thin 0.003" & 0.005" brass washers for a job he was working on. He already had a tool for punching out small circles of varying sizes, but nothing with a hole in the middle. Now you can get tools for this type of job but with time and budget not on his side he has made up some extra punches to go with the set he has. Basically what is needed is to be able to punch the small hole first in your material and then be able to pick up the centre of that hole in the next size punch hole you are going to use (the outside diameter). So what Peter did was to make up some guide punches (stepped) that would fit into the hole already punched in the material and then be able to cut the outside diameter of the washer to finish.



Greg Burrows has been busy in his workshop making a walk-behind blocks trolley for his Grandson so when he starts to walk he has something to help him on his way. The trolley is made of untreated pine with white Acetyl wheels made from bar stock. So his grandson wouldn't forget who the trolley belongs to and who made it for him I engraved his name on the front and who made it on the back.



**Michael Cryns** has been repairing this piano music box for a customer, The mechanical components are tiny and the individual reeds have varying size weights attached to the bottom of them to give the required note. It is actuated by pressing down one of the foot pedals. It can play two tunes by moving a control which shifts the drum slightly to line up with a second set of pins. The cylinder is around 45mm long and was made around 1860.



Peter Woodford had another item tonight. He has been making some little bobbins that fit on the side of his motor bike and are helpful in keeping parts of the bike off the surface of the road in case of an accident. They are also useful for supporting the bike when at the race track using a special paddock stand that fits into these bobbins and lifts the rear wheel off the deck.



Graham has been working with his camera and was finding that it was very heavy to hold on one side. So he set about designing an extra hand hold to go on the left hand side of the camera. Graham has totally machined this on a manual mill, (no CNC) and has made a fantastic job of it. Nice smooth edges and radius all over, the centre has been hollowed out to reduce weight and the top has a feature (hot foot type) milled into the top so he can fit other attachments like flash light etc. The hand piece is attached to the tripod mounting screw in the base. I was lucky enough to have a try at handling the camera and this addition has made a big difference to the balance.

**Tim Robinson** has been overhauling an old power hacksaw that has made its way into his workshop. The nut that drives the moving jaw of the vice in and out is very badly worn and he is looking at making a new replacement. Sorry I didn't get a photo of the part.

One of the younger members, **Peter**, has been very busy working with Bees. He is doing Bee keeping for a job and set about telling us what's involved with keeping a happy and productive set of beehives. It is a very busy time of the year for them inspecting the bees on regular intervals and moving them when required for food and to control what they get to eat, as this affects what type of honey you get from the hive.

Remember the idea of this night is to just get together and have a good old natter and talk about what you have been up to for the last month or so. With Christmas now out of the way there must be lots of questions and interesting topics to talk about. It is always a good time to ask all those questions about any engineering or other ideas on how to do something that you would like help with. (Remember the un-asked question will not get answered)

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



# BOOK REVIEW

## THE KAIKOURA JOB - Rebuilding KiwiRail's Main North Line

Author: Rob. Merrifield

Reviewed by John Lankow

When I saw this book advertised in the Hutt Valley MES's November 2018 edition of their Newsletter *Blast Pipe* I thought, "This could be very interesting", and immediately added it to my Christmas wish-list!

Well, Santa did her thing and I'm now part-way through reading the book for the second time!

I guess most of us remember the TV coverage following the November 14th, 2016 earthquake which isolated Kaikoura from the rest of the country. Remember the half-dozen or so cows marooned on their little "island", or the goods train stuck in the middle of nowhere?

After the tourists were rescued, and the camera crews and their helicopters departed, then what happened?

This book gives in-depth coverage of the massive amount of damage caused to roads, rails, bridges and tunnels and the organisation required to get this part of the country running again asap. Also noted were the individual efforts of up to 1700 men and women who worked all hours to a) get the railway going again so that large machines and massive amounts of material could be brought in, to b) do the same for SH1 and allow life to get back to something near normal for the "locals".

The book begins with a first-hand account of the earthquake by one of the Kaikoura residents: the second chapter was written by the driver of the stranded train who describes in detail the thoughts that crossed his mind when his loco started shaking wildly as he travelled between tunnels in the middle of the night, and whether he should stay in the cab or run to somewhere safer. Later, seeing it looked like he was going to be occupying the track for quite a while, he had the presence of mind to call up Train Control and obtain a new Track Warrant.....

There are only 144 pages in this soft-covered A4-sized book, but they are packed with information and many beautifully clear photos, both coloured and monochrome. Maps showing the locations of the hardest-hit areas are conveniently shown on the back cover for those, like me, who don't know the area well. The only disappointing thing about the whole book is that the tunnels (numbered 1 to 19, starting from the Christchurch end) are not shown on the maps, although most of them are clustered in two distinct areas, north and south of Kaikoura respectively.

For railway fans, this book is well worth the money, but don't leave it until next Christmas!

Available from [www.railsoc.org.nz](http://www.railsoc.org.nz) \$44 post free or \$34 for NZRLS members.

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...and while on the subject of reading matter -

While browsing through the 22nd November 2018 issue of *Model Engineer*, I came across an article written by ex-ASME member **John Olsen**. John and his wife Diana have recently been on a world trip and spent a few days in Switzerland. John's article describes a short excursion they took on the paddle steamer *Lötschberg* (launched in 1914) based at Interlaken. John describes how he started the voyage watching the proceedings in the engine room from the passenger deck, showed one of the ship's officers his "brag book" containing photos of the steam launch he is building and was subsequently given permission to spend "most of the trip down below looking at the engine"! Included in the article are several photos of this beautifully maintained vessel and its "works". A truly interesting article.

## The Orewa Light Railway

In the December 2018 edition of The Micrometer, I included a photo, sent in by Grant Anderson, and which I have reprinted below, taken at the Orewa Light Railway and published in the September 1969 issue of YARN. There is also a story to go with it which I did not include in the December Micrometer, but intended to include this month. The original story is produced in 8-characters-per-inch portable typewriter format which modern software apparently considers to be a picture and therefore the article, reprinted as is, would make the file size of this issue prohibitively large if I included it. I therefore have manually translated it to Microsoft-speak and the result is shown on page 14.

E. and O.E. as they say.



The Orewa Miniature Railway (long since gone - but to where?)

## The Orewa Light Railway

In 1875 Percival Heywood set a tiny locomotive, named Effie, puffing round an 18" gauge track in his Derbyshire garden and introduced to the world the passenger carrying miniature railway. The idea caught on and became the "in thing" in toys for the landed gentry who built lines around the grounds of their stately homes. Nor would any aspiring holiday resort be without one.

Today there are in Britain some 63 such lines with gauges ranging from 7-1/4" to 20", with a few boasting the standard industrial gauge of two feet and ranging in length from a few chains of continuous circuit track to the 13 miles of the famous Romney, Hythe and Dymchurch Light Railway. The big ones, the Ravenglass and Eskdale, the Fairbourne and the Hilton Valley, have hogged most of the publicity and the construction and delivery of new steam locomotives for the Ravenglass line became a national event for British railfans in 1966.

Live steam locomotives remain on almost all lines being built either freelance or by well known manufacturers such as Bassett Lowke. There are also a number of diesel or petrol units, usually with steam outline body work which often looks acceptable but is no substitute for the real thing in a steam starved Britain, or, for that matter, a steam starved Auckland.

From Auckland it is only a few miles north to Orewa and the nostalgic sounds of a whistle, a sharp rhythmic exhaust and live steam, and the maroon liveried Atlantic of the Orewa Light Railway. The O.L.R. operates some 15 chains of continuous circuit track, with the unusual gauge of 15 7/8", on the water front parade where it moved in 1965 from its original home in the Orewa West Domain. The track is 12 and 14lb. per yard, there is a platform and booking office and a locomotive and carriage shed all set in picturesque wooded surroundings only yards from the ocean beach.

The Atlantic locomotive, of English line c 1910, was built in 1933 in Christchurch from a boiler supplied by Goodhead of England which has been tested every year since and has remained at its original pressure of 100 lb. p.s.i. The loco and tender ready for service weigh nearly 2 1/2 tons and are reputed to have hauled 4 tons on the flat. A cowcatcher was fitted at Orewa as a safety precaution and a headlamp is run from a car battery placed in the tender.

The line also boasts a freelance petrol driven 0.4.0. of somewhat unfortunate proportions and appearance built round a 100 E. Ford Prefect motor with a standard automobile gearbox with speed reduced down 2 to 1 by Triplex Coventry chains, then 5 to 1 through a right angle drive gearbox to a jack shaft with cranks which drive the 12" diameter wheels via connecting and coupling rods.

The original rolling stock consisted of two open bogie cars with wooden chassis, floor and seats and 9" diameter wheels running on white metal bearings in coil sprung axle boxes. These have been joined by a three bogie articulated unit, two cars with steel chassis, wooden flooring and tubular seat frames with ply seats. The bogies have coil sprung axle boxes with self aligning ball bearings.

The gauge is miniature, the line goes nowhere and the train a mere toy but it is live steam and well worth a visit any summer weekend.

Orewa Light Railway 4. 4. 2. Builder.. Unknown = 1933.

Boiler : Barrel Dia.	17"	Tractive Effort (theoretical)	367 1/2 lbs.
Firebox	2' 9"	Driving Wheel dia.	17"
Tubes (Copper)	3' 9"x1 1/8" dia.	Bogie, trailing and tender wheel dia.	9"
Pressure	100 lb. p.s.i	O/A length (engine & tender	15' 6"
Steam dryer in S/box		O/A width	2'4"
Feed water heater in S/box.		O/A height	3'9"
Water capacity	36 gallons.	Tender capacity water	46 gallons.
Brick arch.		coal	140 lbs.
Cylinders : Two 3 1/2" dia. X 6 stroke.		Steam injectors	2.

DAVID LOWE.

