

The MICROMETER

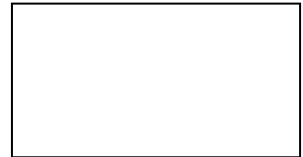
THE AUCKLAND SOCIETY OF MODEL ENGINEERS INCORPORATED
Peterson Rd Reserve, Panmure, Auckland
PO Box 14570, Panmure, Auckland 1741, NEW ZEALAND
Club House Telephone (9) 570 5286
Club Web Site www.asme.org.nz

Number 536
June 2009



President	Gary Farquhar	576 7025
	E-mail address	president@asme.org.nz
Secretary	Brian Cotton	820 3381
	E-mail address	info@asme.org.nz
Editor	Dave Russell	446 0957
	E-mail address	editor@asme.org.nz

REGISTERED NEW ZEALAND PUBLICATION

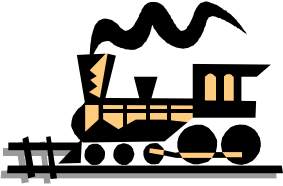


Register NOW!
Exhibits for Jubilee Exhibition
and also for the Jubilee Dinner
www.asme.org.nz

RETURN ADDRESS
ASME
PO BOX 14570
PANMURE
AUCKLAND 1741



Bullied Pacific #'s 34070 & 34067 at Swanage



Train Roster

Date	<u>Electric</u>	<u>Electric</u>	<u>Steam</u>	<u>Steam</u>	<u>Station</u>	<u>Station</u>	<u>Station</u>	<u>Extra Guard</u>
7-Jun-09	A Cotton	R Craig	<u>B Piggot</u>	--	G Quayle*	R Reichardt	M Richardson	
14-Jun-09	T Crane	P Eaton	<u>A Pritchard</u>	--	A Roberts	K Ryan*	A Shirley	
21-Jun-09	M Granger	J Harrison	<u>D Russell</u>	--	R Stratton	R Street*	T Taylor	
28-Jun-09	D Housley	J McManus	<u>R Van Ryn</u>	--	A Watson*	A Whillans	I Ashley	K Toyoda
5-Jul-09	T Robinson	J W-Buys	<u>G Anderson</u>	--	P Boyes	G Briggs	R Brown*	
12-Jul-09	P Woodford	J Yearn	<u>G Wills</u>	--	J Burnett	R Crook*	G Dickey	P Dowdeswell
19-Jul-09	D Black	D Booth	<u>G Bell</u>	--	P Cunningham	A Foster	W Green*	J Cunningham
26-Jul-09	A Cotton	R Craig	<u>L Farquhar</u>	--	D Hamp*	R Hannah	G Healy	I Hansen

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.

Club Calendar June 2009

June 2 nd	Monthly General Meeting / Special General Meeting Guest Speaker, Stan Locke on Nail Making
June 6 th	Working Bee at Track / Clubrooms
June 9 th	Committee Meeting
June 16 th	Beginners Night

Presidents Report

As I mentioned at the last club meeting time is ticking by very quickly towards our major exhibition. We have to make sure this is a great success not only in the eyes of the public but for the long term future of the club, as we need to encourage younger members to be involved. In the last newsletter Hugh had inserted a separate document outlining details of the current program for the exhibition and celebration dinner. Included in this was a request to reserve dinner places (no payment required at this point) and intentions of what you can exhibit, complete or uncompleted. We have not had a large, quick response to this request. At the time of writing this report we have only had confirmation of 16 exhibits, from five people and 14 people for dinner. I sure hope there is more on offer than this. Feel free to email your reservations and exhibition notifications to jubilee@asme.org.nz. We are trying not to leave it all to the last moment.

We need people to assist in all sorts of areas. For example we need people to both co ordinate and assist in jobs like

- > Be on site to build up the display tables and set the exhibition up. Alan Gasteen is co coordinating the set up of exhibits and the exhibition catalogue, but needs a team to help. There will be lifting gear on site to move some exhibits from the door to the display area
- > We need volunteers that are able to collect exhibits from people who are not able to bring in their exhibits themselves. Mark Richardson is co coordinating this area but needs assistance from members who live say on the North Shore or West Auckland.
- > We need someone who can co ordinate a group to arrange the bringing of some older members to the dinner, who prefer not to drive at night
- > We are looking for people to assist with the catering both at our club rooms and at Waipuna (teas and lunches)

> People who can assist in the administration area. For example follow up on various websites that we can get free advertising on e.g. What's on in Auckland.

There are a lot more tasks that need attention and we are working on the old saying "that many hands make light work" for us all. Even if you can offer to do a small task it all helps. Please discuss it with myself or Hugh Martin.

As was indicated in the last newsletter we have called a special meeting for the beginning of the next club meeting to propose a change to one of our current rules relating to the procedure to follow if the society ever wound up. I undertook at the last meeting to put more information in this newsletter in respect to the Charities Act, that the club has made application to be registered under. This information has been compiled by Greville. Again I should state that this proposal in no way affects the running or the constitution of the club to the way it has been for the past fifty years. The intention is that we become registered as a charity under the Charities Act, as have many thousands of other organisations, so that we have a tax exemption from the IRD. The proposed amendment to our rules is at the request of the Charities Commission who advise that for our application to be successful any assets left over after payment of all debts and liabilities in the event of the club winding up are given to another registered charity not as the present rule states distributed as the members see fit. The membership will still have a say on what charity this will be.

Reference was made, at the last meeting, that the committee had not advised the members of our application. References have been made in the newsletter over the last year. We made our application over a year ago, and be assured that contrary to a few members opinions the committee, who are voted in for the stewardship of the club, always have all the members interests at heart in any discussions and decisions we make.

As you are aware the lease on our property expires later this year. We have made application for renewal but at the time of my report had no feedback from the council or community board. We are following this up

Our entertainment for the next meeting is Stan Locke giving a talk about one of his occupations in making nails. The reason he immigrated to New Zealand. He advises me that he has some very odd looking nails to show. This is what I encourage; Members talking about their previous occupations as we all find it fascinating. Maybe you would like to give a talk but don't feel comfortable in front of an audience. I am happy to discuss other ways of presentation with you.

For those interested in attending the Steam & Cinders Convention in Nelson, 6th – 10 January 2010 I have received program details and registration forms from them. Email me and I will forward details to you or see me at the next club meeting

We welcome Gary Briggs as a new member to the club. Gary has an interest in aircraft engines and you can see the progress of this current project in the bits and pieces section of the newsletter. **Photo G on Page 7**

Gary Farquhar

Background to Special General Meeting 2nd June 2009

Re: **Application to the Charities Commission for Charitable Status**

Some background:

- The Charities Act 2005 came into force on 20 April 2005.
- The Charities (Fees, Forms, and other Matters) regulations 2006 were passed in September 2006.
- Registration of Charities started in February 2007.
- Existing Charities need to apply for registration with the Charities Commission before 1 July 2008. otherwise they will lose their tax exempt status.
- Why register? - Main reason is maintaining the Club's tax-exempt status.
- Gain "donee" status with the IRD.

The Committee discussed the implications of the above act in the March 2008 meeting – the minutes of which were published in the April Micrometer to inform members. (the word trust was in-advertently added) - Not one member has ever asked what the committee note was about!

The next mention was in the May Committee meeting, when the officers of the club signed the required forms.

The application was duly submitted on the 27 May 2008 (before the deadline of 1 July 2008 in order to keep continuity of our tax exemption)

The next mention was made in the minutes of the March 2009 committee meeting, where we had at last received a reply dated 4/3/09, telling us that the wind-up clause in our constitution was un-acceptable. The reason for the long delay between our application and their reply becomes apparent from the following;

Excerpt from the Briefing to the Incoming Minister (It is 277 pages long!!)

Registration progress - Registration numbers

As at 30 September 2008, the Commission has received **24,046** properly completed applications from charities. Of those, the Commission has registered **13,354** charities; declined 17 applications; is processing **4,607** applications; has **5,699** still to be processed; and 369 applications had been withdrawn.

Our application was amongst the 4607 at that stage.

It is my contention that far from the committee **“overstepping its authority”**; the committee would have been very remiss if it had NOT pursued the Charities Commission application. As members may or may not be aware, the club had an exemption from tax, by Inland Revenue, for the first \$1000 of profit (excess of income over expenditure) in any one year. If we did nothing we would lose this exemption by default under the new act as the commission has taken over the oversight of “charitable organisations. By applying to the charities commission for charitable status, we will gain two distinct advantages; 1. - To become Tax Exempt entirely and 2. - To achieve Donee Status.

The advantages of these are obvious in the case of the tax exemption, but also having Donee status would encourage people to make donations to us and get tax relief for themselves.

Sometimes the club does make a profit, example the Exhibition at the University and hopefully our upcoming October exhibition. I believe that most members would agree that it would not be desirable to have to pay tax on any profit made (for example If the profit from the exhibition was anywhere near that of the University exhibition we would end up paying the Inland Revenue approx \$10,000!! And that is not what we are about.

The publication in the last Micrometer, of a call for a Special General Meeting was necessary to inform members of the need to change the wind-up clause in our constitution.

When the constitution is amended we should be able to gain “Charitable” status and become registered as such with the Charities Commission.

Finally, it will be up to the members present and their voting at the Special General meeting whether they wish to amend the rules and enable the club to secure full tax free status and the ability to issue receipts for donations.

I trust this clarifies our situation for the members.

Regards
Greville J Wills

Further information can be sought from, http://www.charities.govt.nz/guidance/registration_guidelines.htm

Jubilee Exhibition / Dinner Update

It's very pleasing to see the steady stream of dinner and exhibit application forms being returned for processing.

The question has been asked as how to indicate on your dinner booking that you wish to book or sit at a table for ten.

There is normally one member who would be nominated as the table host, others who wish to sit on the same table need only refer to the host members name when making their own bookings. At the next club meeting we will be making available additional copies of both the dinner and exhibit application forms, please help your self from the table.

See you at the meeting and PLEASE REMEMBER to bring along your completed application forms as distributed in the last news letter, and hand them in to either Gary or my self.

Thanks, **Hugh Martin - Jubilee Convener**

THE MICROMETER June 2009



2nd – 4th October 2009

Committee Meeting notes – 12th May 2009

Auckland Society of Model Engineers Committee Notes 12 May 2009

The minutes of the previous meeting were read and confirmed as a true record.

Matters Arising:

Insurance cover at Jubilee.
Smokebox maintenance.
All subscriptions appear to have been received.
Signals still under action.

Correspondence:

IN – Telecom, Tamaki Community Board x2, MEANZ, ASB Community Trust, Gilmours.
OUT – Nil.

Sub Committees:

Boilers: Two tested.

Works: Routine maintenance ongoing.

Library: Suggestion for improved library issuing system was discussed.

Stores: Nil

Safety: The Ec loco derailed on Sunday. It appears a rock had been placed in the track.
Discussion re calibrating and certifying boiler test gauge.

New Members: Gary Briggs.

Finance: Statement of accounts, plus payments for approval read and approved.

General Business:

Lease still under action.

There was a fire service callout on ANZAC day because of a smoke alarm being set off in the engine shed.
Bruce Lawson is investigating.

Gary read a report from MEANZ about their audit of our system.
It was noted that there was a box of large ASME shirts in the front cupboard.

Gary read out a letter from MEANZ about the Amusement Device Regulations and the possibility of becoming self-regulating.

Jubilee:

There was a discussion about entertainment at the dinner. It was suggested that an entertainer be arranged, as opposed to a speaker.

A suggested list of jobs was drawn up. Project Leaders will be required.

A special meeting for the committee will be held on Tuesday 28 May to discuss the Jubilee further.

Classifieds

Missing

Murray Lane is preparing the club history for the upcoming Jubilee and has asked if anybody knows the whereabouts of the following items, they are not in the archive room and maybe someone has taken them at home at some stage.

- > Meeting Notes book # 4 June 1967 – August 1971 (Black plastic clip ring binder folder)
- > Meeting Notes book 1979 – 1987 (commercial bound A4 Journal type book)
- > Newsletters # 212 & 213 November & December 1979

If you can help with locating any of the abovementioned please contact Murray Lane (09) 534 8396

Wanted

Murray is also looking for any photographs that members may have taken of the ASME 25th Anniversary held at Ellerslie or from the 1987 Exhibition held at Auckland University in 1987. He would like to borrow any photos to scan them. If you can help out please contact Murray Lane (09) 534 8396

Wanted

ASME stores have been contacted by a non member looking for 2 x 1BA x 13 mm round head screws in steel or brass. If you can assist please contact Gary Farquhar (09) 576 7025

Bits & Pieces, General meeting 5th May 2009

Dave Housley brought in his frames for his Lima Mogul 2-6-0 for 7 ¼. Constructed from 12mm steel it is fairly solid!. Weighing in at 47kg already, the frames still need the cab plate, which will make it quite a bit longer too. The axle boxes slide in the spreaders, and Dave plans to tyre the wheels. Dave's also weighing up the pros and cons of copper boiler vs stainless steel boiler vs a mix etc. Lots of advice from members followed. **Photo A**

Stan Lock brought in his new drill press, which looks very good. At "1 inch to the foot", he might have to diet to use it, or employ a "1 inch to the foot" person! Stan inherited the casting set from a friend and it is driven by a belt fabricated by our late friend Derek. **Photo B**

A "what is it" from Tony Laurence looked like an engineers square with a pointer on it, turned out to be a tool makers gauge for measuring the draft angle on "dies". **Photo C**

Another "what is it?" was an item for Dave Housley to make at work. It looks like an one inch diameter "complete-one-revolution" propeller, which Brunell's predecessors might have designed for the early days of steam. After the amount of time a 3D printed sample took to make the prototype, he decided to have a go himself. As a one-off, he was able to make a plan using the lathe. Made from brass, it came out jolly good too. **Photo D**

Murray Hollis had a tiny challenge at work fitting 1.2mm 90tpi bolts to a Printed Circuit Board. Problem was he did not have a spanner or socket small enough, by using a drill press to force a correct sized Allen Key into a drilled hole in the end of a piece of brass rod then removing it he effectively broached his own tiny socket wrench. **Photo E**

The side tanks for "Kathleen" the Ajax loco, were in for a refit by Trevor Taylor. After struggling with access to the nether reaches of the tanks, he might also need to use a "1 inch to the foot" person to get to the fittings inside. **Photo F**

A new member (!), Gary Briggs, brought in an interesting crankcase for a "Forest Edwards 5 cylinder radial engine" which he is building. It looks very well made and we look forward to seeing the other parts as they are finished. **Photo G**

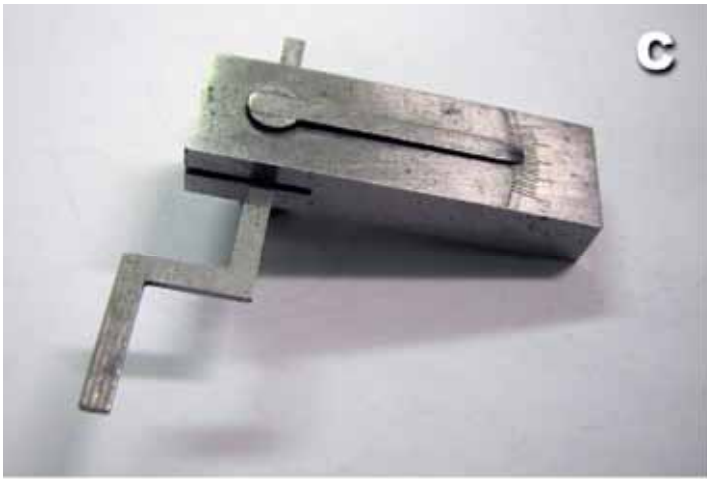
Greville Wills was fed-up with the fence off his drop saw being anything but straight and staying so. He has "beefed it up" somewhat with some steel reinforcing. Should do the job! **Photo H**

Some almighty parts (for the modeling game!) proved to be the gear shafts for Bill Parker's 4inch Foster Traction Engine. Nice (BIG) caps too! **Photo I**

An investment cast boiler feed cover for Hugh Martin's GWR in bronze showed some fine detail. Hugh sourced the part from Polly Models in UK. Check out <http://www.pollymodelengineering.co.uk/> for a shop fit to make your mouth water. They also have Bruce Engineering's model castings and plans available. Have a look at the catalogue (downloadable *.pdf) especially all the stationary engines! **Photo J**

Bruce Piggott had some tips about feed water filters, and had some samples for members to take.





Machining a Curved Spoke Flywheel

One or two members have requested a bit more explanation of how I machined the little flywheel with the curved spokes. Contrary to what was in the bits and pieces explanation, it is not made of steel, it was machined from an offcut of cast iron bar that I happened to have. The basic process was to first machine the blank to the cross section required, e.g. a recess on each side with a rim around the outside and a hub left in the centre. This was done on the Myford, and the main difficulty here was the limited gap these machines have. The four jaw chuck was not a possibility since the jaws would foul the bed when holding a blank that size. The faceplate has the problem that you need holes in the job to clamp it down since the dogs would also foul the bed. I got by with one hole in the centre, smaller than the shaft will need to be. The problem there of course is that such a hole is not necessarily going to end up centred with the rim, so it needs to be kept small and bored out to match the shaft size later, once the flywheel can be held in other ways.



Having managed to hold the blank, the recess was machined out in the usual way on each side. Radius tools were used in the corners as a casting would not normally have sharp inside corners. Once the blank is made, a plate jig is made to go on the rotary table. This has a hole drilled to match a peg that fits into a Morse taper plug to match the table, so it will later be able to be fitted back in the same place. The plate also has a couple of holes drilled and tapped for hold downs from the mills set of studs and dogs. The jig is bolted onto the table, and then the flywheel is mounted on it, using the dial gauge on the rim to get it true. Once it is mounted truly, a set of holes is drilled in it, using the rotary table to ensure the correct angular spacing and the feed on the mill to get the correct radius. This requires getting the axis of the spindle aligned with the axis of the rotary table to get the correct zero point. This can also be done using the dial gauge.

The holes that must be drilled are at the root of each spoke and at the end of each, between the spoke and the rim. The one at the root is common to the next spoke, but the ones at the rim are not. So there are 15 holes to drill for a five spoke flywheel like mine. These are drilled through the blank. Four of them are also drilled into but not right through the jig plate. You do not want to mark the rotary table! These four correspond to the ends of one of the spokes. The setup is organised so that these come in a suitable place on the jig. While on the same setting, a small slot drill is used to mill the outside of the opening between each of the spokes. This is the inside of the rim of the flywheel. Each cut will run out into the holes at each end.

Now, we make some pins that fit the holes, and we can also take the jig off the table and extend the holes right through. Now you need a setting up aid. This is a small rectangle of sheet metal with the inside and outside radius of the spokes machined onto it, and with a small hole spotted through at the centre of the radii. The length of arc of the radii is enough to allow this piece to be used to set out a mark on the jig plate corresponding to the centre of the arc. Now,



the two pins corresponding to the centre of the inside arc of the spoke are put into the jig, and the setting up aid is used to find and mark the centre of that arc on the jig. A hole is drilled there that will fit the pin used on the centre plug of the rotary table. Next, the same thing is done with the other radius. Because the spoke is to be tapered, these two holes do not end up in the same

place, although they are close. It is important to avoid confusion, e.g. make sure you machine the correct side of the spoke later.

Now, the jig is put back onto the rotary table, using (say) the hole for the inside radius of a spoke on the centre pin of the rotary table. The two pins corresponding to the outside of the spoke are fitted and the flywheel set in place using the pins as a guide. It is now mounted with the centre of the inside radius on the axis of the rotary table. The X axis of the mill is adjusted until the cutter will be just touching the two holes for the inside of the spoke, and then the curve is milled. The flywheel is then indexed around on the pins and the next spoke is machined on the inside. This is repeated until all are done. Next we transfer the pins to the other set of holes, and machine the outside of each spoke. Note that by this time part of each hole has been machined way, but there is still enough to allow setting the flywheel were required.

Now that the curved triangle piece should have dropped out of the middle, you can change to a radius cutter and put a radius on the edge of the spoke. Next you change the setup back to the other edge of the spoke and put the radius on there. You can also turn the flywheel and the jig over and repeat the process on the edges on the other side.

Since there are now spoke holes, it will be possible to mount it on the faceplate with the rim running true and bore the shaft hole to suit the desired shaft.

This should get you to the stage of having a pretty good looking flywheel. The final stage is to file it to clean it all up. You can also use a die grinder for this although take care; it is not hard to cut too much with these. Used carefully the finish from small stones looks quite close to a cast finish.

If anyone want to try this and finds this brief explanation insufficient, talk to me and I will copy the original book chapter for you.

John Olsen

Upcoming Model Engineering & Associated Events

2-4 October 2009 A.S.M.E. 50th Jubilee Exhibition

5-11 Jan 2010 Nelson Society of Modelers Inc., Steam and Cinders 2010 International Live Steam Convention www.nelsonmodellors.org.nz

Around the Clubs, reviewed by Alan Emerson

Durban Society of Model Engineers, April 09

Sorry to hear that editor Bill Turner is moving away to another district, we enjoy your regular newsletter. Best wishes and good luck in your new home. Great windmill photos from his daughter now living in Holland. Some real precision gear cutting still in use. Also photo of a 25 NC taken at Kimberly Station.

Northern Views, Whangarei, April 09

A number of interesting articles including the history of the Janney Automatic Coupler. Visit to Motat with photos including one of a motor cycle with a 7 cylinder radial engine.

Leading Points, Thames, Autumn 09

Track repairs under way, good turnout for the Teddy Bears Picnic day. More on old stations and their present uses.

Mailship, Scale Marine Modellers, April 09

Models and some history of the Canberra. Hints on slotting rudder shafts and fault finding on R/C boats.

Conrod, Otago, April 09

Good write up on tether racing cars and boats, seems they have one of only two tracks left in the country, the other one being at Blenheim. Interesting visit to the Gas Works Museum. An ML7 lathe for sale in very good condition. Great photos of the N gauge model trains at Cromwell.

Model Torque, Hawke's Bay, March /April 09

Thoughts about laying a 7/1/4 " track at some stage. The Great Caravan Derby again produced a useful amount of scrap aluminium to boost the Club funds. Visit by Grant Anderson with his Ford Zephyr .The Kg Grant is overhauling was originally built in Napier.

Big Wheel News, Victoria, March /April 09

Some sleepers to be replaced with recycled plastic ones as red gum timber is hard to come by. Elevated track to be repaired. Trip to Thirlmere, great collection of railway equipment including an 8 wheel solid frame carriage. The two end axles slide in radial boxes to go round corners. Good track photos.

Wheels and Floats, Tauranga, April 09

Part 2 of the article on the Rolls Royce Merlin engine as produced by Packard in America. Very ingenious jig for boring holes in hand rail stanchions. Article on Bruce Harvey's track.

Engine Booster, Los Angeles, April 09

Big preparations for the spring Meet Memorial Day to be held in May.

Warning to watch out for Rattlesnakes, Skunks, Coyotes, Deer and Poison Oak in the grounds. At least we don't have those problems.

The Generator, Palmerston North, March /April 09

Well worth a read. Good articles from Stan Compton [always a good read] Doug Chambers, Ian McLellan and Murray Bold. Also write ups on the KPR Easter Weekend, Locomotion 09 and the Auckland Garden Railway Convention.

Blast Pipe, Hutt Valley, April 09

Cover picture of Imp living up to it's name. Great photos of the track action and of the new [removable] points operating system. Mike Orange's trip to Castledare.

Piston and Prop, Marlborough, April 09

Plenty of good flying by the sound of it despite the odd tree being difficult.

The Latest in Engineering

An extract from a 1909 issue of *The Model Engineer and Electrician*

Mending Broken Filaments

Writing in *Electricity*, "Elektron" says:- I have previously commented on the possibility of repairing broken metallic filaments by judicious manipulation of the globe containing them, but had not, until recently, had an opportunity of witnessing the feat. Discussing the subject the other day with a newly-made acquaintance, I was initiated into the mysteries, however, and learnt that quite a large percentage of the early metal filament lamps, as sold to the public, had filaments jointed by this method, after breakage in handling or packing.

Such lamps, provided the work be properly carried out, are no worse for the experience, the joint being quite sound and homogenous – an electric weld, in fact.

The *modus operandi* consists in placing the lamp in circuit with the source of supply, through the medium of a lampholder and a length of flexible. It is then, with the current on, so manipulated by twisting, turning, and gentle tapping of the globe, that the two broken ends of the filament are brought into contact, when a miniature arc at once forms and the repair is effected.

The possibilities of such a repair system may be gauged from the fact that we were even successful in repairing a 4-volt "Osram" lamp, in which the filament had entirely broken away and was loose inside the bulb. By dint of patience and careful handling the small looped filament was made to fall across the two extremities of the leading-wires, when it at once struck the arc, fused itself in place, and is now quite a serviceable lamp, giving, by reason of its slightly curtailed length, an even better light (at the expense of a shorter life) than formerly.

Brian Cotton

All You Need to Know About Electricity

Most electricity is manufactured in power stations where it is fed into wires which are wound around large drums. Some electricity, however, does not need to go along wires, the kind used in lightning for example. This kind of electricity is not generated, but just hangs around in the air, loose.



Electricity makes a low humming sound. The noise may be pitched at different levels for use in door bells, telephones and electric organs.

Electricity has to be earthed, that is to say it has to be connected to the ground before it can function, except in the case of aircraft, which have separate arrangements.

Although electricity is said not to leak out of an empty power point, the power is, nevertheless, live if you happen to shove your finger in it when the switch is on. If it is not leaking, what is it doing?

Electricity is made of two ingredients, negative and positive. One ingredient travels along a wire covered in red (lately changed to brown which doesn't show the dirt so much) plastic, and the other along a wire covered in black (lately changed to blue in the interests of racism) plastic. These two wires meet together in a plug, which mixes the two ingredients to form what we call electricity.

Electricity may be stored in batteries. Big batteries do not necessarily hold more than small batteries. In the big batteries, electricity is just shoved in, whereas in small batteries (for transistors) it is' packed flat.

A switch controls a small clamp or vice, which grips wires very hard so that the electricity cannot get through. When the switch is flicked on, the wire is relaxed and the electricity travels to the light bulb where a piece of wire, called the element, is left bare. Here for the first time, we can actually see the electricity in the form of a spark. This spark is enlarged many times by the curved bulb which is made of magnifying glass.

Because electricity requires this freedom to follow its course along the respective wires, it is not a good idea to tie the electric wires in a knot. If the knot is too tight, the electricity would only be able to travel that far and no further. So, try as it may, your electrical appliances will not be able to work for you.

I have not yet touched on fuse wire. It has always amazed me that an industry which is so enterprising in most respects - the invention of coloured electricity for use in traffic lights, and the harnessing of negative electricity for refrigeration are two inventions which come to mind - could still be making fuse wire too thin. By using chicken wire, I now have a fuse box which - even when the spin dryer burst into flames because of too much electricity being fed into it, it has for six months been as impregnable as the Bank of Argentina.

In some respects, I know that my knowledge is imperfect. I have not yet explored the field of neon signs - how do they make the electricity move about? And the pop-up toaster, how does the electricity know when the toast is ready.

Logic would answer all these questions, but the light on my desk has just gone out.

Murray Lane

Talk by Hugh Martin on the National Railway Museum



At the May General club Meeting Hugh Martin gave us a talk on his recent visit to the city of York in England and in particular his visit to the National Railway Museum. It sounds like he thoroughly enjoyed himself (and who wouldn't). If you are visiting the UK the NRM is a must see, the collection of famous locomotives, complete trains, models and tons of just railway stuff vintage and modern is incredible. This was accompanied by a slide show of photos taken on his visit.

Hugh also told of his time spent with model engineering clubs in England and of his eventfull trip to Europe on the Eurostar through the Channel Tunnel.

For some wonderful shots of complete trains made up, including Royal Trains, and of course all the famous Marques. see:

<http://www.nrm.org.uk/home/home.asp>

Bullied Engines at Swanage



Peter Woodford mentioned at May's General Meeting that Swanage Railway had been reconnected to the mainline and that recently full excursion trains had been hauled there and back to London. Some of these trains where hauled by Bullied Pacific class locomotives. Mr Bullied I believe was from Invercargill originally.

The full story and many photos can be viewed at <http://www.swanagerailway.co.uk/news521.htm>

Peter also mentioned seeing some great footage on the "web" for news and pictures on the first new Loco in nearly 50 years, the A1 class No. 60163 'Tornado'.

Have a look at www.Youtube.com which has a fair amount of footage on No. 60163 and a "google" search brings up a lot of good sites, like <http://stuffedtiger.fotopic.net/c640656.html> Don't mention the German boiler.

Rodger van Ryn

New Model Engineering Website

We have been contacted by a Mr David Carpenter regarding a new Model Engineering Website, it seems to contain some useful information

Hello

I have just launched a new website for model engineers:

www.modelengineeringwebsite.com

I hope your members will enjoy it and find it of some interest. It includes a mixture of editorial items, including news, reports, some special features, club details, and so on. The scope of the coverage will develop with time. We will carry extensive club news on a continuously updated basis. We also give internet contact details for clubs with direct links to your own site.