The MICROMETER

THE AUCKLAND SOCIETY OF MODEL ENGINEERS INCORPORATED
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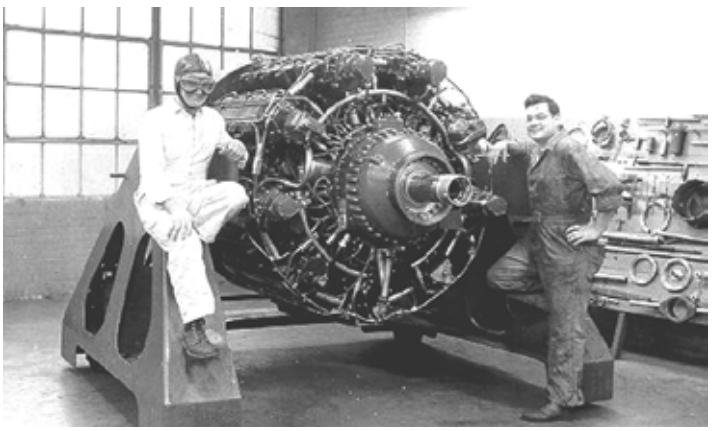
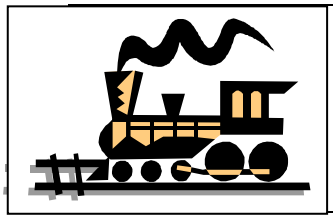
REGISTERED NEW ZEALAND PUBLICATION

In this Issue:



Lycoming XR-7755, 36cyl, 7,750 cu in, 5000 hp



Train Roster

Date	Electric	Electric	Steam	Steam	Station	Station	Station	Extra Guard
6-Jun-10	J Yearn	D Black	**G Anderson**		**B Parker***	G Quayle	R Reichardt	
13-Jun-10	D Booth	T Boyd	**G Bell**		M Richardson	**K Ryan***	B Sanford	J Reavley
20-Jun-10	B Cotton	R Craig	**S Day**		A Shirley	R Stratton	**R Street***	
27-Jun-10	T Crake	P Eaton	**L Farquhar**		**T Taylor***	P Tomkies	S Weston	
4-Jul-10	M Granger	J Harrison	**A Gasteen**		D Addis	**I Ashley***	G Briggs	
11-Jul-10	M Hollis	D Housley	**M Jack**		P Boyes	R Brown	**J Burnett***	
18-Jul-10	T Lawrence	J McManus	**B Piggott**		R Copeland	**R Crook***	P Cunningham	J Cunningham
25-Jul-10	P Moy	T Robinson	**M Orange**		B Currie	**G Dickey***	G Farquhar	

Bold and Underlined name – is the designated **Train Controller**, i.e. the person in overall control of all operations for the day. If you are the **Train Controller** you should phone around the others rostered for that day to make sure they remember to turn up.

Bold with Asterisked* name – is the designated **Stationmaster**, i.e. the person responsible for activities in the station area for the day. The Stationmaster is also responsible to account for the day's takings. **Please Note**, there is no expiry period or date on train ride tickets previously sold.

Please Note, You will notice from the above roster that new members to the club have been rostered on as the Extra Guard. The committee has decided to do this so that the new member has a chance to learn the ropes at the station without being under undue pressure. Please note on your rostered day you should arrive by 12.45pm to get prepared for the days running.

Club Calendar June 2010 ->

June 1st	General Meeting, Trevor Taylor will give a talk on his experiences as an apprentice on the Western Australian Railways.
June 8th	Committee Meeting.
June 15th	Workshop Night this month is at Alan Gasteen's workshop, 5 / 13 Richards Avenue, Forrest Hill, North Shore.
July 6th	General Meeting, John Olsen will show a video on the French Locomotive Works.
July 13th	Committee Meeting.
July 20th	Workshop Night for July is at the clubrooms
July 24th	ASME Mid Year Social Event, exact details to be finalised.
Sep 25th & 26th	ASME Annual Exhibition at clubrooms, judging of displayed items.
Dec 11th	ASME Christmas Dinner and Annual Exhibition Awards presentation.

Presidents Report June 2010

Well, the EMEX exhibition has come and gone. A separate report from our organiser Hugh Martin appears elsewhere in this issue. On behalf of the entire membership, I want to sincerely thank all those involved in organising, setting up, manning and tearing down the display and/or providing exhibits – the ASME display at EMEX was of a very high standard and a real credit to the Club.

One of the last minute issues we had while preparing for the EMEX show was organising insurance cover for the various models on display. Essentially our broker could not locate an insurer willing to cover the approximate $250k value of the exhibits. This is an issue that the

committee will need to pursue further – in the meantime, members should review whether the insurance cover they have on their models extends to coverage when those models are on show in an exhibition. I would certainly like to hear about any insurers that provide such extended cover.

As mentioned at the last general meeting, Transpower is seeking a six month early termination clause in the new license of our "middle" site to ACC, which will have to be replicated in our sub-license. ACC are attempting to renegotiate this condition. As yet we haven't seen a full draft of the new version of the sub-license, but are hopeful there will not be any other "thorny" issues"!

Thanks to Graham Dickey for organising the supply and fitting of a "quiet" modern replacement hot water cylinder in the kitchen. While the old unit has given good service, it was rather disruptive during general meetings when heating the water for our "cuppa".

Please be very careful when locking up the Clubrooms, etc to ensure everything is locked up and the alarm is switched on – in particular make sure the red armed light has come on and the countdown signal is beeping. On occasions it is necessary to turn the key off and back on again to get the armed light activated – note that the alarm will not arm if the red light is not lit and the audible beeper is not going. We have had recent instances of the alarm being found to be not on when opening up the Clubrooms – obviously such circumstances can put ASME's property at risk.

Also a reminder for those on Sunday running that if there is any need for minor medical aid, a first aid kit is located in the engine shed, above the water softening plant, clipped to the white cupboard door. There is also a similar kit located in the Clubrooms by the kitchen.

Note that Queens Birthday weekend is Manukau Live Steamers open weekend. If you intend to take advantage of their hospitality over that weekend please make sure you register. Refer to http://www.manukaulivesteamers.co.nz/events.html for further information.

Well that's all for now, hope you are making the most of your model engineering hobby as winter approaches.
12 May 2010.

Grant Anderson

ASME at EMEX 2010

It is many years since I have been to a major engineering trade exhibition and I was fascinated at how things have changed. I have been to exhibitions in many parts of the world, some with indoor lakes complete with a marina and big yachts, diesel engines the size of buses running, mining equipment the size of a house, and more, but now it's just a large, very smart fiberglass box with a window to look though to see the components parts being made in a matter of minutes to a degree of finish that looks like its been chromed.

The engineers have also changed since my days!

Monday was one of the three set-up days. On my walks around I met numerous young men with a manual the size of an encyclopedia in their hands pushing keys on a computer key board

to enter some form of magic no doubt into the machine, then the small viewing window was closed and production starts, providing of coarse you have shoved a big chunk of what ever into it first.

The most complex objects such as hip joints are computer photo imaged, the image is then emailed direct to a small machine much like a printer in some part of the word, or in this case three meters away and a perfect proto type is built up, mind you it might take a whole day or so to do it?
There was a CNC machine making V8 engine blocks from stainless, about the size of a small match box toy in 1h 20 minutes, they were giving them away.

So how did ASME fit into all this with its 14M long display of member's, models? Incredibly well is the answer. We had more people on our stand at any one time than any other stand and that was the opinion of the other exhibitors who also voted us best exhibit. One of the thousands of visitors said to me, "this is how engineering was, across the isle is how it is and will be" for a while?

We used two of our rotary stands to show a loco and a traction engine to good effect plus 10M of two - tier display tables, and courtesy of Engineering Compressor Services Ltd we had a free air supply so we had about ten of the stationary engines running. Seeing Graham Quayle's Bolton triple expansion running for three days was a real treat for me.

A huge thank you to those members who loaned their models and a particularly big thanks to those who helped set up, dismantle, and manned the stand for the three days. It's a very tiring job but you did the club proudly, thank you.

Hugh Martin

Bits & Pieces, General meeting 4th May 2010

Conducted by Dave Housley, reported by Roger van Ryn.

Dave's Cylinders for his 7 and 1/4 Mogul came up fine, the castings look really good. Nice work. **Photo A**

A large round "Whatsit" proved to be a slice off the Cook Straight power cable, presented by Ron Copeland. Murray mentioned it carried 300 Megawatt!. **Photo B**

Murray Lanes been building a Stuart H10 and progressing well, with the bed, base, crank, cylinder all together. Looks good. After having the castings for 30years, they should be well settled. **Photo C**

Murray's next delicate work of art looks very much like the finely proportioned and ornately finished beam engine at Kew Bridge pumping station which originally supplied water for Windsor Castle. Murray has all the ornate refinements beautifully done and a good job on the paint as well! **Photo D**
Murray has provided some details:
The beam engine is 'Lady Stephanie' to a Tubal Cain design.
It is not to any particular scale and is a freelance version of pumping engines as used by the landed gentry on their larger estates in England. They were made as show items and were located in specially made engine rooms with a full time engineer who kept all the governs highly polished. Probably a lot of one-upmanship involved I would think. It was made from very poor castings from Reeves. Not a beginner's engine, which was described in the Engineering and Miniature magazine. I was not at all impressed with the building instructions.

Nobody had any ideas about the 'whatsit'. My guess is that it something to do with door locks?" Murray. **Photo E**

A fine bit of work on a “Sparey” designed diesel engine (of 1948?) was presented by father and son team Ross and Hayden Purdey. The perfect luminous green anodising was a dead give-away as to whose work it is! A fine finish on all parts makes for a fine model. Ross described how the cylinder was diamond lapped to get a good finish and the piston will be treated like-wise. The “kit” which was just a bag of off-cuts was little use and all parts have been made from new material. **Photo F**

Jim Yearns lathe, which is as young as him, (made in 1929) needed a new nut so Jim made an Acme tap to make one. Its a German lathe so the nuts metric, 3mm by 10mm. **Photo G**

A hand crafted “TVT” was made by Greville Wills when ALL the commercial “Tyre Valve Tools” did a wag and disappeared. (as things do when one needs 'em!) As sure as nuts they will turn up when you don’t! (need 'em!) Glad it didn’t stop Greville from getting the bicycle going!
Photo H

Chris Ratcliffe brought in some nice detailed “lost wax cast” steam fittings for his 9F. He got them from Doug Hewson in England. http://www.the-hewsons.demon.co.uk/ **Photo I**

Some naughty person went “ape” with the keyless chuck at Peter Woodfords place of work. The chuck was found in a non-operational state and Peter determined to find out what’s wrong. Upon dismantling it he found the Acme thread inside to be broken! Some people mention variable quality of these chucks but the one I used at work was nice to use and gripped well... must have taken a large dose of “grunt”
to break it! **Photo J**

A few pictures of a restored Navy Colt, a special tool, and a drawing showing how the rifling tool could have been used was brought in by (sorry but we did not catch who brought this item)
Photo K

“The Colt 1861 Navy typically was used with paper cartridges, that is, with a cartridge consisting of nitrated paper, a pre-measured black powder charge, and a bullet that was either a lead round ball or a lead conical bullet. The nitrated paper of the cartridge was completely consumed upon use, and the use of paper cartridges enabled faster re-loading. Alternatively, it was always possible to load with measured powder charges and lead round balls.”
Wikipedia. - “Single action - Calibre .36, rifled with 7 grooves having a left-hand twist.”
http://www.armscollectors.com/mgs/colts_navies_part_2.htm

Mike Orange couldn’t stump anyone with his “Whatsit” as we all new he'd been to EMEX and this had to be one of “those” CNC “do-hickeys” that are designed to have a “gee-whiz” factor and not do anything at all, besides look good, that is! The entire job was done on one machine including the small print on it. **Photo L**

Another fairly amazing bit of CNC magic at the show was a small (75mm long?) V8 engine block and sump, where everything including the threads in the 3mm bolt holes were helically cut by a “small” cutter. Not to be outdone, Mike told the salesman to go to the ASME stand as there's an engine that size that runs!

Graeme Murray’s neighbour loaned him a Steam indicator in a box, that is probably 100 years old. It’s in a “DIY” kit form, but would make a lovely restoration. **Photo M**

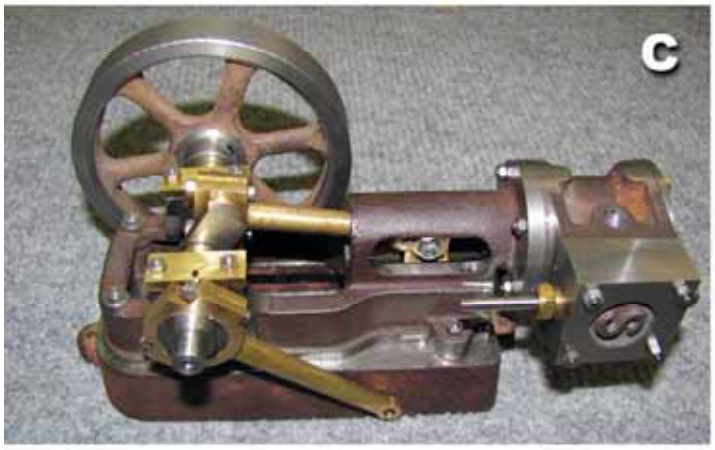
Graeme made a specimen holder for a microscope that allows the specimen to be rotated in tiny increments. **Photo N**

Trevor Taylor brought in “Kathleen’s” renovated firehole door. **Photo O**

Roger van Ryn


A


B
RUBBER
H/T WIRE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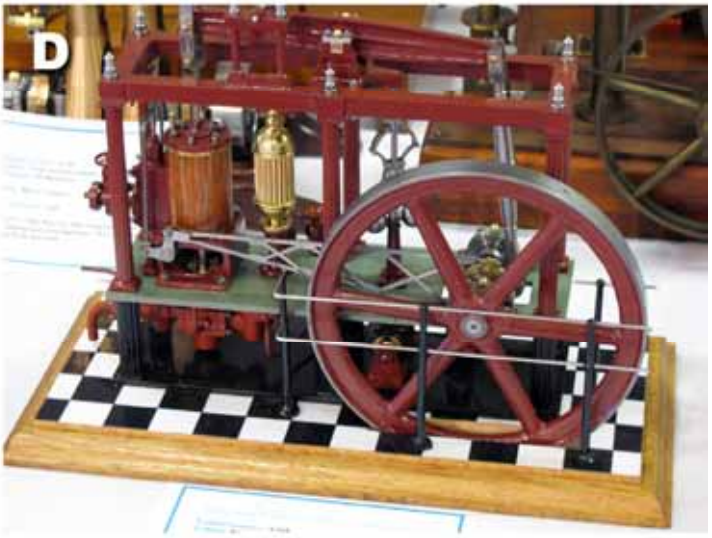
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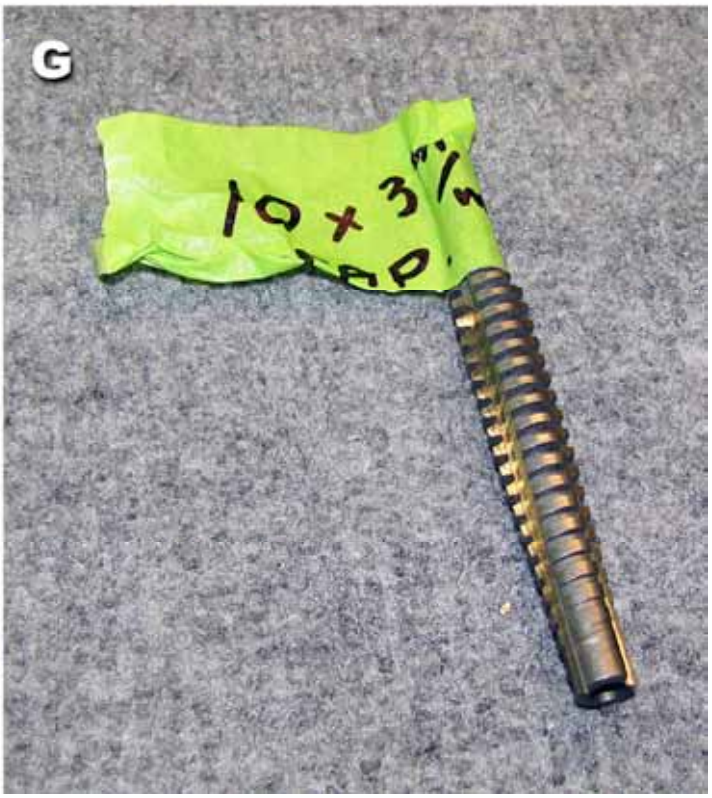
E


F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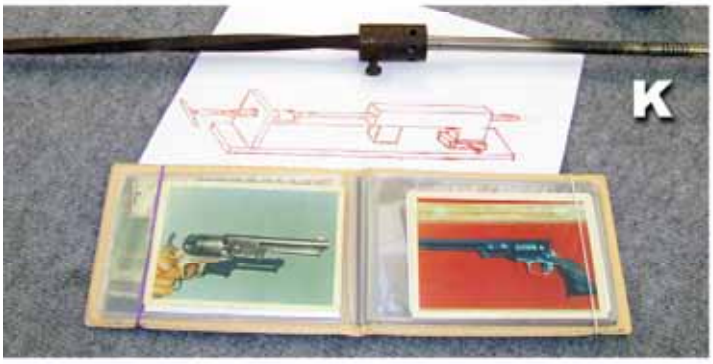
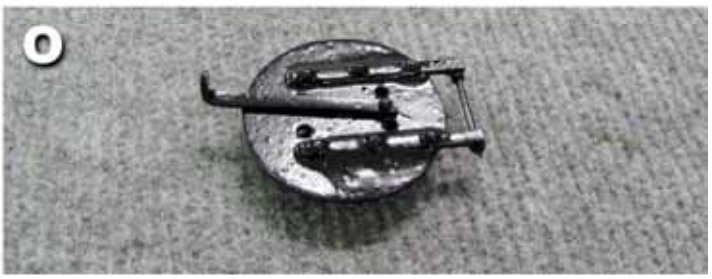




3-1/2 & 5” day at Manukau Live Steamers

We had a good time.
More details: There was about 12 members from our club and as many 5 inch locos. A few 3- 1/2 inch locos were also present and these looked and performed fine. The lunch and tea was very nice, and the friendship shown by all MLS members to our club, exemplary.

I had a nice chat with Dave Giles, who mentioned a trial boiler they are making with a new low cost semi stainless steel which promises to bring the costs and weights down, as much thinner material than mild steel can be used. He said that on some models the stays are now ¾ inch as per Regs. to allow for corrosion. With the new steel "normal" sizes could be used, and the adhesive weight put in the correct places.
Dave also mentioned an important thing for us from ASME regarding the tire shapes on our rolling stock, engines and especially driver trucks. It's important to have the INSIDE dimensions between the flanges correct and the rim profile must have the correct tapers and radius'. This is important for the guide rails to work on the unsupported wheels as the axles travel through the points. We don't have points so this does not show up on our track. I mention this because when I started my Simplex 16 years ago, there was all sorts of "opinion" about these dimensions and no "Country Wide" standards. We now do have these standards and we can all comply. Version 3 of "train Craft" is out.
An informative and pleasant day, many thanks to MLS. May we forge closer ties and have more!?

Roger van Ryn

The Latest in Engineering

Extracts from *The Model Engineer and Electrician* of 100 years ago

From the "*M.E. & E.*" of May 19, 1910

A Motor car Fitted for Wireless Telegraphy.

One of the latest and most interesting additions to the motor-car is a portable wireless telegraphy set, which enables the owner to keep in constant communication either with his home or with any station he may wish. Prominent American car owners are now having their cars thus fitted up. In addition to the usefulness of such an installation in the time of peace, its value in time of war can hardly be over-estimated. The speed at which a wireless station can now be transferred from one locality to another is but an example of one of the many new uses to which the motor-car can be put. One of our photographs shows a car thus fitted, and the other *(not reproduced – BC)* shows the outfit detached from the car with an aerial rigged up between two temporary posts.

From the "*M. E. & E.*" of June 23, 1910

England and America are now connected by about twenty cables, and the Commercial Cable Company announces its intention of laying down one more between Valentia, County Kerry, and Causo, Nova Scotia. It is evidently, says a contemporary, the opinion of the company that wireless telegraphy is not destined very speedily to supplant the older system. And in this they have certainly something to go on; for the advent of the former was accompanied by a great development of cable extension. There are all about 260,000 miles of cable in existence at the present time, and of these some 100,000 miles have been laid within the last ten years-a fact not very widely known.

Brian Cotton

Around the Clubs, reviewed by Alan Emerson

Leading Points, Thames, Autumn 2010
Open weekend to be held on the 15th and 16th May. Some good articles and photos on the history of Thames and it's railways and tramways.

Steamers and Dreamers, Manukau, April 2010
Open weekend to be held on 5th,6th and 7th June. Great write up on the trip to Australia to attend the Brisbane Convention and to some very interesting train and steam locations. Written by Lyn Giles and well worth a read. More on the Mana Ariki Train meet for 7 ¼" gauge to be held on the 6th to 10th Jan 2011.

Con Rod, Otago, April 2010
The Oncology Fundraising Day affected by the Chile earthquake, something you wouldn't dream of. Still, thankfully, the day ended up reasonably successful. Club fees to be $105 if paid promptly. The opening of the Ord Railway at Cromwell went off well in fine weather. A couple of good loco photos.

Canterbury Tales, April / May 2010
Show weekend a success, proposal to build a new Clubhouse at Hallswell. Problems with weed in the boat pond, some model boats for sale.

Model Torque, Hawke's Bay, April 2010
The open weekend went off very well, photos of the event including one of the new footbridge. Visits to the Palmerston North and the Havelock North tracks. Also a visit to the Mini Rail Festival at Featherston, from the photos it appears to be a 7 ¼" only track.

Mailship, April 2010
AGM time again. Reminder about the forthcoming Boat show and Model X. Photo of a WW1 Sopwith Camel Biplane. Pictures showing how to back splice ropes.

Engine Booster, Los Angeles, April 2010
Drawing of the proposed new Sherwood Station, a neat way to raise funds is to be the sale of personalised pavers for the entry walkway.

Expansion Link, Hamilton, April 2010
A very busy open weekend and the introduction of their new purchase the DXR 8002 electric Loco and the three carriages loaned by Manukau Live Steamers. Two 7 ¼" locos for sale.

Wheels and Floats, Tauranga, April / May 2010
Photos of the ground level track. Article on Aero engines and some good funnies.

Blast Pipe, Hutt Valley and Maidstone, May 2019
Good track pictures. A railcar trip to Gisborne with some history of the railcars. An article on Ikon's Mamukau project. A reference to Carlucciworld.

The Generator, Palmerston North March and April 2010
Another two "Letters from England", always a good read. A number of good articles on building locos and on railway experiences are worth reading too. A Steve James loco for sale

Alan E

Thanks to Alan for his brief of the other clubs newsletters. If you are interested in reading any of the full articles they are filed in binders at the clubrooms, below the notice board.

A couple of poems by Celia Martin

Era of Steam

I step from the platform up to the train
The excitement mounts and sizzles my brain
I am journeying south down the country's spine
In the old-fashioned restaurant car, I'll dine.

Through hills and valleys we will rattle
Round the Raurimu Spiral we will battle
Such a work of wonder of an engineering brain
a challenge to overcome such tricky terrain.

I recall those days of majestic steam
To ride such a train was every child's dream
Like a fire breathing dragon snorting his breath
You boarded carefully on pain of death.

Oh, the age of steam I can still smell the smoke
A puffing billy, with an engine to stoke
The bits of steam, smoke and soot
Got speckled everywhere, breathed to the gut.

Alas those days have passed into history
Where did they go? It's still a mystery!
But what have I left of my train riding memory?
There's still the thick cups, for the tea-drinking ceremony.

The wheels still roll along with a distinctive clatter
There's time to sit back and enjoy a natter
The fleeting glimpse of the distant hills
The passing tapestry of the countryside thrills

As the scenery passes, I feel my eyes start to glaze
I am lulled to a state of soporific daze
I am rocked like a babe in the arms of the train
And soon I'm asleep against window pane

Oh, great train journeys of the world
How exciting it is when your vistas unfold
But to enjoy such a train journey, it is wise
to stay wide awake and resist the closing eyes!

Sunday Ride

Come along to Panmure
For a Sunday ride
Come along to Panmure
Ride a train with pride!

There's a group of train eccentrics
Who drive their pride and joy
Steam trains and some electrics
For rides for every girl and boy

Such a lovely model railway
By the lagoon's pretty side
So come on a Sunday
For a fun train ride

Ride Model Rail
Every Sunday without fail
(Unless of course it rains)
There'll be model trains

These buffs of a lost steam era
With engineering skills and brains
Have spent many hours abuilding
Their lovely model trains!

These devotees want to share
Their joy, their love, their pride
So come along to Panmure
For a Sunday ride!

These old geezers built a station
They sure do have the knack
Built cuttings, bridges, tunnels
To build the Waipuna track

They've done this for 40 years
Driving their live steam train
Giving Sunday rides
In the Waipuna Domain

Come to the Waipuna Station
Hear the whistle blow
See the trains in operation
Ride a steaming loco

Ride Model Rail
Every Sunday without fail
(Unless of course it rains)
There'll be model trains

The Highest Railway in the world

The total length of Qingzang railway is 1956 km (1215 mi). This railway is the first to connect China proper with the Tibet Autonomous Region, which, due to its altitude and terrain, is the last province-level entity in mainland China to have a conventional railway. Testing of the line and equipment started on 1 May 2006. Passenger trains run from Beijing, Chengdu, Chongqing, Guangzhou, Shanghai, Xining and Lanzhou.

The line includes the Tanggula Pass, which, at 5,072 m (16,640 feet) above sea level, is the world's highest rail track. The 1,338 m Fenghuoshan tunnel is the highest rail tunnel in the world at 4,905 m above sea level. The 4,010 m Guanjiao tunnel is the longest tunnel from Xining to Golmod and the 3,345m Yangbajing tunnel is the longest tunnel from Golmod to Lhasa. More than 960 km, or over 80% of the Golmud-Lhasa section, is at an altitude of more than 4,000 m. There are 675 bridges, totalling 159.88 km, and about 550 km of the railway is laid on permafrost.

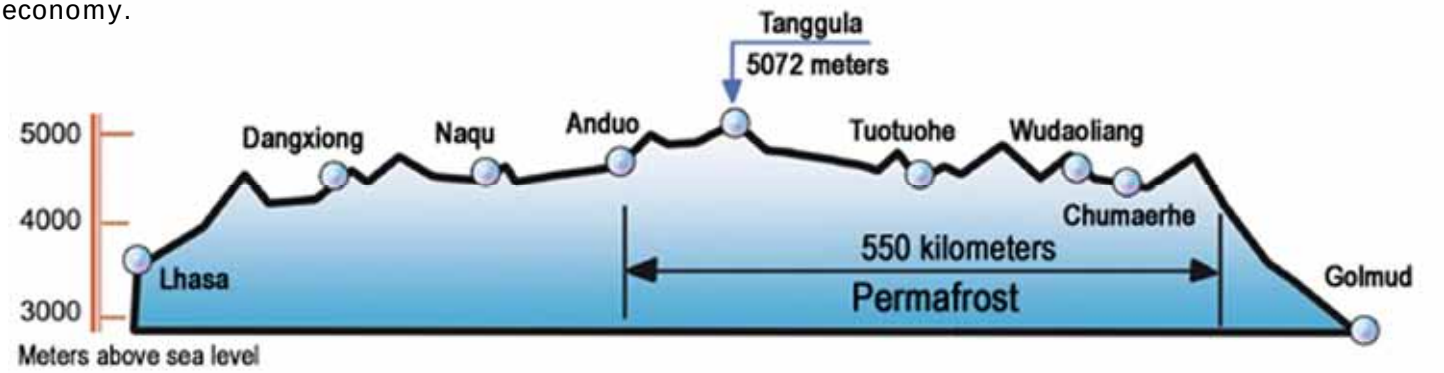
The trains are specially built for high altitude environment. The diesel locomotives used on Golmud-Lhasa section were made by GE in Pennsylvania. Canada's Bombardier Transportation Ltd provided 361 high-altitude passenger carriages with special enriched-oxygen and UV-protection systems. Fifty-three are luxury sleeper carriages for tourist services. Signs in the carriages are in Tibetan, Simplified Chinese and English and the carriages are specially built and have an oxygen supply for each passenger. The operational speed is 120 km/h, 100 km/h over sections laid on permafrost. The air in Tibet is much thinner, with a oxygen partial pressure being 35% to 40% below the partial pressure at sea level, and several oxygen factories were built along the railway. At this altitude in these latitudes, water in toilets must be heated to prevent freezing.

Tanggula Mountain railway station, at 5,068 m (16,628 feet) the world's highest.

There are forty-four railway stations, among them Tanggula Mountain railway station, at 5,068 m (16,628 feet) the world's highest. The Qingzang Railway project involved more than 20,000 workers and over 6,000 pieces of industrial equipment, and is considered one of China's major accomplishments of the 21st century.

There are many technical difficulties for such a railway. About half of the second section was built on barely permanent permafrost. In the summer, the uppermost layer thaws, and the ground becomes muddy. Chinese engineers dealt with this problem by building elevated tracks with foundations sunk deep into the ground, building hollow concrete pipes beneath the tracks to keep the rail bed frozen, and using metal sun shades. Similar to the Trans-Alaska Pipeline System portions of the track are also passively cooled with ammonia based heat exchangers.

With the construction of the Qingzang railway, the cost of transportation of both passengers and goods should be greatly reduced, allowing for an increase in volume—the cost per tonne-kilometer will be reduced from 0.38 RMB to 0.12 RMB. It is projected that by 2010, 2.8 million tons will be carried to and from Tibet, with over 75% carried by the railway. This is expected to boost and transform the Tibetan economy.



Classifieds

Wanted

Peter Woodford is hoping to borrow a book by O.S. Nock on Nigel Gresley. Peter is researching the life of Mr Gresley and would like to contact any member who has a copy of the book that he could borrow.
Contact Peter Woodford, 09 576 8477

We have received this email from the editor of the Shed Magazine…
I am just wondering whether, for a future issue of the Shed Magazine any member of ASME has in the past created a model Stirling engine, is in the process of creating a model Stirling engine or might be willing to make one and let us follow the construction in steps.
We are looking at the principles behind the Stirling engine and, sitting beside that, would be keen to have an article to let our readers see how one comes together, possibly to inspire them to make one. This would also apply to schools (I might have mentioned we are in 150 schools) where their technology classes are keen on these kind of projects.
If you are willing and could help with this please contact Gary Farquhar, 09 576 7025

For Sale

Due to health reasons I am reluctantly selling my 5" modified 0-6-0 “Speedy” tank locomotive. This engine was a past recipient of the cub championship cup and has the following modifications from the LBSC design.
Balanced vacuum braking system, KN Harris valve gear, 1/4" diameter larger piston valves, two injectors, steam operated drain cocks, steam take off for steam cleaning purposes, chime whistle, very large cross transfer pipes between tanks, bunker tank, spark arrester, twin mechanical lubrication pumps, remote oiling of eccentric and axleboxes, stainless steel bright work.
In working order it weighs 180 lbs (82kg). This has proved to be very reliable and powerful engine and is in good condition with a new boiler certificate.
It can be demonstrated for genuine requests. Non negotiable price is $6000.00
Contact Murray Lane, 09 534 8396

Tom Senior horizontal mill with extra long milling table 800MM long, with vertical head and slotting attachment, in very good condition.
Contact Alan Gasteen, 09 449 1383

Contact Details

Some of the members contact details in the recently sent membership list seem to be out of date. Could you please check your details and advise any changes to Greville, gandj@actrix.co.nz